Microbac

Laboratory Report Number: L13051304

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 June 05 2013

David Vandenberg – Managing Director

State of Origin: NM
Accrediting Authority: N/A ID:N/A
QAPP: DOD Ver 4.1

Microbac

Lab Report #: L13051304
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
Fluoride by method 300 was changed to method SM 4500F with the client's permission	

Coolers

Cooler #	Temperature Gun	Temperature	COC #	Airbill #
0018677	I	4.0		1002239543460004575000801944418910

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?	Yes
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

Microbac

Lab Report #: L13051304
Lab Project #: 3005.011
Project Name: White Sands MR
Lab Contact: Stephanie Mossburg

Samples Received

Client ID	Laboratory ID	Date Collected	Date Received
SMW1-0513-1	L13051304-01	05/23/2013 10:42	05/24/2013 11:11
SMW4-0513-1	L13051304-02	05/23/2013 12:20	05/24/2013 11:11
MPL25-0513-1	L13051304-03	05/23/2013 15:00	05/24/2013 11:11

Microbac REPORT L13051304
PREPARED FOR Environmental Waste Solutions
WORK ID:

1.0 Summary Data 6
1.1 Narratives 7
1.2 Certificate of Analysis 23
2.0 Full Sample Data Package 63
2.1 Metals Data 64
2.1.1 Metals I C P Data 65
2.1.1.1 Summary Data 66
2.1.1.2 QC Summary Data 75
2.1.1.3 Raw Data 141
2.1.2 Metals ICP-MS Data 439
2.1.2.1 Summary Data 440
2.1.2.2 QC Summary Data 446
2.1.2.3 Raw Data 481
2.1.3 Metals CVAA Data (Mercury) 830
2.1.3.1 Summary Data 831
2.1.3.2 QC Summary 837
2.1.3.3 Raw Data 861
2.2 General Chemistry Data 869
2.2.1 Method 9056 870
2.2.1.1 Summary Data 871
2.2.1.2 QC Summary Data 874
2.2.1.3 Sample Data 893
2.2.1.4 Standards Data 897
2.2.1.5 Raw QC Data 915
2.2.2 PH Data 918
2.2.2.1 Summary Data 919
2.2.2.2 QC Summary Data 922
2.2.2.3 Raw Data 925
2.2.3 Alkalinity Data 933
2.2.3.1 Summary Data 934
2.2.3.2 QC Summary Data 940
2.2.3.3 Raw Data 947
2.2.4 Cyanide Data 959
2.2.4.1 Summary Data 960
2.2.4.2 QC Summary Data 972
2.2.4.3 Raw Data 990
2.2.5 Conductivity Data 1015
2.2.5.1 Summary Data 1016
2.2.5.2 QC Summary Data 1018
2.2.5.3 Raw Data 1025
2.2.6 Fluoride Data 1033
2.2.6.1 Summary Data 1034
2.2.6.2 QC Summary Data 1036
2.2.6.3 Raw Data 1043
2.2.7 Ammonia Data 1045
2.2.7.1 Summary Data 1046
2.2.7.2 QC Summary Data 1052
2.2.7.3 Raw Data 1059
2.2.8 Nitrate Data 1069
2.2.8.1 Summary Data 1070
2.2.8.2 QC Summary Data 1073
2.2.8.3 Raw Data 1080

2.2.9 Orthophosphate Data 1088
2.2.9.1 Summary Data 1089
2.2.9.2 QC Summary Data 1095
2.2.9.3 Raw Data 1102
2.2.10 Total Dissolved Solids Data 1110
2.2.10.1 Summary Data 1111
2.2.10.2 QC Summary Data 1114
2.2.10.3 Raw Data 1121
2.2.11 Total Organic Carbon Data 1124
2.2.11.1 Summary Data 1125
2.2.11.2 QC Summary Data 1131
2.2.11.3 Raw Data 1142
2.2.12 Total Suspended Solids Data 1211
2.2.12.1 Summary Data 1212
2.2.12.2 QC Summary Data 1218
2.2.12.3 Raw Data 1225
3.0 Attachments 1228

1.0 Summary Data

1.1 Narratives

Login Number: L13051304
Department: Conventionals
Analyst: Brice Fenton

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: 65380
Approved By: Deanna Hesson

Login Number: L13051304
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: All acceptance criteria were met.

Laboratory Control Sample: All acceptance criteria were met.

Serial Dilution/Post Digestion Spikes: WG432277 - All acceptance criteria were met.

Matrix Spikes: All acceptance criteria were met.

SAMPLES

Samples: WG432277 - Client samples 01, 02, and 03 required dilution analyses in order to obtain results for calcium within the calibration range.

Narrative ID: 64953
Approved By: Sheri Pfalzgraf

Login Number: L13051304
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: WG432851 - The continuing calibration blanks analyzed on 04-June-2013 at 18:31 and 19:16 yielded results for antimony which exceeded the LOD but were below the LOQ. Client samples 01 through 03 yielded nondetected results for antimony. With permission of the project chemist, the antimony results were reported with 'B' qualifiers to indicate the association with noncompliant CCBs and no further action was taken.

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: WG432851 - All acceptance criteria were met.

Matrix Spikes: All acceptance criteria were met.

SAMPLES

Samples: All acceptance criteria were met.

Narrative ID: 65330
Approved By: Maren Beery
Maren Beery

Login Number: L13051304
Department: Metals - AA
Analyst: Pierce Morris

METHOD

Preparation: SW-846 7470

Analysis: SW-846 7470

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: All acceptance criteria were met.

Laboratory Control Sample: All acceptance criteria were met.

Serial Dilution/Post Digestion Spikes: WG432306 - All acceptance criteria were met.

Matrix Spikes: All acceptance criteria were met.

SAMPLES

Samples: All acceptance criteria were met.

Narrative ID: 65027
Approved By: Sheri Pfalzgraf

Login Number: L13051304
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: Fraction 03 was analyzed at a dilution due to concentrations of the target analyte(s) 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: 65243
Approved By: Eric Lawson

Login Number: L13051304
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: 65378
Approved By: Deanna Hesson

Login Number: L13051304
Department: Conventionals
Analyst: Holly Reed

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.

Matrix Spikes: All acceptance criteria were met.

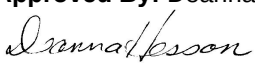
Duplicates: All acceptance criteria were met.

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: 65162
Approved By: Deanna Hesson



Login Number: L13051304
Department: Conventionals
Analyst: Brice Fenton

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: 65379
Approved By: Deanna Hesson

Login Number: L13051304
Department: Conventionals
Analyst: Tammy Morris

METHOD

Analysis SM4500-F-C (Fluoride)

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: 65386
Approved By: Deanna Hesson

Login Number: L13051304
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: 65381
Approved By: Deanna Hesson

Login Number: L13051304
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.

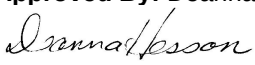
Duplicates: All acceptance criteria were met.

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: 65382
Approved By: Deanna Hesson



Login Number: L13051304
Department: Conventionals
Analyst: Holly Reed

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: 65383
Approved By: Deanna Hesson

Login Number: L13051304
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: 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: 65387
Approved By: Deanna Hesson

Login Number: L13051304
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: 65384
Approved By: Deanna Hesson

Login Number: L13051304
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: 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: 65385
Approved By: Deanna Hesson

1.2 Certificate of Analysis

Microbac

Lab Report #: L13051304
Lab Project #: 3005.011
Project Name: White Sands MR
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L13051304-01	**PrePrep Method:**	N/A	**Instrument:**	PE-ICP2
Client ID:	SMW1-0513-1	**Prep Method:**	3015	**Prep Date:**	05/29/2013 12:29
Matrix:	Water	**Analytical Method:**	6010B	**Cal Date:**	05/30/2013 11:39
Workgroup #:	WG432277	**Analyst:**	KHR	**Run Date:**	05/30/2013 15:39
Collect Date:	05/23/2013 10:42	**Dilution:**	1	**File ID:**	P2.053013.153956
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	7.78		0.500	0.250
Potassium, Total	7440-09-7	2.06		1.00	0.500
Sodium, Total	7440-23-5	25.2		0.500	0.250
Tin, Total	7440-31-5		U	0.500	0.250
Vanadium, Total	7440-62-2	0.0108		0.0100	0.00500
Zinc, Total	7440-66-6	0.0237		0.0200	0.0100

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

Certificate of Analysis

Sample #:	L13051304-01	**PrePrep Method:**	N/A	**Instrument:**	PE-ICP2
Client ID:	SMW1-0513-1	**Prep Method:**	3015	**Prep Date:**	05/29/2013 12:29
Matrix:	Water	**Analytical Method:**	6010B	**Cal Date:**	05/31/2013 07:48
Workgroup #:	WG432277	**Analyst:**	KHR	**Run Date:**	05/31/2013 16:27
Collect Date:	05/23/2013 10:42	**Dilution:**	10	**File ID:**	P2.053113.162729
Sample Tag:	DL01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Calcium, Total	7440-70-2	31.9		5.00	2.50

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

Certificate of Analysis

Sample #:	L13051304-01	**PrePrep Method:**	N/A	**Instrument:**	ICP-MS2
Client ID:	SMW1-0513-1	**Prep Method:**	3015	**Prep Date:**	06/04/2013 08:49
Matrix:	Water	**Analytical Method:**	6020	**Cal Date:**	06/04/2013 12:47
Workgroup #:	WG432851	**Analyst:**	JYH	**Run Date:**	06/04/2013 18:50
Collect Date:	05/23/2013 10:42	**Dilution:**	1	**File ID:**	NI.060413.185010
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Antimony, Total	7440-36-0		UB	0.00100	0.000500
Arsenic, Total	7440-38-2	0.000550	J	0.00100	0.000500
Barium, Total	7440-39-3	0.0696		0.00300	0.00150
Cadmium, Total	7440-43-9		U	0.000600	0.000300
Chromium, Total	7440-47-3		U	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	0.00137	J	0.00200	0.00100
Nickel, Total	7440-02-0		U	0.00400	0.00200
Selenium, Total	7782-49-2	0.00249		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.
UB	Analyte was not detected. The concentration is below the reported LOQ, however the reported result is associated with a contaminated method blank.

Certificate of Analysis

Sample #:	L13051304-01	**PrePrep Method:**	N/A	**Instrument:**	CVAA1
Client ID:	SMW1-0513-1	**Prep Method:**	7470A	**Prep Date:**	05/28/2013 10:23
Matrix:	Water	**Analytical Method:**	7470A	**Cal Date:**	05/30/2013 13:42
Workgroup #:	WG432306	**Analyst:**	PDM	**Run Date:**	05/30/2013 15:00
Collect Date:	05/23/2013 10:42	**Dilution:**	1	**File ID:**	M7.053013.150041
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 #:	L13051304-01	**PrePrep Method:**	N/A	**Instrument:**	IC1
Client ID:	SMW1-0513-1	**Prep Method:**	300.0	**Prep Date:**	06/03/2013 12:24
Matrix:	Water	**Analytical Method:**	300.0	**Cal Date:**	05/01/2013 13:02
Workgroup #:	WG432674	**Analyst:**	JBK	**Run Date:**	06/03/2013 13:34
Collect Date:	05/23/2013 10:42	**Dilution:**	1	**File ID:**	I1_060313-07
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Chloride	16887-00-6	18.2		0.200	0.100
Sulfate	14808-79-8	61.2		1.00	0.500

Sample #:	L13051304-01	**PrePrep Method:**	N/A	**Instrument:**	TIAMO1
Client ID:	SMW1-0513-1	**Prep Method:**	9040C	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	9040C	**Cal Date:**	
Workgroup #:	WG431691	**Analyst:**	DIH	**Run Date:**	05/24/2013 16:45
Collect Date:	05/23/2013 10:42	**Dilution:**	1	**File ID:**	TI13053014591101
Sample Tag:		**Units:**	UNITS		

Analyte	CAS #	Result	Qual	LOQ	LOD
Corrosivity pH	10-29-7	7.35		0.000	0.000

Sample #:	L13051304-01	**PrePrep Method:**	N/A	**Instrument:**	SMARTCHEM
Client ID:	SMW1-0513-1	**Prep Method:**	SM2320B-1997	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	SM2320B-1997	**Cal Date:**	05/29/2013 14:43
Workgroup #:	WG432161	**Analyst:**	BAF	**Run Date:**	05/29/2013 14:58
Collect Date:	05/23/2013 10:42	**Dilution:**	1	**File ID:**	SC130529005.033
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 #:	L13051304-01	**PrePrep Method:**	N/A	**Instrument:**	SMARTCHEM
Client ID:	SMW1-0513-1	**Prep Method:**	SM2320B-1997	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	SM2320B-1997	**Cal Date:**	05/29/2013 14:43
Workgroup #:	WG432161	**Analyst:**	BAF	**Run Date:**	05/29/2013 14:58
Collect Date:	05/23/2013 10:42	**Dilution:**	1	**File ID:**	SC130529005.033
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Alkalinity, Bicarbonate (as CaCO3)	13-00-3	78.4		20.0	10.0

Sample #:	L13051304-01	**PrePrep Method:**	N/A	**Instrument:**	SMARTCHEM
Client ID:	SMW1-0513-1	**Prep Method:**	SM2320B-1997	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	SM2320B-1997	**Cal Date:**	05/29/2013 14:43
Workgroup #:	WG432161	**Analyst:**	BAF	**Run Date:**	05/29/2013 14:58
Collect Date:	05/23/2013 10:42	**Dilution:**	1	**File ID:**	SC130529005.033
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Alkalinity, Total (as CaCO3)	11-43-8	78.4		20.0	10.0

Sample #:	L13051304-01	**PrePrep Method:**	N/A	**Instrument:**	UV-120-1V
Client ID:	SMW1-0513-1	**Prep Method:**	SM4500-CN-I	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	SM4500-CN-I	**Cal Date:**	05/31/2013 10:00
Workgroup #:	WG432053	**Analyst:**	HJR	**Run Date:**	05/31/2013 13:20
Collect Date:	05/23/2013 10:42	**Dilution:**	1	**File ID:**	1V.1305311320-11
Sample Tag:	wd	**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 #:	L13051304-01	**PrePrep Method:**	N/A	**Instrument:**	UV-120-1V
Client ID:	SMW1-0513-1	**Prep Method:**	9014-9010C	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	9014-9010C	**Cal Date:**	05/31/2013 10:00
Workgroup #:	WG432238	**Analyst:**	HJR	**Run Date:**	05/31/2013 14:20
Collect Date:	05/23/2013 10:42	**Dilution:**	1	**File ID:**	1V.1305311420-11
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 #:	L13051304-01	**PrePrep Method:**	N/A	**Instrument:**	UV-120-1V
Client ID:	SMW1-0513-1	**Prep Method:**	SM4500-CN-C,G-1999	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	SM4500-CN-C,G-1999	**Cal Date:**	05/31/2013 09:45
Workgroup #:	WG432137	**Analyst:**	HJR	**Run Date:**	05/31/2013 13:00
Collect Date:	05/23/2013 10:42	**Dilution:**	1	**File ID:**	1V.1305311300-10
Sample Tag:	a	**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 #:	L13051304-01	**PrePrep Method:**	N/A	**Instrument:**	TIAMO1
Client ID:	SMW1-0513-1	**Prep Method:**	120.1	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	120.1	**Cal Date:**	
Workgroup #:	WG431689	**Analyst:**	BAF	**Run Date:**	05/24/2013 16:45
Collect Date:	05/23/2013 10:42	**Dilution:**	1	**File ID:**	TI.052413.1645CO
Sample Tag:	01	**Units:**	umhos/cm		

Analyte	CAS #	Result	Qual	LOQ	LOD
Conductivity		355		50.0	10.0

Sample #:	L13051304-01	**PrePrep Method:**	N/A	**Instrument:**	ORION-710A1
Client ID:	SMW1-0513-1	**Prep Method:**	SM4500-F-C-1997	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	SM4500-F-C-1997	**Cal Date:**	
Workgroup #:	WG432165	**Analyst:**	TMM	**Run Date:**	05/29/2013 15:28
Collect Date:	05/23/2013 10:42	**Dilution:**	1	**File ID:**	O113053011040001
Sample Tag:		**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Fluoride	16984-48-8	0.194		0.100	0.0500

Sample #:	L13051304-01	**PrePrep Method:**	N/A	**Instrument:**	SMARTCHEM
Client ID:	SMW1-0513-1	**Prep Method:**	350.1	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	350.1	**Cal Date:**	05/31/2013 09:09
Workgroup #:	WG432395	**Analyst:**	BAF	**Run Date:**	05/31/2013 09:59
Collect Date:	05/23/2013 10:42	**Dilution:**	1	**File ID:**	SC130531001.062
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Nitrogen, Ammonia	7664-41-7	0.0774	J	0.100	0.0500

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

Certificate of Analysis

Sample #:	L13051304-01	**PrePrep Method:**	N/A	**Instrument:**	SMARTCHEM
Client ID:	SMW1-0513-1	**Prep Method:**	353.2	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	353.2	**Cal Date:**	05/31/2013 13:14
Workgroup #:	WG432375	**Analyst:**	BAF	**Run Date:**	05/31/2013 16:50
Collect Date:	05/23/2013 10:42	**Dilution:**	4	**File ID:**	SC13060408201301
Sample Tag:		**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Nitrate-Nitrite (as N)		3.15		0.200	0.100

Sample #:	L13051304-01	**PrePrep Method:**	N/A	**Instrument:**	UV-120-1V
Client ID:	SMW1-0513-1	**Prep Method:**	SM4500-P-E-1999	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	SM4500-P-E-1999	**Cal Date:**	04/24/2013 13:20
Workgroup #:	WG431706	**Analyst:**	HJR	**Run Date:**	05/24/2013 13:35
Collect Date:	05/23/2013 10:42	**Dilution:**	1	**File ID:**	1V.1305241335-07
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 #:	L13051304-01	**PrePrep Method:**	N/A	**Instrument:**	OVEN
Client ID:	SMW1-0513-1	**Prep Method:**	160.1/SM2540C	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	SM2540-C-1997	**Cal Date:**	
Workgroup #:	WG432052	**Analyst:**	ADG	**Run Date:**	05/29/2013 10:13
Collect Date:	05/23/2013 10:42	**Dilution:**	1	**File ID:**	EN.1305291013-19
Sample Tag:		**Units:**	mg/L		

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

Sample #:	L13051304-01	**PrePrep Method:**	N/A	**Instrument:**	TOC-VWP
Client ID:	SMW1-0513-1	**Prep Method:**	415.1	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	415.1	**Cal Date:**	08/06/2012 08:11
Workgroup #:	WG432489	**Analyst:**	BAF	**Run Date:**	06/04/2013 14:49
Collect Date:	05/23/2013 10:42	**Dilution:**	1	**File ID:**	TC06042013.029
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Total Organic Carbon	TOC	0.743	J	1.00	0.500
J	Estimated value ; the analyte concentration was less than the LOQ.				

Certificate of Analysis

Sample #:	L13051304-01	**PrePrep Method:**	N/A	**Instrument:**	OVEN
Client ID:	SMW1-0513-1	**Prep Method:**	160.2/SM2540D	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	SM2540-D-1997	**Cal Date:**	
Workgroup #:	WG431986	**Analyst:**	ADG	**Run Date:**	05/28/2013 15:43
Collect Date:	05/23/2013 10:42	**Dilution:**	1	**File ID:**	EN.1305281543-13
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 #:	L13051304-02	**PrePrep Method:**	N/A	**Instrument:**	PE-ICP2
Client ID:	SMW4-0513-1	**Prep Method:**	3015	**Prep Date:**	05/29/2013 12:29
Matrix:	Water	**Analytical Method:**	6010B	**Cal Date:**	05/30/2013 11:39
Workgroup #:	WG432277	**Analyst:**	KHR	**Run Date:**	05/30/2013 15:43
Collect Date:	05/23/2013 12:20	**Dilution:**	1	**File ID:**	P2.053013.154300
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	8.62		0.500	0.250
Potassium, Total	7440-09-7	2.26		1.00	0.500
Sodium, Total	7440-23-5	27.0		0.500	0.250
Tin, Total	7440-31-5		U	0.500	0.250
Vanadium, Total	7440-62-2	0.0111		0.0100	0.00500
Zinc, Total	7440-66-6	0.0238		0.0200	0.0100

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

Certificate of Analysis

Sample #:	L13051304-02	**PrePrep Method:**	N/A	**Instrument:**	PE-ICP2
Client ID:	SMW4-0513-1	**Prep Method:**	3015	**Prep Date:**	05/29/2013 12:29
Matrix:	Water	**Analytical Method:**	6010B	**Cal Date:**	05/31/2013 07:48
Workgroup #:	WG432277	**Analyst:**	KHR	**Run Date:**	05/31/2013 16:35
Collect Date:	05/23/2013 12:20	**Dilution:**	10	**File ID:**	P2.053113.163535
Sample Tag:	DL01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Calcium, Total	7440-70-2	35.0		5.00	2.50

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

Certificate of Analysis

Sample #:	L13051304-02	**PrePrep Method:**	N/A	**Instrument:**	ICP-MS2
Client ID:	SMW4-0513-1	**Prep Method:**	3015	**Prep Date:**	06/04/2013 08:49
Matrix:	Water	**Analytical Method:**	6020	**Cal Date:**	06/04/2013 12:47
Workgroup #:	WG432851	**Analyst:**	JYH	**Run Date:**	06/04/2013 18:53
Collect Date:	05/23/2013 12:20	**Dilution:**	1	**File ID:**	NI.060413.185356
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Antimony, Total	7440-36-0		UB	0.00100	0.000500
Arsenic, Total	7440-38-2	0.000693	J	0.00100	0.000500
Barium, Total	7440-39-3	0.0785		0.00300	0.00150
Cadmium, Total	7440-43-9		U	0.000600	0.000300
Chromium, Total	7440-47-3	0.0117		0.00200	0.00100
Cobalt, Total	7440-48-4		U	0.00100	0.000500
Copper, Total	7440-50-8	0.00124	J	0.00200	0.00100
Lead, Total	7439-92-1		U	0.00100	0.000500
Manganese, Total	7439-96-5	0.00164	J	0.00200	0.00100
Nickel, Total	7440-02-0	0.0694		0.00400	0.00200
Selenium, Total	7782-49-2	0.00277		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.
UB	Analyte was not detected. The concentration is below the reported LOQ, however the reported result is associated with a contaminated method blank.

Certificate of Analysis

Sample #:	L13051304-02	**PrePrep Method:**	N/A	**Instrument:**	CVAA1
Client ID:	SMW4-0513-1	**Prep Method:**	7470A	**Prep Date:**	05/28/2013 10:23
Matrix:	Water	**Analytical Method:**	7470A	**Cal Date:**	05/30/2013 13:42
Workgroup #:	WG432306	**Analyst:**	PDM	**Run Date:**	05/30/2013 15:03
Collect Date:	05/23/2013 12:20	**Dilution:**	1	**File ID:**	M7.053013.150314
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 #:	L13051304-02	**PrePrep Method:**	N/A	**Instrument:**	IC1
Client ID:	SMW4-0513-1	**Prep Method:**	300.0	**Prep Date:**	06/03/2013 12:24
Matrix:	Water	**Analytical Method:**	300.0	**Cal Date:**	05/01/2013 13:02
Workgroup #:	WG432674	**Analyst:**	JBK	**Run Date:**	06/03/2013 13:53
Collect Date:	05/23/2013 12:20	**Dilution:**	1	**File ID:**	I1_060313-08
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Chloride	16887-00-6	23.2		0.200	0.100
Sulfate	14808-79-8	56.9		1.00	0.500

Sample #:	L13051304-02	**PrePrep Method:**	N/A	**Instrument:**	TIAMO1
Client ID:	SMW4-0513-1	**Prep Method:**	9040C	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	9040C	**Cal Date:**	
Workgroup #:	WG431691	**Analyst:**	DIH	**Run Date:**	05/24/2013 16:51
Collect Date:	05/23/2013 12:20	**Dilution:**	1	**File ID:**	TI13053014592801
Sample Tag:		**Units:**	UNITS		

Analyte	CAS #	Result	Qual	LOQ	LOD
Corrosivity pH	10-29-7	7.65		0.000	0.000

Sample #:	L13051304-02	**PrePrep Method:**	N/A	**Instrument:**	SMARTCHEM
Client ID:	SMW4-0513-1	**Prep Method:**	SM2320B-1997	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	SM2320B-1997	**Cal Date:**	05/29/2013 14:43
Workgroup #:	WG432161	**Analyst:**	BAF	**Run Date:**	05/29/2013 14:58
Collect Date:	05/23/2013 12:20	**Dilution:**	1	**File ID:**	SC130529005.034
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Alkalinity, Total (as CaCO3)	11-43-8	95.1		20.0	10.0

Sample #:	L13051304-02	**PrePrep Method:**	N/A	**Instrument:**	SMARTCHEM
Client ID:	SMW4-0513-1	**Prep Method:**	SM2320B-1997	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	SM2320B-1997	**Cal Date:**	05/29/2013 14:43
Workgroup #:	WG432161	**Analyst:**	BAF	**Run Date:**	05/29/2013 14:58
Collect Date:	05/23/2013 12:20	**Dilution:**	1	**File ID:**	SC130529005.034
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Alkalinity, Bicarbonate (as CaCO3)	13-00-3	95.1		20.0	10.0

Certificate of Analysis

Sample #:	L13051304-02	**PrePrep Method:**	N/A	**Instrument:**	SMARTCHEM
Client ID:	SMW4-0513-1	**Prep Method:**	SM2320B-1997	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	SM2320B-1997	**Cal Date:**	05/29/2013 14:43
Workgroup #:	WG432161	**Analyst:**	BAF	**Run Date:**	05/29/2013 14:58
Collect Date:	05/23/2013 12:20	**Dilution:**	1	**File ID:**	SC130529005.034
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 #:	L13051304-02	**PrePrep Method:**	N/A	**Instrument:**	UV-120-1V
Client ID:	SMW4-0513-1	**Prep Method:**	SM4500-CN-C,G-1999	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	SM4500-CN-C,G-1999	**Cal Date:**	05/31/2013 09:45
Workgroup #:	WG432137	**Analyst:**	HJR	**Run Date:**	05/31/2013 13:00
Collect Date:	05/23/2013 12:20	**Dilution:**	1	**File ID:**	1V.1305311300-11
Sample Tag:	a	**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 #:	L13051304-02	**PrePrep Method:**	N/A	**Instrument:**	UV-120-1V
Client ID:	SMW4-0513-1	**Prep Method:**	SM4500-CN-I	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	SM4500-CN-I	**Cal Date:**	05/31/2013 10:00
Workgroup #:	WG432053	**Analyst:**	HJR	**Run Date:**	05/31/2013 13:20
Collect Date:	05/23/2013 12:20	**Dilution:**	1	**File ID:**	1V.1305311320-12
Sample Tag:	wd	**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 #:	L13051304-02	**PrePrep Method:**	N/A	**Instrument:**	UV-120-1V
Client ID:	SMW4-0513-1	**Prep Method:**	9014-9010C	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	9014-9010C	**Cal Date:**	05/31/2013 10:00
Workgroup #:	WG432238	**Analyst:**	HJR	**Run Date:**	05/31/2013 14:20
Collect Date:	05/23/2013 12:20	**Dilution:**	1	**File ID:**	1V.1305311420-12
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 #:	L13051304-02	**PrePrep Method:**	N/A	**Instrument:**	TIAMO1
Client ID:	SMW4-0513-1	**Prep Method:**	120.1	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	120.1	**Cal Date:**	
Workgroup #:	WG431689	**Analyst:**	BAF	**Run Date:**	05/24/2013 16:51
Collect Date:	05/23/2013 12:20	**Dilution:**	1	**File ID:**	TI.052413.1651CO
Sample Tag:	01	**Units:**	umhos/cm		

Analyte	CAS #	Result	Qual	LOQ	LOD
Conductivity		374		50.0	10.0

Sample #:	L13051304-02	**PrePrep Method:**	N/A	**Instrument:**	ORION-710A1
Client ID:	SMW4-0513-1	**Prep Method:**	SM4500-F-C-1997	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	SM4500-F-C-1997	**Cal Date:**	
Workgroup #:	WG432165	**Analyst:**	TMM	**Run Date:**	05/29/2013 15:28
Collect Date:	05/23/2013 12:20	**Dilution:**	1	**File ID:**	O113053011040301
Sample Tag:		**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Fluoride	16984-48-8	0.194		0.100	0.0500

Sample #:	L13051304-02	**PrePrep Method:**	N/A	**Instrument:**	SMARTCHEM
Client ID:	SMW4-0513-1	**Prep Method:**	350.1	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	350.1	**Cal Date:**	05/31/2013 09:09
Workgroup #:	WG432395	**Analyst:**	BAF	**Run Date:**	05/31/2013 10:00
Collect Date:	05/23/2013 12:20	**Dilution:**	1	**File ID:**	SC130531001.063
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Nitrogen, Ammonia	7664-41-7	0.0621	J	0.100	0.0500

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

Certificate of Analysis

Sample #:	L13051304-02	**PrePrep Method:**	N/A	**Instrument:**	SMARTCHEM
Client ID:	SMW4-0513-1	**Prep Method:**	353.2	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	353.2	**Cal Date:**	05/31/2013 13:14
Workgroup #:	WG432375	**Analyst:**	BAF	**Run Date:**	05/31/2013 16:50
Collect Date:	05/23/2013 12:20	**Dilution:**	4	**File ID:**	SC13060408202201
Sample Tag:		**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Nitrate-Nitrite (as N)		3.24		0.200	0.100

Sample #:	L13051304-02	**PrePrep Method:**	N/A	**Instrument:**	UV-120-1V
Client ID:	SMW4-0513-1	**Prep Method:**	SM4500-P-E-1999	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	SM4500-P-E-1999	**Cal Date:**	04/24/2013 13:20
Workgroup #:	WG431706	**Analyst:**	HJR	**Run Date:**	05/24/2013 13:35
Collect Date:	05/23/2013 12:20	**Dilution:**	1	**File ID:**	1V.1305241335-08
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 #:	L13051304-02	**PrePrep Method:**	N/A	**Instrument:**	OVEN
Client ID:	SMW4-0513-1	**Prep Method:**	160.1/SM2540C	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	SM2540-C-1997	**Cal Date:**	
Workgroup #:	WG432052	**Analyst:**	ADG	**Run Date:**	05/29/2013 10:13
Collect Date:	05/23/2013 12:20	**Dilution:**	1	**File ID:**	EN.1305291013-20
Sample Tag:		**Units:**	mg/L		

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

Sample #:	L13051304-02	**PrePrep Method:**	N/A	**Instrument:**	TOC-VWP
Client ID:	SMW4-0513-1	**Prep Method:**	415.1	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	415.1	**Cal Date:**	08/06/2012 08:11
Workgroup #:	WG432489	**Analyst:**	BAF	**Run Date:**	06/04/2013 15:00
Collect Date:	05/23/2013 12:20	**Dilution:**	1	**File ID:**	TC06042013.030
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Total Organic Carbon	TOC	0.870	J	1.00	0.500
J	Estimated value ; the analyte concentration was less than the LOQ.				

Certificate of Analysis

Sample #:	L13051304-02	**PrePrep Method:**	N/A	**Instrument:**	OVEN
Client ID:	SMW4-0513-1	**Prep Method:**	160.2/SM2540D	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	SM2540-D-1997	**Cal Date:**	
Workgroup #:	WG431986	**Analyst:**	ADG	**Run Date:**	05/28/2013 15:43
Collect Date:	05/23/2013 12:20	**Dilution:**	1	**File ID:**	EN.1305281543-14
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 #:	L13051304-03	**PrePrep Method:**	N/A	**Instrument:**	PE-ICP2
Client ID:	MPL25-0513-1	**Prep Method:**	3015	**Prep Date:**	05/29/2013 12:29
Matrix:	Water	**Analytical Method:**	6010B	**Cal Date:**	05/30/2013 11:39
Workgroup #:	WG432277	**Analyst:**	KHR	**Run Date:**	05/30/2013 15:46
Collect Date:	05/23/2013 15:00	**Dilution:**	1	**File ID:**	P2.053013.154601
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	11.1		0.500	0.250
Potassium, Total	7440-09-7	2.69		1.00	0.500
Sodium, Total	7440-23-5	30.1		0.500	0.250
Tin, Total	7440-31-5		U	0.500	0.250
Vanadium, Total	7440-62-2	0.0142		0.0100	0.00500
Zinc, Total	7440-66-6	0.0129	J	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 #:	L13051304-03	**PrePrep Method:**	N/A	**Instrument:**	PE-ICP2
Client ID:	MPL25-0513-1	**Prep Method:**	3015	**Prep Date:**	05/29/2013 12:29
Matrix:	Water	**Analytical Method:**	6010B	**Cal Date:**	05/31/2013 07:48
Workgroup #:	WG432277	**Analyst:**	KHR	**Run Date:**	05/31/2013 16:38
Collect Date:	05/23/2013 15:00	**Dilution:**	10	**File ID:**	P2.053113.163836
Sample Tag:	DL01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Calcium, Total	7440-70-2	50.7		5.00	2.50

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

Certificate of Analysis

Sample #:	L13051304-03	**PrePrep Method:**	N/A	**Instrument:**	ICP-MS2
Client ID:	MPL25-0513-1	**Prep Method:**	3015	**Prep Date:**	06/04/2013 08:49
Matrix:	Water	**Analytical Method:**	6020	**Cal Date:**	06/04/2013 12:47
Workgroup #:	WG432851	**Analyst:**	JYH	**Run Date:**	06/04/2013 18:57
Collect Date:	05/23/2013 15:00	**Dilution:**	1	**File ID:**	NI.060413.185742
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Antimony, Total	7440-36-0		UB	0.00100	0.000500
Arsenic, Total	7440-38-2	0.00122		0.00100	0.000500
Barium, Total	7440-39-3	0.0672		0.00300	0.00150
Cadmium, Total	7440-43-9		U	0.000600	0.000300
Chromium, Total	7440-47-3		U	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	0.00286		0.00200	0.00100
Nickel, Total	7440-02-0		U	0.00400	0.00200
Selenium, Total	7782-49-2	0.00455		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.
UB	Analyte was not detected. The concentration is below the reported LOQ, however the reported result is associated with a contaminated method blank.

Certificate of Analysis

Sample #:	L13051304-03	**PrePrep Method:**	N/A	**Instrument:**	CVAA1
Client ID:	MPL25-0513-1	**Prep Method:**	7470A	**Prep Date:**	05/28/2013 10:23
Matrix:	Water	**Analytical Method:**	7470A	**Cal Date:**	05/30/2013 13:42
Workgroup #:	WG432306	**Analyst:**	PDM	**Run Date:**	05/30/2013 15:05
Collect Date:	05/23/2013 15:00	**Dilution:**	1	**File ID:**	M7.053013.150545
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 #:	L13051304-03	**PrePrep Method:**	N/A	**Instrument:**	IC1
Client ID:	MPL25-0513-1	**Prep Method:**	300.0	**Prep Date:**	06/03/2013 12:24
Matrix:	Water	**Analytical Method:**	300.0	**Cal Date:**	05/01/2013 13:02
Workgroup #:	WG432674	**Analyst:**	JBK	**Run Date:**	06/03/2013 14:11
Collect Date:	05/23/2013 15:00	**Dilution:**	5	**File ID:**	I1_060313-09
Sample Tag:	DL01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Chloride	16887-00-6	48.0		1.00	0.500
Sulfate	14808-79-8	46.5		5.00	2.50

Sample #:	L13051304-03	**PrePrep Method:**	N/A	**Instrument:**	TIAMO1
Client ID:	MPL25-0513-1	**Prep Method:**	9040C	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	9040C	**Cal Date:**	
Workgroup #:	WG431691	**Analyst:**	DIH	**Run Date:**	05/24/2013 16:56
Collect Date:	05/23/2013 15:00	**Dilution:**	1	**File ID:**	TI13053014594301
Sample Tag:		**Units:**	UNITS		

Analyte	CAS #	Result	Qual	LOQ	LOD
Corrosivity pH	10-29-7	7.97		0.000	0.000

Sample #:	L13051304-03	**PrePrep Method:**	N/A	**Instrument:**	SMARTCHEM
Client ID:	MPL25-0513-1	**Prep Method:**	SM2320B-1997	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	SM2320B-1997	**Cal Date:**	05/29/2013 14:43
Workgroup #:	WG432161	**Analyst:**	BAF	**Run Date:**	05/29/2013 14:59
Collect Date:	05/23/2013 15:00	**Dilution:**	1	**File ID:**	SC130529005.035
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 #:	L13051304-03	**PrePrep Method:**	N/A	**Instrument:**	SMARTCHEM
Client ID:	MPL25-0513-1	**Prep Method:**	SM2320B-1997	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	SM2320B-1997	**Cal Date:**	05/29/2013 14:43
Workgroup #:	WG432161	**Analyst:**	BAF	**Run Date:**	05/29/2013 14:59
Collect Date:	05/23/2013 15:00	**Dilution:**	1	**File ID:**	SC130529005.035
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Alkalinity, Total (as CaCO3)	11-43-8	91.3		20.0	10.0

Sample #:	L13051304-03	**PrePrep Method:**	N/A	**Instrument:**	SMARTCHEM
Client ID:	MPL25-0513-1	**Prep Method:**	SM2320B-1997	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	SM2320B-1997	**Cal Date:**	05/29/2013 14:43
Workgroup #:	WG432161	**Analyst:**	BAF	**Run Date:**	05/29/2013 14:59
Collect Date:	05/23/2013 15:00	**Dilution:**	1	**File ID:**	SC130529005.035
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Alkalinity, Bicarbonate (as CaCO3)	13-00-3	91.3		20.0	10.0

Sample #:	L13051304-03	**PrePrep Method:**	N/A	**Instrument:**	UV-120-1V
Client ID:	MPL25-0513-1	**Prep Method:**	SM4500-CN-C,G-1999	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	SM4500-CN-C,G-1999	**Cal Date:**	05/31/2013 09:45
Workgroup #:	WG432137	**Analyst:**	HJR	**Run Date:**	05/31/2013 13:00
Collect Date:	05/23/2013 15:00	**Dilution:**	1	**File ID:**	1V.1305311300-12
Sample Tag:	a	**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 #:	L13051304-03	**PrePrep Method:**	N/A	**Instrument:**	UV-120-1V
Client ID:	MPL25-0513-1	**Prep Method:**	SM4500-CN-I	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	SM4500-CN-I	**Cal Date:**	05/31/2013 10:00
Workgroup #:	WG432053	**Analyst:**	HJR	**Run Date:**	05/31/2013 13:20
Collect Date:	05/23/2013 15:00	**Dilution:**	1	**File ID:**	1V.1305311320-13
Sample Tag:	wd	**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 #:	L13051304-03	**PrePrep Method:**	N/A	**Instrument:**	UV-120-1V
Client ID:	MPL25-0513-1	**Prep Method:**	9014-9010C	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	9014-9010C	**Cal Date:**	05/31/2013 10:00
Workgroup #:	WG432238	**Analyst:**	HJR	**Run Date:**	05/31/2013 14:20
Collect Date:	05/23/2013 15:00	**Dilution:**	1	**File ID:**	1V.1305311420-13
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 #:	L13051304-03	**PrePrep Method:**	N/A	**Instrument:**	TIAMO1
Client ID:	MPL25-0513-1	**Prep Method:**	120.1	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	120.1	**Cal Date:**	
Workgroup #:	WG431689	**Analyst:**	BAF	**Run Date:**	05/24/2013 16:56
Collect Date:	05/23/2013 15:00	**Dilution:**	1	**File ID:**	TI.052413.1656CO
Sample Tag:	01	**Units:**	umhos/cm		

Analyte	CAS #	Result	Qual	LOQ	LOD
Conductivity		488		50.0	10.0

Sample #:	L13051304-03	**PrePrep Method:**	N/A	**Instrument:**	ORION-710A1
Client ID:	MPL25-0513-1	**Prep Method:**	SM4500-F-C-1997	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	SM4500-F-C-1997	**Cal Date:**	
Workgroup #:	WG432165	**Analyst:**	TMM	**Run Date:**	05/29/2013 15:28
Collect Date:	05/23/2013 15:00	**Dilution:**	1	**File ID:**	O113053011040801
Sample Tag:		**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Fluoride	16984-48-8	0.0992	J	0.100	0.0500
J	Estimated value ; the analyte concentration was less than the LOQ.				

Certificate of Analysis

Sample #:	L13051304-03	**PrePrep Method:**	N/A	**Instrument:**	SMARTCHEM
Client ID:	MPL25-0513-1	**Prep Method:**	350.1	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	350.1	**Cal Date:**	05/31/2013 09:09
Workgroup #:	WG432395	**Analyst:**	BAF	**Run Date:**	05/31/2013 10:01
Collect Date:	05/23/2013 15:00	**Dilution:**	1	**File ID:**	SC130531001.064
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Nitrogen, Ammonia	7664-41-7	0.0503	J	0.100	0.0500

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

Certificate of Analysis

Sample #:	L13051304-03	**PrePrep Method:**	N/A	**Instrument:**	SMARTCHEM
Client ID:	MPL25-0513-1	**Prep Method:**	353.2	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	353.2	**Cal Date:**	05/31/2013 13:14
Workgroup #:	WG432375	**Analyst:**	BAF	**Run Date:**	05/31/2013 16:50
Collect Date:	05/23/2013 15:00	**Dilution:**	4	**File ID:**	SC13060408202801
Sample Tag:		**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Nitrate-Nitrite (as N)		5.71		0.200	0.100

Sample #:	L13051304-03	**PrePrep Method:**	N/A	**Instrument:**	UV-120-1V
Client ID:	MPL25-0513-1	**Prep Method:**	SM4500-P-E-1999	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	SM4500-P-E-1999	**Cal Date:**	04/24/2013 13:20
Workgroup #:	WG431706	**Analyst:**	HJR	**Run Date:**	05/24/2013 13:35
Collect Date:	05/23/2013 15:00	**Dilution:**	1	**File ID:**	1V.1305241335-09
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 #:	L13051304-03	**PrePrep Method:**	N/A	**Instrument:**	OVEN
Client ID:	MPL25-0513-1	**Prep Method:**	160.1/SM2540C	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	SM2540-C-1997	**Cal Date:**	
Workgroup #:	WG432052	**Analyst:**	ADG	**Run Date:**	05/29/2013 10:13
Collect Date:	05/23/2013 15:00	**Dilution:**	1	**File ID:**	EN.1305291013-21
Sample Tag:		**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Total Dissolved Solids		310		20.0	10.0

Sample #:	L13051304-03	**PrePrep Method:**	N/A	**Instrument:**	TOC-VWP
Client ID:	MPL25-0513-1	**Prep Method:**	415.1	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	415.1	**Cal Date:**	08/06/2012 08:11
Workgroup #:	WG432746	**Analyst:**	BAF	**Run Date:**	06/04/2013 16:11
Collect Date:	05/23/2013 15:00	**Dilution:**	1	**File ID:**	TC06042013.036
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Total Organic Carbon	TOC	0.902	J	1.00	0.500
J	Estimated value ; the analyte concentration was less than the LOQ.				

Certificate of Analysis

Sample #:	L13051304-03	**PrePrep Method:**	N/A	**Instrument:**	OVEN
Client ID:	MPL25-0513-1	**Prep Method:**	160.2/SM2540D	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	SM2540-D-1997	**Cal Date:**	
Workgroup #:	WG431986	**Analyst:**	ADG	**Run Date:**	05/28/2013 15:43
Collect Date:	05/23/2013 15:00	**Dilution:**	1	**File ID:**	EN.1305281543-15
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.

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: L13051304
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: All acceptance criteria were met.

Laboratory Control Sample: All acceptance criteria were met.

Serial Dilution/Post Digestion Spikes: WG432277 - All acceptance criteria were met.

Matrix Spikes: All acceptance criteria were met.

SAMPLES

Samples: WG432277 - Client samples 01, 02, and 03 required dilution analyses in order to obtain results for calcium within the calibration range.

Narrative ID: 64953
Approved By: Sheri Pfalzgraf

Microbac

Lab Report #: L13051304
Lab Project #: 3005.011
Project Name: White Sands MR
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L13051304-01	**PrePrep Method:**	N/A	**Instrument:**	PE-ICP2
Client ID:	SMW1-0513-1	**Prep Method:**	3015	**Prep Date:**	05/29/2013 12:29
Matrix:	Water	**Analytical Method:**	6010B	**Cal Date:**	05/30/2013 11:39
Workgroup #:	WG432277	**Analyst:**	KHR	**Run Date:**	05/30/2013 15:39
Collect Date:	05/23/2013 10:42	**Dilution:**	1	**File ID:**	P2.053013.153956
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	7.78		0.500	0.250
Potassium, Total	7440-09-7	2.06		1.00	0.500
Sodium, Total	7440-23-5	25.2		0.500	0.250
Tin, Total	7440-31-5		U	0.500	0.250
Vanadium, Total	7440-62-2	0.0108		0.0100	0.00500
Zinc, Total	7440-66-6	0.0237		0.0200	0.0100

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

Certificate of Analysis

Sample #:	L13051304-01	**PrePrep Method:**	N/A	**Instrument:**	PE-ICP2
Client ID:	SMW1-0513-1	**Prep Method:**	3015	**Prep Date:**	05/29/2013 12:29
Matrix:	Water	**Analytical Method:**	6010B	**Cal Date:**	05/31/2013 07:48
Workgroup #:	WG432277	**Analyst:**	KHR	**Run Date:**	05/31/2013 16:27
Collect Date:	05/23/2013 10:42	**Dilution:**	10	**File ID:**	P2.053113.162729
Sample Tag:	DL01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Calcium, Total	7440-70-2	31.9		5.00	2.50

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

Certificate of Analysis

Sample #:	L13051304-02	**PrePrep Method:**	N/A	**Instrument:**	PE-ICP2
Client ID:	SMW4-0513-1	**Prep Method:**	3015	**Prep Date:**	05/29/2013 12:29
Matrix:	Water	**Analytical Method:**	6010B	**Cal Date:**	05/30/2013 11:39
Workgroup #:	WG432277	**Analyst:**	KHR	**Run Date:**	05/30/2013 15:43
Collect Date:	05/23/2013 12:20	**Dilution:**	1	**File ID:**	P2.053013.154300
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	8.62		0.500	0.250
Potassium, Total	7440-09-7	2.26		1.00	0.500
Sodium, Total	7440-23-5	27.0		0.500	0.250
Tin, Total	7440-31-5		U	0.500	0.250
Vanadium, Total	7440-62-2	0.0111		0.0100	0.00500
Zinc, Total	7440-66-6	0.0238		0.0200	0.0100

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

Certificate of Analysis

Sample #:	L13051304-02	**PrePrep Method:**	N/A	**Instrument:**	PE-ICP2
Client ID:	SMW4-0513-1	**Prep Method:**	3015	**Prep Date:**	05/29/2013 12:29
Matrix:	Water	**Analytical Method:**	6010B	**Cal Date:**	05/31/2013 07:48
Workgroup #:	WG432277	**Analyst:**	KHR	**Run Date:**	05/31/2013 16:35
Collect Date:	05/23/2013 12:20	**Dilution:**	10	**File ID:**	P2.053113.163535
Sample Tag:	DL01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Calcium, Total	7440-70-2	35.0		5.00	2.50

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

Certificate of Analysis

Sample #:	L13051304-03	**PrePrep Method:**	N/A	**Instrument:**	PE-ICP2
Client ID:	MPL25-0513-1	**Prep Method:**	3015	**Prep Date:**	05/29/2013 12:29
Matrix:	Water	**Analytical Method:**	6010B	**Cal Date:**	05/30/2013 11:39
Workgroup #:	WG432277	**Analyst:**	KHR	**Run Date:**	05/30/2013 15:46
Collect Date:	05/23/2013 15:00	**Dilution:**	1	**File ID:**	P2.053013.154601
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	11.1		0.500	0.250
Potassium, Total	7440-09-7	2.69		1.00	0.500
Sodium, Total	7440-23-5	30.1		0.500	0.250
Tin, Total	7440-31-5		U	0.500	0.250
Vanadium, Total	7440-62-2	0.0142		0.0100	0.00500
Zinc, Total	7440-66-6	0.0129	J	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 #:	L13051304-03	**PrePrep Method:**	N/A	**Instrument:**	PE-ICP2
Client ID:	MPL25-0513-1	**Prep Method:**	3015	**Prep Date:**	05/29/2013 12:29
Matrix:	Water	**Analytical Method:**	6010B	**Cal Date:**	05/31/2013 07:48
Workgroup #:	WG432277	**Analyst:**	KHR	**Run Date:**	05/31/2013 16:38
Collect Date:	05/23/2013 15:00	**Dilution:**	10	**File ID:**	P2.053113.163836
Sample Tag:	DL01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Calcium, Total	7440-70-2	50.7		5.00	2.50

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

Certificate of Analysis

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: WG432128
Analyst: REK
Spike Analyst: REK
Run Date: 05/29/2013 12:29
Method: 3015
Balance: BAL016
Instrument: MW-2
Instrument Start: 05/29/2013 12:47

SOP: ME407 Revison 14
Spike Solution: STD57783
Spike Witness: BRG
HCL Lot #: COA16547
HNO3 Lot #: COA16631
Digestion Tubes Lot #: COA16806
ICP Filters- fisher-Lot# RGT26836

	SAMPLE #	Type	Matrix	Initial Amount	Final Volume	Initial Vessel Wt	Final Vessel Wt	Spike Amount	Due Date
1	WG432128-02	BLANK	1	40 mL	50 mL	202.25 g	202.237 g		
2	WG432128-03	LCS	1	40 mL	50 mL	209.309 g	209.296 g	5 mL	
3	L13051172-03	SAMP	1	40 mL	50 mL	206.624 g	206.62 g		05/31/13
4	L13051182-01	SAMP	1	40 mL	50 mL	203.303 g	203.29 g		05/31/13
5	L13051182-02	SAMP	1	40 mL	50 mL	203.766 g	203.746 g		05/31/13
6	L13051182-03	SAMP	1	40 mL	50 mL	204.713 g	204.703 g		05/31/13
7	L13051182-04	SAMP	1	40 mL	50 mL	204.414 g	204.397 g		05/31/13
8	L13051182-05	SAMP	1	40 mL	50 mL	204.054 g	204.039 g		05/31/13
9	L13051182-06	SAMP	1	40 mL	50 mL	204.721 g	204.705 g		05/31/13
10	L13051182-07	SAMP	1	40 mL	50 mL	205.073 g	205.056 g		05/31/13
11	L13051182-08	SAMP	1	40 mL	50 mL	203.407 g	203.393 g		05/31/13
12	L13051182-09	SAMP	1	40 mL	50 mL	204.046 g	204.028 g		05/31/13
13	L13051182-10	SAMP	1	40 mL	50 mL	206.109 g	206.093 g		05/31/13
14	L13051182-11	SAMP	1	40 mL	50 mL	205.542 g	205.522 g		05/31/13
15	L13051182-12	SAMP	1	40 mL	50 mL	204.655 g	204.651 g		05/31/13
16	L13051182-13	SAMP	1	40 mL	50 mL	206.325 g	206.318 g		05/31/13
17	L13051182-14	SAMP	1	40 mL	50 mL	205.471 g	205.458 g		05/31/13
18	WG432128-01	REF	1	40 mL	50 mL	205.427 g	205.417 g		
19	L13051221-01	RS01	1	40 mL	50 mL	205.427 g	205.417 g		06/03/13
20	WG432128-04	MS	1	40 mL	50 mL	208.321 g	208.303 g	5 mL	
21	L13051221-02	MS01	1	40 mL	50 mL	208.321 g	208.303 g	5 mL	06/03/13
22	WG432128-05	MSD	1	40 mL	50 mL	212.17 g	212.154 g	5 mL	
23	L13051221-03	SD01	1	40 mL	50 mL	212.17 g	212.154 g	5 mL	06/03/13
24	L13051304-01	SAMP	1	40 mL	50 mL	204.202 g	204.186 g		06/04/13
25	L13051304-02	SAMP	1	40 mL	50 mL	206.123 g	206.103 g		06/04/13
26	L13051304-03	SAMP	1	40 mL	50 mL	206.468 g	206.466 g		06/04/13
27	L13051360-01	SAMP	1	40 mL	50 mL	207.604 g	207.59 g		05/31/13

L13051182-03	filtered digestate
L13051182-07	filtered digestate
L13051182-11	filtered digestate

Analyst: [signature]

Reviewer: Erin Potter

MW_DIG - Modified 09/30/2009
PDF ID: 2897484
Report generated: 05/29/2013 13:58

Microbac

Microbac Laboratories Inc.

Instrument Run Log

Instrument: PE-ICP2 Dataset: 053013H2R.CSV
Analyst1: KHR Analyst2: N/A
Method: 6010/200.7 SOP: ME600E Rev: 12
Maintenance Log ID: 46125

Calibration Std: STD58209 ICV Std: STD58080 Post Spike: STD58073
ICSA: STD57968 ICSAB: STD58081 Int. Std: RGT17684
CCV: STD58172 LLCCV: Tuning Sol :
Stannous : Hydroxylamine :

Workgroups: 432274, 432277, 432292, 432295, 432149, 431976

Comments:

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
1	P2.053013.112836	WG432338-01	Calibration Point		1		05/30/13 11:28
2	P2.053013.113136	WG432338-02	Calibration Point		1		05/30/13 11:31
3	P2.053013.113436	WG432338-03	Calibration Point		1		05/30/13 11:34
4	P2.053013.113736	WG432338-04	Calibration Point		1		05/30/13 11:37
5	P2.053013.113940	WG432338-05	Calibration Point		1		05/30/13 11:39
6	P2.053013.114144	WG432338-06	Initial Calibration Verification		1		05/30/13 11:41
7	P2.053013.114348	WG432338-07	Initial Calib Blank		1		05/30/13 11:43
8	P2.053013.114647	WG432338-08	Interference Check		1		05/30/13 11:46
9	P2.053013.114850	WG432338-09	Interference Check		1		05/30/13 11:48
10	P2.053013.115051	WG432338-10	CCV		1		05/30/13 11:50
11	P2.053013.115256	WG432338-11	CCB		1		05/30/13 11:52
12	P2.053013.115555	WG432203-02	Method/Prep Blank	40/50	1		05/30/13 11:55
13	P2.053013.115855	WG432203-03	Laboratory Control S	40/50	1		05/30/13 11:58
14	P2.053013.120059	L13051141-01	124MW02-13A	40/50	1		05/30/13 12:00
15	P2.053013.120404	L13051141-02	124MW05-13A	40/50	1		05/30/13 12:04
16	P2.053013.120706	L13051141-05	124MW08-13A	40/50	1		05/30/13 12:07
17	P2.053013.121011	L13051142-01	1995MW01-13A	40/50	1		05/30/13 12:10
18	P2.053013.121319	L13051142-02	1995MW05-13A	40/50	1		05/30/13 12:13
19	P2.053013.121624	L13051142-03	1995MW06-13A	40/50	1		05/30/13 12:16
20	P2.053013.121829	WG432274-01	Post Digestion Spike		1	L13051142-03	05/30/13 12:18
21	P2.053013.122033	WG432274-02	Serial Dilution		5	L13051142-03	05/30/13 12:20
22	P2.053013.122241	WG432338-12	CCV		1		05/30/13 12:22
23	P2.053013.122446	WG432338-13	CCB		1		05/30/13 12:24
24	P2.053013.122746	L13051142-04	1995MW07-13A	40/50	1		05/30/13 12:27
25	P2.053013.122954	L13051142-07	1995MW08-13A	40/50	1		05/30/13 12:29
26	P2.053013.123157	L13051142-08	1995MW09-13A	40/50	1		05/30/13 12:31
27	P2.053013.123501	L13051142-11	RB-051813-1	40/50	1		05/30/13 12:35
28	P2.053013.123804	L13051142-12	FB-051813-1	40/50	1		05/30/13 12:38
29	P2.053013.124104	WG432203-01	Reference Sample		1	L13051296-01	05/30/13 12:41
30	P2.053013.124308	WG432203-04	Matrix Spike	40/50	1	L13051296-01	05/30/13 12:43
31	P2.053013.124513	WG432203-05	Matrix Spike Duplica	40/50	1	L13051296-01	05/30/13 12:45
32	P2.053013.124718	L13051296-04	MW011-GW-052113	40/50	1		05/30/13 12:47
33	P2.053013.124928	WG432338-14	CCV		1		05/30/13 12:49
34	P2.053013.125133	WG432338-15	CCB		1		05/30/13 12:51

Page: 1 Approved: May 31, 2013

Maren Berry

Microbac

Microbac Laboratories Inc.

Instrument Run Log

Instrument: PE-ICP2 Dataset: 053013H2R.CSV
Analyst1: KHR Analyst2: N/A
Method: 6010/200.7 SOP: ME600E Rev: 12
Maintenance Log ID: 46125

Calibration Std: STD58209 ICV Std: STD58080 Post Spike: STD58073
ICSA: STD57968 ICSAB: STD58081 Int. Std: RGT17684
CCV: STD58172 LLCCV: Tuning Sol :
Stannous : Hydroxylamine :

Workgroups: 432274, 432277, 432292, 432295, 432149, 431976

Comments:

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
35	P2.053013.125433	L13051296-05	MW012-GW-052113	40/50	1		05/30/13 12:54
36	P2.053013.125639	L13051296-06	FLF-EB01-052113	40/50	1		05/30/13 12:56
37	P2.053013.125938	L13051296-07	MW07D-GW-052213	40/50	1		05/30/13 12:59
38	P2.053013.130146	L13051296-08	MW06D-GW-052213	40/50	1		05/30/13 13:01
39	P2.053013.130447	L13051296-09	MW05D-GW-052213	40/50	1		05/30/13 13:04
40	P2.053013.130652	L13051296-10	MW05D-GW-052213D	40/50	1		05/30/13 13:06
41	P2.053013.131415	L13051296-10	MW05D-GW-052213D	40/50	2		05/30/13 13:14
42	P2.053013.131619	L13051296-10	MW05D-GW-052213D		5		05/30/13 13:16
43	P2.053013.131823	WG432338-16	CCV		1		05/30/13 13:18
44	P2.053013.132028	WG432338-17	CCB		1		05/30/13 13:20
45	P2.053013.132328	WG432338-18	Interference Check		1		05/30/13 13:23
46	P2.053013.132531	WG432338-19	Interference Check		1		05/30/13 13:25
47	P2.053013.132732	WG432338-20	CCV		1		05/30/13 13:27
48	P2.053013.132937	WG432338-21	CCB		1		05/30/13 13:29
49	P2.053013.133236	WG432338-22	LRC		1		05/30/13 13:32
50	P2.053013.133539	BLANK	BLANK		1		05/30/13 13:35
51	P2.053013.133839	WG432338-23	CCV		1		05/30/13 13:38
52	P2.053013.134044	WG432338-24	CCB		1		05/30/13 13:40
53	P2.053013.135646	WG432128-02	Method/Prep Blank	40/50	1		05/30/13 13:56
54	P2.053013.135946	WG432128-03	Laboratory Control S	40/50	1		05/30/13 13:59
55	P2.053013.140150	L13051172-03	FT02-SVE1-2-1-21MAY2013	40/50	1		05/30/13 14:01
56	P2.053013.140450	L13051182-01	TW-65D	40/50	1		05/30/13 14:04
57	P2.053013.140655	L13051182-02	TW-65D	40/50	1		05/30/13 14:06
58	P2.053013.140900	L13051182-03	TW-65S	40/50	1		05/30/13 14:09
59	P2.053013.141105	L13051182-04	TW-65S	40/50	1		05/30/13 14:11
60	P2.053013.141310	L13051182-05	TW-57D	40/50	1		05/30/13 14:13
61	P2.053013.141515	WG432277-01	Post Digestion Spike		1	L13051182-05	05/30/13 14:15
62	P2.053013.141720	WG432277-02	Serial Dilution		5	L13051182-05	05/30/13 14:17
63	P2.053013.142024	WG432338-25	CCV		1		05/30/13 14:20
64	P2.053013.142229	WG432338-26	CCB		1		05/30/13 14:22
65	P2.053013.142528	L13051182-06	TW-57D	40/50	1		05/30/13 14:25
66	P2.053013.142833	L13051182-07	TW-57S	40/50	1		05/30/13 14:28
67	P2.053013.143037	L13051182-08	TW-57S	40/50	1		05/30/13 14:30
68	P2.053013.143341	L13051182-09	TW-63D	40/50	1		05/30/13 14:33

Page: 2 Approved: May 31, 2013

Maren Berry

Microbac Laboratories Inc.

Instrument Run Log

Instrument: PE-ICP2 Dataset: 053013H2R.CSV
Analyst1: KHR Analyst2: N/A
Method: 6010/200.7 SOP: ME600E Rev: 12
Maintenance Log ID: 46125

Calibration Std: STD58209 ICV Std: STD58080 Post Spike: STD58073
ICSA: STD57968 ICSAB: STD58081 Int. Std: RGT17684
CCV: STD58172 LLCCV: Tuning Sol :
Stannous : Hydroxylamine :

Workgroups: 432274, 432277, 432292, 432295, 432149, 431976

Comments:

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
69	P2.053013.143643	L13051182-10	TW-63D	40/50	1		05/30/13 14:36
70	P2.053013.143949	L13051182-11	TW-63S	40/50	1		05/30/13 14:39
71	P2.053013.144154	L13051182-12	TW-63S	40/50	1		05/30/13 14:41
72	P2.053013.144358	L13051182-13	EQUIP. RINSE 1	40/50	1		05/30/13 14:43
73	P2.053013.144659	L13051182-14	EQUIP. RINSE 1	40/50	1		05/30/13 14:46
74	P2.053013.145000	WG432338-27	CCV		1		05/30/13 14:50
75	P2.053013.145205	WG432338-28	CCB		1		05/30/13 14:52
76	P2.053013.145824	WG432338-29	CCV		1		05/30/13 14:58
77	P2.053013.150028	WG432338-30	CCB		1		05/30/13 15:00
78	P2.053013.150327	L13051237-01	DS-RC-1	40/50	1		05/30/13 15:03
79	P2.053013.150628	L13051237-02	DS-RC-1	40/50	1		05/30/13 15:06
80	P2.053013.150932	L13051237-03	DS-RC-2	40/50	1		05/30/13 15:09
81	P2.053013.151233	L13051237-04	DS-RC-2	40/50	1		05/30/13 15:12
82	P2.053013.151538	L13051237-05	GW-1	40/50	1		05/30/13 15:15
83	P2.053013.151839	L13051249-01	RCA	40/50	1		05/30/13 15:18
84	P2.053013.152140	L13051251-01	DSLC	40/50	1		05/30/13 15:21
85	P2.053013.152441	L13051251-02	DSLC	40/50	1		05/30/13 15:24
86	P2.053013.152743	WG432338-31	CCV		1		05/30/13 15:27
87	P2.053013.152948	WG432338-32	CCB		1		05/30/13 15:29
88	P2.053013.153247	WG432128-01	Reference Sample		1	L13051221-01	05/30/13 15:32
89	P2.053013.153548	WG432128-04	Matrix Spike	40/50	1	L13051221-01	05/30/13 15:35
90	P2.053013.153752	WG432128-05	Matrix Spike Duplica	40/50	1	L13051221-01	05/30/13 15:37
91	P2.053013.153956	L13051304-01	SMW1-0513-1	40/50	1		05/30/13 15:39
92	P2.053013.154300	L13051304-02	SMW4-0513-1	40/50	1		05/30/13 15:43
93	P2.053013.154601	L13051304-03	MPL25-0513-1	40/50	1		05/30/13 15:46
94	P2.053013.154902	L13051360-01	GOTTSCHALK-S1	40/50	1		05/30/13 15:49
95	P2.053013.155105	WG432338-33	CCV		1		05/30/13 15:51
96	P2.053013.155310	WG432338-34	CCB		1		05/30/13 15:53
97	P2.053013.155610	WG432284-01	Method/Prep Blank	1/50	1		05/30/13 15:56
98	P2.053013.155911	WG432284-02	Laboratory Control S	1/50	1		05/30/13 15:59
99	P2.053013.160115	WG432284-03	Laboratory Control S	1/50	1		05/30/13 16:01
100	P2.053013.160319	L13051506-01	TANK SLUDGE-WATER LAY	1/50	1		05/30/13 16:03
101	P2.053013.160619	WG432292-01	Post Digestion Spike		1	L13051506-01	05/30/13 16:06
102	P2.053013.160823	WG432292-02	Serial Dilution		5	L13051506-01	05/30/13 16:08

Page: 3 Approved: May 31, 2013

Maren Berry

Microbac Laboratories Inc.

Instrument Run Log

Instrument: PE-ICP2 Dataset: 053013H2R.CSV
Analyst1: KHR Analyst2: N/A
Method: 6010/200.7 SOP: ME600E Rev: 12
Maintenance Log ID: 46125

Calibration Std: STD58209 ICV Std: STD58080 Post Spike: STD58073
ICSA: STD57968 ICSAB: STD58081 Int. Std: RGT17684
CCV: STD58172 LLCCV: Tuning Sol :
Stannous : Hydroxylamine :

Workgroups: 432274, 432277, 432292, 432295, 432149, 431976

Comments:

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
103	P2.053013.161123	WG432338-35	CCV		1		05/30/13 16:11
104	P2.053013.161328	WG432338-36	CCB		1		05/30/13 16:13
105	P2.053013.161627	WG432276-03	Method/Prep Blank	40/50	1		05/30/13 16:16
106	P2.053013.161927	WG432276-04	Laboratory Control S	40/50	1		05/30/13 16:19
107	P2.053013.162131	WG432276-01	Reference Sample		1	L13051344-01	05/30/13 16:21
108	P2.053013.162435	WG432276-05	Duplicate	40/50	1	L13051344-01	05/30/13 16:24
109	P2.053013.162739	WG432276-06	Matrix Spike	40/50	1	L13051344-01	05/30/13 16:27
110	P2.053013.162943	L13051344-02	DFB	40/50	1		05/30/13 16:29
111	P2.053013.163244	L13051344-03	DLF	40/50	1		05/30/13 16:32
112	P2.053013.163545	L13051344-04	DLF	40/50	1		05/30/13 16:35
113	P2.053013.163846	WG432295-01	Post Digestion Spike		1	L13051344-04	05/30/13 16:38
114	P2.053013.164050	WG432295-02	Serial Dilution		5	L13051344-04	05/30/13 16:40
115	P2.053013.164350	WG432338-37	CCV		1		05/30/13 16:43
116	P2.053013.164555	WG432338-38	CCB		1		05/30/13 16:45
117	P2.053013.164856	L13051344-05	ULF	40/50	1		05/30/13 16:48
118	P2.053013.165157	L13051344-06	ULF	40/50	1		05/30/13 16:51
119	P2.053013.165458	L13051345-01	DSFB	40/50	1		05/30/13 16:54
120	P2.053013.165802	L13051345-02	DSFB	40/50	1		05/30/13 16:58
121	P2.053013.170111	L13051345-03	DSLAF-1	40/50	1		05/30/13 17:01
122	P2.053013.170316	L13051345-04	DSLAF-1	40/50	1		05/30/13 17:03
123	P2.053013.170620	L13051345-05	DSLF-1	40/50	1		05/30/13 17:06
124	P2.053013.170921	L13051345-06	DSLF-1	40/50	1		05/30/13 17:09
125	P2.053013.171222	L13051345-07	DSLF-2	40/50	1		05/30/13 17:12
126	P2.053013.171524	WG432338-39	CCV		1		05/30/13 17:15
127	P2.053013.171730	WG432338-40	CCB		1		05/30/13 17:17
128	P2.053013.172031	L13051345-08	DSLF-2	40/50	1		05/30/13 17:20
129	P2.053013.172335	L13051345-09	USLF	40/50	1		05/30/13 17:23
130	P2.053013.172636	L13051345-10	USLF	40/50	1		05/30/13 17:26
131	P2.053013.172937	WG432276-02	Reference Sample		1	L13051346-01	05/30/13 17:29
132	P2.053013.173241	WG432276-07	Matrix Spike	40/50	1	L13051346-01	05/30/13 17:32
133	P2.053013.173445	L13051346-02	DSR	40/50	1		05/30/13 17:34
134	P2.053013.173750	L13051352-01	GW-1	40/50	1		05/30/13 17:37
135	P2.053013.174050	WG432338-41	CCV		1		05/30/13 17:40
136	P2.053013.174255	WG432338-42	CCB		1		05/30/13 17:42

Page: 4 Approved: May 31, 2013

Maren Berry

Microbac Laboratories Inc.

Instrument Run Log

Instrument: PE-ICP2 Dataset: 053013H2R.CSV
Analyst1: KHR Analyst2: N/A
Method: 6010/200.7 SOP: ME600E Rev: 12
Maintenance Log ID: 46125

Calibration Std: STD58209 ICV Std: STD58080 Post Spike: STD58073
ICSA: STD57968 ICSAB: STD58081 Int. Std: RGT17684
CCV: STD58172 LLCCV: Tuning Sol :
Stannous : Hydroxylamine :

Workgroups: 432274, 432277, 432292, 432295, 432149, 431976

Comments:

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
137	P2.053013.174556	WG432107-02	Method/Prep Blank	40/50	1		05/30/13 17:45
138	P2.053013.174856	WG432107-03	Laboratory Control S	40/50	1		05/30/13 17:48
139	P2.053013.175100	L13051132-01	USDA 4/23/13	40/50	1		05/30/13 17:51
140	P2.053013.175305	L13051157-01	FLUME	40/50	1		05/30/13 17:53
141	P2.053013.175606	L13051157-02	FLUME	40/50	1		05/30/13 17:56
142	P2.053013.175908	L13051157-03	201-EFF	40/50	1		05/30/13 17:59
143	P2.053013.180216	L13051157-04	201-EFF	40/50	1		05/30/13 18:02
144	P2.053013.180524	L13051157-05	202-EFF	40/50	1		05/30/13 18:05
145	P2.053013.180832	WG432149-03	Post Digestion Spike		1	L13051157-05	05/30/13 18:08
146	P2.053013.181043	WG432149-04	Serial Dilution		5	L13051157-05	05/30/13 18:10
147	P2.053013.181348	WG432338-43	CCV		1		05/30/13 18:13
148	P2.053013.181553	WG432338-44	CCB		1		05/30/13 18:15
149	P2.053013.181854	L13051157-06	202-EFF	40/50	1		05/30/13 18:18
150	P2.053013.182155	L13051157-07	EMERGENCY BASIN	40/50	1		05/30/13 18:21
151	P2.053013.182456	L13051157-08	EMERGENCY BASIN	40/50	1		05/30/13 18:24
152	P2.053013.182757	L13051246-01	SW1	40/50	1		05/30/13 18:27
153	P2.053013.183002	L13051246-02	SW2	40/50	1		05/30/13 18:30
154	P2.053013.183209	L13050886-05	SW1H13-SCM-2	40/50	1		05/30/13 18:32
155	P2.053013.183510	L13050886-06	SW1H13-SCM-2-Z	40/50	1		05/30/13 18:35
156	P2.053013.183815	L13050886-07	SW1H13-SCM-2-DUP	40/50	1		05/30/13 18:38
157	P2.053013.184117	L13050886-08	SW1H13-SCM-3	40/50	1		05/30/13 18:41
158	P2.053013.184420	WG432338-45	CCV		1		05/30/13 18:44
159	P2.053013.184625	WG432338-46	CCB		1		05/30/13 18:46
160	P2.053013.184926	L13050886-09	SW1H13-SCM-3-Z	40/50	1		05/30/13 18:49
161	P2.053013.185227	L13050886-10	FB-	40/50	1		05/30/13 18:52
162	P2.053013.185528	WG432338-47	CCV		1		05/30/13 18:55
163	P2.053013.185733	WG432338-48	CCB		1		05/30/13 18:57

Page: 5 Approved: May 31, 2013

Maren Berry

Microbac Laboratories Inc.

Instrument Run Log

Instrument: PE-ICP2 Dataset: 053113HR.CSV
Analyst1: KHR Analyst2: N/A
Method: 6010/200.7 SOP: ME600E Rev: 12
Maintenance Log ID: 46148

Calibration Std: STD58209 ICV Std: STD58080 Post Spike: STD58073
ICSA: STD57968 ICSAB: STD58081 Int. Std: RGT17684
CCV: STD58172 LLCCV: Tuning Sol :
Stannous : Hydroxylamine :

Workgroups: 432274, 431976, 432389, 432418, 432432, 432460, 432459, 432277

Comments: Add'l WG: 4321489

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
1	P2.053113.073748	WG432439-01	Calibration Point		1		05/31/13 07:37
2	P2.053113.074047	WG432439-02	Calibration Point		1		05/31/13 07:40
3	P2.053113.074347	WG432439-03	Calibration Point		1		05/31/13 07:43
4	P2.053113.074647	WG432439-04	Calibration Point		1		05/31/13 07:46
5	P2.053113.074851	WG432439-05	Calibration Point		1		05/31/13 07:48
6	P2.053113.075057	WG432439-06	Initial Calibration Verification		1		05/31/13 07:50
7	P2.053113.075300	WG432439-07	Initial Calib Blank		1		05/31/13 07:53
8	P2.053113.075559	WG432439-08	Interference Check		1		05/31/13 07:55
9	P2.053113.075802	WG432439-09	Interference Check		1		05/31/13 07:58
10	P2.053113.080003	WG432439-10	CCV		1		05/31/13 08:00
11	P2.053113.080208	WG432439-11	CCB		1		05/31/13 08:02
12	P2.053113.081521	L13051296-09	MW05D-GW-052213		2		05/31/13 08:15
13	P2.053113.081727	L13051296-09	MW05D-GW-052213	40/50	5		05/31/13 08:17
14	P2.053113.081931	L13051142-03	1995MW06-13A	40/50	10		05/31/13 08:19
15	P2.053113.082136	WG432274-01	Post Digestion Spike		10	L13051142-03	05/31/13 08:21
16	P2.053113.082341	WG432274-0	L1305114203SDL WG43227		50		05/31/13 08:23
17	P2.053113.082642	L13051142-04	1995MW07-13A	40/50	10		05/31/13 08:26
18	P2.053113.082846	L13051237-04	DS-RC-2	40/50	1		05/31/13 08:28
19	P2.053113.083150	WG432439-12	CCV		1		05/31/13 08:31
20	P2.053113.083355	WG432439-13	CCB		1		05/31/13 08:33
21	P2.053113.083655	WG432439-22	Interference Check		1		05/31/13 08:36
22	P2.053113.083858	WG432439-23	Interference Check		1		05/31/13 08:38
23	P2.053113.084059	WG432439-16	CCV		1		05/31/13 08:40
24	P2.053113.084304	WG432439-17	CCB		1		05/31/13 08:43
25	P2.053113.084659	WG432372-02	Method/Prep Blank	5/50	1		05/31/13 08:46
26	P2.053113.085000	WG432372-03	Laboratory Control S	5/50	1		05/31/13 08:50
27	P2.053113.085205	WG432147-01	TCLP Fluid Blank 1		1		05/31/13 08:52
28	P2.053113.085508	WG432147-02	TCLP Fluid Blank 2		1		05/31/13 08:55
29	P2.053113.085807	L13051410-01	FLY ASH	5/50	1		05/31/13 08:58
30	P2.053113.090107	L13051412-01	FLY ASH	5/50	1		05/31/13 09:01
31	P2.053113.090408	WG432389-01	Post Digestion Spike		1	L13051412-01	05/31/13 09:04
32	P2.053113.090612	WG432389-02	Serial Dilution		5	L13051412-01	05/31/13 09:06
33	P2.053113.090915	WG432439-18	CCV		1		05/31/13 09:09
34	P2.053113.091120	WG432439-19	CCB		1		05/31/13 09:11

Page: 1 Approved: June 03, 2013

Microbac

Microbac Laboratories Inc.

Instrument Run Log

Instrument: PE-ICP2 Dataset: 053113HR.CSV
Analyst1: KHR Analyst2: N/A
Method: 6010/200.7 SOP: ME600E Rev: 12
Maintenance Log ID: 46148

Calibration Std: STD58209 ICV Std: STD58080 Post Spike: STD58073
ICSA: STD57968 ICSAB: STD58081 Int. Std: RGT17684
CCV: STD58172 LLCCV: Tuning Sol :
Stannous : Hydroxylamine :

Workgroups: 432274, 431976, 432389, 432418, 432432, 432460, 432459, 432277

Comments: Add'l WG: 4321489

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
35	P2.053113.091419	WG432372-01	Reference Sample		1	L13051412-03	05/31/13 09:14
36	P2.053113.091723	WG432372-04	Matrix Spike	5/50	1	L13051412-03	05/31/13 09:17
37	P2.053113.091928	WG432372-05	Matrix Spike Duplica	5/50	1	L13051412-03	05/31/13 09:19
38	P2.053113.092159	L13051465-01	HEAT FILTER	5/50	1		05/31/13 09:21
39	P2.053113.092503	WG432439-20	CCV		1		05/31/13 09:25
40	P2.053113.092709	WG432439-21	CCB		1		05/31/13 09:27
41	P2.053113.094522	WG432321-03	Method/Prep Blank	40/50	1		05/31/13 09:45
42	P2.053113.094824	WG432321-04	Laboratory Control S	40/50	1		05/31/13 09:48
43	P2.053113.095029	WG432321-01	Reference Sample		1	L13051363-01	05/31/13 09:50
44	P2.053113.095335	WG432321-05	Duplicate	40/50	1	L13051363-01	05/31/13 09:53
45	P2.053113.095638	WG432321-06	Matrix Spike	40/50	1	L13051363-01	05/31/13 09:56
46	P2.053113.095841	L13051363-02	020	40/50	1		05/31/13 09:58
47	P2.053113.100144	L13051363-04	024	40/50	1		05/31/13 10:01
48	P2.053113.100444	L13051363-05	024	40/50	1		05/31/13 10:04
49	P2.053113.100744	WG432418-01	Post Digestion Spike		1	L13051363-05	05/31/13 10:07
50	P2.053113.100948	WG432418-02	Serial Dilution		5	L13051363-05	05/31/13 10:09
51	P2.053113.101248	WG432439-24	CCV		1		05/31/13 10:12
52	P2.053113.101453	WG432439-25	CCB		1		05/31/13 10:14
53	P2.053113.101752	L13051363-06	BAC	40/50	1		05/31/13 10:17
54	P2.053113.102053	L13051363-07	BAC	40/50	1		05/31/13 10:20
55	P2.053113.102354	L13051363-08	UBCAG	40/50	1		05/31/13 10:23
56	P2.053113.102655	L13051363-09	UBCAG	40/50	1		05/31/13 10:26
57	P2.053113.102956	L13051363-10	URR	40/50	1		05/31/13 10:29
58	P2.053113.103256	L13051363-11	URR	40/50	1		05/31/13 10:32
59	P2.053113.103556	WG432321-02	Reference Sample		1	L13051364-01	05/31/13 10:35
60	P2.053113.103856	WG432321-07	Matrix Spike	40/50	1	L13051364-01	05/31/13 10:38
61	P2.053113.104059	L13051364-02	BAC	40/50	1		05/31/13 10:40
62	P2.053113.104359	WG432439-26	CCV		1		05/31/13 10:43
63	P2.053113.104604	WG432439-27	CCB		1		05/31/13 10:46
64	P2.053113.104907	L13051364-03	UBCAG	40/50	1		05/31/13 10:49
65	P2.053113.105207	L13051364-04	UBCAG	40/50	1		05/31/13 10:52
66	P2.053113.105507	L13051364-05	URR	40/50	1		05/31/13 10:55
67	P2.053113.105807	L13051364-06	URR	40/50	1		05/31/13 10:58
68	P2.053113.110107	L13051364-07	DBC	40/50	1		05/31/13 11:01

Page: 2 Approved: June 03, 2013

Microbac Laboratories Inc.

Instrument Run Log

Instrument: PE-ICP2 Dataset: 053113HR.CSV
Analyst1: KHR Analyst2: N/A
Method: 6010/200.7 SOP: ME600E Rev: 12
Maintenance Log ID: 46148

Calibration Std: STD58209 ICV Std: STD58080 Post Spike: STD58073
ICSA: STD57968 ICSAB: STD58081 Int. Std: RGT17684
CCV: STD58172 LLCCV: Tuning Sol :
Stannous : Hydroxylamine :

Workgroups: 432274, 431976, 432389, 432418, 432432, 432460, 432459, 432277

Comments: Add'l WG: 4321489

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
69	P2.053113.110408	L13051364-08	DBC	40/50	1		05/31/13 11:04
70	P2.053113.110709	L13051413-01	3051378-01	40/50	1		05/31/13 11:07
71	P2.053113.111010	WG432439-28	CCV		1		05/31/13 11:10
72	P2.053113.111215	WG432439-29	CCB		1		05/31/13 11:12
73	P2.053113.111929	WG432374-03	Method/Prep Blank	40/50	1		05/31/13 11:19
74	P2.053113.112230	WG432374-04	Laboratory Control S	40/50	1		05/31/13 11:22
75	P2.053113.112433	WG432374-01	Reference Sample		1	L13051365-01	05/31/13 11:24
76	P2.053113.112734	WG432374-05	Duplicate	40/50	1	L13051365-01	05/31/13 11:27
77	P2.053113.113035	WG432374-06	Matrix Spike	40/50	1	L13051365-01	05/31/13 11:30
78	P2.053113.113239	L13051365-02	002	40/50	1		05/31/13 11:32
79	P2.053113.113543	L13051365-03	DMC	40/50	1		05/31/13 11:35
80	P2.053113.113844	L13051365-04	DMC	40/50	1		05/31/13 11:38
81	P2.053113.114145	WG432432-01	Post Digestion Spike		1	L13051365-04	05/31/13 11:41
82	P2.053113.114349	WG432432-02	Serial Dilution		5	L13051365-04	05/31/13 11:43
83	P2.053113.114650	WG432439-30	CCV		1		05/31/13 11:46
84	P2.053113.114855	WG432439-31	CCB		1		05/31/13 11:48
85	P2.053113.115154	L13051365-05	UMC	40/50	1		05/31/13 11:51
86	P2.053113.115455	L13051365-06	UMC	40/50	1		05/31/13 11:54
87	P2.053113.115805	L13051368-01	DUBWB	40/50	1		05/31/13 11:58
88	P2.053113.120106	L13051368-02	DUBWB	40/50	1		05/31/13 12:01
89	P2.053113.120410	L13051368-03	DUTMC	40/50	1		05/31/13 12:04
90	P2.053113.120711	WG432374-02	Reference Sample		1	L13051368-04	05/31/13 12:07
91	P2.053113.121015	WG432374-07	Matrix Spike	40/50	1	L13051368-04	05/31/13 12:10
92	P2.053113.121219	L13051368-05	DWB	40/50	1		05/31/13 12:12
93	P2.053113.121520	L13051368-06	DWB	40/50	1		05/31/13 12:15
94	P2.053113.121824	WG432439-32	CCV		1		05/31/13 12:18
95	P2.053113.122029	WG432439-33	CCB		1		05/31/13 12:20
96	P2.053113.122329	L13051368-07	UUBWB	40/50	1		05/31/13 12:23
97	P2.053113.122629	L13051368-08	UUBWB	40/50	1		05/31/13 12:26
98	P2.053113.122929	L13051368-09	UWB	40/50	1		05/31/13 12:29
99	P2.053113.123230	L13051368-10	UWB	40/50	1		05/31/13 12:32
100	P2.053113.123531	L13051368-11	BLOWOUT	40/50	1		05/31/13 12:35
101	P2.053113.123736	L13051368-12	BLOWOUT	40/50	1		05/31/13 12:37
102	P2.053113.123941	L13051368-13	GW-2	40/50	1		05/31/13 12:39

Page: 3 Approved: June 03, 2013

Microbac Laboratories Inc.

Instrument Run Log

Instrument: PE-ICP2 Dataset: 053113HR.CSV
Analyst1: KHR Analyst2: N/A
Method: 6010/200.7 SOP: ME600E Rev: 12
Maintenance Log ID: 46148

Calibration Std: STD58209 ICV Std: STD58080 Post Spike: STD58073
ICSA: STD57968 ICSAB: STD58081 Int. Std: RGT17684
CCV: STD58172 LLCCV: Tuning Sol :
Stannous : Hydroxylamine :

Workgroups: 432274, 431976, 432389, 432418, 432432, 432460, 432459, 432277

Comments: Add'l WG: 4321489

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
103	P2.053113.124241	WG432439-34	CCV		1		05/31/13 12:42
104	P2.053113.124446	WG432439-35	CCB		1		05/31/13 12:44
105	P2.053113.130212	WG432425-03	Method/Prep Blank	40/50	1		05/31/13 13:02
106	P2.053113.130513	WG432425-04	Laboratory Control S	40/50	1		05/31/13 13:05
107	P2.053113.130717	WG432425-01	Reference Sample		1	L13051372-14	05/31/13 13:07
108	P2.053113.131017	WG432425-05	Duplicate	40/50	1	L13051372-14	05/31/13 13:10
109	P2.053113.131317	WG432425-06	Matrix Spike	40/50	1	L13051372-14	05/31/13 13:13
110	P2.053113.131521	L13051372-15	UBCAG	40/50	1		05/31/13 13:15
111	P2.053113.131821	L13051372-16	UBCAG	40/50	1		05/31/13 13:18
112	P2.053113.132121	L13051372-17	UBCAU	40/50	1		05/31/13 13:21
113	P2.053113.132421	WG432460-01	Post Digestion Spike		1	L13051372-17	05/31/13 13:24
114	P2.053113.132625	WG432460-02	Serial Dilution		5	L13051372-17	05/31/13 13:26
115	P2.053113.132926	WG432439-36	CCV		1		05/31/13 13:29
116	P2.053113.133131	WG432439-37	CCB		1		05/31/13 13:31
117	P2.053113.133431	L13051372-18	UBCAU	40/50	1		05/31/13 13:34
118	P2.053113.133731	L13051372-19	UBCBG	40/50	1		05/31/13 13:37
119	P2.053113.134031	L13051372-20	UBCBG	40/50	1		05/31/13 13:40
120	P2.053113.134331	L13051372-21	URRLF	40/50	1		05/31/13 13:43
121	P2.053113.134631	L13051372-22	URRLF	40/50	1		05/31/13 13:46
122	P2.053113.134931	L13051372-23	URRMF	40/50	1		05/31/13 13:49
123	P2.053113.135231	L13051372-24	URRMF	40/50	1		05/31/13 13:52
124	P2.053113.135531	L13051372-25	URRRF	40/50	1		05/31/13 13:55
125	P2.053113.135831	L13051372-26	URRRF	40/50	1		05/31/13 13:58
126	P2.053113.140131	WG432439-38	CCV		1		05/31/13 14:01
127	P2.053113.140336	WG432439-39	CCB		1		05/31/13 14:03
128	P2.053113.140635	WG432425-02	Reference Sample		1	L13051418-01	05/31/13 14:06
129	P2.053113.140939	WG432425-07	Matrix Spike	40/50	1	L13051418-01	05/31/13 14:09
130	P2.053113.141143	L13051418-02	001	40/50	1		05/31/13 14:11
131	P2.053113.141448	L13051419-01	002	40/50	1		05/31/13 14:14
132	P2.053113.141749	L13051419-02	002	40/50	1		05/31/13 14:17
133	P2.053113.142050	L13051558-01	OUTFALL 002/COMP	40/50	1		05/31/13 14:20
134	P2.053113.142351	L13051565-04	OUTFALL 003/COMP	40/50	1		05/31/13 14:23
135	P2.053113.142655	WG432439-40	CCV		1		05/31/13 14:26
136	P2.053113.142900	WG432439-41	CCB		1		05/31/13 14:29

Page: 4 Approved: June 03, 2013

Microbac Laboratories Inc.

Instrument Run Log

Instrument: PE-ICP2 Dataset: 053113HR.CSV
Analyst1: KHR Analyst2: N/A
Method: 6010/200.7 SOP: ME600E Rev: 12
Maintenance Log ID: 46148

Calibration Std: STD58209 ICV Std: STD58080 Post Spike: STD58073
ICSA: STD57968 ICSAB: STD58081 Int. Std: RGT17684
CCV: STD58172 LLCCV: Tuning Sol :
Stannous : Hydroxylamine :

Workgroups: 432274, 431976, 432389, 432418, 432432, 432460, 432459, 432277

Comments: Add'l WG: 4321489

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
137	P2.053113.143236	WG432420-03	Method/Prep Blank	40/50	1		05/31/13 14:32
138	P2.053113.143537	WG432420-04	Laboratory Control S	40/50	1		05/31/13 14:35
139	P2.053113.143741	WG432420-01	Reference Sample		1	L13051371-01	05/31/13 14:37
140	P2.053113.144043	WG432420-05	Duplicate	40/50	1	L13051371-01	05/31/13 14:40
141	P2.053113.144345	WG432420-06	Matrix Spike	40/50	1	L13051371-01	05/31/13 14:43
142	P2.053113.144550	L13051371-02	001	40/50	1		05/31/13 14:45
143	P2.053113.144855	L13051371-03	002	40/50	1		05/31/13 14:48
144	P2.053113.145157	L13051371-04	002	40/50	1		05/31/13 14:51
145	P2.053113.145502	WG432459-01	Post Digestion Spike		1	L13051371-04	05/31/13 14:55
146	P2.053113.145707	WG432459-02	Serial Dilution		5	L13051371-04	05/31/13 14:57
147	P2.053113.150008	WG432439-42	CCV		1		05/31/13 15:00
148	P2.053113.150213	WG432439-43	CCB		1		05/31/13 15:02
149	P2.053113.150550	L13051371-05	DUBWB	40/50	1		05/31/13 15:05
150	P2.053113.150852	L13051371-06	DUBWB	40/50	1		05/31/13 15:08
151	P2.053113.151156	L13051371-07	DUTMC	40/50	1		05/31/13 15:11
152	P2.053113.151458	L13051371-08	DUTMC	40/50	1		05/31/13 15:14
153	P2.053113.151803	L13051371-09	DWB	40/50	1		05/31/13 15:18
154	P2.053113.152104	WG432420-02	Reference Sample		1	L13051371-10	05/31/13 15:21
155	P2.053113.152408	WG432420-07	Matrix Spike	40/50	1	L13051371-10	05/31/13 15:24
156	P2.053113.152612	L13051371-11	UUBWB	40/50	1		05/31/13 15:26
157	P2.053113.152913	L13051371-12	UUBWB	40/50	1		05/31/13 15:29
158	P2.053113.153214	WG432439-44	CCV		1		05/31/13 15:32
159	P2.053113.153419	WG432439-45	CCB		1		05/31/13 15:34
160	P2.053113.153719	L13051371-13	UWB	40/50	1		05/31/13 15:37
161	P2.053113.154020	L13051371-14	UWB	40/50	1		05/31/13 15:40
162	P2.053113.154321	L13051372-09	DBC	40/50	1		05/31/13 15:43
163	P2.053113.154622	L13051372-10	DBC	40/50	1		05/31/13 15:46
164	P2.053113.154923	L13051372-11	DRR	40/50	1		05/31/13 15:49
165	P2.053113.155224	L13051372-12	DRR	40/50	1		05/31/13 15:52
166	P2.053113.155525	L13051372-13	UBC	40/50	1		05/31/13 15:55
167	P2.053113.155826	WG432439-46	CCV		1		05/31/13 15:58
168	P2.053113.160031	WG432439-47	CCB		1		05/31/13 16:00
169	P2.053113.160331	WG432128-02	Method/Prep Blank	40/50	1		05/31/13 16:03
170	P2.053113.160632	WG432128-03	Laboratory Control S	40/50	1		05/31/13 16:06

Page: 5 Approved: June 03, 2013

Microbac Laboratories Inc.

Instrument Run Log

Instrument: PE-ICP2 Dataset: 053113HR.CSV
Analyst1: KHR Analyst2: N/A
Method: 6010/200.7 SOP: ME600E Rev: 12
Maintenance Log ID: 46148

Calibration Std: STD58209 ICV Std: STD58080 Post Spike: STD58073
ICSA: STD57968 ICSAB: STD58081 Int. Std: RGT17684
CCV: STD58172 LLCCV: Tuning Sol :
Stannous : Hydroxylamine :

Workgroups: 432274, 431976, 432389, 432418, 432432, 432460, 432459, 432277

Comments: Add'l WG: 4321489

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
171	P2.053113.160836	WG432128-01	Reference Sample		1	L13051221-01	05/31/13 16:08
172	P2.053113.161137	WG432128-04	Matrix Spike	40/50	1	L13051221-01	05/31/13 16:11
173	P2.053113.161341	WG432128-05	Matrix Spike Duplica	40/50	1	L13051221-01	05/31/13 16:13
174	P2.053113.161546	WG432277-03	Post Digestion Spike		1	L13051221-01	05/31/13 16:15
175	P2.053113.161750	WG432277-04	Serial Dilution		5	L13051221-01	05/31/13 16:17
176	P2.053113.162127	L13051182-05	TW-57D	40/50	100		05/31/13 16:21
177	P2.053113.162428	L13051182-06	TW-57D	40/50	100		05/31/13 16:24
178	P2.053113.162729	L13051304-01	SMW1-0513-1	40/50	10		05/31/13 16:27
179	P2.053113.163030	WG432439-48	CCV		1		05/31/13 16:30
180	P2.053113.163235	WG432439-49	CCB		1		05/31/13 16:32
181	P2.053113.163535	L13051304-02	SMW4-0513-1	40/50	10		05/31/13 16:35
182	P2.053113.163836	L13051304-03	MPL25-0513-1	40/50	10		05/31/13 16:38
183	P2.053113.164137	L13051157-01	FLUME	40/50	100		05/31/13 16:41
184	P2.053113.164438	L13051157-02	FLUME	40/50	100		05/31/13 16:44
185	P2.053113.164739	L13051157-03	201-EFF	40/50	100		05/31/13 16:47
186	P2.053113.165040	L13051157-04	201-EFF	40/50	100		05/31/13 16:50
187	P2.053113.165341	L13051157-05	202-EFF	40/50	100		05/31/13 16:53
188	P2.053113.165642	WG432149-03	Post Digestion Spike		100	L13051157-05	05/31/13 16:56
189	P2.053113.165847	WG432149-04	Serial Dilution		500	L13051157-05	05/31/13 16:58
190	P2.053113.170148	L13051157-06	202-EFF	40/50	100		05/31/13 17:01
191	P2.053113.170449	WG432439-50	CCV		1		05/31/13 17:04
192	P2.053113.170654	WG432439-51	CCB		1		05/31/13 17:06
193	P2.053113.170954	L13051157-07	EMERGENCY BASIN	40/50	100		05/31/13 17:09
194	P2.053113.171255	L13051157-08	EMERGENCY BASIN	40/50	100		05/31/13 17:12
195	P2.053113.171556	WG432107-01	Reference Sample		1	L13051464-07	05/31/13 17:15
196	P2.053113.171857	WG432107-05	Matrix Spike	40/50	1	L13051464-07	05/31/13 17:18
197	P2.053113.172102	WG432107-06	Matrix Spike Duplica	40/50	1	L13051464-07	05/31/13 17:21
198	P2.053113.172307	L13051246-02	SW2	40/50	100		05/31/13 17:23
199	P2.053113.172608	WG432439-52	CCV		1		05/31/13 17:26
200	P2.053113.172813	WG432439-53	CCB		1		05/31/13 17:28

Page: 6 Approved: June 03, 2013

Microbac Laboratories Inc.

Data Checklist

Date: 30-MAY-2013
Analyst: KHR
Analyst: NA
Method: 6010B/6010C/200.7
Instrument: PE-ICP2
Curve Workgroup: 432338
Runlog ID: 53484
Analytical Workgroups: 432274, 432277, 432292, 432295, 432149, 431976

Calibration/Linearity	X
ICV/CCV	X
ICV RSD <= 3% (EPA 200.7 only)	X
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	X
Client Forms	X
Level X	1246
Level 3	1296, 1221
Level 4	1141, 1142, 1172, 1182, 1304
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: 31-MAY-2013 Kim H. Rhoden

Secondary Reviewer: 31-MAY-2013 Maren Berry

CHECKLIST1 - Modified 03/05/2008
Generated: MAY-31-2013 12:29:01

Microbac Laboratories Inc.

Data Checklist

Date: 31-MAY-2013
Analyst: KHR
Analyst: NA
Method: 6010B/6010C/200.7
Instrument: PE-ICP2
Curve Workgroup: 432439
Runlog ID: 53506
Analytical Workgroups: 432274, 431976, 432389, 432418, 432432, 432460, 432459, 432277

Add'l WG	432149
Calibration/Linearity	X
ICV/CCV	X
ICV RSD <= 3% (EPA 200.7 only)	X
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	X
Client Forms	X
Level X	1246
Level 3	1296, 1221
Level 4	1142, 1182, 1304
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:
03-JUN-2013

Secondary Reviewer:
03-JUN-2013

CHECKLIST1 - Modified 03/05/2008
Generated: JUN-03-2013 12:21:43

Microbac Laboratories Inc.

HOLDING TIMES
EQUIVALENT TO AFCEE FORM 9

Analytical Method: 6010B AAB#: WG432277

Login Number: L13051304

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
SMW1-0513-1	01	05/23/13					05/29/2013	6.1	180		05/30/13	7.2	180	
SMW1-0513-1	01	05/23/13					05/29/2013	6.1	180		05/31/13	8.2	180	
SMW4-0513-1	02	05/23/13					05/29/2013	6	180		05/31/13	8.2	180	
SMW4-0513-1	02	05/23/13					05/29/2013	6	180		05/30/13	7.1	180	
MPL25-0513-1	03	05/23/13					05/29/2013	5.9	180		05/30/13	7	180	
MPL25-0513-1	03	05/23/13					05/29/2013	5.9	180		05/31/13	8.1	180	

* = SEE PROJECT QAPP REQUIREMENTS

HOLD_TIMES - Modified 03/06/2008
PDF File ID: 2901296
Report generated 06/03/2013 07:09

Microbac Laboratories Inc.

METHOD BLANK SUMMARY

Login Number: L13051304
Blank File ID: P2.053013.135646
Prep Date: 05/29/13 12:29
Analyzed Date: 05/30/13 13:56
Analyst: KHR

Work Group: WG432277
Blank Sample ID: WG432128-02
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	WG432128-03	P2.053013.135946	05/30/13 13:59	01
SMW1-0513-1	L13051304-01	P2.053013.153956	05/30/13 15:39	01
SMW4-0513-1	L13051304-02	P2.053013.154300	05/30/13 15:43	01
MPL25-0513-1	L13051304-03	P2.053013.154601	05/30/13 15:46	01
LCS	WG432128-03	P2.053113.160632	05/31/13 16:06	02
SMW1-0513-1	L13051304-01	P2.053113.162729	05/31/13 16:27	DL01
SMW4-0513-1	L13051304-02	P2.053113.163535	05/31/13 16:35	DL01
MPL25-0513-1	L13051304-03	P2.053113.163836	05/31/13 16:38	DL01

Report Name: BLANK_SUMMARY
PDF File ID: 2901297
Report generated 06/03/2013 07:09

Microbac Laboratories Inc.

METHOD BLANK REPORT

Login Number: L13051304 Prep Date: 05/29/13 12:29 Sample ID: WG432128-02
Instrument ID: PE-ICP2 Run Date: 05/30/13 13:56 Prep Method: 3015
File ID: P2.053013.135646 Analyst: KHR Method: 6010B
Workgroup (AAB#): WG432277 Matrix: Water Units: mg/L
Contract #: Cal ID: PE-ICP-30-MAY-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
Vanadium, Total	0.00500	0.0100	0.00500	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: 2901298
31-MAY-2013 08:06

Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L13051304 Run Date: 05/30/2013 Sample ID: WG432128-03
Instrument ID: PE-ICP2 Run Time: 13:59 Prep Method: 3015
File ID: P2.053013.135946 Analyst: KHR Method: 6010B
Workgroup (AAB#): WG432277 Matrix: Water Units: mg/L
QC Key: DOD4 Lot#: STD57783 Cal ID: PE-ICP-30-MAY-13

Analytes	Expected	Found	% Rec	LCS Limits	Q
Beryllium, Total	0.0313	0.0299	95.6	80 - 120	
Calcium, Total	6.25	6.21	99.3	80 - 120	
Magnesium, Total	6.25	6.08	97.3	80 - 120	
Potassium, Total	31.3	32.0	102	80 - 120	
Sodium, Total	31.3	32.1	103	80 - 120	
Tin, Total	0.625	0.615	98.4	80 - 120	
Vanadium, Total	0.625	0.618	98.9	80 - 120	
Zinc, Total	0.625	0.628	101	80 - 120	

LCS - Modified 03/06/2008
PDF File ID: 2901299
Report generated: 05/31/2013 08:06

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

Loginnum: L13051304 Cal ID: PE-ICP2 - Worknum: WG432277
Instrument ID: PE-ICP2 Contract #: Method: 6010B
Parent ID: WG432128-01 File ID: P2.053013.153247 Dil: 1 Matrix: WATER
Sample ID: WG432128-04 MS File ID: P2.053013.153548 Dil: 1 Units: mg/L
Sample ID: WG432128-05 MSD File ID: P2.053013.153752 Dil: 1

Analyte	Parent	MS Spiked	MS Found	MS %Rec	MSD Spiked	MSD Found	MSD %Rec	%RPD	%Rec Limits	RPD Limit	Q
Beryllium	ND	0.0313	0.0299	95.6	0.0313	0.0303	96.9	1.30	80 - 120	20	
Calcium	34.7	6.25	40.8	96.5	6.25	42.3	121	3.75	80 - 120	20	*
Magnesium	5.00	6.25	10.9	94.2	6.25	10.8	92.7	0.855	80 - 120	20	
Potassium	2.70	31.3	35.3	104	31.3	34.7	102	1.84	80 - 120	20	
Sodium	4.27	31.3	36.3	103	31.3	36.1	102	0.766	80 - 120	20	
Tin	ND	0.625	0.613	98.0	0.625	0.639	102	4.17	80 - 120	20	
Vanadium	0.00644	0.625	0.635	101	0.625	0.638	101	0.434	80 - 120	20	
Zinc	0.0167	0.625	0.623	97.0	0.625	0.633	98.7	1.66	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: 2901300
Report generated 05/31/2013 08:06

Microbac Laboratories Inc.
Serial Dilution Report

Login: L13051304 **Worknum:** WG432277
Instrument: PE-ICP2 **Method:** 6010B
Serial Dil: WG432277-02 **File ID:** P2.053013.141720 **Dil:** 5 **Units:** mg/L
Sample: L13051182-05 **File ID:** P2.053013.141310 **Dil:** 1

Analyte	Sample	Qual	Serial Dil	Qual	% Diff	Q
Beryllium	ND	U	ND	U		
Calcium	216		198		8.33	
Magnesium	42.5		41.0		3.44	
Potassium	1.58	X	ND	U		
Sodium	259		308		19.10	E
Tin	ND	U	ND	U		
Vanadium	0.0169	X	0.0306	F	81.70	
Zinc	0.00895	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: 2901294
05/31/2013 08:06

Microbac Laboratories Inc.
POST SPIKE REPORT

Sample Login ID: L13051304 **Worknum:** WG432277
Instrument ID: PE-ICP2 **Method:** 6010B
Post Spike ID: WG432277-01 **File ID:** P2.053013.141515 **Dil:** 1 **Units:** mg/L
Sample ID: L13051182-05 **File ID:** P2.053013.141310 **Dil:** 1 **Matrix:** Water

Analyte	Post Spike Result	C	Sample Result	C	Spike Added(SA)	% R	Control Limit %R	Q
BERYLLIUM	0.0241		0	U	.025	96.3	75 - 125	
CALCIUM	196		216		5	30.8	75 - 125	N
MAGNESIUM	39.8		42.5		5	31.1	75 - 125	N
POTASSIUM	27.0		1.58		25	102.4	75 - 125	
SODIUM	252		259		25	76.3	75 - 125	
TIN	0.433		0	U	.5	86.5	75 - 125	
VANADIUM	0.520		0.0169		.5	101.0	75 - 125	
ZINC	0.492		0.00895	F	.5	96.8	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: 2901295
Report generated: 05/31/2013 08:06

Microbac Laboratories Inc.
Initial Calibration Summary

Login:	**L13051304**	Workgroup (AAB#):	**WG432277**
Analytical Method:	**6010B**	Instrument ID:	**PE-ICP2**
ICAL Worknum:	**WG432338**	Initial Calibration Date:	**30-MAY-2013 11:39**

	WG432338-01		WG432338-02		WG432338-03		WG432338-04		WG432338-05			
	Conc	INT	Conc	INT	Conc	INT	Conc	INT	Conc	INT	R	Q
BERYLLIUM	0	-1330	.0005	247	.001	532	.05	32700	.1	67000	.999933	
CALCIUM	0	-93.1	NA	NA	.2	39.5	10	2070	20	4240	.999906	
MAGNESIUM	0	29.2	.1	114	.2	232	10	13900	20	28700	.99989	
POTASSIUM	0	67.1	.5	612	1	1220	50	71400	100	147000	1	
SODIUM	0	682	.5	4160	1	8790	50	523000	100	1100000	1	
TIN	0	38.0	.01	59.3	.02	115	1	7930	1	16100	.999982	
VANADIUM	0	5470	.01	1760	.02	3110	1	194000	2	392000	.999986	
ZINC	0	-10.5	.01	298	.02	578	1	34500	2	70500	.99995	

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: 2901303
Report generated: 03-JUN-2013 07:09

Microbac Laboratories Inc.
Initial Calibration Summary

Login:	**L13051304**	Workgroup (AAB#):	**WG432277**
Analytical Method:	**6010B**	Instrument ID:	**PE-ICP2**
ICAL Worknum:	**WG432439**	Initial Calibration Date:	**31-MAY-2013 07:48**

	WG432439-01		WG432439-02		WG432439-03		WG432439-04		WG432439-05			
	Conc	INT	Conc	INT	Conc	INT	Conc	INT	Conc	INT	R	Q
BERYLLIUM	0	-1390	.0005	233	.001	515	.05	33600	.1	67300	1	
CALCIUM	0	-90.7	NA	NA	.2	38.8	10	2120	20	4180	.999981	
MAGNESIUM	0	31.1	.1	113	.2	223	10	14100	20	27900	.999983	
POTASSIUM	0	142	.5	578	1	1260	50	74300	100	146000	1	
SODIUM	0	932	.5	4420	1	9200	50	552000	100	1080000	1	
TIN	0	26.8	.01	62.6	.02	125	1	8120	1	15900	.999945	
VANADIUM	0	5650	.01	1870	.02	3160	1	197000	2	392000	.999995	
ZINC	0	-4.95	.01	290	.02	580	1	35100	2	69400	.99998	

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: 2901303
Report generated: 03-JUN-2013 07:09

Microbac Laboratories Inc.
INITIAL CALIBRATION BLANK (ICB)

Login Number: L13051304
Run Date: 05/30/2013
Sample ID: WG432338-07
Instrument ID: PE-ICP2
Run Time: 11:43
Method: 6010B
File ID: P2.053013.114348
Analyst: KHR
Units: mg/L
Workgroup (AAB#): WG432277
Cal ID: PE-ICP2 - 30-MAY-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: 2901305
Report generated 06/03/2013 07:09

Microbac Laboratories Inc.
INITIAL CALIBRATION BLANK (ICB)

Login Number: L13051304
Run Date: 05/31/2013
Sample ID: WG432439-07
Instrument ID: PE-ICP2
Run Time: 07:53
Method: 6010B
File ID: P2.053113.075300
Analyst: KHR
Units: mg/L
Workgroup (AAB#): WG432277
Cal ID: PE-ICP2 - 31-MAY-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: 2901305
Report generated 06/03/2013 07:09

Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L13051304
Run Date: 05/30/2013
Sample ID: WG432338-11
Instrument ID: PE-ICP2
Run Time: 11:52
Method: 6010B
File ID: P2.053013.115256
Analyst: KHR
Units: mg/L
Workgroup (AAB#): WG432277
Cal ID: PE-ICP - 30-MAY-13
Matrix: WATER
QAPP: DOD4

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: 2901308
Report generated 06/03/2013 07:09

Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L13051304
Run Date: 05/30/2013
Sample ID: WG432338-17
Instrument ID: PE-ICP2
Run Time: 13:20
Method: 6010B
File ID: P2.053013.132028
Analyst: KHR
Units: mg/L
Workgroup (AAB#): WG432277
Cal ID: PE-ICP - 30-MAY-13
Matrix: WATER
QAPP: DOD4

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: 2901308
Report generated 06/03/2013 07:09

Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L13051304
Run Date: 05/30/2013
Sample ID: WG432338-21
Instrument ID: PE-ICP2
Run Time: 13:29
Method: 6010B
File ID: P2.053013.132937
Analyst: KHR
Units: mg/L
Workgroup (AAB#): WG432277
Cal ID: PE-ICP - 30-MAY-13
Matrix: WATER
QAPP: DOD4

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: 2901308
Report generated 06/03/2013 07:09

Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L13051304
Run Date: 05/30/2013
Sample ID: WG432338-24
Instrument ID: PE-ICP2
Run Time: 13:40
Method: 6010B
File ID: P2.053013.134044
Analyst: KHR
Units: mg/L
Workgroup (AAB#): WG432277
Cal ID: PE-ICP - 30-MAY-13
Matrix: WATER
QAPP: DOD4

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: 2901308
Report generated 06/03/2013 07:09

Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L13051304
Run Date: 05/30/2013
Sample ID: WG432338-26
Instrument ID: PE-ICP2
Run Time: 14:22
Method: 6010B
File ID: P2.053013.142229
Analyst: KHR
Units: mg/L
Workgroup (AAB#): WG432277
Cal ID: PE-ICP - 30-MAY-13
Matrix: WATER
QAPP: DOD4

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: 2901308
Report generated 06/03/2013 07:09

Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L13051304
Run Date: 05/30/2013
Sample ID: WG432338-32
Instrument ID: PE-ICP2
Run Time: 15:29
Method: 6010B
File ID: P2.053013.152948
Analyst: KHR
Units: mg/L
Workgroup (AAB#): WG432277
Cal ID: PE-ICP - 30-MAY-13
Matrix: WATER
QAPP: DOD4

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: 2901308
Report generated 06/03/2013 07:09

Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L13051304
Run Date: 05/30/2013
Sample ID: WG432338-34
Instrument ID: PE-ICP2
Run Time: 15:53
Method: 6010B
File ID: P2.053013.155310
Analyst: KHR
Units: mg/L
Workgroup (AAB#): WG432277
Cal ID: PE-ICP - 30-MAY-13
Matrix: WATER
QAPP: DOD4

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: 2901308
Report generated 06/03/2013 07:09

Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L13051304
Run Date: 05/31/2013
Sample ID: WG432439-11
Instrument ID: PE-ICP2
Run Time: 08:02
Method: 6010B
File ID: P2.053113.080208
Analyst: KHR
Units: mg/L
Workgroup (AAB#): WG432277
Cal ID: PE-ICP - 31-MAY-13
Matrix: WATER
QAPP: DOD4

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: 2901308
Report generated 06/03/2013 07:09

Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L13051304
Run Date: 05/31/2013
Sample ID: WG432439-13
Instrument ID: PE-ICP2
Run Time: 08:33
Method: 6010B
File ID: P2.053113.083355
Analyst: KHR
Units: mg/L
Workgroup (AAB#): WG432277
Cal ID: PE-ICP - 31-MAY-13
Matrix: WATER
QAPP: DOD4

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: 2901308
Report generated 06/03/2013 07:09

Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L13051304
Run Date: 05/31/2013
Sample ID: WG432439-17
Instrument ID: PE-ICP2
Run Time: 08:43
Method: 6010B
File ID: P2.053113.084304
Analyst: KHR
Units: mg/L
Workgroup (AAB#): WG432277
Cal ID: PE-ICP - 31-MAY-13
Matrix: WATER
QAPP: DOD4

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: 2901308
Report generated 06/03/2013 07:09

Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L13051304
Run Date: 05/31/2013
Sample ID: WG432439-47
Instrument ID: PE-ICP2
Run Time: 16:00
Method: 6010B
File ID: P2.053113.160031
Analyst: KHR
Units: mg/L
Workgroup (AAB#): WG432277
Cal ID: PE-ICP - 31-MAY-13
Matrix: WATER
QAPP: DOD4

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: 2901308
Report generated 06/03/2013 07:09

Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L13051304
Run Date: 05/31/2013
Sample ID: WG432439-49
Instrument ID: PE-ICP2
Run Time: 16:32
Method: 6010B
File ID: P2.053113.163235
Analyst: KHR
Units: mg/L
Workgroup (AAB#): WG432277
Cal ID: PE-ICP - 31-MAY-13
Matrix: WATER
QAPP: DOD4

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: 2901308
Report generated 06/03/2013 07:09

Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L13051304
Run Date: 05/31/2013
Sample ID: WG432439-51
Instrument ID: PE-ICP2
Run Time: 17:06
Method: 6010B
File ID: P2.053113.170654
Analyst: KHR
Units: mg/L
Workgroup (AAB#): WG432277
Cal ID: PE-ICP - 31-MAY-13
Matrix: WATER
QAPP: DOD4

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: 2901308
Report generated 06/03/2013 07:09

Microbac Laboratories Inc.

INITIAL CALIBRATION VERIFICATION (ICV)

(Alternate Source)

Login Number: L13051304 Run Date: 05/30/2013 Sample ID: WG432338-06

Instrument ID: PE-ICP2 Run Time: 11:41 Method: 6010B

File ID: P2.053013.114144 Analyst: KHR Units: mg/L

Workgroup (AAB#): WG432277 Cal ID: PE-ICP - 30-MAY-13

QC Key: DOD4

Analyte		Expected	Found	%REC	LIMITS	Q
Beryllium		.05	0.0488	97.5	90 - 110	
Calcium		10	10.2	102	90 - 110	
Magnesium		10	10.2	102	90 - 110	
Potassium		50	52.0	104	90 - 110	
Sodium		50	53.3	107	90 - 110	
Tin		1	0.942	94.2	90 - 110	
Vanadium		1	0.987	98.7	90 - 110	
Zinc		1	1.01	101	90 - 110	

* Exceeds LIMITS Limit

ICV - Modified 03/06/2008
PDF File ID: 2901304
Report generated 06/03/2013 07:09

Microbac Laboratories Inc.

INITIAL CALIBRATION VERIFICATION (ICV)
(Alternate Source)

Login Number: L13051304 Run Date: 05/31/2013 Sample ID: WG432439-06
Instrument ID: PE-ICP2 Run Time: 07:50 Method: 6010B
File ID: P2.053113.075057 Analyst: KHR Units: mg/L
Workgroup (AAB#): WG432277 Cal ID: PE-ICP - 31-MAY-13
QC Key: DOD4

Analyte		Expected	Found	%REC	LIMITS	Q
Beryllium		.05	0.0493	98.6	90 - 110	
Calcium		10	10.5	105	90 - 110	
Magnesium		10	9.84	98.4	90 - 110	
Potassium		50	49.4	98.9	90 - 110	
Sodium		50	50.8	102	90 - 110	
Tin		1	0.949	94.9	90 - 110	
Vanadium		1	0.975	97.5	90 - 110	
Zinc		1	1.01	101	90 - 110	

* Exceeds LIMITS Limit

ICV - Modified 03/06/2008
PDF File ID: 2901304
Report generated 06/03/2013 07:09

Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L13051304
Run Date: 05/30/2013
Sample ID: WG432338-10
Instrument ID: PE-ICP2
Run Time: 11:50
Method: 6010B
File ID: P2.053013.115051
Analyst: KHR
QC Key: DOD4
Workgroup (AAB#): WG432277
Cal ID: PE-ICP - 30-MAY-13
Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Beryllium		0.0500	0.0508	mg/L	102	90 - 110		
Calcium		10.0	10.6	mg/L	106	90 - 110		
Magnesium		10.0	10.3	mg/L	103	90 - 110		
Potassium		50.0	50.7	mg/L	101	90 - 110		
Sodium		50.0	50.9	mg/L	102	90 - 110		
Tin		1.00	0.964	mg/L	96.4	90 - 110		
Vanadium		1.00	1.05	mg/L	105	90 - 110		
Zinc		1.00	1.06	mg/L	106	90 - 110		

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008
PDF File ID: 2901307
Report generated 06/03/2013 07:09

Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L13051304
Run Date: 05/30/2013
Sample ID: WG432338-16
Instrument ID: PE-ICP2
Run Time: 13:18
Method: 6010B
File ID: P2.053013.131823
Analyst: KHR
QC Key: DOD4
Workgroup (AAB#): WG432277
Cal ID: PE-ICP - 30-MAY-13
Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Beryllium		0.0500	0.0499	mg/L	99.8	90 - 110		
Calcium		10.0	10.5	mg/L	105	90 - 110		
Magnesium		10.0	10.4	mg/L	104	90 - 110		
Potassium		50.0	52.4	mg/L	105	90 - 110		
Sodium		50.0	53.3	mg/L	107	90 - 110		
Tin		1.00	0.965	mg/L	96.5	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: 2901307
Report generated 06/03/2013 07:09

Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L13051304
Run Date: 05/30/2013
Sample ID: WG432338-20
Instrument ID: PE-ICP2
Run Time: 13:27
Method: 6010B
File ID: P2.053013.132732
Analyst: KHR
QC Key: DOD4
Workgroup (AAB#): WG432277
Cal ID: PE-ICP - 30-MAY-13
Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Beryllium		0.0500	0.0492	mg/L	98.5	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	51.1	mg/L	102	90 - 110		
Sodium		50.0	51.7	mg/L	103	90 - 110		
Tin		1.00	0.937	mg/L	93.7	90 - 110		
Vanadium		1.00	1.02	mg/L	102	90 - 110		
Zinc		1.00	1.03	mg/L	103	90 - 110		

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008
PDF File ID: 2901307
Report generated 06/03/2013 07:09

Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L13051304
Run Date: 05/30/2013
Sample ID: WG432338-23
Instrument ID: PE-ICP2
Run Time: 13:38
Method: 6010B
File ID: P2.053013.133839
Analyst: KHR
QC Key: DOD4
Workgroup (AAB#): WG432277
Cal ID: PE-ICP - 30-MAY-13
Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Beryllium		0.0500	0.0483	mg/L	96.6	90 - 110		
Calcium		10.0	9.99	mg/L	99.9	90 - 110		
Magnesium		10.0	9.86	mg/L	98.6	90 - 110		
Potassium		50.0	49.4	mg/L	98.9	90 - 110		
Sodium		50.0	50.1	mg/L	100	90 - 110		
Tin		1.00	0.915	mg/L	91.5	90 - 110		
Vanadium		1.00	1.01	mg/L	101	90 - 110		
Zinc		1.00	1.02	mg/L	102	90 - 110		

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008
PDF File ID: 2901307
Report generated 06/03/2013 07:09

Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L13051304
Run Date: 05/30/2013
Sample ID: WG432338-25
Instrument ID: PE-ICP2
Run Time: 14:20
Method: 6010B
File ID: P2.053013.142024
Analyst: KHR
QC Key: DOD4
Workgroup (AAB#): WG432277
Cal ID: PE-ICP - 30-MAY-13
Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Beryllium		0.0500	0.0487	mg/L	97.4	90 - 110		
Calcium		10.0	10.2	mg/L	102	90 - 110		
Magnesium		10.0	10.1	mg/L	101	90 - 110		
Potassium		50.0	50.7	mg/L	101	90 - 110		
Sodium		50.0	52.0	mg/L	104	90 - 110		
Tin		1.00	0.922	mg/L	92.2	90 - 110		
Vanadium		1.00	1.01	mg/L	101	90 - 110		
Zinc		1.00	1.02	mg/L	102	90 - 110		

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008
PDF File ID: 2901307
Report generated 06/03/2013 07:09

Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L13051304
Run Date: 05/30/2013
Sample ID: WG432338-31
Instrument ID: PE-ICP2
Run Time: 15:27
Method: 6010B
File ID: P2.053013.152743
Analyst: KHR
QC Key: DOD4
Workgroup (AAB#): WG432277
Cal ID: PE-ICP - 30-MAY-13
Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Beryllium		0.0500	0.0509	mg/L	102	90 - 110		
Calcium		10.0	10.7	mg/L	107	90 - 110		
Magnesium		10.0	10.6	mg/L	106	90 - 110		
Potassium		50.0	53.5	mg/L	107	90 - 110		
Sodium		50.0	54.4	mg/L	109	90 - 110		
Tin		1.00	0.987	mg/L	98.7	90 - 110		
Vanadium		1.00	1.07	mg/L	107	90 - 110		
Zinc		1.00	1.08	mg/L	108	90 - 110		

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008
PDF File ID: 2901307
Report generated 06/03/2013 07:09

Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L13051304
Run Date: 05/30/2013
Sample ID: WG432338-33
Instrument ID: PE-ICP2
Run Time: 15:51
Method: 6010B
File ID: P2.053013.155105
Analyst: KHR
QC Key: DOD4
Workgroup (AAB#): WG432277
Cal ID: PE-ICP - 30-MAY-13
Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Beryllium		0.0500	0.0513	mg/L	103	90 - 110		
Calcium		10.0	10.9	mg/L	109	90 - 110		
Magnesium		10.0	10.7	mg/L	107	90 - 110		
Potassium		50.0	54.4	mg/L	109	90 - 110		
Sodium		50.0	53.7	mg/L	107	90 - 110		
Tin		1.00	1.01	mg/L	101	90 - 110		
Vanadium		1.00	1.07	mg/L	107	90 - 110		
Zinc		1.00	1.08	mg/L	108	90 - 110		

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008
PDF File ID: 2901307
Report generated 06/03/2013 07:09

Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L13051304
Run Date: 05/31/2013
Sample ID: WG432439-10
Instrument ID: PE-ICP2
Run Time: 08:00
Method: 6010B
File ID: P2.053113.080003
Analyst: KHR
QC Key: DOD4
Workgroup (AAB#): WG432277
Cal ID: PE-ICP - 31-MAY-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	10.4	mg/L	104	90 - 110		
Potassium		50.0	51.3	mg/L	103	90 - 110		
Sodium		50.0	51.4	mg/L	103	90 - 110		
Tin		1.00	0.950	mg/L	95.0	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
PDF File ID: 2901307
Report generated 06/03/2013 07:09

Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L13051304
Run Date: 05/31/2013
Sample ID: WG432439-12
Instrument ID: PE-ICP2
Run Time: 08:31
Method: 6010B
File ID: P2.053113.083150
Analyst: KHR
QC Key: DOD4
Workgroup (AAB#): WG432277
Cal ID: PE-ICP - 31-MAY-13
Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Beryllium		0.0500	0.0516	mg/L	103	90 - 110		
Calcium		10.0	10.9	mg/L	109	90 - 110		
Magnesium		10.0	10.4	mg/L	104	90 - 110		
Potassium		50.0	51.4	mg/L	103	90 - 110		
Sodium		50.0	50.8	mg/L	102	90 - 110		
Tin		1.00	0.949	mg/L	94.9	90 - 110		
Vanadium		1.00	1.04	mg/L	104	90 - 110		
Zinc		1.00	1.05	mg/L	105	90 - 110		

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008
PDF File ID: 2901307
Report generated 06/03/2013 07:09

Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L13051304
Run Date: 05/31/2013
Sample ID: WG432439-16
Instrument ID: PE-ICP2
Run Time: 08:40
Method: 6010B
File ID: P2.053113.084059
Analyst: KHR
QC Key: DOD4
Workgroup (AAB#): WG432277
Cal ID: PE-ICP - 31-MAY-13
Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Beryllium		0.0500	0.0501	mg/L	100	90 - 110		
Calcium		10.0	10.6	mg/L	106	90 - 110		
Magnesium		10.0	10.1	mg/L	101	90 - 110		
Potassium		50.0	50.5	mg/L	101	90 - 110		
Sodium		50.0	50.5	mg/L	101	90 - 110		
Tin		1.00	0.933	mg/L	93.3	90 - 110		
Vanadium		1.00	1.01	mg/L	101	90 - 110		
Zinc		1.00	1.03	mg/L	103	90 - 110		

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008
PDF File ID: 2901307
Report generated 06/03/2013 07:09

Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L13051304
Run Date: 05/31/2013
Sample ID: WG432439-46
Instrument ID: PE-ICP2
Run Time: 15:58
Method: 6010B
File ID: P2.053113.155826
Analyst: KHR
QC Key: DOD4
Workgroup (AAB#): WG432277
Cal ID: PE-ICP - 31-MAY-13
Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Beryllium		0.0500	0.0513	mg/L	103	90 - 110		
Calcium		10.0	11.0	mg/L	110	90 - 110		
Magnesium		10.0	10.8	mg/L	108	90 - 110		
Potassium		50.0	52.9	mg/L	106	90 - 110		
Sodium		50.0	51.5	mg/L	103	90 - 110		
Tin		1.00	0.963	mg/L	96.3	90 - 110		
Vanadium		1.00	1.05	mg/L	105	90 - 110		
Zinc		1.00	1.04	mg/L	104	90 - 110		

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008
PDF File ID: 2901307
Report generated 06/03/2013 07:09

Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L13051304
Run Date: 05/31/2013
Sample ID: WG432439-48
Instrument ID: PE-ICP2
Run Time: 16:30
Method: 6010B
File ID: P2.053113.163030
Analyst: KHR
QC Key: DOD4
Workgroup (AAB#): WG432277
Cal ID: PE-ICP - 31-MAY-13
Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Beryllium		0.0500	0.0506	mg/L	101	90 - 110		
Calcium		10.0	10.7	mg/L	107	90 - 110		
Magnesium		10.0	10.2	mg/L	102	90 - 110		
Potassium		50.0	53.4	mg/L	107	90 - 110		
Sodium		50.0	50.6	mg/L	101	90 - 110		
Tin		1.00	0.945	mg/L	94.5	90 - 110		
Vanadium		1.00	1.03	mg/L	103	90 - 110		
Zinc		1.00	1.03	mg/L	103	90 - 110		

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008
PDF File ID: 2901307
Report generated 06/03/2013 07:09

Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L13051304
Run Date: 05/31/2013
Sample ID: WG432439-50
Instrument ID: PE-ICP2
Run Time: 17:04
Method: 6010B
File ID: P2.053113.170449
Analyst: KHR
QC Key: DOD4
Workgroup (AAB#): WG432277
Cal ID: PE-ICP - 31-MAY-13
Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Beryllium		0.0500	0.0506	mg/L	101	90 - 110		
Calcium		10.0	10.8	mg/L	108	90 - 110		
Magnesium		10.0	10.3	mg/L	103	90 - 110		
Potassium		50.0	52.9	mg/L	106	90 - 110		
Sodium		50.0	50.3	mg/L	101	90 - 110		
Tin		1.00	0.955	mg/L	95.5	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: 2901307
Report generated 06/03/2013 07:09

Microbac Laboratories Inc.
INTERFERENCE CHECK SAMPLES

Login number: L13051304 **Workgroup (AAB#):** WG432277
Instrument ID: PE-ICP2 **Method:** 6010B
Sol. A : WG432338-08 **File ID:** P2.053013.114647 **Units:** mg/L
Sol. AB : WG432338-09 **File ID:** P2.053013.114850 **Matrix:** Water

	Sol. A			Sol. AB			
ANALYTE	True	Found	%Recovery	True	Found	%Recovery	Q
Beryllium	NS	-0.000170	NS	0.250	0.254	102	
Calcium	250	269	108	250	269	108	
Magnesium	250	255	102	250	253	101	
Potassium	NS	-0.0246	NS	5.00	5.22	104	
Sodium	NS	-0.0254	NS	5.00	5.52	110	
Tin	NS	-0.0284	NS	NS	-0.0479	NS	
Vanadium	NS	0.00315	NS	0.250	0.253	101	
Zinc	NS	0.00731	NS	0.500	0.489	97.8	

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
PDF File ID: 2901306
Report generated 06/03/2013 07:09

Microbac Laboratories Inc.
INTERFERENCE CHECK SAMPLES

Login number: L13051304 **Workgroup (AAB#):** WG432277
Instrument ID: PE-ICP2 **Method:** 6010B
Sol. A : WG432338-18 **File ID:** P2.053013.132328 **Units:** mg/L
Sol. AB : WG432338-19 **File ID:** P2.053013.132531 **Matrix:** Water

	Sol. A			Sol. AB			
ANALYTE	True	Found	%Recovery	True	Found	%Recovery	Q
Beryllium	NS	0.000670	NS	0.250	0.243	97.2	
Calcium	250	267	107	250	256	102	
Magnesium	250	254	102	250	244	97.6	
Potassium	NS	-0.0981	NS	5.00	5.05	101	
Sodium	NS	0.0273	NS	5.00	5.36	107	
Tin	NS	-0.0351	NS	NS	-0.0466	NS	
Vanadium	NS	0.00255	NS	0.250	0.244	97.6	
Zinc	NS	0.00573	NS	0.500	0.463	92.6	

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: 2901306
Report generated 06/03/2013 07:09

Microbac Laboratories Inc.
INTERFERENCE CHECK SAMPLES

Login number: L13051304 **Workgroup (AAB#):** WG432277
Instrument ID: PE-ICP2 **Method:** 6010B
Sol. A : WG432439-08 **File ID:** P2.053113.075559 **Units:** mg/L
Sol. AB : WG432439-09 **File ID:** P2.053113.075802 **Matrix:** Water

	Sol. A			Sol. AB			
ANALYTE	True	Found	%Recovery	True	Found	%Recovery	Q
Beryllium	NS	-0.0000100	NS	0.250	0.257	103	
Calcium	250	280	112	250	271	108	
Magnesium	250	263	105	250	261	104	
Potassium	NS	-0.0766	NS	5.00	4.97	99.4	
Sodium	NS	0.0124	NS	5.00	5.06	101	
Tin	NS	-0.0364	NS	NS	-0.0517	NS	
Vanadium	NS	0.00177	NS	0.250	0.246	98.4	
Zinc	NS	0.00585	NS	0.500	0.485	97.0	

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: 2901306
Report generated 06/03/2013 07:09

Microbac Laboratories Inc.
INTERFERENCE CHECK SAMPLES

Login number: L13051304 **Workgroup (AAB#):** WG432277
Instrument ID: PE-ICP2 **Method:** 6010B
Sol. A : WG432439-22 **File ID:** P2.053113.083655 **Units:** mg/L
Sol. AB : WG432439-23 **File ID:** P2.053113.083858 **Matrix:** Water

	Sol. A			Sol. AB			
ANALYTE	True	Found	%Recovery	True	Found	%Recovery	Q
Beryllium	NS	0.000360	NS	0.250	0.259	104	
Calcium	250	288	115	250	276	110	
Magnesium	250	264	106	250	257	103	
Potassium	NS	-0.0708	NS	5.00	4.87	97.4	
Sodium	NS	0.0114	NS	5.00	5.02	100	
Tin	NS	-0.0362	NS	NS	-0.0548	NS	
Vanadium	NS	0.00102	NS	0.250	0.250	100	
Zinc	NS	0.00201	NS	0.500	0.491	98.2	

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: 2901306
Report generated 06/03/2013 07:09

Microbac Laboratories Inc.
INTERELEMENT CORRECTION FACTORS (ANNUALLY)

Login Number: L13051304 **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: 2901302
Report generated: 06/03/2013 07:09

Microbac Laboratories Inc.
INTERELEMENT CORRECTION FACTORS (ANNUALLY)

Login Number: L13051304 **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: 2901302
Report generated: 06/03/2013 07:09

Microbac Laboratories Inc.
INTERELEMENT CORRECTION FACTORS (ANNUALLY)

Login Number: L13051304 **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: 2901302
Report generated: 06/03/2013 07:09

Microbac Laboratories Inc.
INTERELEMENT CORRECTION FACTORS (ANNUALLY)

Login Number: L13051304 **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: 2901302
Report generated: 06/03/2013 07:09

Microbac Laboratories Inc.
INTERELEMENT CORRECTION FACTORS (ANNUALLY)

Login Number: L13051304 **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: 2901302
Report generated: 06/03/2013 07:09

Microbac Laboratories Inc.
INTERELEMENT CORRECTION FACTORS (ANNUALLY)

Login Number: L13051304 **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: 2901302
Report generated: 06/03/2013 07:09

Microbac Laboratories Inc.
LINEAR RANGE (QUARTERLY)

Login Number: L13051304 **Date:** 04/01/2013
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

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

LINEAR_RANGE - Modified 03/06/2008
PDF File ID: 2901301
Report generated: 06/03/2013 07:09

2.1.1.3 Raw Data

==========

Sequence No.: 1 **Autosampler Location: 1**
Sample ID: S0 **Date Collected: 5/30/2013 11:28:36 AM**
Analyst: **Data Type: Reprocessed on 5/30/2013 1:50:44 PM**
Logged In Analyst (Original) : peicp2
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: S0

Analyte	Back Pressure	Flow
All	164.0 kPa	0.48 L/min

Mean Data: S0

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Calib Units
Y 371.029	2471348.3	26930.46	1.09%		
YRADIAL	182016.7	3330.26	1.83%		
Ga 417.206	919322.3	11755.88	1.28%		
GaRADIAL	47581.7	2106.69	4.43%		
Ag 328.068†	-331.9	138.28	41.67%	[0.00]	mg/L
Al 396.153†	-62.4	2.51	4.02%	[0.00]	mg/L
As 188.979†	-13.7	3.70	26.98%	[0.00]	mg/L
Ba 233.527†	-129.7	2.82	2.18%	[0.00]	mg/L
Be 234.861†	-1333.4	31.43	2.36%	[0.00]	mg/L
B 249.677†	16.8	4.58	27.17%	[0.00]	mg/L
Ca 227.546†	-93.1	5.79	6.22%	[0.00]	mg/L
Cd 228.802†	43.2	3.61	8.35%	[0.00]	mg/L
Co 228.616†	-15.4	2.97	19.31%	[0.00]	mg/L
Cr 267.716†	129.3	1.97	1.53%	[0.00]	mg/L
Cu 327.393†	-417.9	77.52	18.55%	[0.00]	mg/L
Fe 239.562†	-11.9	7.90	66.66%	[0.00]	mg/L
Mg 279.077†	29.2	12.35	42.24%	[0.00]	mg/L
Mn 257.610†	340.8	11.49	3.37%	[0.00]	mg/L
Mo 202.031†	58.1	5.81	9.99%	[0.00]	mg/L
Ni 231.604†	-160.9	3.80	2.36%	[0.00]	mg/L
Pb 220.353†	-56.2	20.53	36.56%	[0.00]	mg/L
Sb 206.836†	10.3	4.26	41.22%	[0.00]	mg/L
Se 196.026†	17.3	2.60	14.99%	[0.00]	mg/L
Si 251.611†	539.3	36.05	6.68%	[0.00]	mg/L
Sn 189.927†	38.0	11.83	31.11%	[0.00]	mg/L
Ti 334.940†	841.3	90.63	10.77%	[0.00]	mg/L
Tl 190.801†	-64.3	10.31	16.02%	[0.00]	mg/L
V 290.880†	5471.3	260.73	4.77%	[0.00]	mg/L
Zn 206.200†	-10.5	6.99	66.80%	[0.00]	mg/L
K 766.490†	67.1	69.48	103.47%	[0.00]	mg/L
Na 589.592†	681.5	107.62	15.79%	[0.00]	mg/L
Sr 407.771†	-396.2	74.89	18.90%	[0.00]	mg/L
Li 670.784†	-50.3	54.39	108.16%	[0.00]	mg/L

==========

Sequence No.: 2 **Autosampler Location: 2**
Sample ID: S1 **Date Collected: 5/30/2013 11:31:36 AM**
Analyst: **Data Type: Reprocessed on 5/30/2013 1:50:46 PM**
Logged In Analyst (Original) : peicp2
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: S1

Analyte	Back Pressure	Flow
All	164.0 kPa	0.48 L/min

Mean Data: S1

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Calib Units
Y 371.029	2502039.3	48179.43	1.93%		
YRADIAL	186408.7	4513.22	2.42%		
Ga 417.206	937215.4	25633.10	2.74%		

Approved: May 31, 2013

GaRADIAL	49048.7	447.63	0.91%		
Ag 328.068†	782.4	37.78	4.83%	[0.0032]	mg/L
Al 396.153†	245.0	4.60	1.88%	[0.08]	mg/L
Ba 233.527†	716.5	25.02	3.49%	[0.008]	mg/L
Be 234.861†	247.2	28.95	11.71%	[0.0004]	mg/L
Cd 228.802†	13.8	1.08	7.82%	[0.0004]	mg/L
Co 228.616†	36.9	2.79	7.57%	[0.0016]	mg/L
Cr 267.716†	396.7	12.06	3.04%	[0.004]	mg/L
Cu 327.393†	693.7	39.54	5.70%	[0.004]	mg/L
Fe 239.562†	131.0	6.89	5.26%	[0.032]	mg/L
Mg 279.077†	113.7	4.44	3.90%	[0.08]	mg/L
Mn 257.610†	2235.6	63.98	2.86%	[0.004]	mg/L
Mo 202.031†	158.6	8.65	5.45%	[0.008]	mg/L
Ni 231.604†	160.6	16.23	10.11%	[0.004]	mg/L
Pb 220.353†	33.0	7.49	22.71%	[0.004]	mg/L
Sb 206.836†	22.1	5.47	24.81%	[0.0096]	mg/L
Si 251.611†	1456.6	64.71	4.44%	[0.04]	mg/L
Sn 189.927†	59.3	4.15	7.00%	[0.008]	mg/L
Ti 334.940†	5857.1	179.44	3.06%	[0.008]	mg/L
V 290.880†	1763.5	237.47	13.47%	[0.008]	mg/L
Zn 206.200†	297.7	4.80	1.61%	[0.008]	mg/L
K 766.490†	611.5	53.36	8.73%	[0.4]	mg/L
Na 589.592†	4162.0	71.71	1.72%	[0.4]	mg/L
Sr 407.771†	9392.3	157.29	1.67%	[0.008]	mg/L
Li 670.784†	544.3	70.72	12.99%	[0.008]	mg/L

==========

Sequence No.: 3 **Autosampler Location: 3**
Sample ID: S2 **Date Collected: 5/30/2013 11:34:36 AM**
Analyst: **Data Type: Reprocessed on 5/30/2013 1:50:47 PM**
Logged In Analyst (Original) : peicp2
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: S2

Analyte	Back Pressure	Flow
All	164.0 kPa	0.48 L/min

Mean Data: S2

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Calib Units
Y 371.029	2531972.7	40155.97	1.59%		
YRADIAL	184465.6	8041.22	4.36%		
Ga 417.206	947165.4	13093.46	1.38%		
GaRADIAL	48751.3	1699.19	3.49%		
Ag 328.068†	1555.6	123.61	7.95%	[0.0064]	mg/L
Al 396.153†	495.6	11.33	2.29%	[0.16]	mg/L
As 188.979†	17.7	1.06	6.01%	[0.0064]	mg/L
Ba 233.527†	1419.5	21.61	1.52%	[0.016]	mg/L
Be 234.861†	532.1	9.92	1.86%	[0.0008]	mg/L
B 249.677†	566.3	18.59	3.28%	[0.008]	mg/L
Ca 227.546†	39.5	5.55	14.06%	[0.16]	mg/L
Cd 228.802†	19.4	5.53	28.46%	[0.0008]	mg/L
Co 228.616†	77.0	1.96	2.55%	[0.0032]	mg/L
Cr 267.716†	783.9	28.10	3.58%	[0.008]	mg/L
Cu 327.393†	1373.1	105.31	7.67%	[0.008]	mg/L
Fe 239.562†	270.7	10.17	3.76%	[0.064]	mg/L
Mg 279.077†	231.6	7.01	3.03%	[0.16]	mg/L
Mn 257.610†	4461.5	100.92	2.26%	[0.008]	mg/L
Mo 202.031†	308.7	1.40	0.45%	[0.016]	mg/L
Ni 231.604†	318.5	7.99	2.51%	[0.008]	mg/L
Pb 220.353†	58.7	11.21	19.09%	[0.008]	mg/L
Sb 206.836†	45.5	1.33	2.93%	[0.0192]	mg/L
Se 196.026†	8.0	6.55	82.09%	[0.0062]	mg/L
Si 251.611†	2921.4	82.50	2.82%	[0.08]	mg/L
Sn 189.927†	115.2	1.89	1.64%	[0.016]	mg/L
Ti 334.940†	11724.3	68.89	0.59%	[0.016]	mg/L
Tl 190.801†	13.4	6.93	51.64%	[0.008]	mg/L
V 290.880†	3106.0	153.14	4.93%	[0.016]	mg/L
Zn 206.200†	577.6	15.55	2.69%	[0.016]	mg/L

Approved: May 31, 2013

K 766.490†	1220.3	46.47	3.81%	[0.8]	mg/L
Na 589.592†	8792.9	174.75	1.99%	[0.8]	mg/L
Sr 407.771†	19369.6	7.53	0.04%	[0.016]	mg/L
Li 670.784†	1152.2	59.02	5.12%	[0.016]	mg/L

==========

Sequence No.: 4 **Autosampler Location: 4**
Sample ID: S3 **Date Collected: 5/30/2013 11:37:36 AM**
Analyst: **Data Type: Reprocessed on 5/30/2013 1:50:48 PM**
Logged In Analyst (Original) : peicp2
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: S3

Analyte	Back Pressure	Flow
All	164.0 kPa	0.48 L/min

Mean Data: S3

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Calib Units
Y 371.029	2430986.4	1035.50	0.04%		
YRADIAL	186881.7	1484.50	0.79%		
Ga 417.206	913197.7	7436.04	0.81%		
GaRADIAL	50543.1	526.35	1.04%		
Ag 328.068†	91809.3	1125.25	1.23%	[0.40]	mg/L
Al 396.153†	29567.2	220.26	0.74%	[10.00]	mg/L
As 188.979†	798.1	5.07	0.63%	[0.40]	mg/L
Ba 233.527†	88326.9	1238.88	1.40%	[1.00]	mg/L
Be 234.861†	32724.9	488.38	1.49%	[0.05]	mg/L
B 249.677†	34285.5	491.74	1.43%	[0.50]	mg/L
Ca 227.546†	2067.0	22.12	1.07%	[10.00]	mg/L
Cd 228.802†	1577.5	27.37	1.74%	[0.05]	mg/L
Co 228.616†	4848.9	11.75	0.24%	[0.20]	mg/L
Cr 267.716†	46536.6	478.62	1.03%	[0.50]	mg/L
Cu 327.393†	86622.6	1164.87	1.34%	[0.50]	mg/L
Fe 239.562†	16694.9	50.12	0.30%	[4.00]	mg/L
Mg 279.077†	13899.3	50.07	0.36%	[10.00]	mg/L
Mn 257.610†	266814.9	3922.99	1.47%	[0.50]	mg/L
Mo 202.031†	19632.3	271.65	1.38%	[1.00]	mg/L
Ni 231.604†	19353.6	343.17	1.77%	[0.50]	mg/L
Pb 220.353†	3846.7	16.40	0.43%	[0.50]	mg/L
Sb 206.836†	2877.9	40.87	1.42%	[1.20]	mg/L
Se 196.026†	409.3	4.28	1.05%	[0.40]	mg/L
Si 251.611†	177567.3	3004.87	1.69%	[5.00]	mg/L
Sn 189.927†	7933.0	29.74	0.37%	[1.00]	mg/L
Ti 334.940†	740345.4	10071.90	1.36%	[1.00]	mg/L
Tl 190.801†	1028.1	4.65	0.45%	[0.50]	mg/L
V 290.880†	194117.6	3520.18	1.81%	[1.00]	mg/L
Zn 206.200†	34544.2	362.66	1.05%	[1.00]	mg/L
K 766.490†	71386.5	718.35	1.01%	[50.00]	mg/L
Na 589.592†	523032.1	3891.97	0.74%	[50.00]	mg/L
Sr 407.771†	1171824.3	9449.30	0.81%	[1.00]	mg/L
Li 670.784†	69277.0	523.99	0.76%	[1.00]	mg/L

==========

Sequence No.: 5 **Autosampler Location: 5**
Sample ID: S4 **Date Collected: 5/30/2013 11:39:40 AM**
Analyst: **Data Type: Reprocessed on 5/30/2013 1:50:49 PM**
Logged In Analyst (Original) : peicp2
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: S4

Analyte	Back Pressure	Flow
All	164.0 kPa	0.48 L/min

Mean Data: S4

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

Approved: May 31, 2013

Lynn H. Rhoden

Analyte	Intensity	Std.Dev.	RSD	Conc.	Units
Y 371.029	2380910.3	27051.95	1.14%		
YRADIAL	181388.8	2299.81	1.27%		
Ga 417.206	895007.8	21499.28	2.40%		
GaRADIAL	48650.6	563.02	1.16%		
Ag 328.068†	185126.3	3636.92	1.96%	[0.80]	mg/L
Al 396.153†	61520.1	342.85	0.56%	[20.00]	mg/L
As 188.979†	1632.2	46.87	2.87%	[0.80]	mg/L
Ba 233.527†	179545.0	658.34	0.37%	[2.00]	mg/L
Be 234.861†	67049.3	1223.50	1.82%	[0.10]	mg/L
B 249.677†	71608.2	1054.80	1.47%	[1.00]	mg/L
Ca 227.546†	4243.1	108.27	2.55%	[20.00]	mg/L
Cd 228.802†	3227.7	105.84	3.28%	[0.10]	mg/L
Co 228.616†	9722.8	111.12	1.14%	[0.40]	mg/L
Cr 267.716†	95059.6	915.06	0.96%	[1.00]	mg/L
Cu 327.393†	174923.2	3444.02	1.97%	[1.00]	mg/L
Fe 239.562†	34443.9	257.95	0.75%	[8.00]	mg/L
Mg 279.077†	28667.7	52.96	0.18%	[20.00]	mg/L
Mn 257.610†	534578.5	1591.89	0.30%	[1.00]	mg/L
Mo 202.031†	39830.6	90.09	0.23%	[2.00]	mg/L
Ni 231.604†	40280.4	481.98	1.20%	[1.00]	mg/L
Pb 220.353†	7717.0	83.79	1.09%	[1.00]	mg/L
Sb 206.836†	5850.5	165.86	2.83%	[2.40]	mg/L
Se 196.026†	841.1	18.97	2.25%	[0.80]	mg/L
Si 251.611†	359315.2	4573.95	1.27%	[10.00]	mg/L
Sn 189.927†	16070.0	162.61	1.01%	[2.00]	mg/L
Ti 334.940†	1516573.4	5359.44	0.35%	[2.00]	mg/L
Tl 190.801†	2040.0	24.55	1.20%	[1.00]	mg/L
V 290.880†	392387.6	1981.91	0.51%	[2.00]	mg/L
Zn 206.200†	70527.2	249.20	0.35%	[2.00]	mg/L
K 766.490†	146922.6	1698.12	1.16%	[100.00]	mg/L
Na 589.592†	1096260.1	32412.66	2.96%	[100.00]	mg/L
Sr 407.771†	2418877.6	75598.44	3.13%	[2.00]	mg/L
Li 670.784†	141384.2	901.73	0.64%	[2.00]	mg/L

Calibration Summary

Analyte	Stds.	Equation	Intercept	Slope	Curvature	Corr. Coef.	Reslope
Ag 328.068	4	Lin, Calc Int	-57.5	231100	0.00000	0.999992	
Al 396.153	4	Lin, Calc Int	-148.0	3061	0.00000	0.999820	
As 188.979	3	Wt. Lin	4.8	2009	0.00000	0.999917	
Ba 233.527	4	Lin, Calc Int	-186.0	89600	0.00000	0.999969	
Be 234.861	4	Lin, Calc Int	-107.6	668600	0.00000	0.999933	
B 249.677	3	Lin, Calc Int	-279.3	71340	0.00000	0.999759	
Ca 227.546	3	Lin, Calc Int	-7.4	211.5	0.00000	0.999906	
Cd 228.802	4	Lin, Calc Int	-6.3	32210	0.00000	0.999941	
Co 228.616	4	Lin, Calc Int	-2.4	24300	0.00000	0.999999	
Cr 267.716	4	Lin, Calc Int	-111.3	94800	0.00000	0.999947	
Cu 327.393	4	Lin, Calc Int	-114.7	174700	0.00000	0.999989	
Fe 239.562	4	Lin, Calc Int	-69.3	4290	0.00000	0.999889	
Mg 279.077	4	Lin, Calc Int	-53.8	1428	0.00000	0.999890	
Mn 257.610	4	Lin, Calc Int	29.1	534400	0.00000	1.000000	
Mo 202.031	4	Lin, Calc Int	-38.6	19880	0.00000	0.999976	
Ni 231.604	4	Lin, Calc Int	-99.4	40090	0.00000	0.999818	
Pb 220.353	4	Lin, Calc Int	-1.8	7714	0.00000	0.999999	
Sb 206.836	4	Lin, Calc Int	-6.7	2433	0.00000	0.999969	
Se 196.026	3	Wt. Lin	1.6	1034	0.00000	0.999891	
Si 251.611	4	Lin, Calc Int	-239.8	35880	0.00000	0.999984	
Sn 189.927	4	Lin, Calc Int	-18.4	8026	0.00000	0.999982	
Ti 334.940	4	Lin, Calc Int	-2429.2	756200	0.00000	0.999934	
Tl 190.801	3	Lin, Calc Int	0.1	2043	0.00000	0.999989	
V 290.880	4	Lin, Calc Int	-208.2	195900	0.00000	0.999986	
Zn 206.200	4	Lin, Calc Int	-80.6	35170	0.00000	0.999950	
K 766.490	4	Non Lin, Calc Int	56.1	1385	0.84032	1.000000	
Na 589.592	4	Non Lin, Calc Int	332.6	9949	10.09972	1.000000	
Sr 407.771	4	Lin, Calc Int	-4771.1	1205000	0.00000	0.999885	
Li 670.784	4	Lin, Calc Int	-176.4	70520	0.00000	0.999952	

==========

Sequence No.: 6 **Autosampler Location: 11**
Sample ID: ICV 2nd Vendor **Date Collected: 5/30/2013 11:41:44 AM**

Approved: May 31, 2013

Analyst:
Logged In Analyst (Original) : peicp2
Initial Sample Wt:
Dilution:

Data Type: Reprocessed on 5/30/2013 1:50:50 PM
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: ICV 2nd Vendor

Analyte	Back Pressure	Flow
All	164.0 kPa	0.48 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	2473489.1				42688.68	1.73%
YRADIAL	181387.7				1845.86	1.02%
Ga 417.206	935432.6				17390.23	1.86%
GaRADIAL	48984.9				753.28	1.54%
Ag 328.068†	92399.2	0.403 mg/L	0.0116	0.403 mg/L	0.0116	2.88%
QC value within limits for Ag 328.068 Recovery = 100.84%						
Al 396.153†	30700.8	10.0 mg/L	0.13	10.0 mg/L	0.13	1.29%
QC value within limits for Al 396.153 Recovery = 100.11%						
As 188.979†	817.7	0.400 mg/L	0.0084	0.400 mg/L	0.0084	2.09%
QC value within limits for As 188.979 Recovery = 99.91%						
Ba 233.527†	89133.3	0.997 mg/L	0.0178	0.997 mg/L	0.0178	1.79%
QC value within limits for Ba 233.527 Recovery = 99.72%						
Be 234.861†	32857.1	0.0488 mg/L	0.00129	0.0488 mg/L	0.00129	2.64%
QC value within limits for Be 234.861 Recovery = 97.53%						
B 249.677†	35391.3	0.496 mg/L	0.0172	0.496 mg/L	0.0172	3.47%
QC value within limits for B 249.677 Recovery = 99.23%						
Ca 227.546†	2052.2	10.2 mg/L	0.21	10.2 mg/L	0.21	2.03%
QC value within limits for Ca 227.546 Recovery = 101.89%						
Cd 228.802†	1579.9	0.0479 mg/L	0.00132	0.0479 mg/L	0.00132	2.76%
QC value within limits for Cd 228.802 Recovery = 95.71%						
Co 228.616†	4887.3	0.200 mg/L	0.0032	0.200 mg/L	0.0032	1.61%
QC value within limits for Co 228.616 Recovery = 100.17%						
Cr 267.716†	47100.1	0.498 mg/L	0.0109	0.498 mg/L	0.0109	2.18%
QC value within limits for Cr 267.716 Recovery = 99.69%						
Cu 327.393†	86823.4	0.499 mg/L	0.0141	0.499 mg/L	0.0141	2.82%
QC value within limits for Cu 327.393 Recovery = 99.84%						
Fe 239.562†	17318.8	4.05 mg/L	0.070	4.05 mg/L	0.070	1.73%
QC value within limits for Fe 239.562 Recovery = 101.32%						
Mg 279.077†	14482.8	10.2 mg/L	0.11	10.2 mg/L	0.11	1.10%
QC value within limits for Mg 279.077 Recovery = 101.95%						
Mn 257.610†	267997.9	0.502 mg/L	0.0090	0.502 mg/L	0.0090	1.80%
QC value within limits for Mn 257.610 Recovery = 100.43%						
Mo 202.031†	19396.5	0.978 mg/L	0.0181	0.978 mg/L	0.0181	1.85%
QC value within limits for Mo 202.031 Recovery = 97.83%						
Ni 231.604†	19569.2	0.490 mg/L	0.0089	0.490 mg/L	0.0089	1.81%
QC value within limits for Ni 231.604 Recovery = 98.06%						
Pb 220.353†	3893.1	0.506 mg/L	0.0093	0.506 mg/L	0.0093	1.83%
QC value within limits for Pb 220.353 Recovery = 101.18%						
Sb 206.836†	2912.0	1.20 mg/L	0.026	1.20 mg/L	0.026	2.18%
QC value within limits for Sb 206.836 Recovery = 99.86%						
Se 196.026†	418.9	0.405 mg/L	0.0084	0.405 mg/L	0.0084	2.07%
QC value within limits for Se 196.026 Recovery = 101.20%						
Si 251.611†	174753.4	4.87 mg/L	0.126	4.87 mg/L	0.126	2.58%
QC value within limits for Si 251.611 Recovery = 97.33%						
Sn 189.927†	7544.1	0.942 mg/L	0.0157	0.942 mg/L	0.0157	1.66%
QC value less than the lower limit for Sn 189.927 Recovery = 94.23%						
Ti 334.940†	756044.8	1.00 mg/L	0.011	1.00 mg/L	0.011	1.05%
QC value within limits for Ti 334.940 Recovery = 100.44%						
Tl 190.801†	1034.7	0.521 mg/L	0.0087	0.521 mg/L	0.0087	1.68%
QC value within limits for Tl 190.801 Recovery = 104.17%						
V 290.880†	193524.3	0.987 mg/L	0.0169	0.987 mg/L	0.0169	1.71%
QC value within limits for V 290.880 Recovery = 98.73%						
Zn 206.200†	35204.7	1.01 mg/L	0.022	1.01 mg/L	0.022	2.15%
QC value within limits for Zn 206.200 Recovery = 100.80%						
K 766.490†	74350.9	52.0 mg/L	0.68	52.0 mg/L	0.68	1.32%
QC value within limits for K 766.490 Recovery = 103.92%						
Na 589.592†	559207.2	53.3 mg/L	0.99	53.3 mg/L	0.99	1.86%
QC value greater than the upper limit for Na 589.592 Recovery = 106.58%						

Approved: May 31, 2013

```
Sr 407.771†          1246867.8        1.04 mg/L         0.026        1.04 mg/L         0.026   2.46%
   QC value within limits for Sr 407.771  Recovery = 103.90%
Li 670.784†            72060.6        1.02 mg/L         0.014        1.02 mg/L         0.014   1.35%
   QC value within limits for Li 670.784  Recovery = 102.44%
QC Failed.  Continue with analysis.

==========================================================================================================
Sequence No.: 7                                    Autosampler Location: 1
Sample ID: ICB                                     Date Collected: 5/30/2013 11:43:48 AM
Analyst:                                           Data Type: Reprocessed on 5/30/2013 1:50:52 PM
Logged In Analyst (Original) : peicp2
Initial Sample Wt:                                 Initial Sample Vol:
Dilution:                                          Sample Prep Vol:

----------------------------------------------------------------------------------------------------------
Nebulizer Parameters: ICB
Analyte                 Back Pressure    Flow
All                     164.0 kPa        0.48 L/min

----------------------------------------------------------------------------------------------------------
Mean Data: ICB
                   Mean Corrected        Calib.                          Sample
Analyte               Intensity     Conc. Units      Std.Dev.      Conc. Units      Std.Dev.   RSD
Y 371.029            2491842.7                                                      3972.45   0.16%
YRADIAL               181773.4                                                      1140.47   0.63%
Ga 417.206            940203.9                                                     11813.10   1.26%
GaRADIAL               49657.9                                                       337.15   0.68%
Ag 328.068†               76.2     0.00059 mg/L      0.000454     0.00059 mg/L      0.000454  77.16%
   QC value within limits for Ag 328.068  Recovery = Not calculated
Al 396.153†               14.0      0.0527 mg/L       0.00270      0.0527 mg/L       0.00270   5.12%
   QC value within limits for Al 396.153  Recovery = Not calculated
As 188.979†                2.3    -0.00130 mg/L      0.000145    -0.00130 mg/L      0.000145  11.21%
   QC value within limits for As 188.979  Recovery = Not calculated
Ba 233.527†               -2.3     0.00205 mg/L      0.000133     0.00205 mg/L      0.000133   6.48%
   QC value within limits for Ba 233.527  Recovery = Not calculated
Be 234.861†              -11.3     0.00014 mg/L      0.000038     0.00014 mg/L      0.000038  26.70%
   QC value within limits for Be 234.861  Recovery = Not calculated
B 249.677†               637.9      0.0128 mg/L       0.00156      0.0128 mg/L       0.00156  12.12%
   QC value within limits for B 249.677  Recovery = Not calculated
Ca 227.546†               12.4      0.0961 mg/L       0.02310      0.0961 mg/L       0.02310  24.04%
   QC value within limits for Ca 227.546  Recovery = Not calculated
Cd 228.802†               -5.3     0.00004 mg/L      0.000124     0.00004 mg/L      0.000124 329.15%
   QC value within limits for Cd 228.802  Recovery = Not calculated
Co 228.616†                7.0     0.00038 mg/L      0.000263     0.00038 mg/L      0.000263  68.89%
   QC value within limits for Co 228.616  Recovery = Not calculated
Cr 267.716†               16.3     0.00135 mg/L      0.000034     0.00135 mg/L      0.000034   2.52%
   QC value within limits for Cr 267.716  Recovery = Not calculated
Cu 327.393†              163.7     0.00160 mg/L      0.000430     0.00160 mg/L      0.000430  26.92%
   QC value within limits for Cu 327.393  Recovery = Not calculated
Fe 239.562†                4.3      0.0172 mg/L       0.00019      0.0172 mg/L       0.00019   1.09%
   QC value within limits for Fe 239.562  Recovery = Not calculated
Mg 279.077†                2.3      0.0393 mg/L       0.00690      0.0393 mg/L       0.00690  17.57%
   QC value within limits for Mg 279.077  Recovery = Not calculated
Mn 257.610†              142.1     0.00021 mg/L      0.000020     0.00021 mg/L      0.000020   9.42%
   QC value within limits for Mn 257.610  Recovery = Not calculated
Mo 202.031†                5.5     0.00222 mg/L      0.000393     0.00222 mg/L      0.000393  17.70%
   QC value within limits for Mo 202.031  Recovery = Not calculated
Ni 231.604†               -1.6     0.00244 mg/L      0.000457     0.00244 mg/L      0.000457  18.75%
   QC value within limits for Ni 231.604  Recovery = Not calculated
Pb 220.353†                7.9     0.00125 mg/L      0.000363     0.00125 mg/L      0.000363  29.03%
   QC value within limits for Pb 220.353  Recovery = Not calculated
Sb 206.836†                1.0     0.00315 mg/L      0.001432     0.00315 mg/L      0.001432  45.52%
   QC value within limits for Sb 206.836  Recovery = Not calculated
Se 196.026†                4.8     0.00315 mg/L      0.004799     0.00315 mg/L      0.004799 152.29%
   QC value within limits for Se 196.026  Recovery = Not calculated
Si 251.611†              151.9      0.0109 mg/L       0.00029      0.0109 mg/L       0.00029   2.67%
   QC value within limits for Si 251.611  Recovery = Not calculated
Sn 189.927†               21.9     0.00503 mg/L      0.000285     0.00503 mg/L      0.000285   5.66%
   QC value within limits for Sn 189.927  Recovery = Not calculated
Ti 334.940†               36.6     0.00327 mg/L      0.000104     0.00327 mg/L      0.000104   3.17%
   QC value within limits for Ti 334.940  Recovery = Not calculated
Tl 190.801†               -2.3    -0.00117 mg/L      0.004689    -0.00117 mg/L      0.004689 401.16%
```

Approved: May 31, 2013

Lynn H. Rhoden

```
   QC value within limits for Tl 190.801  Recovery = Not calculated
V 290.880†              235.7     0.00226 mg/L      0.000098     0.00226 mg/L      0.000098   4.33%
   QC value within limits for V 290.880  Recovery = Not calculated
Zn 206.200†               5.6     0.00246 mg/L      0.000297     0.00246 mg/L      0.000297  12.06%
   QC value within limits for Zn 206.200  Recovery = Not calculated
K 766.490†              167.7      0.0806 mg/L       0.03242      0.0806 mg/L       0.03242  40.22%
   QC value within limits for K 766.490  Recovery = Not calculated
Na 589.592†             716.2      0.0386 mg/L       0.03054      0.0386 mg/L       0.03054  79.23%
   QC value within limits for Na 589.592  Recovery = Not calculated
Sr 407.771†             144.9     0.00408 mg/L      0.000093     0.00408 mg/L      0.000093   2.27%
   QC value within limits for Sr 407.771  Recovery = Not calculated
Li 670.784†             135.4     0.00442 mg/L      0.000854     0.00442 mg/L      0.000854  19.32%
   QC value within limits for Li 670.784  Recovery = Not calculated
All analyte(s) passed QC.

==================================================================================================
Sequence No.: 8                                    Autosampler Location: 12
Sample ID: ICSA                                    Date Collected: 5/30/2013 11:46:47 AM
Analyst:                                           Data Type: Reprocessed on 5/30/2013 1:50:53 PM
Logged In Analyst (Original) : peicp2
Initial Sample Wt:                                 Initial Sample Vol:
Dilution:                                          Sample Prep Vol:

--------------------------------------------------------------------------------------------------
Nebulizer Parameters: ICSA
Analyte                 Back Pressure    Flow
All                    164.0 kPa        0.48 L/min

--------------------------------------------------------------------------------------------------
Mean Data: ICSA
                   Mean Corrected         Calib.                          Sample
Analyte               Intensity     Conc. Units      Std.Dev.      Conc. Units      Std.Dev.   RSD
Y 371.029            2303459.7                                                    31959.76   1.39%
YRADIAL               178795.8                                                     2179.66   1.22%
Ga 417.206            891895.6                                                     9172.37   1.03%
GaRADIAL               49555.9                                                      590.37   1.19%
Ag 328.068†            -8943.6     0.00071 mg/L      0.000762     0.00071 mg/L      0.000762 107.80%
   QC value within limits for Ag 328.068  Recovery = Not calculated
Al 396.153†           754786.1         247 mg/L           3.0         247 mg/L           3.0   1.20%
   QC value within limits for Al 396.153  Recovery = 98.65%
As 188.979†                5.1     0.00228 mg/L      0.006088     0.00228 mg/L      0.006088 266.50%
   QC value within limits for As 188.979  Recovery = Not calculated
Ba 233.527†              369.9     0.00291 mg/L      0.000133     0.00291 mg/L      0.000133   4.57%
   QC value within limits for Ba 233.527  Recovery = Not calculated
Be 234.861†            15498.1    -0.00017 mg/L      0.000276    -0.00017 mg/L      0.000276 164.98%
   QC value within limits for Be 234.861  Recovery = Not calculated
B 249.677†              3148.6     0.00593 mg/L      0.001793     0.00593 mg/L      0.001793  30.23%
   QC value within limits for B 249.677  Recovery = Not calculated
Ca 227.546†            56437.4         269 mg/L           4.9         269 mg/L           4.9   1.82%
   QC value within limits for Ca 227.546  Recovery = 107.69%
Cd 228.802†              -11.0    -0.00024 mg/L      0.000143    -0.00024 mg/L      0.000143  59.32%
   QC value within limits for Cd 228.802  Recovery = Not calculated
Co 228.616†               11.0    -0.00195 mg/L      0.000330    -0.00195 mg/L      0.000330  16.98%
   QC value within limits for Co 228.616  Recovery = Not calculated
Cr 267.716†               94.3     0.00150 mg/L      0.000271     0.00150 mg/L      0.000271  18.13%
   QC value within limits for Cr 267.716  Recovery = Not calculated
Cu 327.393†            -1167.4     0.00173 mg/L      0.000394     0.00173 mg/L      0.000394  22.73%
   QC value within limits for Cu 327.393  Recovery = Not calculated
Fe 239.562†           420113.6        97.9 mg/L          0.18        97.9 mg/L          0.18   0.18%
   QC value within limits for Fe 239.562  Recovery = 97.95%
Mg 279.077†           363689.2         255 mg/L           0.6         255 mg/L           0.6   0.23%
   QC value within limits for Mg 279.077  Recovery = 101.87%
Mn 257.610†             -893.2     0.00264 mg/L      0.000238     0.00264 mg/L      0.000238   9.01%
   QC value within limits for Mn 257.610  Recovery = Not calculated
Mo 202.031†              -17.9     0.00651 mg/L      0.000771     0.00651 mg/L      0.000771  11.84%
   QC value within limits for Mo 202.031  Recovery = Not calculated
Ni 231.604†               12.1     0.00279 mg/L      0.000365     0.00279 mg/L      0.000365  13.10%
   QC value within limits for Ni 231.604  Recovery = Not calculated
Pb 220.353†             -203.2     0.00079 mg/L      0.001848     0.00079 mg/L      0.001848 234.72%
   QC value within limits for Pb 220.353  Recovery = Not calculated
Sb 206.836†              -25.0    -0.00392 mg/L      0.003574    -0.00392 mg/L      0.003574  91.08%
   QC value within limits for Sb 206.836  Recovery = Not calculated
```

Approved: May 31, 2013

Lynn H. Rhoden

Se 196.026†	-15.4	0.00758 mg/L	0.004628	0.00758 mg/L	0.004628	61.08%
QC value within limits for Se 196.026 Recovery = Not calculated						
Si 251.611†	18.9	0.00720 mg/L	0.001183	0.00720 mg/L	0.001183	16.44%
QC value within limits for Si 251.611 Recovery = Not calculated						
Sn 189.927†	-246.8	-0.0284 mg/L	0.00146	-0.0284 mg/L	0.00146	5.12%
QC value within limits for Sn 189.927 Recovery = Not calculated						
Ti 334.940†	-26572.3	0.00810 mg/L	0.001612	0.00810 mg/L	0.001612	19.90%
QC value within limits for Ti 334.940 Recovery = Not calculated						
Tl 190.801†	-54.1	-0.0202 mg/L	0.00398	-0.0202 mg/L	0.00398	19.70%
QC value within limits for Tl 190.801 Recovery = Not calculated						
V 290.880†	6619.8	0.00315 mg/L	0.001511	0.00315 mg/L	0.001511	47.90%
QC value within limits for V 290.880 Recovery = Not calculated						
Zn 206.200†	252.1	0.00731 mg/L	0.000482	0.00731 mg/L	0.000482	6.59%
QC value within limits for Zn 206.200 Recovery = Not calculated						
K 766.490†	22.0	-0.0246 mg/L	0.05159	-0.0246 mg/L	0.05159	210.04%
QC value within limits for K 766.490 Recovery = Not calculated						
Na 589.592†	80.0	-0.0254 mg/L	0.00543	-0.0254 mg/L	0.00543	21.41%
QC value within limits for Na 589.592 Recovery = Not calculated						
Sr 407.771†	1354.1	0.00930 mg/L	0.000078	0.00930 mg/L	0.000078	0.84%
QC value within limits for Sr 407.771 Recovery = Not calculated						
Li 670.784†	159.7	0.00477 mg/L	0.000800	0.00477 mg/L	0.000800	16.78%
QC value within limits for Li 670.784 Recovery = Not calculated						

All analyte(s) passed QC.

==========

Sequence No.: 9 **Autosampler Location: 13**
Sample ID: ICSAB **Date Collected: 5/30/2013 11:48:50 AM**
Analyst: **Data Type: Reprocessed on 5/30/2013 1:50:54 PM**
Logged In Analyst (Original) : peicp2
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: ICSAB

Analyte	Back Pressure	Flow
All	164.0 kPa	0.48 L/min

Mean Data: ICSAB

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2283938.3						14361.26	0.63%
YRADIAL	176359.7						1652.77	0.94%
Ga 417.206	888418.0						13646.72	1.54%
GaRADIAL	48487.4						245.28	0.51%
Ag 328.068†	109195.1	0.512	mg/L	0.0074	0.512	mg/L	0.0074	1.45%
QC value within limits for Ag 328.068 Recovery = 102.45%								
Al 396.153†	764154.3	250	mg/L	1.2	250	mg/L	1.2	0.50%
QC value within limits for Al 396.153 Recovery = 99.88%								
As 188.979†	506.7	0.252	mg/L	0.0027	0.252	mg/L	0.0027	1.09%
QC value within limits for As 188.979 Recovery = 100.69%								
Ba 233.527†	23155.1	0.257	mg/L	0.0007	0.257	mg/L	0.0007	0.28%
QC value within limits for Ba 233.527 Recovery = 102.87%								
Be 234.861†	185392.0	0.254	mg/L	0.0030	0.254	mg/L	0.0030	1.16%
QC value within limits for Be 234.861 Recovery = 101.61%								
B 249.677†	3147.4	-0.00746	mg/L	0.002168	-0.00746	mg/L	0.002168	29.05%
QC value within limits for B 249.677 Recovery = Not calculated								
Ca 227.546†	56280.2	269	mg/L	4.5	269	mg/L	4.5	1.67%
QC value within limits for Ca 227.546 Recovery = 107.53%								
Cd 228.802†	15566.7	0.483	mg/L	0.0068	0.483	mg/L	0.0068	1.40%
QC value within limits for Cd 228.802 Recovery = 96.61%								
Co 228.616†	5817.0	0.237	mg/L	0.0004	0.237	mg/L	0.0004	0.17%
QC value within limits for Co 228.616 Recovery = 94.75%								
Cr 267.716†	24459.0	0.259	mg/L	0.0009	0.259	mg/L	0.0009	0.36%
QC value within limits for Cr 267.716 Recovery = 103.50%								
Cu 327.393†	42022.0	0.249	mg/L	0.0040	0.249	mg/L	0.0040	1.61%
QC value within limits for Cu 327.393 Recovery = 99.56%								
Fe 239.562†	419348.7	97.8	mg/L	0.90	97.8	mg/L	0.90	0.92%
QC value within limits for Fe 239.562 Recovery = 97.77%								
Mg 279.077†	361759.6	253	mg/L	2.3	253	mg/L	2.3	0.92%
QC value within limits for Mg 279.077 Recovery = 101.33%								
Mn 257.610†	132032.9	0.251	mg/L	0.0013	0.251	mg/L	0.0013	0.51%

Approved: May 31, 2013

```
   QC value within limits for Mn 257.610  Recovery = 100.60%
Mo 202.031†              -40.6     0.00553 mg/L      0.000611     0.00553 mg/L      0.000611  11.05%
   QC value within limits for Mo 202.031  Recovery = Not calculated
Ni 231.604†            18921.8       0.474 mg/L        0.0015       0.474 mg/L        0.0015   0.32%
   QC value within limits for Ni 231.604  Recovery = 94.82%
Pb 220.353†             3598.0       0.494 mg/L        0.0038       0.494 mg/L        0.0038   0.76%
   QC value within limits for Pb 220.353  Recovery = 98.71%
Sb 206.836†             1199.0       0.498 mg/L        0.0089       0.498 mg/L        0.0089   1.78%
   QC value within limits for Sb 206.836  Recovery = 99.51%
Se 196.026†              236.3       0.251 mg/L        0.0103       0.251 mg/L        0.0103   4.09%
   QC value within limits for Se 196.026  Recovery = 100.45%
Si 251.611†              -41.1     0.00554 mg/L      0.000168     0.00554 mg/L      0.000168   3.04%
   QC value within limits for Si 251.611  Recovery = Not calculated
Sn 189.927†             -403.1     -0.0479 mg/L       0.00074     -0.0479 mg/L       0.00074   1.54%
   QC value within limits for Sn 189.927  Recovery = Not calculated
Ti 334.940†           -26708.7     0.00773 mg/L      0.001570     0.00773 mg/L      0.001570  20.31%
   QC value within limits for Ti 334.940  Recovery = Not calculated
Tl 190.801†              983.4       0.488 mg/L        0.0091       0.488 mg/L        0.0091   1.86%
   QC value within limits for Tl 190.801  Recovery = 97.59%
V 290.880†             55511.6       0.253 mg/L        0.0011       0.253 mg/L        0.0011   0.42%
   QC value within limits for V 290.880  Recovery = 101.10%
Zn 206.200†            17090.5       0.489 mg/L        0.0015       0.489 mg/L        0.0015   0.31%
   QC value within limits for Zn 206.200  Recovery = 97.71%
K 766.490†              7309.8        5.22 mg/L         0.041        5.22 mg/L         0.041   0.78%
   QC value within limits for K 766.490  Recovery = 104.33%
Na 589.592†            55525.8        5.52 mg/L         0.042        5.52 mg/L         0.042   0.77%
   QC value within limits for Na 589.592  Recovery = 110.33%
Sr 407.771†             1300.1     0.00924 mg/L      0.000126     0.00924 mg/L      0.000126   1.36%
   QC value within limits for Sr 407.771  Recovery = Not calculated
Li 670.784†              154.5     0.00469 mg/L      0.000573     0.00469 mg/L      0.000573  12.20%
   QC value within limits for Li 670.784  Recovery = Not calculated
All analyte(s) passed QC.

==========================================================================================
Sequence No.: 10                                    Autosampler Location: 6
Sample ID: CCV                                      Date Collected: 5/30/2013 11:50:51 AM
Analyst:                                            Data Type: Reprocessed on 5/30/2013 1:50:55 PM
Logged In Analyst (Original) : peicp2
Initial Sample Wt:                                  Initial Sample Vol:
Dilution:                                           Sample Prep Vol:

------------------------------------------------------------------------------------------
Nebulizer Parameters: CCV
Analyte                 Back Pressure    Flow
All                    163.0 kPa         0.48 L/min

------------------------------------------------------------------------------------------
Mean Data: CCV
                   Mean Corrected         Calib.                          Sample
Analyte               Intensity      Conc. Units      Std.Dev.      Conc. Units      Std.Dev.   RSD
Y 371.029            2428239.2                                                     40978.59   1.69%
YRADIAL               186181.9                                                      6358.01   3.41%
Ga 417.206            920753.0                                                      8974.82   0.97%
GaRADIAL               50349.0                                                      1547.10   3.07%
Ag 328.068†            96124.5       0.420 mg/L        0.0087       0.420 mg/L        0.0087   2.07%
   QC value within limits for Ag 328.068  Recovery = 104.91%
Al 396.153†            30433.1        9.92 mg/L         0.292        9.92 mg/L         0.292   2.94%
   QC value within limits for Al 396.153  Recovery = 99.19%
As 188.979†              821.9       0.401 mg/L        0.0055       0.401 mg/L        0.0055   1.38%
   QC value within limits for As 188.979  Recovery = 100.37%
Ba 233.527†            93543.8        1.05 mg/L         0.027        1.05 mg/L         0.027   2.63%
   QC value within limits for Ba 233.527  Recovery = 104.64%
Be 234.861†            34218.9      0.0508 mg/L       0.00095      0.0508 mg/L       0.00095   1.86%
   QC value within limits for Be 234.861  Recovery = 101.62%
B 249.677†             35900.5       0.503 mg/L        0.0131       0.503 mg/L        0.0131   2.61%
   QC value within limits for B 249.677  Recovery = 100.63%
Ca 227.546†             2142.6        10.6 mg/L          0.08        10.6 mg/L          0.08   0.72%
   QC value within limits for Ca 227.546  Recovery = 106.39%
Cd 228.802†             1638.8      0.0497 mg/L       0.00011      0.0497 mg/L       0.00011   0.22%
   QC value within limits for Cd 228.802  Recovery = 99.39%
Co 228.616†             5082.0       0.208 mg/L        0.0036       0.208 mg/L        0.0036   1.73%
   QC value within limits for Co 228.616  Recovery = 104.19%
```

Approved: May 31, 2013

Lynn H. Rhoden

```
Cr 267.716†            49479.1       0.524 mg/L        0.0129       0.524 mg/L        0.0129   2.47%
   QC value within limits for Cr 267.716  Recovery = 104.71%
Cu 327.393†            89862.4       0.517 mg/L        0.0127       0.517 mg/L        0.0127   2.45%
   QC value within limits for Cu 327.393  Recovery = 103.34%
Fe 239.562†            17667.6        4.13 mg/L         0.110        4.13 mg/L         0.110   2.67%
   QC value within limits for Fe 239.562  Recovery = 103.35%
Mg 279.077†            14588.0        10.3 mg/L          0.32        10.3 mg/L          0.32   3.09%
   QC value within limits for Mg 279.077  Recovery = 102.70%
Mn 257.610†           285206.0       0.534 mg/L        0.0136       0.534 mg/L        0.0136   2.54%
   QC value within limits for Mn 257.610  Recovery = 106.88%
Mo 202.031†            20558.0        1.04 mg/L         0.022        1.04 mg/L         0.022   2.12%
   QC value within limits for Mo 202.031  Recovery = 103.68%
Ni 231.604†            20659.8       0.518 mg/L        0.0121       0.518 mg/L        0.0121   2.33%
   QC value within limits for Ni 231.604  Recovery = 103.50%
Pb 220.353†             4060.4       0.528 mg/L        0.0086       0.528 mg/L        0.0086   1.62%
   QC value within limits for Pb 220.353  Recovery = 105.51%
Sb 206.836†             3015.3        1.24 mg/L         0.006        1.24 mg/L         0.006   0.51%
   QC value within limits for Sb 206.836  Recovery = 103.39%
Se 196.026†              424.4       0.410 mg/L        0.0034       0.410 mg/L        0.0034   0.82%
   QC value within limits for Se 196.026  Recovery = 102.55%
Si 251.611†           184137.6        5.13 mg/L         0.110        5.13 mg/L         0.110   2.15%
   QC value within limits for Si 251.611  Recovery = 102.55%
Sn 189.927†             7717.6       0.964 mg/L        0.0159       0.964 mg/L        0.0159   1.65%
   QC value within limits for Sn 189.927  Recovery = 96.39%
Ti 334.940†           777510.6        1.03 mg/L         0.012        1.03 mg/L         0.012   1.13%
   QC value within limits for Ti 334.940  Recovery = 103.28%
Tl 190.801†             1070.5       0.539 mg/L        0.0036       0.539 mg/L        0.0036   0.66%
   QC value within limits for Tl 190.801  Recovery = 107.76%
V 290.880†            205844.0        1.05 mg/L         0.034        1.05 mg/L         0.034   3.23%
   QC value within limits for V 290.880  Recovery = 105.02%
Zn 206.200†            37077.3        1.06 mg/L         0.025        1.06 mg/L         0.025   2.37%
   QC value within limits for Zn 206.200  Recovery = 106.15%
K 766.490†             72508.6        50.7 mg/L          1.35        50.7 mg/L          1.35   2.67%
   QC value within limits for K 766.490  Recovery = 101.42%
Na 589.592†           532756.1        50.9 mg/L          1.85        50.9 mg/L          1.85   3.64%
   QC value within limits for Na 589.592  Recovery = 101.77%
Sr 407.771†          1195361.0       0.996 mg/L        0.0369       0.996 mg/L        0.0369   3.71%
   QC value within limits for Sr 407.771  Recovery = 99.63%
Li 670.784†            71339.2        1.01 mg/L         0.030        1.01 mg/L         0.030   2.93%
   QC value within limits for Li 670.784  Recovery = 101.42%
All analyte(s) passed QC.

==========================================================================================
Sequence No.: 11                                    Autosampler Location: 1
Sample ID: CCB                                      Date Collected: 5/30/2013 11:52:56 AM
Analyst:                                            Data Type: Reprocessed on 5/30/2013 1:50:56 PM
Logged In Analyst (Original) : peicp2
Initial Sample Wt:                                  Initial Sample Vol:
Dilution:                                           Sample Prep Vol:

------------------------------------------------------------------------------------------
Nebulizer Parameters: CCB
Analyte                 Back Pressure    Flow
All                     163.0 kPa        0.48 L/min

------------------------------------------------------------------------------------------
Mean Data: CCB
                   Mean Corrected        Calib.                          Sample
Analyte               Intensity     Conc. Units      Std.Dev.      Conc. Units      Std.Dev.   RSD
Y 371.029            2502676.3                                                     25026.07   1.00%
YRADIAL               188958.3                                                      2172.10   1.15%
Ga 417.206            946385.8                                                     14257.47   1.51%
GaRADIAL               50001.5                                                       382.87   0.77%
Ag 328.068†              136.0     0.00085 mg/L      0.000861     0.00085 mg/L      0.000861 101.29%
   QC value within limits for Ag 328.068  Recovery = Not calculated
Al 396.153†               25.8      0.0566 mg/L       0.00272      0.0566 mg/L       0.00272   4.81%
   QC value within limits for Al 396.153  Recovery = Not calculated
As 188.979†                1.3    -0.00177 mg/L      0.003044    -0.00177 mg/L      0.003044 172.27%
   QC value within limits for As 188.979  Recovery = Not calculated
Ba 233.527†               -8.4     0.00198 mg/L      0.000032     0.00198 mg/L      0.000032   1.64%
   QC value within limits for Ba 233.527  Recovery = Not calculated
Be 234.861†              -13.1     0.00014 mg/L      0.000052     0.00014 mg/L      0.000052  38.27%
```

Approved: May 31, 2013

Lynn H. Rhoden

QC value within limits for Be 234.861 Recovery = Not calculated
B 249.677† 409.1 0.00964 mg/L 0.000928 0.00964 mg/L 0.000928 9.63%
QC value within limits for B 249.677 Recovery = Not calculated
Ca 227.546† 6.7 0.0689 mg/L 0.06593 0.0689 mg/L 0.06593 95.63%
QC value within limits for Ca 227.546 Recovery = Not calculated
Cd 228.802† -5.2 0.00004 mg/L 0.000168 0.00004 mg/L 0.000168 406.07%
QC value within limits for Cd 228.802 Recovery = Not calculated
Co 228.616† -3.0 -0.00003 mg/L 0.000183 -0.00003 mg/L 0.000183 637.09%
QC value within limits for Co 228.616 Recovery = Not calculated
Cr 267.716† 11.1 0.00129 mg/L 0.000050 0.00129 mg/L 0.000050 3.85%
QC value within limits for Cr 267.716 Recovery = Not calculated
Cu 327.393† 133.0 0.00142 mg/L 0.000315 0.00142 mg/L 0.000315 22.16%
QC value within limits for Cu 327.393 Recovery = Not calculated
Fe 239.562† 35.1 0.0243 mg/L 0.00105 0.0243 mg/L 0.00105 4.32%
QC value within limits for Fe 239.562 Recovery = Not calculated
Mg 279.077† 4.9 0.0411 mg/L 0.00859 0.0411 mg/L 0.00859 20.91%
QC value within limits for Mg 279.077 Recovery = Not calculated
Mn 257.610† 77.1 0.00009 mg/L 0.000025 0.00009 mg/L 0.000025 27.11%
QC value within limits for Mn 257.610 Recovery = Not calculated
Mo 202.031† 4.4 0.00217 mg/L 0.000220 0.00217 mg/L 0.000220 10.16%
QC value within limits for Mo 202.031 Recovery = Not calculated
Ni 231.604† -10.2 0.00222 mg/L 0.000290 0.00222 mg/L 0.000290 13.02%
QC value within limits for Ni 231.604 Recovery = Not calculated
Pb 220.353† 2.4 0.00054 mg/L 0.000344 0.00054 mg/L 0.000344 63.80%
QC value within limits for Pb 220.353 Recovery = Not calculated
Sb 206.836† 1.4 0.00333 mg/L 0.002503 0.00333 mg/L 0.002503 75.04%
QC value within limits for Sb 206.836 Recovery = Not calculated
Se 196.026† 4.0 0.00236 mg/L 0.005674 0.00236 mg/L 0.005674 240.39%
QC value within limits for Se 196.026 Recovery = Not calculated
Si 251.611† 48.1 0.00800 mg/L 0.000500 0.00800 mg/L 0.000500 6.25%
QC value within limits for Si 251.611 Recovery = Not calculated
Sn 189.927† 10.0 0.00354 mg/L 0.000155 0.00354 mg/L 0.000155 4.38%
QC value within limits for Sn 189.927 Recovery = Not calculated
Ti 334.940† -9.2 0.00321 mg/L 0.000102 0.00321 mg/L 0.000102 3.17%
QC value within limits for Ti 334.940 Recovery = Not calculated
Tl 190.801† -1.8 -0.00092 mg/L 0.000238 -0.00092 mg/L 0.000238 26.02%
QC value within limits for Tl 190.801 Recovery = Not calculated
V 290.880† 199.9 0.00208 mg/L 0.000472 0.00208 mg/L 0.000472 22.75%
QC value within limits for V 290.880 Recovery = Not calculated
Zn 206.200† 7.7 0.00252 mg/L 0.000109 0.00252 mg/L 0.000109 4.34%
QC value within limits for Zn 206.200 Recovery = Not calculated
K 766.490† 166.8 0.0799 mg/L 0.04833 0.0799 mg/L 0.04833 60.45%
QC value within limits for K 766.490 Recovery = Not calculated
Na 589.592† 389.4 0.00571 mg/L 0.033814 0.00571 mg/L 0.033814 592.59%
QC value within limits for Na 589.592 Recovery = Not calculated
Sr 407.771† 103.6 0.00405 mg/L 0.000073 0.00405 mg/L 0.000073 1.80%
QC value within limits for Sr 407.771 Recovery = Not calculated
Li 670.784† 150.2 0.00463 mg/L 0.000428 0.00463 mg/L 0.000428 9.24%
QC value within limits for Li 670.784 Recovery = Not calculated
All analyte(s) passed QC.

==========

Sequence No.: 12 **Autosampler Location: 39**
Sample ID: PBW AB WG432203-02 **Date Collected: 5/30/2013 11:55:55 AM**
Analyst: KHR **Data Type: Reprocessed on 5/30/2013 1:50:57 PM**
Logged In Analyst (Original) : peicp2
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: PBW AB WG432203-02

Analyte	**Back Pressure**	**Flow**
All	163.0 kPa	0.48 L/min

Mean Data: PBW AB WG432203-02

Analyte	**Mean Corrected Intensity**	**Calib. Conc.**	**Units**	**Std.Dev.**	**Sample Conc.**	**Units**	**Std.Dev.**	**RSD**
Y 371.029	2558174.0						47008.24	1.84%
YRADIAL	189332.4						2752.80	1.45%
Ga 417.206	960057.0						14773.81	1.54%
GaRADIAL	50608.6						1275.38	2.52%

Approved: May 31, 2013

Ag 328.068†	105.9	0.00072	mg/L	0.000182	0.00072	mg/L	0.000182 25.31%
Al 396.153†	5.6	0.0500	mg/L	0.00303	0.0500	mg/L	0.00303 6.06%
As 188.979†	4.7	-0.00006	mg/L	0.000579	-0.00006	mg/L	0.000579 954.69%
Ba 233.527†	-10.2	0.00196	mg/L	0.000039	0.00196	mg/L	0.000039 2.01%
Be 234.861†	9.4	0.00017	mg/L	0.000030	0.00017	mg/L	0.000030 17.45%
B 249.677†	160.8	0.00616	mg/L	0.000140	0.00616	mg/L	0.000140 2.28%
Ca 227.546†	26.5	0.163	mg/L	0.0123	0.163	mg/L	0.0123 7.55%
Cd 228.802†	-5.8	0.00002	mg/L	0.000126	0.00002	mg/L	0.000126 831.95%
Co 228.616†	-4.6	-0.00009	mg/L	0.000400	-0.00009	mg/L	0.000400 434.58%
Cr 267.716†	20.2	0.00139	mg/L	0.000102	0.00139	mg/L	0.000102 7.38%
Cu 327.393†	145.8	0.00150	mg/L	0.000669	0.00150	mg/L	0.000669 44.67%
Fe 239.562†	37.3	0.0249	mg/L	0.00077	0.0249	mg/L	0.00077 3.11%
Mg 279.077†	8.5	0.0436	mg/L	0.00169	0.0436	mg/L	0.00169 3.88%
Mn 257.610†	300.2	0.00051	mg/L	0.000011	0.00051	mg/L	0.000011 2.13%
Mo 202.031†	9.0	0.00240	mg/L	0.000286	0.00240	mg/L	0.000286 11.93%
Ni 231.604†	-1.1	0.00245	mg/L	0.000352	0.00245	mg/L	0.000352 14.36%
Pb 220.353†	-1.5	0.00003	mg/L	0.001778	0.00003	mg/L	0.001778 >999.9%
Sb 206.836†	-2.3	0.00180	mg/L	0.000528	0.00180	mg/L	0.000528 29.37%
Se 196.026†	5.9	0.00419	mg/L	0.007468	0.00419	mg/L	0.007468 178.25%
Si 251.611†	67.8	0.00855	mg/L	0.000720	0.00855	mg/L	0.000720 8.42%
Sn 189.927†	-8.9	0.00119	mg/L	0.000749	0.00119	mg/L	0.000749 63.14%
Ti 334.940†	-8.1	0.00323	mg/L	0.000056	0.00323	mg/L	0.000056 1.72%
Tl 190.801†	-1.2	-0.00063	mg/L	0.002060	-0.00063	mg/L	0.002060 328.16%
V 290.880†	150.7	0.00182	mg/L	0.000522	0.00182	mg/L	0.000522 28.63%
Zn 206.200†	346.8	0.0122	mg/L	0.00002	0.0122	mg/L	0.00002 0.13%
K 766.490†	108.7	0.0380	mg/L	0.01828	0.0380	mg/L	0.01828 48.09%
Na 589.592†	107.7	-0.0226	mg/L	0.01666	-0.0226	mg/L	0.01666 73.72%
Sr 407.771†	9.4	0.00397	mg/L	0.000050	0.00397	mg/L	0.000050 1.26%
Li 670.784†	82.6	0.00367	mg/L	0.000456	0.00367	mg/L	0.000456 12.42%

==========

Sequence No.: 13 **Autosampler Location: 40**
Sample ID: LCSW AB WG432203-03 **Date Collected: 5/30/2013 11:58:55 AM**
Analyst: KHR **Data Type: Reprocessed on 5/30/2013 1:50:58 PM**
Logged In Analyst (Original) : peicp2
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: LCSW AB WG432203-03

Analyte	Back Pressure	Flow
All	164.0 kPa	0.48 L/min

Mean Data: LCSW AB WG432203-03

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2407103.7						26172.28	1.09%
YRADIAL	181836.6						1297.67	0.71%
Ga 417.206	928447.1						21333.44	2.30%
GaRADIAL	48704.4						371.29	0.76%
Ag 328.068†	45740.2	0.200	mg/L	0.0064	0.200	mg/L	0.0064	3.19%
Al 396.153†	14916.2	4.89	mg/L	0.024	4.89	mg/L	0.024	0.49%
As 188.979†	405.7	0.197	mg/L	0.0067	0.197	mg/L	0.0067	3.41%
Ba 233.527†	45068.3	0.505	mg/L	0.0067	0.505	mg/L	0.0067	1.33%
Be 234.861†	16171.9	0.0241	mg/L	0.00069	0.0241	mg/L	0.00069	2.86%
B 249.677†	67534.8	0.949	mg/L	0.0249	0.949	mg/L	0.0249	2.62%
Ca 227.546†	1057.4	5.27	mg/L	0.179	5.27	mg/L	0.179	3.40%
Cd 228.802†	784.8	0.0239	mg/L	0.00093	0.0239	mg/L	0.00093	3.91%
Co 228.616†	2472.9	0.101	mg/L	0.0012	0.101	mg/L	0.0012	1.14%
Cr 267.716†	23890.1	0.253	mg/L	0.0051	0.253	mg/L	0.0051	2.02%
Cu 327.393†	43006.2	0.248	mg/L	0.0078	0.248	mg/L	0.0078	3.16%
Fe 239.562†	8393.1	1.97	mg/L	0.021	1.97	mg/L	0.021	1.04%
Mg 279.077†	7110.7	5.03	mg/L	0.070	5.03	mg/L	0.070	1.40%
Mn 257.610†	136176.3	0.255	mg/L	0.0032	0.255	mg/L	0.0032	1.27%
Mo 202.031†	10163.0	0.514	mg/L	0.0039	0.514	mg/L	0.0039	0.76%
Ni 231.604†	10251.7	0.258	mg/L	0.0019	0.258	mg/L	0.0019	0.72%
Pb 220.353†	1968.0	0.256	mg/L	0.0034	0.256	mg/L	0.0034	1.34%
Sb 206.836†	1432.1	0.591	mg/L	0.0156	0.591	mg/L	0.0156	2.64%
Se 196.026†	205.8	0.198	mg/L	0.0073	0.198	mg/L	0.0073	3.67%
Si 251.611†	87012.7	2.43	mg/L	0.063	2.43	mg/L	0.063	2.61%
Sn 189.927†	4129.6	0.517	mg/L	0.0048	0.517	mg/L	0.0048	0.92%

Approved: May 31, 2013

Ti 334.940†	381591.5	0.509 mg/L	0.0080	0.509 mg/L	0.0080	1.58%
Tl 190.801†	528.4	0.266 mg/L	0.0032	0.266 mg/L	0.0032	1.19%
V 290.880†	98727.7	0.504 mg/L	0.0034	0.504 mg/L	0.0034	0.68%
Zn 206.200†	17774.4	0.510 mg/L	0.0088	0.510 mg/L	0.0088	1.72%
K 766.490†	36493.3	25.9 mg/L	0.19	25.9 mg/L	0.19	0.72%
Na 589.592†	270018.0	26.4 mg/L	0.35	26.4 mg/L	0.35	1.31%
Sr 407.771†	594961.4	0.498 mg/L	0.0057	0.498 mg/L	0.0057	1.15%
Li 670.784†	35542.7	0.507 mg/L	0.0018	0.507 mg/L	0.0018	0.35%

Sequence No.: 14 **Autosampler Location: 41**
Sample ID: L1305114101 **Date Collected: 5/30/2013 12:00:59 PM**
Analyst: KHR **Data Type: Reprocessed on 5/30/2013 1:50:59 PM**
Logged In Analyst (Original) : peicp2
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1305114101

Analyte	Back Pressure	Flow
All	163.0 kPa	0.48 L/min

Mean Data: L1305114101

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2364545.2						12242.66	0.52%
YRADIAL	179012.4						1428.37	0.80%
Ga 417.206	944063.6						6701.23	0.71%
GaRADIAL	50304.2						481.85	0.96%
Ag 328.068†	1153.1	0.00505	mg/L	0.000231	0.00505	mg/L	0.000231	4.58%
Al 396.153†	13.8	0.0515	mg/L	0.00329	0.0515	mg/L	0.00329	6.39%
As 188.979†	5.4	0.00265	mg/L	0.000973	0.00265	mg/L	0.000973	36.72%
Ba 233.527†	9747.5	0.111	mg/L	0.0010	0.111	mg/L	0.0010	0.90%
Be 234.861†	40.6	0.00018	mg/L	0.000030	0.00018	mg/L	0.000030	16.22%
B 249.677†	14770.9	0.211	mg/L	0.0045	0.211	mg/L	0.0045	2.11%
Ca 227.546†	23182.6	110	mg/L	2.0	110	mg/L	2.0	1.82%
Cd 228.802†	-7.7	-0.00005	mg/L	0.000094	-0.00005	mg/L	0.000094	192.97%
Co 228.616†	-3.8	-0.00004	mg/L	0.000382	-0.00004	mg/L	0.000382	925.50%
Cr 267.716†	154.1	0.00278	mg/L	0.000075	0.00278	mg/L	0.000075	2.70%
Cu 327.393†	-143.2	-0.00013	mg/L	0.000564	-0.00013	mg/L	0.000564	419.54%
Fe 239.562†	1680.3	0.407	mg/L	0.0004	0.407	mg/L	0.0004	0.10%
Mg 279.077†	60606.1	42.5	mg/L	0.24	42.5	mg/L	0.24	0.55%
Mn 257.610†	277709.7	0.520	mg/L	0.0064	0.520	mg/L	0.0064	1.22%
Mo 202.031†	364.2	0.0204	mg/L	0.00061	0.0204	mg/L	0.00061	2.99%
Ni 231.604†	12.2	0.00279	mg/L	0.000141	0.00279	mg/L	0.000141	5.04%
Pb 220.353†	40.6	0.00518	mg/L	0.001265	0.00518	mg/L	0.001265	24.42%
Sb 206.836†	-4.4	0.00101	mg/L	0.003048	0.00101	mg/L	0.003048	302.82%
Se 196.026†	6.7	0.00489	mg/L	0.004129	0.00489	mg/L	0.004129	84.38%
Si 251.611†	224605.6	6.27	mg/L	0.098	6.27	mg/L	0.098	1.56%
Sn 189.927†	-332.3	-0.0391	mg/L	0.00152	-0.0391	mg/L	0.00152	3.88%
Ti 334.940†	-11693.9	0.00419	mg/L	0.000271	0.00419	mg/L	0.000271	6.46%
Tl 190.801†	-37.5	-0.0190	mg/L	0.00158	-0.0190	mg/L	0.00158	8.31%
V 290.880†	3671.5	0.0186	mg/L	0.00015	0.0186	mg/L	0.00015	0.79%
Zn 206.200†	171.3	0.00718	mg/L	0.000186	0.00718	mg/L	0.000186	2.59%
K 766.490†	8415.3	5.90	mg/L	0.065	5.90	mg/L	0.065	1.11%
Na 589.592†	1316106.7	118	mg/L	2.3	118	mg/L	2.3	1.94%
Sr 407.771†	1974970.4	1.64	mg/L	0.035	1.64	mg/L	0.035	2.10%
Li 670.784†	244.3	0.00597	mg/L	0.000057	0.00597	mg/L	0.000057	0.95%

Sequence No.: 15 **Autosampler Location: 42**
Sample ID: L1305114102 **Date Collected: 5/30/2013 12:04:04 PM**
Analyst: KHR **Data Type: Reprocessed on 5/30/2013 1:51:00 PM**
Logged In Analyst (Original) : peicp2
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1305114102

Analyte	Back Pressure	Flow
All	164.0 kPa	0.48 L/min

Approved: May 31, 2013

Kym H. Rhoden

Mean Data: L1305114102

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2192001.4						25168.76	1.15%
YRADIAL	172902.3						2597.77	1.50%
Ga 417.206	862483.0						3079.76	0.36%
GaRADIAL	47705.7						802.07	1.68%
Ag 328.068†	209.2	0.00119	mg/L	0.000248	0.00119	mg/L	0.000248	20.75%
Al 396.153†	142.0	0.0942	mg/L	0.00182	0.0942	mg/L	0.00182	1.93%
As 188.979†	0.4	-0.00153	mg/L	0.002959	-0.00153	mg/L	0.002959	193.76%
Ba 233.527†	56255.0	0.630	mg/L	0.0112	0.630	mg/L	0.0112	1.78%
Be 234.861†	-2.2	0.00008	mg/L	0.000034	0.00008	mg/L	0.000034	44.57%
B 249.677†	250452.8	3.51	mg/L	0.018	3.51	mg/L	0.018	0.52%
Ca 227.546†	6456.9	30.6	mg/L	0.18	30.6	mg/L	0.18	0.59%
Cd 228.802†	-2.6	0.00012	mg/L	0.000164	0.00012	mg/L	0.000164	134.11%
Co 228.616†	-3.7	-0.00026	mg/L	0.000037	-0.00026	mg/L	0.000037	14.13%
Cr 267.716†	299.2	0.00433	mg/L	0.000251	0.00433	mg/L	0.000251	5.79%
Cu 327.393†	-23.0	0.00057	mg/L	0.000658	0.00057	mg/L	0.000658	115.41%
Fe 239.562†	1495.0	0.362	mg/L	0.0078	0.362	mg/L	0.0078	2.16%
Mg 279.077†	195895.8	137	mg/L	0.8	137	mg/L	0.8	0.61%
Mn 257.610†	14115.6	0.0264	mg/L	0.00055	0.0264	mg/L	0.00055	2.07%
Mo 202.031†	132.1	0.00863	mg/L	0.000449	0.00863	mg/L	0.000449	5.20%
Ni 231.604†	-12.0	0.00219	mg/L	0.000268	0.00219	mg/L	0.000268	12.26%
Pb 220.353†	16.6	0.00237	mg/L	0.000964	0.00237	mg/L	0.000964	40.69%
Sb 206.836†	1.8	0.00353	mg/L	0.001618	0.00353	mg/L	0.001618	45.82%
Se 196.026†	20.3	0.0182	mg/L	0.00947	0.0182	mg/L	0.00947	52.08%
Si 251.611†	287925.7	8.03	mg/L	0.089	8.03	mg/L	0.089	1.10%
Sn 189.927†	-180.9	-0.0202	mg/L	0.00096	-0.0202	mg/L	0.00096	4.77%
Ti 334.940†	-36.3	0.00775	mg/L	0.000217	0.00775	mg/L	0.000217	2.80%
Tl 190.801†	-44.0	-0.0215	mg/L	0.00560	-0.0215	mg/L	0.00560	26.06%
V 290.880†	6850.9	0.0323	mg/L	0.00087	0.0323	mg/L	0.00087	2.68%
Zn 206.200†	249.4	0.00942	mg/L	0.000249	0.00942	mg/L	0.000249	2.65%
K 766.490†	127278.3	87.3	mg/L	0.58	87.3	mg/L	0.58	0.66%
Na 589.592†	Saturated2							
Sr 407.771†	1051767.1	0.877	mg/L	0.0113	0.877	mg/L	0.0113	1.29%
Li 670.784†	976.1	0.0163	mg/L	0.00017	0.0163	mg/L	0.00017	1.02%

Sequence No.: 16
Sample ID: L1305114105
Analyst: KHR
Logged In Analyst (Original) : peicp2
Initial Sample Wt:
Dilution:

Autosampler Location: 43
Date Collected: 5/30/2013 12:07:06 PM
Data Type: Reprocessed on 5/30/2013 1:51:01 PM

Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: L1305114105

Analyte	Back Pressure	Flow
All	163.0 kPa	0.48 L/min

Mean Data: L1305114105

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2312255.1						4816.92	0.21%
YRADIAL	180474.9						1065.29	0.59%
Ga 417.206	936294.4						3607.17	0.39%
GaRADIAL	50088.2						428.40	0.86%
Ag 328.068†	507.3	0.00235	mg/L	0.000400	0.00235	mg/L	0.000400	17.05%
Al 396.153†	283.7	0.139	mg/L	0.0035	0.139	mg/L	0.0035	2.50%
As 188.979†	-0.5	-0.00168	mg/L	0.001322	-0.00168	mg/L	0.001322	78.90%
Ba 233.527†	9795.4	0.111	mg/L	0.0003	0.111	mg/L	0.0003	0.30%
Be 234.861†	18.5	0.00030	mg/L	0.000011	0.00030	mg/L	0.000011	3.87%
B 249.677†	107719.2	1.51	mg/L	0.011	1.51	mg/L	0.011	0.70%
Ca 227.546†	10730.6	50.8	mg/L	0.12	50.8	mg/L	0.12	0.24%
Cd 228.802†	5.8	0.00051	mg/L	0.000170	0.00051	mg/L	0.000170	33.69%
Co 228.616†	824.2	0.0340	mg/L	0.00029	0.0340	mg/L	0.00029	0.84%
Cr 267.716†	198.9	0.00330	mg/L	0.000042	0.00330	mg/L	0.000042	1.27%
Cu 327.393†	1731.3	0.0106	mg/L	0.00065	0.0106	mg/L	0.00065	6.17%
Fe 239.562†	544.7	0.142	mg/L	0.0012	0.142	mg/L	0.0012	0.82%

Approved: May 31, 2013

Mg 279.077†	96883.8	67.9	mg/L	0.51	67.9	mg/L	0.51	0.75%
Mn 257.610†	697581.0	1.31	mg/L	0.004	1.31	mg/L	0.004	0.28%
Mo 202.031†	517.6	0.0283	mg/L	0.00048	0.0283	mg/L	0.00048	1.69%
Ni 231.604†	240.8	0.00846	mg/L	0.000152	0.00846	mg/L	0.000152	1.80%
Pb 220.353†	39.2	0.00454	mg/L	0.001084	0.00454	mg/L	0.001084	23.87%
Sb 206.836†	-1.4	0.00225	mg/L	0.003027	0.00225	mg/L	0.003027	134.59%
Se 196.026†	12.5	0.0102	mg/L	0.00086	0.0102	mg/L	0.00086	8.42%
Si 251.611†	742791.9	20.7	mg/L	0.11	20.7	mg/L	0.11	0.54%
Sn 189.927†	-244.5	-0.0282	mg/L	0.00090	-0.0282	mg/L	0.00090	3.18%
Ti 334.940†	-2590.4	0.00740	mg/L	0.002325	0.00740	mg/L	0.002325	31.41%
Tl 190.801†	-35.8	-0.0188	mg/L	0.00602	-0.0188	mg/L	0.00602	32.10%
V 290.880†	10768.9	0.0542	mg/L	0.00107	0.0542	mg/L	0.00107	1.98%
Zn 206.200†	2760.8	0.0808	mg/L	0.00059	0.0808	mg/L	0.00059	0.73%
K 766.490†	7746.7	5.54	mg/L	0.114	5.54	mg/L	0.114	2.07%
Na 589.592†	Saturated2							
Sr 407.771†	582241.4	0.488	mg/L	0.0086	0.488	mg/L	0.0086	1.75%
Li 670.784†	174.0	0.00497	mg/L	0.000695	0.00497	mg/L	0.000695	13.99%

Sequence No.: 17 **Autosampler Location: 44**
Sample ID: L1305114201 **Date Collected: 5/30/2013 12:10:11 PM**
Analyst: KHR **Data Type: Reprocessed on 5/30/2013 1:51:03 PM**
Logged In Analyst (Original) : peicp2
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1305114201

Analyte	Back Pressure	Flow
All	163.0 kPa	0.48 L/min

Mean Data: L1305114201

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2277446.2						45022.39	1.98%
YRADIAL	174278.4						4028.68	2.31%
Ga 417.206	918860.8						20119.13	2.19%
GaRADIAL	50135.6						1046.49	2.09%
Ag 328.068†	1103.0	0.00504	mg/L	0.000514	0.00504	mg/L	0.000514	10.19%
Al 396.153†	-43.8	0.0337	mg/L	0.00213	0.0337	mg/L	0.00213	6.33%
As 188.979†	2.4	0.00208	mg/L	0.004277	0.00208	mg/L	0.004277	205.41%
Ba 233.527†	1886.7	0.0231	mg/L	0.00065	0.0231	mg/L	0.00065	2.82%
Be 234.861†	64.7	0.00017	mg/L	0.000049	0.00017	mg/L	0.000049	28.38%
B 249.677†	6928.4	0.101	mg/L	0.0040	0.101	mg/L	0.0040	3.94%
Ca 227.546†	30791.0	146	mg/L	3.4	146	mg/L	3.4	2.36%
Cd 228.802†	-9.2	-0.00007	mg/L	0.000119	-0.00007	mg/L	0.000119	158.25%
Co 228.616†	81.5	0.00348	mg/L	0.000362	0.00348	mg/L	0.000362	10.39%
Cr 267.716†	281.3	0.00412	mg/L	0.000179	0.00412	mg/L	0.000179	4.34%
Cu 327.393†	-174.8	-0.00031	mg/L	0.000548	-0.00031	mg/L	0.000548	178.47%
Fe 239.562†	2526.3	0.603	mg/L	0.0118	0.603	mg/L	0.0118	1.96%
Mg 279.077†	179487.3	126	mg/L	1.0	126	mg/L	1.0	0.83%
Mn 257.610†	299950.3	0.561	mg/L	0.0104	0.561	mg/L	0.0104	1.85%
Mo 202.031†	93.0	0.00679	mg/L	0.000254	0.00679	mg/L	0.000254	3.75%
Ni 231.604†	107.4	0.00516	mg/L	0.000080	0.00516	mg/L	0.000080	1.55%
Pb 220.353†	45.8	0.00582	mg/L	0.000929	0.00582	mg/L	0.000929	15.96%
Sb 206.836†	-2.0	0.00196	mg/L	0.002547	0.00196	mg/L	0.002547	129.64%
Se 196.026†	16.6	0.0145	mg/L	0.00415	0.0145	mg/L	0.00415	28.69%
Si 251.611†	448426.7	12.5	mg/L	0.26	12.5	mg/L	0.26	2.10%
Sn 189.927†	-352.1	-0.0416	mg/L	0.00108	-0.0416	mg/L	0.00108	2.59%
Ti 334.940†	-16258.2	0.00355	mg/L	0.000524	0.00355	mg/L	0.000524	14.75%
Tl 190.801†	-46.1	-0.0233	mg/L	0.00224	-0.0233	mg/L	0.00224	9.61%
V 290.880†	5701.9	0.0267	mg/L	0.00168	0.0267	mg/L	0.00168	6.29%
Zn 206.200†	503.4	0.0166	mg/L	0.00020	0.0166	mg/L	0.00020	1.22%
K 766.490†	5669.5	3.52	mg/L	0.061	3.52	mg/L	0.061	1.72%
Na 589.592†	8010996.2	525	mg/L	6.6	525	mg/L	6.6	1.27%
Sr 407.771†	1257024.6	1.05	mg/L	0.002	1.05	mg/L	0.002	0.16%
Li 670.784†	1690.5	0.0265	mg/L	0.00067	0.0265	mg/L	0.00067	2.55%

Sequence No.: 18 **Autosampler Location: 45**
Sample ID: L1305114202 **Date Collected: 5/30/2013 12:13:19 PM**

Approved: May 31, 2013
Kym H. Rhoden

Analyst: KHR **Data Type: Reprocessed on 5/30/2013 1:51:04 PM**
Logged In Analyst (Original) : peicp2
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1305114202

Analyte	Back Pressure	Flow
All	163.0 kPa	0.48 L/min

Mean Data: L1305114202

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2254061.8						32321.78	1.43%
YRADIAL	173114.2						3163.11	1.83%
Ga 417.206	913206.3						24527.08	2.69%
GaRADIAL	47956.4						1572.19	3.28%
Ag 328.068†	681.9	0.00313	mg/L	0.000072	0.00313	mg/L	0.000072	2.29%
Al 396.153†	-23.7	0.0401	mg/L	0.00188	0.0401	mg/L	0.00188	4.68%
As 188.979†	-2.7	-0.00220	mg/L	0.002922	-0.00220	mg/L	0.002922	132.83%
Ba 233.527†	18575.5	0.209	mg/L	0.0028	0.209	mg/L	0.0028	1.34%
Be 234.861†	-24.3	0.00013	mg/L	0.000027	0.00013	mg/L	0.000027	20.52%
B 249.677†	55291.4	0.779	mg/L	0.0178	0.779	mg/L	0.0178	2.29%
Ca 227.546†	15036.8	71.1	mg/L	1.78	71.1	mg/L	1.78	2.50%
Cd 228.802†	-2.4	0.00014	mg/L	0.000194	0.00014	mg/L	0.000194	138.30%
Co 228.616†	34.6	0.00148	mg/L	0.000155	0.00148	mg/L	0.000155	10.45%
Cr 267.716†	221.5	0.00352	mg/L	0.000124	0.00352	mg/L	0.000124	3.51%
Cu 327.393†	230.5	0.00198	mg/L	0.000352	0.00198	mg/L	0.000352	17.75%
Fe 239.562†	172.6	0.0550	mg/L	0.00089	0.0550	mg/L	0.00089	1.63%
Mg 279.077†	101696.5	71.3	mg/L	0.74	71.3	mg/L	0.74	1.03%
Mn 257.610†	100781.2	0.189	mg/L	0.0025	0.189	mg/L	0.0025	1.35%
Mo 202.031†	93.4	0.00670	mg/L	0.000505	0.00670	mg/L	0.000505	7.54%
Ni 231.604†	63.5	0.00407	mg/L	0.000029	0.00407	mg/L	0.000029	0.71%
Pb 220.353†	34.9	0.00464	mg/L	0.001418	0.00464	mg/L	0.001418	30.54%
Sb 206.836†	-4.3	0.00101	mg/L	0.001296	0.00101	mg/L	0.001296	128.84%
Se 196.026†	11.4	0.00943	mg/L	0.001914	0.00943	mg/L	0.001914	20.28%
Si 251.611†	551955.3	15.4	mg/L	0.28	15.4	mg/L	0.28	1.83%
Sn 189.927†	-299.0	-0.0350	mg/L	0.00132	-0.0350	mg/L	0.00132	3.77%
Ti 334.940†	-7978.5	0.00333	mg/L	0.000174	0.00333	mg/L	0.000174	5.23%
Tl 190.801†	-44.1	-0.0218	mg/L	0.00420	-0.0218	mg/L	0.00420	19.25%
V 290.880†	5330.9	0.0264	mg/L	0.00224	0.0264	mg/L	0.00224	8.47%
Zn 206.200†	314.8	0.0113	mg/L	0.00014	0.0113	mg/L	0.00014	1.27%
K 766.490†	1164.8	0.800	mg/L	0.0183	0.800	mg/L	0.0183	2.28%
Na 589.592†	Saturated2							
Sr 407.771†	748790.8	0.627	mg/L	0.0135	0.627	mg/L	0.0135	2.16%
Li 670.784†	58.9	0.00334	mg/L	0.000533	0.00334	mg/L	0.000533	15.97%

Sequence No.: 19 **Autosampler Location: 46**
Sample ID: L1305114203 **Date Collected: 5/30/2013 12:16:24 PM**
Analyst: KHR **Data Type: Reprocessed on 5/30/2013 1:51:05 PM**
Logged In Analyst (Original) : peicp2
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1305114203

Analyte	Back Pressure	Flow
All	163.0 kPa	0.48 L/min

Mean Data: L1305114203

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2151428.0						46025.91	2.14%
YRADIAL	174725.8						2529.84	1.45%
Ga 417.206	861419.2						21423.35	2.49%
GaRADIAL	46308.4						423.09	0.91%
Ag 328.068†	100.0	0.00641	mg/L	0.000250	0.00641	mg/L	0.000250	3.90%
Al 396.153†	-105.7	0.0154	mg/L	0.02808	0.0154	mg/L	0.02808	182.74%
As 188.979†	27.4	0.0196	mg/L	0.00151	0.0196	mg/L	0.00151	7.68%

Approved: May 31, 2013
Lynn H. Rhoden

Ba 233.527†	59926.5	0.670	mg/L	0.0142	0.670	mg/L	0.0142	2.12%
Be 234.861†	2396.9	0.00030	mg/L	0.000186	0.00030	mg/L	0.000186	61.23%
B 249.677†	62022.8	0.866	mg/L	0.0171	0.866	mg/L	0.0171	1.97%
Ca 227.546†	42835.5	203	mg/L	3.2	203	mg/L	3.2	1.60%
Cd 228.802†	1.6	0.00018	mg/L	0.000229	0.00018	mg/L	0.000229	127.06%
Co 228.616†	67.4	0.00227	mg/L	0.000355	0.00227	mg/L	0.000355	15.64%
Cr 267.716†	347.6	0.00372	mg/L	0.000191	0.00372	mg/L	0.000191	5.13%
Cu 327.393†	-446.5	-0.00057	mg/L	0.000212	-0.00057	mg/L	0.000212	37.41%
Fe 239.562†	72710.1	17.0	mg/L	0.33	17.0	mg/L	0.33	1.95%
Mg 279.077†	300801.2	211	mg/L	11.1	211	mg/L	11.1	5.26%
Mn 257.610†	3347020.4	6.26	mg/L	0.016	6.26	mg/L	0.016	0.25%
Mo 202.031†	95.0	0.00899	mg/L	0.000361	0.00899	mg/L	0.000361	4.01%
Ni 231.604†	147.7	0.00617	mg/L	0.000318	0.00617	mg/L	0.000318	5.16%
Pb 220.353†	219.7	0.0244	mg/L	0.00241	0.0244	mg/L	0.00241	9.88%
Sb 206.836†	-7.5	0.00031	mg/L	0.002201	0.00031	mg/L	0.002201	713.17%
Se 196.026†	14.3	0.0139	mg/L	0.00888	0.0139	mg/L	0.00888	64.12%
Si 251.611†	492757.4	13.7	mg/L	0.30	13.7	mg/L	0.30	2.19%
Sn 189.927†	-400.3	-0.0476	mg/L	0.00149	-0.0476	mg/L	0.00149	3.13%
Ti 334.940†	-21454.3	0.00522	mg/L	0.001024	0.00522	mg/L	0.001024	19.62%
Tl 190.801†	-45.2	-0.0287	mg/L	0.00698	-0.0287	mg/L	0.00698	24.34%
V 290.880†	6226.6	0.0230	mg/L	0.00181	0.0230	mg/L	0.00181	7.87%
Zn 206.200†	348.9	0.0119	mg/L	0.00030	0.0119	mg/L	0.00030	2.53%
K 766.490†	3982.1	2.83	mg/L	0.075	2.83	mg/L	0.075	2.66%
Na 589.592†	Saturated2							
Sr 407.771†	1750269.4	1.46	mg/L	0.076	1.46	mg/L	0.076	5.23%
Li 670.784†	120.8	0.00422	mg/L	0.001262	0.00422	mg/L	0.001262	29.93%

Sequence No.: 20
Sample ID: L1305114203PS WG432274-01
Analyst: KHR
Logged In Analyst (Original) : peicp2
Initial Sample Wt:
Dilution:

Autosampler Location: 47
Date Collected: 5/30/2013 12:18:29 PM
Data Type: Reprocessed on 5/30/2013 1:51:06 PM
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: L1305114203PS WG432274-01

Analyte	Back Pressure	Flow
All	164.0 kPa	0.48 L/min

Mean Data: L1305114203PS WG432274-01

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2185708.2						11444.16	0.52%
YRADIAL	177131.3						1155.81	0.65%
Ga 417.206	860417.0						11478.73	1.33%
GaRADIAL	47876.4						414.90	0.87%
Ag 328.068†	47600.8	0.213	mg/L	0.0053	0.213	mg/L	0.0053	2.50%
Al 396.153†	15539.3	5.09	mg/L	0.042	5.09	mg/L	0.042	0.83%
As 188.979†	445.0	0.224	mg/L	0.0032	0.224	mg/L	0.0032	1.45%
Ba 233.527†	97079.0	1.09	mg/L	0.017	1.09	mg/L	0.017	1.54%
Be 234.861†	19246.5	0.0257	mg/L	0.00066	0.0257	mg/L	0.00066	2.57%
B 249.677†	126718.4	1.77	mg/L	0.053	1.77	mg/L	0.053	2.96%
Ca 227.546†	39975.0	190	mg/L	6.9	190	mg/L	6.9	3.63%
Cd 228.802†	791.1	0.0239	mg/L	0.00093	0.0239	mg/L	0.00093	3.87%
Co 228.616†	2332.2	0.0951	mg/L	0.00136	0.0951	mg/L	0.00136	1.43%
Cr 267.716†	23721.4	0.251	mg/L	0.0054	0.251	mg/L	0.0054	2.16%
Cu 327.393†	43004.5	0.249	mg/L	0.0073	0.249	mg/L	0.0073	2.94%
Fe 239.562†	72156.5	16.8	mg/L	0.10	16.8	mg/L	0.10	0.62%
Mg 279.077†	285288.1	200	mg/L	1.7	200	mg/L	1.7	0.84%
Mn 257.610†	3102080.3	5.81	mg/L	0.019	5.81	mg/L	0.019	0.32%
Mo 202.031†	10255.6	0.520	mg/L	0.0062	0.520	mg/L	0.0062	1.20%
Ni 231.604†	9454.8	0.238	mg/L	0.0032	0.238	mg/L	0.0032	1.32%
Pb 220.353†	2027.1	0.260	mg/L	0.0026	0.260	mg/L	0.0026	1.01%
Sb 206.836†	1464.3	0.605	mg/L	0.0133	0.605	mg/L	0.0133	2.20%
Se 196.026†	235.3	0.228	mg/L	0.0036	0.228	mg/L	0.0036	1.58%
Si 251.611†	524470.8	14.6	mg/L	0.05	14.6	mg/L	0.05	0.35%
Sn 189.927†	-383.6	-0.0455	mg/L	0.00143	-0.0455	mg/L	0.00143	3.15%
Ti 334.940†	364425.8	0.513	mg/L	0.0106	0.513	mg/L	0.0106	2.07%
Tl 190.801†	402.6	0.199	mg/L	0.0084	0.199	mg/L	0.0084	4.23%
V 290.880†	106306.3	0.534	mg/L	0.0093	0.534	mg/L	0.0093	1.74%

Approved: May 31, 2013

Zn 206.200†	16921.1	0.485 mg/L	0.0066	0.485 mg/L	0.0066	1.36%
K 766.490†	41839.1	29.6 mg/L	0.41	29.6 mg/L	0.41	1.39%
Na 589.592†	Saturated2					
Sr 407.771†	2242093.0	1.87 mg/L	0.014	1.87 mg/L	0.014	0.74%
Li 670.784†	35421.9	0.505 mg/L	0.0055	0.505 mg/L	0.0055	1.09%

==========

Sequence No.: 21 **Autosampler Location: 48**
Sample ID: L1305114203DL WG432274-02 **Date Collected: 5/30/2013 12:20:33 PM**
Analyst: KHR **Data Type: Reprocessed on 5/30/2013 1:51:07 PM**
Logged In Analyst (Original) : peicp2
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1305114203DL WG432274-02

Analyte	Back Pressure	Flow
All	163.0 kPa	0.48 L/min

Mean Data: L1305114203DL WG432274-02

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	2403774.9						20459.20	0.85%
YRADIAL	186692.6						1952.19	1.05%
Ga 417.206	940940.1						8273.03	0.88%
GaRADIAL	50523.7						645.02	1.28%
Ag 328.068†	180.8	0.00221	mg/L	0.000660	0.00221	mg/L	0.000660	29.85%
Al 396.153†	-35.5	0.0369	mg/L	0.00948	0.0369	mg/L	0.00948	25.70%
As 188.979†	9.3	0.00389	mg/L	0.001169	0.00389	mg/L	0.001169	30.03%
Ba 233.527†	12287.0	0.139	mg/L	0.0028	0.139	mg/L	0.0028	2.05%
Be 234.861†	540.9	0.00028	mg/L	0.000105	0.00028	mg/L	0.000105	37.86%
B 249.677†	14590.8	0.207	mg/L	0.0048	0.207	mg/L	0.0048	2.33%
Ca 227.546†	8416.5	39.9	mg/L	0.22	39.9	mg/L	0.22	0.55%
Cd 228.802†	-1.3	0.00014	mg/L	0.000176	0.00014	mg/L	0.000176	125.77%
Co 228.616†	13.9	0.00055	mg/L	0.000288	0.00055	mg/L	0.000288	52.60%
Cr 267.716†	127.3	0.00230	mg/L	0.000041	0.00230	mg/L	0.000041	1.78%
Cu 327.393†	-127.7	0.00020	mg/L	0.000684	0.00020	mg/L	0.000684	338.75%
Fe 239.562†	14632.1	3.43	mg/L	0.025	3.43	mg/L	0.025	0.72%
Mg 279.077†	63198.0	44.3	mg/L	0.30	44.3	mg/L	0.30	0.67%
Mn 257.610†	681968.9	1.28	mg/L	0.017	1.28	mg/L	0.017	1.30%
Mo 202.031†	35.2	0.00418	mg/L	0.000456	0.00418	mg/L	0.000456	10.90%
Ni 231.604†	36.0	0.00338	mg/L	0.000053	0.00338	mg/L	0.000053	1.57%
Pb 220.353†	61.8	0.00737	mg/L	0.002653	0.00737	mg/L	0.002653	36.01%
Sb 206.836†	-2.9	0.00171	mg/L	0.001351	0.00171	mg/L	0.001351	79.23%
Se 196.026†	6.4	0.00502	mg/L	0.002926	0.00502	mg/L	0.002926	58.25%
Si 251.611†	95536.3	2.67	mg/L	0.023	2.67	mg/L	0.023	0.87%
Sn 189.927†	-214.4	-0.0244	mg/L	0.00090	-0.0244	mg/L	0.00090	3.68%
Ti 334.940†	-4531.2	0.00319	mg/L	0.000039	0.00319	mg/L	0.000039	1.23%
Tl 190.801†	-16.4	-0.00936	mg/L	0.001344	-0.00936	mg/L	0.001344	14.35%
V 290.880†	3484.3	0.0168	mg/L	0.00076	0.0168	mg/L	0.00076	4.55%
Zn 206.200†	118.1	0.00560	mg/L	0.000385	0.00560	mg/L	0.000385	6.87%
K 766.490†	865.9	0.300	mg/L	0.0031	0.300	mg/L	0.0031	1.04%
Na 589.592†	3656054.7	285	mg/L	1.1	285	mg/L	1.1	0.40%
Sr 407.771†	359981.3	0.303	mg/L	0.0034	0.303	mg/L	0.0034	1.13%
Li 670.784†	21.5	0.00281	mg/L	0.000093	0.00281	mg/L	0.000093	3.31%

==========

Sequence No.: 22 **Autosampler Location: 6**
Sample ID: CCV **Date Collected: 5/30/2013 12:22:41 PM**
Analyst: **Data Type: Reprocessed on 5/30/2013 1:51:08 PM**
Logged In Analyst (Original) : peicp2
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: CCV

Analyte	Back Pressure	Flow
All	164.0 kPa	0.48 L/min

Mean Data: CCV

Approved: May 31, 2013

Lynn H. Rhoden

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2469559.8						35029.16	1.42%
YRADIAL	191782.8						7436.33	3.88%
Ga 417.206	948441.5						5642.80	0.59%
GaRADIAL	50670.5						1810.43	3.57%
Ag 328.068†	93207.7	0.407	mg/L	0.0039	0.407	mg/L	0.0039	0.96%
QC value within limits for Ag 328.068 Recovery = 101.73%								
Al 396.153†	30273.4	9.87	mg/L	0.120	9.87	mg/L	0.120	1.22%
QC value within limits for Al 396.153 Recovery = 98.69%								
As 188.979†	793.2	0.387	mg/L	0.0068	0.387	mg/L	0.0068	1.75%
QC value within limits for As 188.979 Recovery = 96.82%								
Ba 233.527†	91102.8	1.02	mg/L	0.019	1.02	mg/L	0.019	1.85%
QC value within limits for Ba 233.527 Recovery = 101.92%								
Be 234.861†	32855.8	0.0488	mg/L	0.00021	0.0488	mg/L	0.00021	0.42%
QC value within limits for Be 234.861 Recovery = 97.62%								
B 249.677†	36286.9	0.509	mg/L	0.0043	0.509	mg/L	0.0043	0.84%
QC value within limits for B 249.677 Recovery = 101.76%								
Ca 227.546†	2067.2	10.3	mg/L	0.08	10.3	mg/L	0.08	0.76%
QC value within limits for Ca 227.546 Recovery = 102.65%								
Cd 228.802†	1554.3	0.0471	mg/L	0.00031	0.0471	mg/L	0.00031	0.65%
QC value within limits for Cd 228.802 Recovery = 94.25%								
Co 228.616†	4928.2	0.202	mg/L	0.0035	0.202	mg/L	0.0035	1.72%
QC value within limits for Co 228.616 Recovery = 101.05%								
Cr 267.716†	48185.1	0.510	mg/L	0.0066	0.510	mg/L	0.0066	1.29%
QC value within limits for Cr 267.716 Recovery = 101.98%								
Cu 327.393†	86936.5	0.500	mg/L	0.0032	0.500	mg/L	0.0032	0.63%
QC value within limits for Cu 327.393 Recovery = 99.97%								
Fe 239.562†	16712.2	3.91	mg/L	0.048	3.91	mg/L	0.048	1.23%
QC value within limits for Fe 239.562 Recovery = 97.78%								
Mg 279.077†	14073.2	9.91	mg/L	0.151	9.91	mg/L	0.151	1.52%
QC value within limits for Mg 279.077 Recovery = 99.09%								
Mn 257.610†	278829.5	0.522	mg/L	0.0098	0.522	mg/L	0.0098	1.88%
QC value within limits for Mn 257.610 Recovery = 104.49%								
Mo 202.031†	19999.5	1.01	mg/L	0.020	1.01	mg/L	0.020	1.95%
QC value within limits for Mo 202.031 Recovery = 100.87%								
Ni 231.604†	20005.5	0.501	mg/L	0.0115	0.501	mg/L	0.0115	2.29%
QC value within limits for Ni 231.604 Recovery = 100.24%								
Pb 220.353†	3947.9	0.513	mg/L	0.0103	0.513	mg/L	0.0103	2.01%
QC value within limits for Pb 220.353 Recovery = 102.59%								
Sb 206.836†	2888.5	1.19	mg/L	0.006	1.19	mg/L	0.006	0.46%
QC value within limits for Sb 206.836 Recovery = 99.05%								
Se 196.026†	413.5	0.400	mg/L	0.0025	0.400	mg/L	0.0025	0.63%
QC value within limits for Se 196.026 Recovery = 99.89%								
Si 251.611†	177967.9	4.96	mg/L	0.063	4.96	mg/L	0.063	1.27%
QC value within limits for Si 251.611 Recovery = 99.12%								
Sn 189.927†	7553.8	0.944	mg/L	0.0183	0.944	mg/L	0.0183	1.94%
QC value within limits for Sn 189.927 Recovery = 94.35%								
Ti 334.940†	750832.2	0.997	mg/L	0.0048	0.997	mg/L	0.0048	0.49%
QC value within limits for Ti 334.940 Recovery = 99.75%								
Tl 190.801†	1029.7	0.518	mg/L	0.0094	0.518	mg/L	0.0094	1.82%
QC value within limits for Tl 190.801 Recovery = 103.68%								
V 290.880†	200825.7	1.02	mg/L	0.023	1.02	mg/L	0.023	2.26%
QC value within limits for V 290.880 Recovery = 102.46%								
Zn 206.200†	35858.0	1.03	mg/L	0.018	1.03	mg/L	0.018	1.80%
QC value within limits for Zn 206.200 Recovery = 102.67%								
K 766.490†	72467.9	50.7	mg/L	0.43	50.7	mg/L	0.43	0.85%
QC value within limits for K 766.490 Recovery = 101.37%								
Na 589.592†	545524.7	52.0	mg/L	2.45	52.0	mg/L	2.45	4.71%
QC value within limits for Na 589.592 Recovery = 104.09%								
Sr 407.771†	1188703.5	0.991	mg/L	0.0551	0.991	mg/L	0.0551	5.57%
QC value within limits for Sr 407.771 Recovery = 99.08%								
Li 670.784†	70785.8	1.01	mg/L	0.004	1.01	mg/L	0.004	0.44%
QC value within limits for Li 670.784 Recovery = 100.63%								

All analyte(s) passed QC.

==========

Sequence No.: 23
Sample ID: CCB
Analyst:
Logged In Analyst (Original) : peicp2
Initial Sample Wt:

Autosampler Location: 1
Date Collected: 5/30/2013 12:24:46 PM
Data Type: Reprocessed on 5/30/2013 1:51:09 PM

Initial Sample Vol:

Approved: May 31, 2013

Dilution: **Sample Prep Vol:**

Nebulizer Parameters: CCB

Analyte	Back Pressure	Flow
All	164.0 kPa	0.48 L/min

Mean Data: CCB

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2522677.8						37121.80	1.47%
YRADIAL	184249.7						4289.57	2.33%
Ga 417.206	949858.9						13107.35	1.38%
GaRADIAL	50431.7						220.23	0.44%
Ag 328.068†	217.3	0.00120	mg/L	0.000343	0.00120	mg/L	0.000343	28.61%
QC value within limits for Ag 328.068 Recovery = Not calculated								
Al 396.153†	5.9	0.0501	mg/L	0.00210	0.0501	mg/L	0.00210	4.20%
QC value within limits for Al 396.153 Recovery = Not calculated								
As 188.979†	-0.5	-0.00266	mg/L	0.004160	-0.00266	mg/L	0.004160	156.33%
QC value within limits for As 188.979 Recovery = Not calculated								
Ba 233.527†	-20.9	0.00184	mg/L	0.000055	0.00184	mg/L	0.000055	2.99%
QC value within limits for Ba 233.527 Recovery = Not calculated								
Be 234.861†	-14.0	0.00014	mg/L	0.000051	0.00014	mg/L	0.000051	37.64%
QC value within limits for Be 234.861 Recovery = Not calculated								
B 249.677†	1350.2	0.0228	mg/L	0.00149	0.0228	mg/L	0.00149	6.52%
QC value within limits for B 249.677 Recovery = Not calculated								
Ca 227.546†	1.9	0.0464	mg/L	0.02479	0.0464	mg/L	0.02479	53.48%
QC value within limits for Ca 227.546 Recovery = Not calculated								
Cd 228.802†	-5.8	0.00003	mg/L	0.000096	0.00003	mg/L	0.000096	348.68%
QC value within limits for Cd 228.802 Recovery = Not calculated								
Co 228.616†	0.4	0.00011	mg/L	0.000209	0.00011	mg/L	0.000209	183.06%
QC value within limits for Co 228.616 Recovery = Not calculated								
Cr 267.716†	8.4	0.00126	mg/L	0.000061	0.00126	mg/L	0.000061	4.83%
QC value within limits for Cr 267.716 Recovery = Not calculated								
Cu 327.393†	149.3	0.00152	mg/L	0.000210	0.00152	mg/L	0.000210	13.88%
QC value within limits for Cu 327.393 Recovery = Not calculated								
Fe 239.562†	13.4	0.0193	mg/L	0.00152	0.0193	mg/L	0.00152	7.89%
QC value within limits for Fe 239.562 Recovery = Not calculated								
Mg 279.077†	5.5	0.0415	mg/L	0.00759	0.0415	mg/L	0.00759	18.28%
QC value within limits for Mg 279.077 Recovery = Not calculated								
Mn 257.610†	557.3	0.00099	mg/L	0.000067	0.00099	mg/L	0.000067	6.78%
QC value within limits for Mn 257.610 Recovery = Not calculated								
Mo 202.031†	6.1	0.00225	mg/L	0.000191	0.00225	mg/L	0.000191	8.48%
QC value within limits for Mo 202.031 Recovery = Not calculated								
Ni 231.604†	-7.8	0.00228	mg/L	0.000312	0.00228	mg/L	0.000312	13.66%
QC value within limits for Ni 231.604 Recovery = Not calculated								
Pb 220.353†	-2.0	-0.00003	mg/L	0.001328	-0.00003	mg/L	0.001328	>999.9%
QC value within limits for Pb 220.353 Recovery = Not calculated								
Sb 206.836†	0.6	0.00299	mg/L	0.000951	0.00299	mg/L	0.000951	31.83%
QC value within limits for Sb 206.836 Recovery = Not calculated								
Se 196.026†	0.9	-0.00066	mg/L	0.003065	-0.00066	mg/L	0.003065	463.63%
QC value within limits for Se 196.026 Recovery = Not calculated								
Si 251.611†	148.4	0.0108	mg/L	0.00029	0.0108	mg/L	0.00029	2.73%
QC value within limits for Si 251.611 Recovery = Not calculated								
Sn 189.927†	-4.5	0.00174	mg/L	0.000317	0.00174	mg/L	0.000317	18.25%
QC value within limits for Sn 189.927 Recovery = Not calculated								
Ti 334.940†	-38.4	0.00317	mg/L	0.000079	0.00317	mg/L	0.000079	2.51%
QC value within limits for Ti 334.940 Recovery = Not calculated								
Tl 190.801†	3.5	0.00169	mg/L	0.004328	0.00169	mg/L	0.004328	255.72%
QC value within limits for Tl 190.801 Recovery = Not calculated								
V 290.880†	167.0	0.00191	mg/L	0.001111	0.00191	mg/L	0.001111	58.19%
QC value within limits for V 290.880 Recovery = Not calculated								
Zn 206.200†	4.1	0.00242	mg/L	0.000203	0.00242	mg/L	0.000203	8.40%
QC value within limits for Zn 206.200 Recovery = Not calculated								
K 766.490†	73.9	0.0125	mg/L	0.04161	0.0125	mg/L	0.04161	333.66%
QC value within limits for K 766.490 Recovery = Not calculated								
Na 589.592†	4307.4	0.399	mg/L	0.0669	0.399	mg/L	0.0669	16.74%
QC value within limits for Na 589.592 Recovery = Not calculated								
Sr 407.771†	88.7	0.00403	mg/L	0.000090	0.00403	mg/L	0.000090	2.23%
QC value within limits for Sr 407.771 Recovery = Not calculated								
Li 670.784†	-4.5	0.00244	mg/L	0.000680	0.00244	mg/L	0.000680	27.91%

Approved: May 31, 2013

Lynn H. Rhoden

QC value within limits for Li 670.784 Recovery = Not calculated
All analyte(s) passed QC.

==========

Sequence No.: 24 **Autosampler Location: 49**
Sample ID: L1305114204 **Date Collected: 5/30/2013 12:27:46 PM**
Analyst: KHR **Data Type: Reprocessed on 5/30/2013 1:51:10 PM**
Logged In Analyst (Original) : peicp2
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1305114204

Analyte	Back Pressure	Flow
All	163.0 kPa	0.48 L/min

Mean Data: L1305114204

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2341611.5						38753.18	1.65%
YRADIAL	181626.2						2352.48	1.30%
Ga 417.206	912673.8						13003.98	1.42%
GaRADIAL	50168.7						478.70	0.95%
Ag 328.068†	-142.7	0.00279	mg/L	0.000403	0.00279	mg/L	0.000403	14.41%
Al 396.153†	-19.7	0.0426	mg/L	0.02089	0.0426	mg/L	0.02089	49.02%
As 188.979†	3.6	0.00328	mg/L	0.001059	0.00328	mg/L	0.001059	32.29%
Ba 233.527†	6142.4	0.0703	mg/L	0.00115	0.0703	mg/L	0.00115	1.63%
Be 234.861†	1324.5	0.00026	mg/L	0.000116	0.00026	mg/L	0.000116	45.16%
B 249.677†	5679.3	0.0797	mg/L	0.00337	0.0797	mg/L	0.00337	4.22%
Ca 227.546†	17758.2	84.2	mg/L	2.31	84.2	mg/L	2.31	2.74%
Cd 228.802†	-2.4	0.00011	mg/L	0.000093	0.00011	mg/L	0.000093	82.45%
Co 228.616†	4.2	0.00005	mg/L	0.000321	0.00005	mg/L	0.000321	671.51%
Cr 267.716†	136.1	0.00203	mg/L	0.000177	0.00203	mg/L	0.000177	8.71%
Cu 327.393†	-120.8	0.00067	mg/L	0.001092	0.00067	mg/L	0.001092	164.05%
Fe 239.562†	37798.0	8.83	mg/L	0.292	8.83	mg/L	0.292	3.30%
Mg 279.077†	64881.6	45.5	mg/L	1.39	45.5	mg/L	1.39	3.05%
Mn 257.610†	1240650.0	2.32	mg/L	0.003	2.32	mg/L	0.003	0.15%
Mo 202.031†	54.9	0.00569	mg/L	0.000733	0.00569	mg/L	0.000733	12.88%
Ni 231.604†	47.5	0.00367	mg/L	0.000603	0.00367	mg/L	0.000603	16.45%
Pb 220.353†	48.9	0.00490	mg/L	0.001280	0.00490	mg/L	0.001280	26.15%
Sb 206.836†	-1.3	0.00256	mg/L	0.000933	0.00256	mg/L	0.000933	36.49%
Se 196.026†	4.5	0.00392	mg/L	0.001251	0.00392	mg/L	0.001251	31.92%
Si 251.611†	270057.8	7.53	mg/L	0.160	7.53	mg/L	0.160	2.13%
Sn 189.927†	-315.3	-0.0370	mg/L	0.00122	-0.0370	mg/L	0.00122	3.30%
Ti 334.940†	-9225.5	0.00361	mg/L	0.000266	0.00361	mg/L	0.000266	7.38%
Tl 190.801†	-24.7	-0.0145	mg/L	0.00512	-0.0145	mg/L	0.00512	35.28%
V 290.880†	4220.7	0.0192	mg/L	0.00156	0.0192	mg/L	0.00156	8.13%
Zn 206.200†	195.4	0.00768	mg/L	0.000137	0.00768	mg/L	0.000137	1.79%
K 766.490†	4595.8	2.95	mg/L	0.177	2.95	mg/L	0.177	5.99%
Na 589.592†	4311667.2	326	mg/L	2.5	326	mg/L	2.5	0.76%
Sr 407.771†	631756.6	0.530	mg/L	0.0028	0.530	mg/L	0.0028	0.53%
Li 670.784†	86.3	0.00373	mg/L	0.001505	0.00373	mg/L	0.001505	40.39%

==========

Sequence No.: 25 **Autosampler Location: 50**
Sample ID: L1305114207 **Date Collected: 5/30/2013 12:29:54 PM**
Analyst: KHR **Data Type: Reprocessed on 5/30/2013 1:51:11 PM**
Logged In Analyst (Original) : peicp2
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1305114207

Analyte	Back Pressure	Flow
All	163.0 kPa	0.48 L/min

Mean Data: L1305114207

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2476473.8						30474.22	1.23%

Approved: May 31, 2013

Kym H. Rhoden

YRADIAL	183342.5					3055.69	1.67%
Ga 417.206	981460.9					9108.67	0.93%
GaRADIAL	51234.6					815.67	1.59%
Ag 328.068†	234.8	0.00166	mg/L	0.000191	0.00166 mg/L	0.000191	11.54%
Al 396.153†	5.0	0.0498	mg/L	0.00600	0.0498 mg/L	0.00600	12.04%
As 188.979†	6.0	0.00135	mg/L	0.000555	0.00135 mg/L	0.000555	40.98%
Ba 233.527†	798.8	0.0110	mg/L	0.00013	0.0110 mg/L	0.00013	1.20%
Be 234.861†	238.8	0.00029	mg/L	0.000027	0.00029 mg/L	0.000027	9.30%
B 249.677†	30792.9	0.435	mg/L	0.0020	0.435 mg/L	0.0020	0.47%
Ca 227.546†	5588.7	26.5	mg/L	0.33	26.5 mg/L	0.33	1.23%
Cd 228.802†	-7.1	-0.00003	mg/L	0.000102	-0.00003 mg/L	0.000102	339.55%
Co 228.616†	-1.6	0.00001	mg/L	0.000376	0.00001 mg/L	0.000376	>999.9%
Cr 267.716†	70.5	0.00186	mg/L	0.000056	0.00186 mg/L	0.000056	3.03%
Cu 327.393†	246.0	0.00215	mg/L	0.000780	0.00215 mg/L	0.000780	36.29%
Fe 239.562†	4283.4	1.01	mg/L	0.009	1.01 mg/L	0.009	0.93%
Mg 279.077†	6633.4	4.68	mg/L	0.012	4.68 mg/L	0.012	0.25%
Mn 257.610†	51440.2	0.0963	mg/L	0.00104	0.0963 mg/L	0.00104	1.08%
Mo 202.031†	31.0	0.00358	mg/L	0.000289	0.00358 mg/L	0.000289	8.06%
Ni 231.604†	44.6	0.00360	mg/L	0.000296	0.00360 mg/L	0.000296	8.24%
Pb 220.353†	18.3	0.00252	mg/L	0.000171	0.00252 mg/L	0.000171	6.79%
Sb 206.836†	-3.1	0.00152	mg/L	0.000044	0.00152 mg/L	0.000044	2.86%
Se 196.026†	5.5	0.00401	mg/L	0.005016	0.00401 mg/L	0.005016	125.03%
Si 251.611†	208067.5	5.81	mg/L	0.025	5.81 mg/L	0.025	0.43%
Sn 189.927†	-192.6	-0.0217	mg/L	0.00101	-0.0217 mg/L	0.00101	4.65%
Ti 334.940†	-2645.7	0.00368	mg/L	0.000133	0.00368 mg/L	0.000133	3.60%
Tl 190.801†	-14.6	-0.00727	mg/L	0.005551	-0.00727 mg/L	0.005551	76.37%
V 290.880†	1969.6	0.0107	mg/L	0.00142	0.0107 mg/L	0.00142	13.20%
Zn 206.200†	122.7	0.00578	mg/L	0.000341	0.00578 mg/L	0.000341	5.91%
K 766.490†	2748.0	1.91	mg/L	0.009	1.91 mg/L	0.009	0.45%
Na 589.592†	364304.3	35.3	mg/L	0.28	35.3 mg/L	0.28	0.80%
Sr 407.771†	125552.0	0.109	mg/L	0.0010	0.109 mg/L	0.0010	0.92%
Li 670.784†	81.6	0.00366	mg/L	0.000858	0.00366 mg/L	0.000858	23.46%

==========

Sequence No.: 26 **Autosampler Location: 51**
Sample ID: L1305114208 **Date Collected: 5/30/2013 12:31:57 PM**
Analyst: KHR **Data Type: Reprocessed on 5/30/2013 1:51:12 PM**
Logged In Analyst (Original) : peicp2
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1305114208

Analyte	Back Pressure	Flow
All	164.0 kPa	0.48 L/min

Mean Data: L1305114208

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2152267.1						26611.71	1.24%
YRADIAL	175395.4						3377.95	1.93%
Ga 417.206	873858.6						6934.10	0.79%
GaRADIAL	49492.6						1689.15	3.41%
Ag 328.068†	1578.0	0.00680	mg/L	0.000108	0.00680	mg/L	0.000108	1.59%
Al 396.153†	-39.0	0.0350	mg/L	0.00268	0.0350	mg/L	0.00268	7.65%
As 188.979†	-7.2	-0.00165	mg/L	0.004045	-0.00165	mg/L	0.004045	245.74%
Ba 233.527†	1166.4	0.0151	mg/L	0.00012	0.0151	mg/L	0.00012	0.78%
Be 234.861†	-23.8	0.00010	mg/L	0.000041	0.00010	mg/L	0.000041	39.37%
B 249.677†	76655.7	1.08	mg/L	0.008	1.08	mg/L	0.008	0.74%
Ca 227.546†	41963.8	198	mg/L	0.5	198	mg/L	0.5	0.24%
Cd 228.802†	-2.2	0.00015	mg/L	0.000261	0.00015	mg/L	0.000261	171.83%
Co 228.616†	2.1	0.00025	mg/L	0.000392	0.00025	mg/L	0.000392	156.26%
Cr 267.716†	416.9	0.00558	mg/L	0.000303	0.00558	mg/L	0.000303	5.43%
Cu 327.393†	-222.3	-0.00062	mg/L	0.000518	-0.00062	mg/L	0.000518	83.63%
Fe 239.562†	579.9	0.146	mg/L	0.0022	0.146	mg/L	0.0022	1.53%
Mg 279.077†	352120.8	247	mg/L	0.2	247	mg/L	0.2	0.09%
Mn 257.610†	61207.9	0.115	mg/L	0.0016	0.115	mg/L	0.0016	1.36%
Mo 202.031†	130.1	0.00853	mg/L	0.000386	0.00853	mg/L	0.000386	4.52%
Ni 231.604†	18.4	0.00295	mg/L	0.000306	0.00295	mg/L	0.000306	10.38%
Pb 220.353†	27.1	0.00368	mg/L	0.000925	0.00368	mg/L	0.000925	25.11%
Sb 206.836†	1.7	0.00348	mg/L	0.003387	0.00348	mg/L	0.003387	97.44%

Approved: May 31, 2013

Se 196.026†	19.1	0.0170	mg/L	0.00263	0.0170	mg/L	0.00263	15.51%
Si 251.611†	158821.5	4.43	mg/L	0.015	4.43	mg/L	0.015	0.34%
Sn 189.927†	-394.2	-0.0468	mg/L	0.00092	-0.0468	mg/L	0.00092	1.97%
Ti 334.940†	-21570.2	0.00445	mg/L	0.000284	0.00445	mg/L	0.000284	6.38%
Tl 190.801†	-70.5	-0.0349	mg/L	0.00459	-0.0349	mg/L	0.00459	13.14%
V 290.880†	6905.0	0.0299	mg/L	0.00133	0.0299	mg/L	0.00133	4.47%
Zn 206.200†	70.8	0.00435	mg/L	0.000299	0.00435	mg/L	0.000299	6.86%
K 766.490†	48739.5	34.4	mg/L	0.35	34.4	mg/L	0.35	1.01%
Na 589.592†	Saturated2							
Sr 407.771†	2412177.7	2.01	mg/L	0.055	2.01	mg/L	0.055	2.73%
Li 670.784†	1562.1	0.0247	mg/L	0.00056	0.0247	mg/L	0.00056	2.27%

Sequence No.: 27 **Autosampler Location: 52**
Sample ID: L1305114211 **Date Collected: 5/30/2013 12:35:01 PM**
Analyst: KHR **Data Type: Reprocessed on 5/30/2013 1:51:13 PM**
Logged In Analyst (Original) : peicp2
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1305114211

Analyte	Back Pressure	Flow
All	163.0 kPa	0.48 L/min

Mean Data: L1305114211

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2546894.5						21022.92	0.83%
YRADIAL	189100.5						998.68	0.53%
Ga 417.206	960044.5						9356.45	0.97%
GaRADIAL	51308.4						720.20	1.40%
Ag 328.068†	-141.1	-0.00035	mg/L	0.000270	-0.00035	mg/L	0.000270	76.89%
Al 396.153†	0.6	0.0484	mg/L	0.00312	0.0484	mg/L	0.00312	6.44%
As 188.979†	-3.1	-0.00395	mg/L	0.003343	-0.00395	mg/L	0.003343	84.62%
Ba 233.527†	-12.9	0.00193	mg/L	0.000032	0.00193	mg/L	0.000032	1.64%
Be 234.861†	-15.0	0.00014	mg/L	0.000009	0.00014	mg/L	0.000009	6.45%
B 249.677†	1323.6	0.0225	mg/L	0.00118	0.0225	mg/L	0.00118	5.24%
Ca 227.546†	10.3	0.0860	mg/L	0.03170	0.0860	mg/L	0.03170	36.86%
Cd 228.802†	-4.5	0.00008	mg/L	0.000145	0.00008	mg/L	0.000145	191.12%
Co 228.616†	2.4	0.00020	mg/L	0.000297	0.00020	mg/L	0.000297	152.25%
Cr 267.716†	14.1	0.00132	mg/L	0.000200	0.00132	mg/L	0.000200	15.11%
Cu 327.393†	-109.5	0.00003	mg/L	0.000271	0.00003	mg/L	0.000271	777.37%
Fe 239.562†	8.7	0.0182	mg/L	0.00055	0.0182	mg/L	0.00055	3.00%
Mg 279.077†	50.0	0.0727	mg/L	0.01270	0.0727	mg/L	0.01270	17.47%
Mn 257.610†	467.6	0.00082	mg/L	0.000070	0.00082	mg/L	0.000070	8.48%
Mo 202.031†	2.3	0.00206	mg/L	0.000468	0.00206	mg/L	0.000468	22.72%
Ni 231.604†	-8.3	0.00227	mg/L	0.000234	0.00227	mg/L	0.000234	10.30%
Pb 220.353†	7.6	0.00122	mg/L	0.001141	0.00122	mg/L	0.001141	93.20%
Sb 206.836†	0.7	0.00303	mg/L	0.000841	0.00303	mg/L	0.000841	27.73%
Se 196.026†	3.0	0.00144	mg/L	0.003030	0.00144	mg/L	0.003030	209.90%
Si 251.611†	278.9	0.0144	mg/L	0.00033	0.0144	mg/L	0.00033	2.28%
Sn 189.927†	-22.2	-0.00047	mg/L	0.000762	-0.00047	mg/L	0.000762	161.81%
Ti 334.940†	-41.1	0.00317	mg/L	0.000116	0.00317	mg/L	0.000116	3.65%
Tl 190.801†	-6.6	-0.00325	mg/L	0.000705	-0.00325	mg/L	0.000705	21.72%
V 290.880†	230.6	0.00223	mg/L	0.000404	0.00223	mg/L	0.000404	18.09%
Zn 206.200†	55.9	0.00389	mg/L	0.000140	0.00389	mg/L	0.000140	3.59%
K 766.490†	109.2	0.0342	mg/L	0.02047	0.0342	mg/L	0.02047	59.85%
Na 589.592†	42376.9	4.21	mg/L	1.193	4.21	mg/L	1.193	28.35%
Sr 407.771†	362.6	0.00426	mg/L	0.000156	0.00426	mg/L	0.000156	3.67%
Li 670.784†	-70.8	0.00150	mg/L	0.001005	0.00150	mg/L	0.001005	67.10%

Sequence No.: 28 **Autosampler Location: 53**
Sample ID: L1305114212 **Date Collected: 5/30/2013 12:38:04 PM**
Analyst: KHR **Data Type: Reprocessed on 5/30/2013 1:51:14 PM**
Logged In Analyst (Original) : peicp2
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Approved: May 31, 2013

Nebulizer Parameters: L1305114212

Analyte	Back Pressure	Flow
All	164.0 kPa	0.48 L/min

Mean Data: L1305114212

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2532867.7						29517.08	1.17%
YRADIAL	188512.6						2061.27	1.09%
Ga 417.206	943609.0						14419.40	1.53%
GaRADIAL	50460.5						813.94	1.61%
Ag 328.068†	131.8	0.00083	mg/L	0.000091	0.00083	mg/L	0.000091	10.93%
Al 396.153†	1.2	0.0486	mg/L	0.00160	0.0486	mg/L	0.00160	3.29%
As 188.979†	2.3	-0.00129	mg/L	0.002393	-0.00129	mg/L	0.002393	184.90%
Ba 233.527†	-17.4	0.00188	mg/L	0.000092	0.00188	mg/L	0.000092	4.89%
Be 234.861†	-36.4	0.00010	mg/L	0.000043	0.00010	mg/L	0.000043	41.50%
B 249.677†	805.3	0.0152	mg/L	0.00083	0.0152	mg/L	0.00083	5.49%
Ca 227.546†	5.5	0.0635	mg/L	0.01179	0.0635	mg/L	0.01179	18.58%
Cd 228.802†	-4.1	0.00007	mg/L	0.000083	0.00007	mg/L	0.000083	114.89%
Co 228.616†	-5.3	-0.00012	mg/L	0.000167	-0.00012	mg/L	0.000167	136.04%
Cr 267.716†	12.9	0.00131	mg/L	0.000114	0.00131	mg/L	0.000114	8.73%
Cu 327.393†	42.0	0.00090	mg/L	0.000402	0.00090	mg/L	0.000402	44.54%
Fe 239.562†	6.5	0.0177	mg/L	0.00112	0.0177	mg/L	0.00112	6.33%
Mg 279.077†	5.6	0.0416	mg/L	0.00856	0.0416	mg/L	0.00856	20.57%
Mn 257.610†	374.7	0.00065	mg/L	0.000042	0.00065	mg/L	0.000042	6.48%
Mo 202.031†	-1.1	0.00189	mg/L	0.000468	0.00189	mg/L	0.000468	24.83%
Ni 231.604†	-8.9	0.00226	mg/L	0.000140	0.00226	mg/L	0.000140	6.22%
Pb 220.353†	3.2	0.00065	mg/L	0.001235	0.00065	mg/L	0.001235	188.86%
Sb 206.836†	-2.3	0.00179	mg/L	0.002298	0.00179	mg/L	0.002298	128.44%
Se 196.026†	4.4	0.00273	mg/L	0.002817	0.00273	mg/L	0.002817	103.35%
Si 251.611†	253.6	0.0137	mg/L	0.00021	0.0137	mg/L	0.00021	1.52%
Sn 189.927†	-18.4	0.00001	mg/L	0.000334	0.00001	mg/L	0.000334	>999.9%
Ti 334.940†	65.8	0.00331	mg/L	0.000060	0.00331	mg/L	0.000060	1.82%
Tl 190.801†	-2.8	-0.00139	mg/L	0.003268	-0.00139	mg/L	0.003268	235.86%
V 290.880†	184.1	0.00200	mg/L	0.000735	0.00200	mg/L	0.000735	36.78%
Zn 206.200†	73.1	0.00438	mg/L	0.000323	0.00438	mg/L	0.000323	7.37%
K 766.490†	79.0	0.0162	mg/L	0.01764	0.0162	mg/L	0.01764	109.24%
Na 589.592†	4346.9	0.403	mg/L	0.0400	0.403	mg/L	0.0400	9.91%
Sr 407.771†	20.0	0.00398	mg/L	0.000010	0.00398	mg/L	0.000010	0.26%
Li 670.784†	13.8	0.00270	mg/L	0.000459	0.00270	mg/L	0.000459	17.01%

Sequence No.: 29
Sample ID: L1305129601 WG432203-01
Analyst: KHR
Logged In Analyst (Original) : peicp2
Initial Sample Wt:
Dilution:

Autosampler Location: 54
Date Collected: 5/30/2013 12:41:04 PM
Data Type: Reprocessed on 5/30/2013 1:51:15 PM
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: L1305129601 WG432203-01

Analyte	Back Pressure	Flow
All	164.0 kPa	0.48 L/min

Mean Data: L1305129601 WG432203-01

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2519579.2						19814.28	0.79%
YRADIAL	183911.0						2060.11	1.12%
Ga 417.206	961889.5						19089.39	1.98%
GaRADIAL	49668.2						108.48	0.22%
Ag 328.068†	-3961.1	-0.00265	mg/L	0.000591	-0.00265	mg/L	0.000591	22.31%
Al 396.153†	1773.4	0.632	mg/L	0.0059	0.632	mg/L	0.0059	0.93%
As 188.979†	-2.9	0.00470	mg/L	0.004161	0.00470	mg/L	0.004161	88.62%
Ba 233.527†	16889.9	0.189	mg/L	0.0062	0.189	mg/L	0.0062	3.26%
Be 234.861†	6113.0	0.00076	mg/L	0.000101	0.00076	mg/L	0.000101	13.30%
B 249.677†	1986.3	0.0163	mg/L	0.00171	0.0163	mg/L	0.00171	10.46%
Ca 227.546†	2043.8	10.6	mg/L	0.32	10.6	mg/L	0.32	3.06%
Cd 228.802†	-4.7	0.00004	mg/L	0.000040	0.00004	mg/L	0.000040	94.16%
Co 228.616†	55.8	0.00135	mg/L	0.000209	0.00135	mg/L	0.000209	15.44%

Approved: May 31, 2013

Cr 267.716†	1.2	-0.00120	mg/L	0.000244	-0.00120	mg/L	0.000244	20.37%
Cu 327.393†	-252.1	0.00209	mg/L	0.000288	0.00209	mg/L	0.000288	13.79%
Fe 239.562†	154021.7	35.9	mg/L	0.09	35.9	mg/L	0.09	0.26%
Mg 279.077†	6528.7	4.59	mg/L	0.021	4.59	mg/L	0.021	0.45%
Mn 257.610†	389394.5	0.730	mg/L	0.0034	0.730	mg/L	0.0034	0.47%
Mo 202.031†	-2.3	0.00398	mg/L	0.000364	0.00398	mg/L	0.000364	9.14%
Ni 231.604†	26.0	0.00313	mg/L	0.000417	0.00313	mg/L	0.000417	13.33%
Pb 220.353†	45.0	0.00453	mg/L	0.001456	0.00453	mg/L	0.001456	32.12%
Sb 206.836†	-8.4	0.00060	mg/L	0.000301	0.00060	mg/L	0.000301	50.16%
Se 196.026†	-3.1	0.00246	mg/L	0.004159	0.00246	mg/L	0.004159	169.05%
Si 251.611†	218441.7	6.10	mg/L	0.041	6.10	mg/L	0.041	0.67%
Sn 189.927†	-109.3	-0.0113	mg/L	0.00073	-0.0113	mg/L	0.00073	6.45%
Ti 334.940†	11721.8	0.0202	mg/L	0.00228	0.0202	mg/L	0.00228	11.28%
Tl 190.801†	-5.4	-0.00320	mg/L	0.001824	-0.00320	mg/L	0.001824	57.02%
V 290.880†	1470.1	-0.00076	mg/L	0.000788	-0.00076	mg/L	0.000788	104.15%
Zn 206.200†	199.6	0.00718	mg/L	0.000085	0.00718	mg/L	0.000085	1.19%
K 766.490†	1669.4	1.14	mg/L	0.042	1.14	mg/L	0.042	3.67%
Na 589.592†	298922.2	29.1	mg/L	0.57	29.1	mg/L	0.57	1.95%
Sr 407.771†	85093.9	0.0747	mg/L	0.00252	0.0747	mg/L	0.00252	3.38%
Li 670.784†	100.7	0.00393	mg/L	0.000645	0.00393	mg/L	0.000645	16.41%

Sequence No.: 30
Sample ID: L1305129602MS WG432203-04
Analyst: KHR
Logged In Analyst (Original) : peicp2
Initial Sample Wt:
Dilution:

Autosampler Location: 55
Date Collected: 5/30/2013 12:43:08 PM
Data Type: Reprocessed on 5/30/2013 1:51:17 PM
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: L1305129602MS WG432203-04

Analyte	Back Pressure	Flow
All	164.0 kPa	0.48 L/min

Mean Data: L1305129602MS WG432203-04

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	2434220.0						14929.20	0.61%
YRADIAL	183841.2						2530.14	1.38%
Ga 417.206	931533.4						1422.83	0.15%
GaRADIAL	50251.9						762.66	1.52%
Ag 328.068†	41194.1	0.194	mg/L	0.0030	0.194	mg/L	0.0030	1.54%
Al 396.153†	17403.8	5.70	mg/L	0.033	5.70	mg/L	0.033	0.57%
As 188.979†	404.4	0.205	mg/L	0.0037	0.205	mg/L	0.0037	1.81%
Ba 233.527†	61526.1	0.688	mg/L	0.0131	0.688	mg/L	0.0131	1.90%
Be 234.861†	21998.6	0.0243	mg/L	0.00019	0.0243	mg/L	0.00019	0.78%
B 249.677†	68830.1	0.951	mg/L	0.0171	0.951	mg/L	0.0171	1.80%
Ca 227.546†	3108.5	15.8	mg/L	0.02	15.8	mg/L	0.02	0.14%
Cd 228.802†	772.3	0.0235	mg/L	0.00040	0.0235	mg/L	0.00040	1.70%
Co 228.616†	2494.2	0.101	mg/L	0.0005	0.101	mg/L	0.0005	0.48%
Cr 267.716†	23350.5	0.245	mg/L	0.0038	0.245	mg/L	0.0038	1.53%
Cu 327.393†	42042.6	0.245	mg/L	0.0046	0.245	mg/L	0.0046	1.88%
Fe 239.562†	162220.8	37.8	mg/L	0.15	37.8	mg/L	0.15	0.39%
Mg 279.077†	13609.1	9.56	mg/L	0.022	9.56	mg/L	0.022	0.23%
Mn 257.610†	522539.5	0.980	mg/L	0.0026	0.980	mg/L	0.0026	0.26%
Mo 202.031†	10022.5	0.509	mg/L	0.0040	0.509	mg/L	0.0040	0.78%
Ni 231.604†	10172.3	0.256	mg/L	0.0017	0.256	mg/L	0.0017	0.68%
Pb 220.353†	1985.1	0.257	mg/L	0.0030	0.257	mg/L	0.0030	1.19%
Sb 206.836†	1410.3	0.583	mg/L	0.0045	0.583	mg/L	0.0045	0.78%
Se 196.026†	204.4	0.204	mg/L	0.0051	0.204	mg/L	0.0051	2.51%
Si 251.611†	327539.1	9.13	mg/L	0.239	9.13	mg/L	0.239	2.61%
Sn 189.927†	4037.9	0.505	mg/L	0.0040	0.505	mg/L	0.0040	0.80%
Ti 334.940†	393153.0	0.525	mg/L	0.0144	0.525	mg/L	0.0144	2.74%
Tl 190.801†	501.6	0.252	mg/L	0.0057	0.252	mg/L	0.0057	2.26%
V 290.880†	98974.8	0.496	mg/L	0.0055	0.496	mg/L	0.0055	1.11%
Zn 206.200†	17784.8	0.510	mg/L	0.0095	0.510	mg/L	0.0095	1.86%
K 766.490†	37733.0	26.7	mg/L	0.03	26.7	mg/L	0.03	0.11%
Na 589.592†	559352.5	53.3	mg/L	0.80	53.3	mg/L	0.80	1.49%
Sr 407.771†	693649.7	0.580	mg/L	0.0091	0.580	mg/L	0.0091	1.57%
Li 670.784†	35006.7	0.499	mg/L	0.0009	0.499	mg/L	0.0009	0.19%

Approved: May 31, 2013

==========

Sequence No.: 31 **Autosampler Location: 56**
Sample ID: L1305129603SD WG432203-05 **Date Collected: 5/30/2013 12:45:13 PM**
Analyst: KHR **Data Type: Reprocessed on 5/30/2013 1:51:18 PM**
Logged In Analyst (Original) : peicp2
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1305129603SD WG432203-05

Analyte	Back Pressure	Flow
All	164.0 kPa	0.48 L/min

Mean Data: L1305129603SD WG432203-05

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2427892.5						24739.88	1.02%
YRADIAL	188676.1						4225.71	2.24%
Ga 417.206	935090.3						13155.97	1.41%
GaRADIAL	51459.4						1173.74	2.28%
Ag 328.068†	40967.7	0.194	mg/L	0.0045	0.194	mg/L	0.0045	2.33%
Al 396.153†	17433.6	5.71	mg/L	0.016	5.71	mg/L	0.016	0.29%
As 188.979†	402.0	0.204	mg/L	0.0026	0.204	mg/L	0.0026	1.27%
Ba 233.527†	62415.3	0.698	mg/L	0.0204	0.698	mg/L	0.0204	2.93%
Be 234.861†	22392.9	0.0247	mg/L	0.00041	0.0247	mg/L	0.00041	1.67%
B 249.677†	69708.8	0.964	mg/L	0.0252	0.964	mg/L	0.0252	2.62%
Ca 227.546†	3153.5	16.1	mg/L	0.19	16.1	mg/L	0.19	1.18%
Cd 228.802†	775.1	0.0236	mg/L	0.00041	0.0236	mg/L	0.00041	1.74%
Co 228.616†	2520.8	0.102	mg/L	0.0009	0.102	mg/L	0.0009	0.92%
Cr 267.716†	23525.5	0.247	mg/L	0.0066	0.247	mg/L	0.0066	2.66%
Cu 327.393†	42311.4	0.247	mg/L	0.0052	0.247	mg/L	0.0052	2.11%
Fe 239.562†	164531.0	38.4	mg/L	0.20	38.4	mg/L	0.20	0.53%
Mg 279.077†	13807.1	9.70	mg/L	0.092	9.70	mg/L	0.092	0.95%
Mn 257.610†	537129.4	1.01	mg/L	0.008	1.01	mg/L	0.008	0.80%
Mo 202.031†	10084.8	0.512	mg/L	0.0038	0.512	mg/L	0.0038	0.75%
Ni 231.604†	10275.1	0.259	mg/L	0.0024	0.259	mg/L	0.0024	0.93%
Pb 220.353†	1987.9	0.257	mg/L	0.0027	0.257	mg/L	0.0027	1.05%
Sb 206.836†	1421.0	0.588	mg/L	0.0071	0.588	mg/L	0.0071	1.22%
Se 196.026†	201.6	0.201	mg/L	0.0071	0.201	mg/L	0.0071	3.52%
Si 251.611†	327730.1	9.14	mg/L	0.213	9.14	mg/L	0.213	2.33%
Sn 189.927†	4079.4	0.511	mg/L	0.0036	0.511	mg/L	0.0036	0.71%
Ti 334.940†	393189.2	0.525	mg/L	0.0122	0.525	mg/L	0.0122	2.32%
Tl 190.801†	501.1	0.252	mg/L	0.0041	0.252	mg/L	0.0041	1.63%
V 290.880†	99881.4	0.501	mg/L	0.0090	0.501	mg/L	0.0090	1.79%
Zn 206.200†	17944.1	0.514	mg/L	0.0158	0.514	mg/L	0.0158	3.07%
K 766.490†	37788.4	26.8	mg/L	0.25	26.8	mg/L	0.25	0.94%
Na 589.592†	552000.8	52.6	mg/L	0.30	52.6	mg/L	0.30	0.57%
Sr 407.771†	675461.2	0.565	mg/L	0.0064	0.565	mg/L	0.0064	1.14%
Li 670.784†	35084.3	0.500	mg/L	0.0010	0.500	mg/L	0.0010	0.21%

==========

Sequence No.: 32 **Autosampler Location: 57**
Sample ID: L1305129604 **Date Collected: 5/30/2013 12:47:18 PM**
Analyst: KHR **Data Type: Reprocessed on 5/30/2013 1:51:19 PM**
Logged In Analyst (Original) : peicp2
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1305129604

Analyte	Back Pressure	Flow
All	164.0 kPa	0.48 L/min

Mean Data: L1305129604

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2317726.2						21016.39	0.91%
YRADIAL	177231.7						1422.82	0.80%
Ga 417.206	866474.6						8363.50	0.97%
GaRADIAL	46918.7						324.48	0.69%

Approved: May 31, 2013

Kym H. Rhoden

Ag 328.068†	-487.7	0.00067 mg/L	0.000741	0.00067 mg/L	0.000741	111.27%
Al 396.153†	499.9	0.212 mg/L	0.0028	0.212 mg/L	0.0028	1.31%
As 188.979†	44.9	0.0220 mg/L	0.00176	0.0220 mg/L	0.00176	8.02%
Ba 233.527†	2227.3	0.0267 mg/L	0.00028	0.0267 mg/L	0.00028	1.05%
Be 234.861†	1107.4	0.00027 mg/L	0.000098	0.00027 mg/L	0.000098	36.20%
B 249.677†	17765.1	0.250 mg/L	0.0064	0.250 mg/L	0.0064	2.57%
Ca 227.546†	5681.4	27.1 mg/L	0.15	27.1 mg/L	0.15	0.55%
Cd 228.802†	3.8	0.00021 mg/L	0.000068	0.00021 mg/L	0.000068	32.75%
Co 228.616†	23.3	0.00088 mg/L	0.000053	0.00088 mg/L	0.000053	6.06%
Cr 267.716†	396.6	0.00494 mg/L	0.000167	0.00494 mg/L	0.000167	3.37%
Cu 327.393†	-114.9	0.00053 mg/L	0.000543	0.00053 mg/L	0.000543	102.65%
Fe 239.562†	27845.3	6.51 mg/L	0.064	6.51 mg/L	0.064	0.99%
Mg 279.077†	14275.2	10.0 mg/L	0.12	10.0 mg/L	0.12	1.17%
Mn 257.610†	63616.1	0.119 mg/L	0.0019	0.119 mg/L	0.0019	1.56%
Mo 202.031†	113.0	0.00802 mg/L	0.000342	0.00802 mg/L	0.000342	4.27%
Ni 231.604†	84.9	0.00460 mg/L	0.000198	0.00460 mg/L	0.000198	4.29%
Pb 220.353†	26.4	0.00341 mg/L	0.001302	0.00341 mg/L	0.001302	38.23%
Sb 206.836†	-3.1	0.00174 mg/L	0.000712	0.00174 mg/L	0.000712	40.96%
Se 196.026†	16.2	0.0155 mg/L	0.00453	0.0155 mg/L	0.00453	29.31%
Si 251.611†	85124.7	2.38 mg/L	0.036	2.38 mg/L	0.036	1.50%
Sn 189.927†	-170.3	-0.0189 mg/L	0.00151	-0.0189 mg/L	0.00151	7.99%
Ti 334.940†	1980.2	0.00986 mg/L	0.000720	0.00986 mg/L	0.000720	7.30%
Tl 190.801†	-27.1	-0.0133 mg/L	0.00155	-0.0133 mg/L	0.00155	11.61%
V 290.880†	3729.2	0.0182 mg/L	0.00101	0.0182 mg/L	0.00101	5.55%
Zn 206.200†	195.2	0.00775 mg/L	0.000142	0.00775 mg/L	0.000142	1.84%
K 766.490†	9178.8	6.02 mg/L	0.073	6.02 mg/L	0.073	1.21%
Na 589.592†	8392531.5	544 mg/L	8.2	544 mg/L	8.2	1.51%
Sr 407.771†	566755.5	0.475 mg/L	0.0027	0.475 mg/L	0.0027	0.58%
Li 670.784†	54.8	0.00328 mg/L	0.001149	0.00328 mg/L	0.001149	35.05%

==========

Sequence No.: 33 **Autosampler Location: 6**
Sample ID: CCV **Date Collected: 5/30/2013 12:49:28 PM**
Analyst: **Data Type: Reprocessed on 5/30/2013 1:51:20 PM**
Logged In Analyst (Original) : peicp2
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: CCV

Analyte	Back Pressure	Flow
All	164.0 kPa	0.48 L/min

Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2433724.9						30635.06	1.26%
YRADIAL	179476.2						2521.45	1.40%
Ga 417.206	921704.0						8737.69	0.95%
GaRADIAL	49294.1						312.19	0.63%
Ag 328.068†	94982.9	0.415	mg/L	0.0036	0.415	mg/L	0.0036	0.87%
QC value within limits for Ag 328.068 Recovery = 103.66%								
Al 396.153†	30351.7	9.89	mg/L	0.016	9.89	mg/L	0.016	0.16%
QC value within limits for Al 396.153 Recovery = 98.94%								
As 188.979†	818.1	0.400	mg/L	0.0038	0.400	mg/L	0.0038	0.95%
QC value within limits for As 188.979 Recovery = 99.91%								
Ba 233.527†	92132.4	1.03	mg/L	0.002	1.03	mg/L	0.002	0.20%
QC value within limits for Ba 233.527 Recovery = 103.07%								
Be 234.861†	33743.5	0.0501	mg/L	0.00038	0.0501	mg/L	0.00038	0.75%
QC value within limits for Be 234.861 Recovery = 100.25%								
B 249.677†	36269.0	0.508	mg/L	0.0036	0.508	mg/L	0.0036	0.70%
QC value within limits for B 249.677 Recovery = 101.69%								
Ca 227.546†	2125.5	10.5	mg/L	0.10	10.5	mg/L	0.10	0.96%
QC value within limits for Ca 227.546 Recovery = 105.48%								
Cd 228.802†	1605.9	0.0487	mg/L	0.00041	0.0487	mg/L	0.00041	0.84%
QC value within limits for Cd 228.802 Recovery = 97.35%								
Co 228.616†	5024.9	0.206	mg/L	0.0034	0.206	mg/L	0.0034	1.67%
QC value within limits for Co 228.616 Recovery = 103.02%								
Cr 267.716†	48746.9	0.516	mg/L	0.0041	0.516	mg/L	0.0041	0.79%
QC value within limits for Cr 267.716 Recovery = 103.16%								
Cu 327.393†	88232.7	0.507	mg/L	0.0038	0.507	mg/L	0.0038	0.75%

Approved: May 31, 2013
Lynn H. Rhoden

```
   QC value within limits for Cu 327.393  Recovery = 101.46%
Fe 239.562†            17093.4        4.00 mg/L        0.007        4.00 mg/L         0.007   0.17%
   QC value within limits for Fe 239.562  Recovery = 100.01%
Mg 279.077†            14457.8         10.2 mg/L         0.05         10.2 mg/L          0.05   0.52%
   QC value within limits for Mg 279.077  Recovery = 101.79%
Mn 257.610†           281838.9       0.528 mg/L       0.0011       0.528 mg/L        0.0011   0.21%
   QC value within limits for Mn 257.610  Recovery = 105.62%
Mo 202.031†            20239.7        1.02 mg/L        0.005        1.02 mg/L         0.005   0.44%
   QC value within limits for Mo 202.031  Recovery = 102.08%
Ni 231.604†            20275.4       0.508 mg/L       0.0053       0.508 mg/L        0.0053   1.04%
   QC value within limits for Ni 231.604  Recovery = 101.58%
Pb 220.353†             4001.8       0.520 mg/L       0.0087       0.520 mg/L        0.0087   1.68%
   QC value within limits for Pb 220.353  Recovery = 103.99%
Sb 206.836†             2976.9        1.22 mg/L        0.018        1.22 mg/L         0.018   1.47%
   QC value within limits for Sb 206.836  Recovery = 102.08%
Se 196.026†              420.8       0.407 mg/L       0.0065       0.407 mg/L        0.0065   1.60%
   QC value within limits for Se 196.026  Recovery = 101.66%
Si 251.611†           181971.6        5.07 mg/L        0.041        5.07 mg/L         0.041   0.80%
   QC value within limits for Si 251.611  Recovery = 101.35%
Sn 189.927†             7708.8       0.963 mg/L       0.0171       0.963 mg/L        0.0171   1.78%
   QC value within limits for Sn 189.927  Recovery = 96.28%
Ti 334.940†           765117.3        1.02 mg/L        0.007        1.02 mg/L         0.007   0.68%
   QC value within limits for Ti 334.940  Recovery = 101.64%
Tl 190.801†             1049.3       0.528 mg/L       0.0047       0.528 mg/L        0.0047   0.88%
   QC value within limits for Tl 190.801  Recovery = 105.65%
V 290.880†            203800.6        1.04 mg/L        0.004        1.04 mg/L         0.004   0.41%
   QC value within limits for V 290.880  Recovery = 103.98%
Zn 206.200†            36282.0        1.04 mg/L        0.006        1.04 mg/L         0.006   0.60%
   QC value within limits for Zn 206.200  Recovery = 103.88%
K 766.490†             73307.4        51.3 mg/L         0.70        51.3 mg/L          0.70   1.36%
   QC value within limits for K 766.490  Recovery = 102.50%
Na 589.592†           566826.4        54.0 mg/L         0.50        54.0 mg/L          0.50   0.92%
   QC value within limits for Na 589.592  Recovery = 107.96%
Sr 407.771†          1284645.2        1.07 mg/L        0.005        1.07 mg/L         0.005   0.45%
   QC value within limits for Sr 407.771  Recovery = 107.04%
Li 670.784†            71064.6        1.01 mg/L        0.009        1.01 mg/L         0.009   0.90%
   QC value within limits for Li 670.784  Recovery = 101.03%
All analyte(s) passed QC.

==========================================================================================
Sequence No.: 34                                    Autosampler Location: 1
Sample ID: CCB                                      Date Collected: 5/30/2013 12:51:33 PM
Analyst:                                            Data Type: Reprocessed on 5/30/2013 1:51:21 PM
Logged In Analyst (Original) : peicp2
Initial Sample Wt:                                  Initial Sample Vol:
Dilution:                                           Sample Prep Vol:

------------------------------------------------------------------------------------------
Nebulizer Parameters: CCB
Analyte                 Back Pressure    Flow
All                     164.0 kPa        0.48 L/min

------------------------------------------------------------------------------------------
Mean Data: CCB
                   Mean Corrected         Calib.                          Sample
Analyte               Intensity     Conc. Units      Std.Dev.      Conc. Units      Std.Dev.   RSD
Y 371.029            2521211.0                                                    30768.20   1.22%
YRADIAL               180278.1                                                     1460.82   0.81%
Ga 417.206            945095.8                                                    15156.55   1.60%
GaRADIAL               49568.8                                                      315.39   0.64%
Ag 328.068†              134.1     0.00084 mg/L      0.000290     0.00084 mg/L      0.000290  34.58%
   QC value within limits for Ag 328.068  Recovery = Not calculated
Al 396.153†                5.8      0.0501 mg/L       0.00348      0.0501 mg/L       0.00348   6.94%
   QC value within limits for Al 396.153  Recovery = Not calculated
As 188.979†                3.9    -0.00048 mg/L      0.000544    -0.00048 mg/L      0.000544 113.89%
   QC value within limits for As 188.979  Recovery = Not calculated
Ba 233.527†              -15.3     0.00191 mg/L      0.000119     0.00191 mg/L      0.000119   6.26%
   QC value within limits for Ba 233.527  Recovery = Not calculated
Be 234.861†              -22.9     0.00012 mg/L      0.000052     0.00012 mg/L      0.000052  42.14%
   QC value within limits for Be 234.861  Recovery = Not calculated
B 249.677†               887.6      0.0163 mg/L       0.00112      0.0163 mg/L       0.00112   6.87%
   QC value within limits for B 249.677  Recovery = Not calculated
```

Approved: May 31, 2013

Lynn H. Rhoden

Ca 227.546†	1.5	0.0446 mg/L	0.02745	0.0446 mg/L	0.02745	61.53%
QC value within limits for Ca 227.546 Recovery = Not calculated						
Cd 228.802†	-6.4	0.00000 mg/L	0.000188	0.00000 mg/L	0.000188	>999.9%
QC value within limits for Cd 228.802 Recovery = Not calculated						
Co 228.616†	-0.9	0.00006 mg/L	0.000520	0.00006 mg/L	0.000520	870.14%
QC value within limits for Co 228.616 Recovery = Not calculated						
Cr 267.716†	4.0	0.00122 mg/L	0.000137	0.00122 mg/L	0.000137	11.26%
QC value within limits for Cr 267.716 Recovery = Not calculated						
Cu 327.393†	116.9	0.00133 mg/L	0.000432	0.00133 mg/L	0.000432	32.44%
QC value within limits for Cu 327.393 Recovery = Not calculated						
Fe 239.562†	12.8	0.0192 mg/L	0.00169	0.0192 mg/L	0.00169	8.81%
QC value within limits for Fe 239.562 Recovery = Not calculated						
Mg 279.077†	6.3	0.0421 mg/L	0.00690	0.0421 mg/L	0.00690	16.42%
QC value within limits for Mg 279.077 Recovery = Not calculated						
Mn 257.610†	273.9	0.00046 mg/L	0.000020	0.00046 mg/L	0.000020	4.33%
QC value within limits for Mn 257.610 Recovery = Not calculated						
Mo 202.031†	3.3	0.00211 mg/L	0.000270	0.00211 mg/L	0.000270	12.81%
QC value within limits for Mo 202.031 Recovery = Not calculated						
Ni 231.604†	-9.4	0.00225 mg/L	0.000258	0.00225 mg/L	0.000258	11.47%
QC value within limits for Ni 231.604 Recovery = Not calculated						
Pb 220.353†	3.8	0.00072 mg/L	0.000741	0.00072 mg/L	0.000741	102.53%
QC value within limits for Pb 220.353 Recovery = Not calculated						
Sb 206.836†	-0.8	0.00243 mg/L	0.002068	0.00243 mg/L	0.002068	85.02%
QC value within limits for Sb 206.836 Recovery = Not calculated						
Se 196.026†	3.2	0.00156 mg/L	0.001125	0.00156 mg/L	0.001125	72.06%
QC value within limits for Se 196.026 Recovery = Not calculated						
Si 251.611†	175.1	0.0115 mg/L	0.00172	0.0115 mg/L	0.00172	14.94%
QC value within limits for Si 251.611 Recovery = Not calculated						
Sn 189.927†	7.6	0.00325 mg/L	0.000433	0.00325 mg/L	0.000433	13.33%
QC value within limits for Sn 189.927 Recovery = Not calculated						
Ti 334.940†	65.0	0.00330 mg/L	0.000157	0.00330 mg/L	0.000157	4.74%
QC value within limits for Ti 334.940 Recovery = Not calculated						
Tl 190.801†	-2.3	-0.00116 mg/L	0.002816	-0.00116 mg/L	0.002816	242.74%
QC value within limits for Tl 190.801 Recovery = Not calculated						
V 290.880†	139.6	0.00177 mg/L	0.000741	0.00177 mg/L	0.000741	41.90%
QC value within limits for V 290.880 Recovery = Not calculated						
Zn 206.200†	3.5	0.00240 mg/L	0.000126	0.00240 mg/L	0.000126	5.24%
QC value within limits for Zn 206.200 Recovery = Not calculated						
K 766.490†	91.9	0.0256 mg/L	0.05646	0.0256 mg/L	0.05646	220.61%
QC value within limits for K 766.490 Recovery = Not calculated						
Na 589.592†	2844.0	0.252 mg/L	0.0617	0.252 mg/L	0.0617	24.44%
QC value within limits for Na 589.592 Recovery = Not calculated						
Sr 407.771†	116.8	0.00406 mg/L	0.000120	0.00406 mg/L	0.000120	2.96%
QC value within limits for Sr 407.771 Recovery = Not calculated						
Li 670.784†	38.3	0.00305 mg/L	0.001196	0.00305 mg/L	0.001196	39.27%
QC value within limits for Li 670.784 Recovery = Not calculated						

All analyte(s) passed QC.

==========

Sequence No.: 35 **Autosampler Location: 58**
Sample ID: L1305129605 **Date Collected: 5/30/2013 12:54:33 PM**
Analyst: KHR **Data Type: Reprocessed on 5/30/2013 1:51:22 PM**
Logged In Analyst (Original) : peicp2
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1305129605

Analyte	Back Pressure	Flow
All	164.0 kPa	0.48 L/min

Mean Data: L1305129605

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2371536.0						31263.17	1.32%
YRADIAL	184737.5						3468.16	1.88%
Ga 417.206	916120.9						23270.96	2.54%
GaRADIAL	48141.0						587.96	1.22%
Ag 328.068†	-4750.5	0.00143	mg/L	0.000274	0.00143	mg/L	0.000274	19.15%
Al 396.153†	351.9	0.169	mg/L	0.0030	0.169	mg/L	0.0030	1.75%
As 188.979†	293.8	0.161	mg/L	0.0045	0.161	mg/L	0.0045	2.80%

Approved: May 31, 2013

Ba 233.527†	4525.2	0.0507	mg/L	0.00087	0.0507	mg/L	0.00087	1.71%
Be 234.861†	9236.1	0.00093	mg/L	0.000048	0.00093	mg/L	0.000048	5.11%
B 249.677†	37357.0	0.504	mg/L	0.0178	0.504	mg/L	0.0178	3.53%
Ca 227.546†	40727.6	194	mg/L	8.2	194	mg/L	8.2	4.21%
Cd 228.802†	7.4	-0.00033	mg/L	0.000279	-0.00033	mg/L	0.000279	84.39%
Co 228.616†	127.4	0.00393	mg/L	0.000131	0.00393	mg/L	0.000131	3.35%
Cr 267.716†	-36.5	-0.00293	mg/L	0.000128	-0.00293	mg/L	0.000128	4.38%
Cu 327.393†	-827.8	0.00033	mg/L	0.000827	0.00033	mg/L	0.000827	247.65%
Fe 239.562†	239175.9	55.8	mg/L	0.46	55.8	mg/L	0.46	0.82%
Mg 279.077†	36238.9	25.4	mg/L	0.29	25.4	mg/L	0.29	1.16%
Mn 257.610†	1812015.3	3.39	mg/L	0.033	3.39	mg/L	0.033	0.97%
Mo 202.031†	171.7	0.0144	mg/L	0.00035	0.0144	mg/L	0.00035	2.41%
Ni 231.604†	156.9	0.00640	mg/L	0.000216	0.00640	mg/L	0.000216	3.38%
Pb 220.353†	96.8	0.00895	mg/L	0.001950	0.00895	mg/L	0.001950	21.78%
Sb 206.836†	-10.3	0.00072	mg/L	0.001231	0.00072	mg/L	0.001231	170.47%
Se 196.026†	0.8	0.00944	mg/L	0.004844	0.00944	mg/L	0.004844	51.29%
Si 251.611†	151692.4	4.23	mg/L	0.145	4.23	mg/L	0.145	3.44%
Sn 189.927†	-390.3	-0.0463	mg/L	0.00047	-0.0463	mg/L	0.00047	1.02%
Ti 334.940†	-17374.1	0.00912	mg/L	0.001238	0.00912	mg/L	0.001238	13.57%
Tl 190.801†	-44.7	-0.0255	mg/L	0.00555	-0.0255	mg/L	0.00555	21.76%
V 290.880†	3924.5	0.00612	mg/L	0.000948	0.00612	mg/L	0.000948	15.49%
Zn 206.200†	132.8	0.00485	mg/L	0.000189	0.00485	mg/L	0.000189	3.90%
K 766.490†	9918.5	6.88	mg/L	0.122	6.88	mg/L	0.122	1.77%
Na 589.592†	2510810.3	208	mg/L	2.5	208	mg/L	2.5	1.21%
Sr 407.771†	731307.3	0.614	mg/L	0.0077	0.614	mg/L	0.0077	1.26%
Li 670.784†	126.3	0.00429	mg/L	0.001127	0.00429	mg/L	0.001127	26.25%

Sequence No.: 36
Sample ID: L1305129606
Analyst: KHR
Logged In Analyst (Original) : peicp2
Initial Sample Wt:
Dilution:

Autosampler Location: 59
Date Collected: 5/30/2013 12:56:39 PM
Data Type: Reprocessed on 5/30/2013 1:51:23 PM
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: L1305129606

Analyte	Back Pressure	Flow
All	164.0 kPa	0.48 L/min

Mean Data: L1305129606

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2583342.7						39242.44	1.52%
YRADIAL	192278.7						4998.86	2.60%
Ga 417.206	1020885.4						23618.69	2.31%
GaRADIAL	51576.3						2230.41	4.32%
Ag 328.068†	86.7	0.00064	mg/L	0.000233	0.00064	mg/L	0.000233	36.48%
Al 396.153†	10.7	0.0517	mg/L	0.00100	0.0517	mg/L	0.00100	1.93%
As 188.979†	3.1	-0.00087	mg/L	0.000803	-0.00087	mg/L	0.000803	92.50%
Ba 233.527†	3.5	0.00211	mg/L	0.000074	0.00211	mg/L	0.000074	3.50%
Be 234.861†	58.8	0.00024	mg/L	0.000030	0.00024	mg/L	0.000030	12.46%
B 249.677†	676.2	0.0134	mg/L	0.00077	0.0134	mg/L	0.00077	5.73%
Ca 227.546†	32.7	0.192	mg/L	0.0343	0.192	mg/L	0.0343	17.82%
Cd 228.802†	-13.0	-0.00020	mg/L	0.000154	-0.00020	mg/L	0.000154	75.32%
Co 228.616†	1.8	0.00017	mg/L	0.000108	0.00017	mg/L	0.000108	63.55%
Cr 267.716†	13.2	0.00131	mg/L	0.000061	0.00131	mg/L	0.000061	4.63%
Cu 327.393†	-27.6	0.00050	mg/L	0.000619	0.00050	mg/L	0.000619	122.62%
Fe 239.562†	58.4	0.0298	mg/L	0.00424	0.0298	mg/L	0.00424	14.23%
Mg 279.077†	26.6	0.0563	mg/L	0.00208	0.0563	mg/L	0.00208	3.70%
Mn 257.610†	674.0	0.00121	mg/L	0.000079	0.00121	mg/L	0.000079	6.54%
Mo 202.031†	0.3	0.00196	mg/L	0.000307	0.00196	mg/L	0.000307	15.65%
Ni 231.604†	-2.1	0.00243	mg/L	0.000424	0.00243	mg/L	0.000424	17.46%
Pb 220.353†	6.3	0.00105	mg/L	0.001319	0.00105	mg/L	0.001319	125.81%
Sb 206.836†	-0.9	0.00238	mg/L	0.001395	0.00238	mg/L	0.001395	58.69%
Se 196.026†	4.4	0.00279	mg/L	0.003905	0.00279	mg/L	0.003905	139.80%
Si 251.611†	1119.6	0.0379	mg/L	0.00111	0.0379	mg/L	0.00111	2.94%
Sn 189.927†	-17.5	0.00012	mg/L	0.000253	0.00012	mg/L	0.000253	217.22%
Ti 334.940†	-16.5	0.00322	mg/L	0.000155	0.00322	mg/L	0.000155	4.83%
Tl 190.801†	2.1	0.00101	mg/L	0.001694	0.00101	mg/L	0.001694	167.59%
V 290.880†	273.7	0.00245	mg/L	0.000628	0.00245	mg/L	0.000628	25.64%

Approved: May 31, 2013

Zn 206.200†	150.2	0.00657 mg/L	0.000120	0.00657 mg/L	0.000120	1.82%
K 766.490†	52.4	-0.00303 mg/L	0.041419	-0.00303 mg/L	0.041419	>999.9%
Na 589.592†	4284.0	0.397 mg/L	0.1182	0.397 mg/L	0.1182	29.78%
Sr 407.771†	276.4	0.00419 mg/L	0.000032	0.00419 mg/L	0.000032	0.75%
Li 670.784†	-9.0	0.00237 mg/L	0.000766	0.00237 mg/L	0.000766	32.27%

Sequence No.: 37 **Autosampler Location: 60**
Sample ID: L1305129607 **Date Collected: 5/30/2013 12:59:38 PM**
Analyst: KHR **Data Type: Reprocessed on 5/30/2013 1:51:24 PM**
Logged In Analyst (Original) : peicp2
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1305129607

Analyte	Back Pressure	Flow
All	164.0 kPa	0.48 L/min

Mean Data: L1305129607

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2358203.1						11373.65	0.48%
YRADIAL	187656.7						1152.80	0.61%
Ga 417.206	940545.3						10516.51	1.12%
GaRADIAL	50430.4						589.43	1.17%
Ag 328.068†	-3210.9	0.00173	mg/L	0.000346	0.00173	mg/L	0.000346	20.03%
Al 396.153†	1196.2	0.443	mg/L	0.0159	0.443	mg/L	0.0159	3.57%
As 188.979†	60.5	0.0398	mg/L	0.00024	0.0398	mg/L	0.00024	0.60%
Ba 233.527†	2368.5	0.0272	mg/L	0.00012	0.0272	mg/L	0.00012	0.46%
Be 234.861†	6537.7	0.00069	mg/L	0.000163	0.00069	mg/L	0.000163	23.65%
B 249.677†	20751.5	0.278	mg/L	0.0051	0.278	mg/L	0.0051	1.84%
Ca 227.546†	28232.5	134	mg/L	1.8	134	mg/L	1.8	1.32%
Cd 228.802†	-4.4	-0.00011	mg/L	0.000310	-0.00011	mg/L	0.000310	284.58%
Co 228.616†	69.0	0.00191	mg/L	0.000493	0.00191	mg/L	0.000493	25.88%
Cr 267.716†	96.0	-0.00044	mg/L	0.000291	-0.00044	mg/L	0.000291	65.41%
Cu 327.393†	-489.4	0.00100	mg/L	0.000498	0.00100	mg/L	0.000498	49.57%
Fe 239.562†	169757.8	39.6	mg/L	0.39	39.6	mg/L	0.39	0.99%
Mg 279.077†	34311.3	24.0	mg/L	0.28	24.0	mg/L	0.28	1.15%
Mn 257.610†	1325615.4	2.48	mg/L	0.023	2.48	mg/L	0.023	0.93%
Mo 202.031†	70.2	0.00820	mg/L	0.000275	0.00820	mg/L	0.000275	3.35%
Ni 231.604†	114.4	0.00534	mg/L	0.000140	0.00534	mg/L	0.000140	2.63%
Pb 220.353†	81.4	0.00806	mg/L	0.001826	0.00806	mg/L	0.001826	22.64%
Sb 206.836†	-10.4	-0.00005	mg/L	0.002662	-0.00005	mg/L	0.002662	>999.9%
Se 196.026†	0.3	0.00601	mg/L	0.008798	0.00601	mg/L	0.008798	146.35%
Si 251.611†	189655.3	5.29	mg/L	0.098	5.29	mg/L	0.098	1.85%
Sn 189.927†	-358.1	-0.0423	mg/L	0.00022	-0.0423	mg/L	0.00022	0.52%
Ti 334.940†	-3637.8	0.0184	mg/L	0.00581	0.0184	mg/L	0.00581	31.54%
Tl 190.801†	-39.1	-0.0217	mg/L	0.00619	-0.0217	mg/L	0.00619	28.58%
V 290.880†	3685.6	0.00911	mg/L	0.001371	0.00911	mg/L	0.001371	15.06%
Zn 206.200†	205.3	0.00728	mg/L	0.000180	0.00728	mg/L	0.000180	2.48%
K 766.490†	8577.4	5.85	mg/L	0.082	5.85	mg/L	0.082	1.41%
Na 589.592†	3608116.4	282	mg/L	2.9	282	mg/L	2.9	1.03%
Sr 407.771†	865344.1	0.724	mg/L	0.0100	0.724	mg/L	0.0100	1.38%
Li 670.784†	146.9	0.00459	mg/L	0.001035	0.00459	mg/L	0.001035	22.57%

Sequence No.: 38 **Autosampler Location: 61**
Sample ID: L1305129608 **Date Collected: 5/30/2013 1:01:46 PM**
Analyst: KHR **Data Type: Reprocessed on 5/30/2013 1:51:25 PM**
Logged In Analyst (Original) : peicp2
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1305129608

Analyte	Back Pressure	Flow
All	163.0 kPa	0.48 L/min

Mean Data: L1305129608

Approved: May 31, 2013

Lynn H. Rhoden

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	2517510.6						20065.43	0.80%
YRADIAL	184745.1						4834.42	2.62%
Ga 417.206	951318.5						8177.27	0.86%
GaRADIAL	50047.0						1334.92	2.67%
Ag 328.068†	-319.1	0.00010	mg/L	0.000372	0.00010	mg/L	0.000372	355.78%
Al 396.153†	3625.9	1.23	mg/L	0.029	1.23	mg/L	0.029	2.32%
As 188.979†	7.1	0.00175	mg/L	0.000361	0.00175	mg/L	0.000361	20.59%
Ba 233.527†	9035.1	0.103	mg/L	0.0012	0.103	mg/L	0.0012	1.16%
Be 234.861†	605.9	0.00033	mg/L	0.000098	0.00033	mg/L	0.000098	29.50%
B 249.677†	17692.8	0.251	mg/L	0.0048	0.251	mg/L	0.0048	1.90%
Ca 227.546†	546.6	2.70	mg/L	0.055	2.70	mg/L	0.055	2.02%
Cd 228.802†	-5.9	0.00000	mg/L	0.000061	0.00000	mg/L	0.000061	>999.9%
Co 228.616†	8.9	0.00025	mg/L	0.000306	0.00025	mg/L	0.000306	120.91%
Cr 267.716†	406.1	0.00529	mg/L	0.000045	0.00529	mg/L	0.000045	0.85%
Cu 327.393†	1126.2	0.00740	mg/L	0.000504	0.00740	mg/L	0.000504	6.81%
Fe 239.562†	13134.7	3.08	mg/L	0.065	3.08	mg/L	0.065	2.10%
Mg 279.077†	2191.6	1.57	mg/L	0.036	1.57	mg/L	0.036	2.29%
Mn 257.610†	13447.1	0.0253	mg/L	0.00022	0.0253	mg/L	0.00022	0.86%
Mo 202.031†	82.7	0.00629	mg/L	0.000262	0.00629	mg/L	0.000262	4.16%
Ni 231.604†	47.1	0.00365	mg/L	0.000469	0.00365	mg/L	0.000469	12.83%
Pb 220.353†	61.5	0.00823	mg/L	0.000524	0.00823	mg/L	0.000524	6.37%
Sb 206.836†	-1.1	0.00239	mg/L	0.001599	0.00239	mg/L	0.001599	66.87%
Se 196.026†	10.3	0.00907	mg/L	0.002734	0.00907	mg/L	0.002734	30.13%
Si 251.611†	135430.6	3.78	mg/L	0.068	3.78	mg/L	0.068	1.79%
Sn 189.927†	-49.7	-0.00389	mg/L	0.000092	-0.00389	mg/L	0.000092	2.37%
Ti 334.940†	34451.4	0.0492	mg/L	0.00055	0.0492	mg/L	0.00055	1.12%
Tl 190.801†	-4.6	-0.00171	mg/L	0.003310	-0.00171	mg/L	0.003310	193.10%
V 290.880†	2165.0	0.0113	mg/L	0.00091	0.0113	mg/L	0.00091	8.07%
Zn 206.200†	250.5	0.00940	mg/L	0.000195	0.00940	mg/L	0.000195	2.08%
K 766.490†	4308.7	2.94	mg/L	0.077	2.94	mg/L	0.077	2.63%
Na 589.592†	1393880.4	124	mg/L	0.9	124	mg/L	0.9	0.73%
Sr 407.771†	73673.9	0.0652	mg/L	0.00125	0.0652	mg/L	0.00125	1.92%
Li 670.784†	92.9	0.00382	mg/L	0.000332	0.00382	mg/L	0.000332	8.68%

Sequence No.: 39
Sample ID: L1305129609
Analyst: KHR
Logged In Analyst (Original) : peicp2
Initial Sample Wt:
Dilution:

Autosampler Location: 62
Date Collected: 5/30/2013 1:04:47 PM
Data Type: Reprocessed on 5/30/2013 1:51:26 PM

Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: L1305129609

Analyte	Back Pressure	Flow
All	164.0 kPa	0.48 L/min

Mean Data: L1305129609

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	2486516.4						37059.33	1.49%
YRADIAL	187617.9						1951.04	1.04%
Ga 417.206	979234.5						24878.39	2.54%
GaRADIAL	52071.8						555.62	1.07%
Ag 328.068†	-8243.1	-0.00362	mg/L	0.001541	-0.00362	mg/L	0.001541	42.58%
Al 396.153†	25.7	0.0662	mg/L	0.00918	0.0662	mg/L	0.00918	13.86%
As 188.979†	-0.5	0.0180	mg/L	0.00180	0.0180	mg/L	0.00180	10.01%
Ba 233.527†	36611.4	0.408	mg/L	0.0097	0.408	mg/L	0.0097	2.38%
Be 234.861†	13028.7	0.00051	mg/L	0.000658	0.00051	mg/L	0.000658	129.34%
B 249.677†	21204.2	0.267	mg/L	0.0100	0.267	mg/L	0.0100	3.73%
Ca 227.546†	18031.1	87.2	mg/L	4.21	87.2	mg/L	4.21	4.83%
Cd 228.802†	-6.5	-0.00007	mg/L	0.000059	-0.00007	mg/L	0.000059	82.81%
Co 228.616†	2.8	-0.00201	mg/L	0.000145	-0.00201	mg/L	0.000145	7.23%
Cr 267.716†	-191.7	-0.00623	mg/L	0.000089	-0.00623	mg/L	0.000089	1.43%
Cu 327.393†	-815.3	0.00238	mg/L	0.000407	0.00238	mg/L	0.000407	17.11%
Fe 239.562†	345230.8	80.5	mg/L	0.64	80.5	mg/L	0.64	0.79%
Mg 279.077†	29132.1	20.4	mg/L	0.36	20.4	mg/L	0.36	1.79%
Mn 257.610†	959910.3	1.80	mg/L	0.015	1.80	mg/L	0.015	0.81%
Mo 202.031†	-11.0	0.00626	mg/L	0.000292	0.00626	mg/L	0.000292	4.67%

Approved: May 31, 2013

Ni 231.604†	19.2	0.00296	mg/L	0.000297	0.00296	mg/L	0.000297	10.00%
Pb 220.353†	105.3	0.0102	mg/L	0.00175	0.0102	mg/L	0.00175	17.19%
Sb 206.836†	-13.2	0.00030	mg/L	0.002499	0.00030	mg/L	0.002499	838.05%
Se 196.026†	-8.2	0.00614	mg/L	0.001211	0.00614	mg/L	0.001211	19.73%
Si 251.611†	295596.3	8.25	mg/L	0.301	8.25	mg/L	0.301	3.66%
Sn 189.927†	-328.5	-0.0386	mg/L	0.00073	-0.0386	mg/L	0.00073	1.90%
Ti 334.940†	-8778.6	0.00440	mg/L	0.000554	0.00440	mg/L	0.000554	12.61%
Tl 190.801†	-29.8	-0.0165	mg/L	0.00616	-0.0165	mg/L	0.00616	37.39%
V 290.880†	3316.3	-0.00316	mg/L	0.001235	-0.00316	mg/L	0.001235	39.05%
Zn 206.200†	109.5	0.00362	mg/L	0.000136	0.00362	mg/L	0.000136	3.75%
K 766.490†	6913.4	4.92	mg/L	0.089	4.92	mg/L	0.089	1.81%
Na 589.592†	200823.2	19.8	mg/L	0.07	19.8	mg/L	0.07	0.36%
Sr 407.771†	745001.2	0.624	mg/L	0.0034	0.624	mg/L	0.0034	0.54%
Li 670.784†	1961.9	0.0303	mg/L	0.00144	0.0303	mg/L	0.00144	4.75%

Sequence No.: 40 **Autosampler Location: 63**
Sample ID: L1305129610 **Date Collected: 5/30/2013 1:06:52 PM**
Analyst: KHR **Data Type: Reprocessed on 5/30/2013 1:51:27 PM**
Logged In Analyst (Original) : peicp2
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1305129610

Analyte	Back Pressure	Flow
All	163.0 kPa	0.48 L/min

Mean Data: L1305129610

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2482509.8						9688.04	0.39%
YRADIAL	186150.8						1194.34	0.64%
Ga 417.206	978956.0						15147.65	1.55%
GaRADIAL	51455.7						151.02	0.29%
Ag 328.068†	-7401.5	-0.00064	mg/L	0.000433	-0.00064	mg/L	0.000433	67.74%
Al 396.153†	34.0	0.0688	mg/L	0.01354	0.0688	mg/L	0.01354	19.69%
As 188.979†	-4.9	0.0154	mg/L	0.00077	0.0154	mg/L	0.00077	5.01%
Ba 233.527†	36210.5	0.404	mg/L	0.0040	0.404	mg/L	0.0040	0.98%
Be 234.861†	12774.1	0.00053	mg/L	0.000160	0.00053	mg/L	0.000160	30.37%
B 249.677†	21114.2	0.266	mg/L	0.0081	0.266	mg/L	0.0081	3.04%
Ca 227.546†	17835.4	86.2	mg/L	2.68	86.2	mg/L	2.68	3.10%
Cd 228.802†	-7.5	-0.00009	mg/L	0.000243	-0.00009	mg/L	0.000243	280.67%
Co 228.616†	11.6	-0.00161	mg/L	0.000235	-0.00161	mg/L	0.000235	14.62%
Cr 267.716†	-163.1	-0.00582	mg/L	0.000058	-0.00582	mg/L	0.000058	1.00%
Cu 327.393†	-813.7	0.00225	mg/L	0.000148	0.00225	mg/L	0.000148	6.59%
Fe 239.562†	338062.9	78.8	mg/L	0.18	78.8	mg/L	0.18	0.23%
Mg 279.077†	29627.4	20.7	mg/L	0.31	20.7	mg/L	0.31	1.50%
Mn 257.610†	942798.3	1.77	mg/L	0.014	1.77	mg/L	0.014	0.77%
Mo 202.031†	-13.8	0.00601	mg/L	0.000205	0.00601	mg/L	0.000205	3.40%
Ni 231.604†	21.5	0.00302	mg/L	0.000475	0.00302	mg/L	0.000475	15.74%
Pb 220.353†	104.9	0.0102	mg/L	0.00258	0.0102	mg/L	0.00258	25.33%
Sb 206.836†	-6.1	0.00315	mg/L	0.001094	0.00315	mg/L	0.001094	34.71%
Se 196.026†	-8.6	0.00546	mg/L	0.005245	0.00546	mg/L	0.005245	96.05%
Si 251.611†	292332.7	8.15	mg/L	0.168	8.15	mg/L	0.168	2.06%
Sn 189.927†	-319.1	-0.0375	mg/L	0.00138	-0.0375	mg/L	0.00138	3.67%
Ti 334.940†	-8839.8	0.00418	mg/L	0.000947	0.00418	mg/L	0.000947	22.68%
Tl 190.801†	-26.0	-0.0146	mg/L	0.00545	-0.0146	mg/L	0.00545	37.29%
V 290.880†	3423.3	-0.00220	mg/L	0.001482	-0.00220	mg/L	0.001482	67.41%
Zn 206.200†	121.2	0.00399	mg/L	0.000238	0.00399	mg/L	0.000238	5.96%
K 766.490†	7142.8	5.08	mg/L	0.084	5.08	mg/L	0.084	1.65%
Na 589.592†	195551.8	19.2	mg/L	0.08	19.2	mg/L	0.08	0.39%
Sr 407.771†	741422.9	0.621	mg/L	0.0046	0.621	mg/L	0.0046	0.75%
Li 670.784†	2054.0	0.0316	mg/L	0.00060	0.0316	mg/L	0.00060	1.89%

Sequence No.: 41 **Autosampler Location: 92**
Sample ID: L1305129610 0.5 **Date Collected: 5/30/2013 1:14:15 PM**
Analyst: KHR **Data Type: Reprocessed on 5/30/2013 1:51:29 PM**
Logged In Analyst (Original) : peicp2
Initial Sample Wt: **Initial Sample Vol:**

Approved: May 31, 2013

Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1305129610 0.5

Analyte	Back Pressure	Flow
All	164.0 kPa	0.48 L/min

Mean Data: L1305129610 0.5

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2511656.5						46168.84	1.84%
YRADIAL	187969.3						2947.38	1.57%
Ga 417.206	978066.7						16746.34	1.71%
GaRADIAL	49323.3						597.86	1.21%
Ag 328.068†	-3695.8	0.00107	mg/L	0.001109	0.00107	mg/L	0.001109	104.10%
Al 396.153†	14.5	0.0580	mg/L	0.01113	0.0580	mg/L	0.01113	19.18%
As 188.979†	9.2	0.0131	mg/L	0.00269	0.0131	mg/L	0.00269	20.55%
Ba 233.527†	18685.0	0.209	mg/L	0.0075	0.209	mg/L	0.0075	3.56%
Be 234.861†	6649.7	-0.00001	mg/L	0.000248	-0.00001	mg/L	0.000248	>999.9%
B 249.677†	11057.3	0.141	mg/L	0.0077	0.141	mg/L	0.0077	5.46%
Ca 227.546†	9366.6	45.3	mg/L	1.80	45.3	mg/L	1.80	3.98%
Cd 228.802†	-1.3	0.00010	mg/L	0.000413	0.00010	mg/L	0.000413	393.40%
Co 228.616†	10.1	-0.00066	mg/L	0.000426	-0.00066	mg/L	0.000426	64.49%
Cr 267.716†	-96.4	-0.00269	mg/L	0.000209	-0.00269	mg/L	0.000209	7.78%
Cu 327.393†	-323.1	0.00218	mg/L	0.000299	0.00218	mg/L	0.000299	13.70%
Fe 239.562†	182414.5	42.5	mg/L	0.24	42.5	mg/L	0.24	0.55%
Mg 279.077†	15293.7	10.7	mg/L	0.25	10.7	mg/L	0.25	2.36%
Mn 257.610†	499666.4	0.937	mg/L	0.0329	0.937	mg/L	0.0329	3.51%
Mo 202.031†	-5.9	0.00422	mg/L	0.000221	0.00422	mg/L	0.000221	5.24%
Ni 231.604†	40.1	0.00348	mg/L	0.000331	0.00348	mg/L	0.000331	9.52%
Pb 220.353†	58.6	0.00589	mg/L	0.001993	0.00589	mg/L	0.001993	33.85%
Sb 206.836†	-8.6	0.00078	mg/L	0.003092	0.00078	mg/L	0.003092	396.25%
Se 196.026†	-0.4	0.00637	mg/L	0.007644	0.00637	mg/L	0.007644	119.95%
Si 251.611†	150023.5	4.19	mg/L	0.165	4.19	mg/L	0.165	3.93%
Sn 189.927†	-233.2	-0.0268	mg/L	0.00115	-0.0268	mg/L	0.00115	4.31%
Ti 334.940†	-4203.1	0.00430	mg/L	0.000619	0.00430	mg/L	0.000619	14.39%
Tl 190.801†	-13.1	-0.00741	mg/L	0.003326	-0.00741	mg/L	0.003326	44.88%
V 290.880†	1342.8	-0.00326	mg/L	0.001868	-0.00326	mg/L	0.001868	57.28%
Zn 206.200†	62.3	0.00313	mg/L	0.000307	0.00313	mg/L	0.000307	9.83%
K 766.490†	3670.3	2.60	mg/L	0.031	2.60	mg/L	0.031	1.19%
Na 589.592†	106871.5	10.6	mg/L	0.03	10.6	mg/L	0.03	0.26%
Sr 407.771†	366008.7	0.308	mg/L	0.0022	0.308	mg/L	0.0022	0.72%
Li 670.784†	1126.1	0.0185	mg/L	0.00136	0.0185	mg/L	0.00136	7.39%

Sequence No.: 42 **Autosampler Location: 93**
Sample ID: L1305129610 0.2 **Date Collected: 5/30/2013 1:16:19 PM**
Analyst: KHR **Data Type: Reprocessed on 5/30/2013 1:51:30 PM**
Logged In Analyst (Original) : peicp2
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1305129610 0.2

Analyte	Back Pressure	Flow
All	164.0 kPa	0.48 L/min

Mean Data: L1305129610 0.2

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2493662.1						7631.80	0.31%
YRADIAL	184410.6						3506.35	1.90%
Ga 417.206	959441.8						14911.05	1.55%
GaRADIAL	50295.4						899.92	1.79%
Ag 328.068†	-1494.0	0.00046	mg/L	0.000222	0.00046	mg/L	0.000222	47.84%
Al 396.153†	-12.7	0.0460	mg/L	0.00402	0.0460	mg/L	0.00402	8.74%
As 188.979†	-1.2	0.00129	mg/L	0.002451	0.00129	mg/L	0.002451	190.36%
Ba 233.527†	7458.0	0.0848	mg/L	0.00179	0.0848	mg/L	0.00179	2.11%
Be 234.861†	2613.7	0.00005	mg/L	0.000030	0.00005	mg/L	0.000030	58.34%
B 249.677†	4663.0	0.0620	mg/L	0.00177	0.0620	mg/L	0.00177	2.85%

Approved: May 31, 2013

Kym H. Rhoden

Ca 227.546†	3623.9	17.6	mg/L	0.42	17.6	mg/L	0.42	2.37%
Cd 228.802†	-7.1	-0.00003	mg/L	0.000154	-0.00003	mg/L	0.000154	567.02%
Co 228.616†	-2.2	-0.00046	mg/L	0.000311	-0.00046	mg/L	0.000311	67.89%
Cr 267.716†	-31.9	-0.00029	mg/L	0.000124	-0.00029	mg/L	0.000124	42.82%
Cu 327.393†	-182.7	0.00095	mg/L	0.000352	0.00095	mg/L	0.000352	36.96%
Fe 239.562†	72403.4	16.9	mg/L	0.19	16.9	mg/L	0.19	1.14%
Mg 279.077†	6010.2	4.24	mg/L	0.108	4.24	mg/L	0.108	2.54%
Mn 257.610†	190689.6	0.358	mg/L	0.0032	0.358	mg/L	0.0032	0.89%
Mo 202.031†	7.0	0.00331	mg/L	0.000356	0.00331	mg/L	0.000356	10.75%
Ni 231.604†	-6.5	0.00232	mg/L	0.000384	0.00232	mg/L	0.000384	16.55%
Pb 220.353†	34.4	0.00392	mg/L	0.001932	0.00392	mg/L	0.001932	49.23%
Sb 206.836†	-6.9	0.00053	mg/L	0.000565	0.00053	mg/L	0.000565	106.89%
Se 196.026†	-0.3	0.00152	mg/L	0.001451	0.00152	mg/L	0.001451	95.66%
Si 251.611†	59543.3	1.67	mg/L	0.038	1.67	mg/L	0.038	2.28%
Sn 189.927†	-138.5	-0.0150	mg/L	0.00074	-0.0150	mg/L	0.00074	4.97%
Ti 334.940†	-1894.4	0.00328	mg/L	0.000198	0.00328	mg/L	0.000198	6.03%
Tl 190.801†	-17.0	-0.00875	mg/L	0.003788	-0.00875	mg/L	0.003788	43.32%
V 290.880†	737.9	0.00039	mg/L	0.000725	0.00039	mg/L	0.000725	185.51%
Zn 206.200†	41.3	0.00310	mg/L	0.000113	0.00310	mg/L	0.000113	3.65%
K 766.490†	1520.2	1.05	mg/L	0.025	1.05	mg/L	0.025	2.38%
Na 589.592†	40611.6	4.03	mg/L	0.021	4.03	mg/L	0.021	0.52%
Sr 407.771†	151481.6	0.130	mg/L	0.0004	0.130	mg/L	0.0004	0.29%
Li 670.784†	491.8	0.00948	mg/L	0.000803	0.00948	mg/L	0.000803	8.48%

Sequence No.: 43
Sample ID: CCV
Analyst:
Logged In Analyst (Original) : peicp2
Initial Sample Wt:
Dilution:

Autosampler Location: 6
Date Collected: 5/30/2013 1:18:23 PM
Data Type: Reprocessed on 5/30/2013 1:51:31 PM

Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: CCV

Analyte	Back Pressure	Flow
All	164.0 kPa	0.48 L/min

Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2422827.2						47016.10	1.94%
YRADIAL	181503.0						4998.04	2.75%
Ga 417.206	927749.2						15079.68	1.63%
GaRADIAL	49530.6						1028.07	2.08%
Ag 328.068†	94686.1	0.413	mg/L	0.0110	0.413	mg/L	0.0110	2.67%
QC value within limits for Ag 328.068 Recovery = 103.35%								
Al 396.153†	31194.2	10.2	mg/L	0.02	10.2	mg/L	0.02	0.19%
QC value within limits for Al 396.153 Recovery = 101.68%								
As 188.979†	812.0	0.397	mg/L	0.0097	0.397	mg/L	0.0097	2.43%
QC value within limits for As 188.979 Recovery = 99.14%								
Ba 233.527†	92814.3	1.04	mg/L	0.033	1.04	mg/L	0.033	3.16%
QC value within limits for Ba 233.527 Recovery = 103.83%								
Be 234.861†	33605.2	0.0499	mg/L	0.00171	0.0499	mg/L	0.00171	3.42%
QC value within limits for Be 234.861 Recovery = 99.79%								
B 249.677†	35351.6	0.496	mg/L	0.0147	0.496	mg/L	0.0147	2.96%
QC value within limits for B 249.677 Recovery = 99.10%								
Ca 227.546†	2121.0	10.5	mg/L	0.24	10.5	mg/L	0.24	2.31%
QC value within limits for Ca 227.546 Recovery = 105.33%								
Cd 228.802†	1603.5	0.0486	mg/L	0.00123	0.0486	mg/L	0.00123	2.53%
QC value within limits for Cd 228.802 Recovery = 97.25%								
Co 228.616†	5068.5	0.208	mg/L	0.0040	0.208	mg/L	0.0040	1.94%
QC value within limits for Co 228.616 Recovery = 103.91%								
Cr 267.716†	49099.1	0.520	mg/L	0.0151	0.520	mg/L	0.0151	2.90%
QC value within limits for Cr 267.716 Recovery = 103.91%								
Cu 327.393†	88453.2	0.509	mg/L	0.0130	0.509	mg/L	0.0130	2.56%
QC value within limits for Cu 327.393 Recovery = 101.72%								
Fe 239.562†	17537.1	4.10	mg/L	0.020	4.10	mg/L	0.020	0.49%
QC value within limits for Fe 239.562 Recovery = 102.59%								
Mg 279.077†	14751.6	10.4	mg/L	0.12	10.4	mg/L	0.12	1.12%
QC value within limits for Mg 279.077 Recovery = 103.85%								
Mn 257.610†	283177.3	0.531	mg/L	0.0171	0.531	mg/L	0.0171	3.23%

Approved: May 31, 2013

```
   QC value within limits for Mn 257.610  Recovery = 106.12%
Mo 202.031†            20397.3        1.03 mg/L        0.036        1.03 mg/L        0.036   3.46%
   QC value within limits for Mo 202.031  Recovery = 102.87%
Ni 231.604†            20518.6       0.514 mg/L       0.0173       0.514 mg/L       0.0173   3.36%
   QC value within limits for Ni 231.604  Recovery = 102.80%
Pb 220.353†             4052.2       0.527 mg/L       0.0098       0.527 mg/L       0.0098   1.86%
   QC value within limits for Pb 220.353  Recovery = 105.31%
Sb 206.836†             2966.7        1.22 mg/L        0.026        1.22 mg/L        0.026   2.11%
   QC value within limits for Sb 206.836  Recovery = 101.73%
Se 196.026†              421.9       0.408 mg/L       0.0115       0.408 mg/L       0.0115   2.81%
   QC value within limits for Se 196.026  Recovery = 101.94%
Si 251.611†           180871.1        5.04 mg/L        0.150        5.04 mg/L        0.150   2.98%
   QC value within limits for Si 251.611  Recovery = 100.73%
Sn 189.927†             7727.7       0.965 mg/L       0.0202       0.965 mg/L       0.0202   2.09%
   QC value within limits for Sn 189.927  Recovery = 96.52%
Ti 334.940†           773759.6        1.03 mg/L        0.003        1.03 mg/L        0.003   0.25%
   QC value within limits for Ti 334.940  Recovery = 102.78%
Tl 190.801†             1062.1       0.535 mg/L       0.0120       0.535 mg/L       0.0120   2.25%
   QC value within limits for Tl 190.801  Recovery = 106.93%
V 290.880†            204519.8        1.04 mg/L        0.033        1.04 mg/L        0.033   3.17%
   QC value within limits for V 290.880  Recovery = 104.34%
Zn 206.200†            36471.4        1.04 mg/L        0.037        1.04 mg/L        0.037   3.53%
   QC value within limits for Zn 206.200  Recovery = 104.42%
K 766.490†             75061.1        52.4 mg/L         0.37        52.4 mg/L         0.37   0.70%
   QC value within limits for K 766.490  Recovery = 104.89%
Na 589.592†           559050.6        53.3 mg/L         1.38        53.3 mg/L         1.38   2.59%
   QC value within limits for Na 589.592  Recovery = 106.55%
Sr 407.771†          1280027.2        1.07 mg/L        0.041        1.07 mg/L        0.041   3.81%
   QC value within limits for Sr 407.771  Recovery = 106.66%
Li 670.784†            73132.1        1.04 mg/L        0.006        1.04 mg/L        0.006   0.53%
   QC value within limits for Li 670.784  Recovery = 103.96%
All analyte(s) passed QC.

==========================================================================================
Sequence No.: 44                                    Autosampler Location: 1
Sample ID: CCB                                      Date Collected: 5/30/2013 1:20:28 PM
Analyst:                                            Data Type: Reprocessed on 5/30/2013 1:51:32 PM
Logged In Analyst (Original) : peicp2
Initial Sample Wt:                                  Initial Sample Vol:
Dilution:                                           Sample Prep Vol:

------------------------------------------------------------------------------------------
Nebulizer Parameters: CCB
Analyte                 Back Pressure    Flow
All                     164.0 kPa        0.48 L/min

------------------------------------------------------------------------------------------
Mean Data: CCB
                   Mean Corrected         Calib.                          Sample
Analyte               Intensity      Conc. Units      Std.Dev.      Conc. Units      Std.Dev.   RSD
Y 371.029            2510058.4                                                      42693.74   1.70%
YRADIAL               187173.6                                                       3270.09   1.75%
Ga 417.206            950423.1                                                      21619.95   2.27%
GaRADIAL               50107.7                                                         99.84   0.20%
Ag 328.068†               99.9     0.00069 mg/L      0.000164     0.00069 mg/L      0.000164  23.63%
   QC value within limits for Ag 328.068  Recovery = Not calculated
Al 396.153†                4.2      0.0496 mg/L       0.00280      0.0496 mg/L       0.00280   5.65%
   QC value within limits for Al 396.153  Recovery = Not calculated
As 188.979†                2.3    -0.00130 mg/L      0.002382    -0.00130 mg/L      0.002382 182.97%
   QC value within limits for As 188.979  Recovery = Not calculated
Ba 233.527†              -18.9     0.00186 mg/L      0.000059     0.00186 mg/L      0.000059   3.17%
   QC value within limits for Ba 233.527  Recovery = Not calculated
Be 234.861†              -10.2     0.00014 mg/L      0.000056     0.00014 mg/L      0.000056  39.76%
   QC value within limits for Be 234.861  Recovery = Not calculated
B 249.677†               571.6      0.0119 mg/L       0.00053      0.0119 mg/L       0.00053   4.40%
   QC value within limits for B 249.677  Recovery = Not calculated
Ca 227.546†                9.7      0.0832 mg/L       0.03247      0.0832 mg/L       0.03247  39.04%
   QC value within limits for Ca 227.546  Recovery = Not calculated
Cd 228.802†               -8.7    -0.00007 mg/L      0.000173    -0.00007 mg/L      0.000173 248.62%
   QC value within limits for Cd 228.802  Recovery = Not calculated
Co 228.616†                0.1     0.00010 mg/L      0.000387     0.00010 mg/L      0.000387 386.36%
   QC value within limits for Co 228.616  Recovery = Not calculated
```

Approved: May 31, 2013

Lynn H. Rhoden

```
Cr 267.716†              -1.0     0.00116 mg/L      0.000171     0.00116 mg/L      0.000171  14.68%
   QC value within limits for Cr 267.716  Recovery = Not calculated
Cu 327.393†              55.8     0.00098 mg/L      0.000604     0.00098 mg/L      0.000604  61.54%
   QC value within limits for Cu 327.393  Recovery = Not calculated
Fe 239.562†              25.5      0.0221 mg/L       0.00055      0.0221 mg/L       0.00055   2.47%
   QC value within limits for Fe 239.562  Recovery = Not calculated
Mg 279.077†              -4.0      0.0349 mg/L       0.00358      0.0349 mg/L       0.00358  10.27%
   QC value within limits for Mg 279.077  Recovery = Not calculated
Mn 257.610†             337.9     0.00058 mg/L      0.000020     0.00058 mg/L      0.000020   3.38%
   QC value within limits for Mn 257.610  Recovery = Not calculated
Mo 202.031†               2.7     0.00208 mg/L      0.000150     0.00208 mg/L      0.000150   7.19%
   QC value within limits for Mo 202.031  Recovery = Not calculated
Ni 231.604†              -7.7     0.00229 mg/L      0.000128     0.00229 mg/L      0.000128   5.60%
   QC value within limits for Ni 231.604  Recovery = Not calculated
Pb 220.353†              -2.0    -0.00003 mg/L      0.000692    -0.00003 mg/L      0.000692 >999.9%
   QC value within limits for Pb 220.353  Recovery = Not calculated
Sb 206.836†               3.9     0.00435 mg/L      0.001791     0.00435 mg/L      0.001791  41.13%
   QC value within limits for Sb 206.836  Recovery = Not calculated
Se 196.026†               0.7    -0.00084 mg/L      0.001828    -0.00084 mg/L      0.001828 217.98%
   QC value within limits for Se 196.026  Recovery = Not calculated
Si 251.611†             135.2      0.0104 mg/L       0.00069      0.0104 mg/L       0.00069   6.62%
   QC value within limits for Si 251.611  Recovery = Not calculated
Sn 189.927†              10.0     0.00354 mg/L      0.000511     0.00354 mg/L      0.000511  14.45%
   QC value within limits for Sn 189.927  Recovery = Not calculated
Ti 334.940†              -4.3     0.00322 mg/L      0.000072     0.00322 mg/L      0.000072   2.25%
   QC value within limits for Ti 334.940  Recovery = Not calculated
Tl 190.801†              -0.4    -0.00022 mg/L      0.003244    -0.00022 mg/L      0.003244 >999.9%
   QC value within limits for Tl 190.801  Recovery = Not calculated
V 290.880†              288.5     0.00253 mg/L      0.000927     0.00253 mg/L      0.000927  36.66%
   QC value within limits for V 290.880  Recovery = Not calculated
Zn 206.200†               2.6     0.00238 mg/L      0.000245     0.00238 mg/L      0.000245  10.30%
   QC value within limits for Zn 206.200  Recovery = Not calculated
K 766.490†              154.7      0.0712 mg/L       0.08543      0.0712 mg/L       0.08543 119.99%
   QC value within limits for K 766.490  Recovery = Not calculated
Na 589.592†             991.6      0.0662 mg/L       0.03016      0.0662 mg/L       0.03016  45.54%
   QC value within limits for Na 589.592  Recovery = Not calculated
Sr 407.771†             121.0     0.00406 mg/L      0.000114     0.00406 mg/L      0.000114   2.82%
   QC value within limits for Sr 407.771  Recovery = Not calculated
Li 670.784†             100.2     0.00392 mg/L      0.000991     0.00392 mg/L      0.000991  25.27%
   QC value within limits for Li 670.784  Recovery = Not calculated
All analyte(s) passed QC.

==========================================================================================
Sequence No.: 45                                    Autosampler Location: 12
Sample ID: ICSA                                     Date Collected: 5/30/2013 1:23:28 PM
Analyst:                                            Data Type: Reprocessed on 5/30/2013 1:51:33 PM
Logged In Analyst (Original) : peicp2
Initial Sample Wt:                                  Initial Sample Vol:
Dilution:                                           Sample Prep Vol:

------------------------------------------------------------------------------------------
Nebulizer Parameters: ICSA
Analyte                 Back Pressure    Flow
All                    164.0 kPa         0.48 L/min

------------------------------------------------------------------------------------------
Mean Data: ICSA
                   Mean Corrected         Calib.                          Sample
Analyte               Intensity     Conc. Units      Std.Dev.      Conc. Units      Std.Dev.   RSD
Y 371.029            2308399.5                                                     25471.40   1.10%
YRADIAL               180403.9                                                      2556.20   1.42%
Ga 417.206            902173.3                                                     12076.24   1.34%
GaRADIAL               50301.8                                                       583.71   1.16%
Ag 328.068†            -8795.2     0.00055 mg/L      0.000270     0.00055 mg/L      0.000270  49.56%
   QC value within limits for Ag 328.068  Recovery = Not calculated
Al 396.153†           753065.8         246 mg/L           2.8         246 mg/L           2.8   1.13%
   QC value within limits for Al 396.153  Recovery = 98.43%
As 188.979†               1.3    -0.00007 mg/L      0.003212    -0.00007 mg/L      0.003212 >999.9%
   QC value within limits for As 188.979  Recovery = Not calculated
Ba 233.527†              372.2     0.00300 mg/L      0.000101     0.00300 mg/L      0.000101   3.36%
   QC value within limits for Ba 233.527  Recovery = Not calculated
Be 234.861†            15735.4     0.00067 mg/L      0.000412     0.00067 mg/L      0.000412  61.64%
```

Approved: May 31, 2013

Lynn H. Rhoden

```
   QC value within limits for Be 234.861  Recovery = Not calculated
B 249.677†              3382.3      0.0101 mg/L       0.00268      0.0101 mg/L       0.00268  26.65%
   QC value within limits for B 249.677  Recovery = Not calculated
Ca 227.546†            55945.1         267 mg/L           6.5         267 mg/L           6.5   2.43%
   QC value within limits for Ca 227.546  Recovery = 106.74%
Cd 228.802†               -9.3    -0.00018 mg/L      0.000322    -0.00018 mg/L      0.000322 182.93%
   QC value within limits for Cd 228.802  Recovery = Not calculated
Co 228.616†                8.1    -0.00201 mg/L      0.000351    -0.00201 mg/L      0.000351  17.48%
   QC value within limits for Co 228.616  Recovery = Not calculated
Cr 267.716†               99.5     0.00167 mg/L      0.000422     0.00167 mg/L      0.000422  25.22%
   QC value within limits for Cr 267.716  Recovery = Not calculated
Cu 327.393†            -1174.2     0.00154 mg/L      0.000704     0.00154 mg/L      0.000704  45.84%
   QC value within limits for Cu 327.393  Recovery = Not calculated
Fe 239.562†           411502.3        95.9 mg/L          0.65        95.9 mg/L          0.65   0.68%
   QC value within limits for Fe 239.562  Recovery = 95.94%
Mg 279.077†           362347.9         254 mg/L           1.1         254 mg/L           1.1   0.44%
   QC value within limits for Mg 279.077  Recovery = 101.50%
Mn 257.610†            -759.8     0.00280 mg/L      0.000176     0.00280 mg/L      0.000176   6.30%
   QC value within limits for Mn 257.610  Recovery = Not calculated
Mo 202.031†              -39.5     0.00531 mg/L      0.000802     0.00531 mg/L      0.000802  15.10%
   QC value within limits for Mo 202.031  Recovery = Not calculated
Ni 231.604†                6.3     0.00265 mg/L      0.000270     0.00265 mg/L      0.000270  10.21%
   QC value within limits for Ni 231.604  Recovery = Not calculated
Pb 220.353†            -212.1    -0.00037 mg/L      0.001527    -0.00037 mg/L      0.001527 412.28%
   QC value within limits for Pb 220.353  Recovery = Not calculated
Sb 206.836†              -27.4    -0.00497 mg/L      0.003391    -0.00497 mg/L      0.003391  68.17%
   QC value within limits for Sb 206.836  Recovery = Not calculated
Se 196.026†              -14.9     0.00769 mg/L      0.009177     0.00769 mg/L      0.009177 119.40%
   QC value within limits for Se 196.026  Recovery = Not calculated
Si 251.611†               45.5     0.00795 mg/L      0.001195     0.00795 mg/L      0.001195  15.03%
   QC value within limits for Si 251.611  Recovery = Not calculated
Sn 189.927†            -300.3     -0.0351 mg/L       0.00171     -0.0351 mg/L       0.00171   4.88%
   QC value within limits for Sn 189.927  Recovery = Not calculated
Ti 334.940†          -26999.4     0.00719 mg/L      0.001274     0.00719 mg/L      0.001274  17.72%
   QC value within limits for Ti 334.940  Recovery = Not calculated
Tl 190.801†              -62.9     -0.0245 mg/L       0.00330     -0.0245 mg/L       0.00330  13.46%
   QC value within limits for Tl 190.801  Recovery = Not calculated
V 290.880†             6395.2     0.00255 mg/L      0.001059     0.00255 mg/L      0.001059  41.60%
   QC value within limits for V 290.880  Recovery = Not calculated
Zn 206.200†              194.8     0.00573 mg/L      0.000084     0.00573 mg/L      0.000084   1.47%
   QC value within limits for Zn 206.200  Recovery = Not calculated
K 766.490†               -79.7     -0.0981 mg/L       0.01428     -0.0981 mg/L       0.01428  14.56%
   QC value within limits for K 766.490  Recovery = Not calculated
Na 589.592†              604.5      0.0273 mg/L       0.00175      0.0273 mg/L       0.00175   6.39%
   QC value within limits for Na 589.592  Recovery = Not calculated
Sr 407.771†            1358.4     0.00927 mg/L      0.000126     0.00927 mg/L      0.000126   1.36%
   QC value within limits for Sr 407.771  Recovery = Not calculated
Li 670.784†               81.5     0.00366 mg/L      0.000492     0.00366 mg/L      0.000492  13.45%
   QC value within limits for Li 670.784  Recovery = Not calculated
All analyte(s) passed QC.

==========================================================================================
Sequence No.: 46                                    Autosampler Location: 13
Sample ID: ICSAB                                    Date Collected: 5/30/2013 1:25:31 PM
Analyst:                                            Data Type: Reprocessed on 5/30/2013 1:51:34 PM
Logged In Analyst (Original) : peicp2
Initial Sample Wt:                                  Initial Sample Vol:
Dilution:                                           Sample Prep Vol:

------------------------------------------------------------------------------------------
Nebulizer Parameters: ICSAB
Analyte                  Back Pressure     Flow
All                      164.0 kPa         0.48 L/min

------------------------------------------------------------------------------------------
Mean Data: ICSAB
                   Mean Corrected          Calib.                          Sample
Analyte               Intensity      Conc. Units      Std.Dev.      Conc. Units      Std.Dev.   RSD
Y 371.029            2403325.4                                                      61793.01   2.57%
YRADIAL               186418.1                                                       2705.19   1.45%
Ga 417.206            942006.4                                                      31700.36   3.37%
GaRADIAL               51611.3                                                        825.03   1.60%
```

Approved: May 31, 2013

Ag 328.068†	104275.1	0.489 mg/L	0.0075	0.489 mg/L	0.0075	1.53%
QC value within limits for Ag 328.068 Recovery = 97.75%						
Al 396.153†	727796.2	238 mg/L	9.6	238 mg/L	9.6	4.03%
QC value within limits for Al 396.153 Recovery = 95.13%						
As 188.979†	462.5	0.229 mg/L	0.0040	0.229 mg/L	0.0040	1.75%
QC value within limits for As 188.979 Recovery = 91.77%						
Ba 233.527†	21982.1	0.244 mg/L	0.0056	0.244 mg/L	0.0056	2.30%
QC value within limits for Ba 233.527 Recovery = 97.71%						
Be 234.861†	177008.0	0.243 mg/L	0.0034	0.243 mg/L	0.0034	1.41%
QC value within limits for Be 234.861 Recovery = 97.12%						
B 249.677†	3139.1	-0.00439 mg/L	0.000249	-0.00439 mg/L	0.000249	5.67%
QC value within limits for B 249.677 Recovery = Not calculated						
Ca 227.546†	53683.7	256 mg/L	3.0	256 mg/L	3.0	1.17%
QC value within limits for Ca 227.546 Recovery = 102.56%						
Cd 228.802†	14630.3	0.454 mg/L	0.0143	0.454 mg/L	0.0143	3.15%
QC value within limits for Cd 228.802 Recovery = 90.81%						
Co 228.616†	5504.5	0.224 mg/L	0.0053	0.224 mg/L	0.0053	2.36%
QC value within limits for Co 228.616 Recovery = 89.67%						
Cr 267.716†	23125.6	0.245 mg/L	0.0053	0.245 mg/L	0.0053	2.18%
QC value within limits for Cr 267.716 Recovery = 97.91%						
Cu 327.393†	40095.8	0.237 mg/L	0.0030	0.237 mg/L	0.0030	1.27%
QC value within limits for Cu 327.393 Recovery = 94.97%						
Fe 239.562†	395456.7	92.2 mg/L	0.08	92.2 mg/L	0.08	0.09%
QC value within limits for Fe 239.562 Recovery = 92.20%						
Mg 279.077†	348180.2	244 mg/L	0.4	244 mg/L	0.4	0.17%
QC value within limits for Mg 279.077 Recovery = 97.53%						
Mn 257.610†	126870.6	0.242 mg/L	0.0012	0.242 mg/L	0.0012	0.51%
QC value within limits for Mn 257.610 Recovery = 96.63%						
Mo 202.031†	-50.6	0.00471 mg/L	0.000506	0.00471 mg/L	0.000506	10.75%
QC value within limits for Mo 202.031 Recovery = Not calculated						
Ni 231.604†	17956.4	0.450 mg/L	0.0092	0.450 mg/L	0.0092	2.06%
QC value within limits for Ni 231.604 Recovery = 90.01%						
Pb 220.353†	3434.4	0.471 mg/L	0.0096	0.471 mg/L	0.0096	2.03%
QC value within limits for Pb 220.353 Recovery = 94.22%						
Sb 206.836†	1123.8	0.467 mg/L	0.0117	0.467 mg/L	0.0117	2.50%
QC value within limits for Sb 206.836 Recovery = 93.30%						
Se 196.026†	221.2	0.235 mg/L	0.0058	0.235 mg/L	0.0058	2.45%
QC value within limits for Se 196.026 Recovery = 94.08%						
Si 251.611†	-32.3	0.00579 mg/L	0.001068	0.00579 mg/L	0.001068	18.44%
QC value within limits for Si 251.611 Recovery = Not calculated						
Sn 189.927†	-392.8	-0.0466 mg/L	0.00220	-0.0466 mg/L	0.00220	4.72%
QC value within limits for Sn 189.927 Recovery = Not calculated						
Ti 334.940†	-26195.7	0.00657 mg/L	0.001310	0.00657 mg/L	0.001310	19.92%
QC value within limits for Ti 334.940 Recovery = Not calculated						
Tl 190.801†	930.7	0.462 mg/L	0.0103	0.462 mg/L	0.0103	2.24%
QC value within limits for Tl 190.801 Recovery = 92.36%						
V 290.880†	53521.2	0.244 mg/L	0.0015	0.244 mg/L	0.0015	0.63%
QC value within limits for V 290.880 Recovery = 97.71%						
Zn 206.200†	16198.1	0.463 mg/L	0.0095	0.463 mg/L	0.0095	2.06%
QC value within limits for Zn 206.200 Recovery = 92.64%						
K 766.490†	7072.7	5.05 mg/L	0.037	5.05 mg/L	0.037	0.72%
QC value within limits for K 766.490 Recovery = 100.93%						
Na 589.592†	53981.7	5.36 mg/L	0.057	5.36 mg/L	0.057	1.07%
QC value within limits for Na 589.592 Recovery = 107.26%						
Sr 407.771†	1211.6	0.00898 mg/L	0.000052	0.00898 mg/L	0.000052	0.58%
QC value within limits for Sr 407.771 Recovery = Not calculated						
Li 670.784†	147.0	0.00459 mg/L	0.000822	0.00459 mg/L	0.000822	17.92%
QC value within limits for Li 670.784 Recovery = Not calculated						

All analyte(s) passed QC.

==========

Sequence No.: 47 **Autosampler Location: 6**
Sample ID: CCV **Date Collected: 5/30/2013 1:27:32 PM**
Analyst: **Data Type: Reprocessed on 5/30/2013 1:51:35 PM**
Logged In Analyst (Original) : peicp2
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: CCV

Analyte	**Back Pressure**	**Flow**
All	164.0 kPa	0.48 L/min

Approved: May 31, 2013

Lynn H. Rhoden

Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2501549.8						29281.35	1.17%
YRADIAL	186141.7						1239.98	0.67%
Ga 417.206	952273.0						11199.64	1.18%
GaRADIAL	50531.0						263.59	0.52%
Ag 328.068†	92879.2	0.406	mg/L	0.0086	0.406	mg/L	0.0086	2.12%
QC value within limits for Ag 328.068 Recovery = 101.38%								
Al 396.153†	30369.7	9.90	mg/L	0.121	9.90	mg/L	0.121	1.22%
QC value within limits for Al 396.153 Recovery = 99.00%								
As 188.979†	796.7	0.389	mg/L	0.0052	0.389	mg/L	0.0052	1.34%
QC value within limits for As 188.979 Recovery = 97.26%								
Ba 233.527†	91088.8	1.02	mg/L	0.019	1.02	mg/L	0.019	1.91%
QC value within limits for Ba 233.527 Recovery = 101.90%								
Be 234.861†	33163.0	0.0492	mg/L	0.00091	0.0492	mg/L	0.00091	1.85%
QC value within limits for Be 234.861 Recovery = 98.49%								
B 249.677†	34637.9	0.486	mg/L	0.0094	0.486	mg/L	0.0094	1.94%
QC value within limits for B 249.677 Recovery = 97.12%								
Ca 227.546†	2076.7	10.3	mg/L	0.18	10.3	mg/L	0.18	1.75%
QC value within limits for Ca 227.546 Recovery = 103.16%								
Cd 228.802†	1569.2	0.0476	mg/L	0.00082	0.0476	mg/L	0.00082	1.72%
QC value within limits for Cd 228.802 Recovery = 95.15%								
Co 228.616†	4925.8	0.202	mg/L	0.0026	0.202	mg/L	0.0026	1.26%
QC value within limits for Co 228.616 Recovery = 100.99%								
Cr 267.716†	48155.2	0.510	mg/L	0.0099	0.510	mg/L	0.0099	1.95%
QC value within limits for Cr 267.716 Recovery = 101.91%								
Cu 327.393†	86425.6	0.497	mg/L	0.0093	0.497	mg/L	0.0093	1.88%
QC value within limits for Cu 327.393 Recovery = 99.39%								
Fe 239.562†	17147.8	4.01	mg/L	0.039	4.01	mg/L	0.039	0.96%
QC value within limits for Fe 239.562 Recovery = 100.32%								
Mg 279.077†	14429.1	10.2	mg/L	0.14	10.2	mg/L	0.14	1.38%
QC value within limits for Mg 279.077 Recovery = 101.58%								
Mn 257.610†	277704.1	0.520	mg/L	0.0093	0.520	mg/L	0.0093	1.79%
QC value within limits for Mn 257.610 Recovery = 104.07%								
Mo 202.031†	20034.7	1.01	mg/L	0.018	1.01	mg/L	0.018	1.79%
QC value within limits for Mo 202.031 Recovery = 101.04%								
Ni 231.604†	20152.0	0.505	mg/L	0.0096	0.505	mg/L	0.0096	1.90%
QC value within limits for Ni 231.604 Recovery = 100.97%								
Pb 220.353†	3936.4	0.511	mg/L	0.0055	0.511	mg/L	0.0055	1.08%
QC value within limits for Pb 220.353 Recovery = 102.30%								
Sb 206.836†	2894.7	1.19	mg/L	0.021	1.19	mg/L	0.021	1.78%
QC value within limits for Sb 206.836 Recovery = 99.27%								
Se 196.026†	412.4	0.399	mg/L	0.0043	0.399	mg/L	0.0043	1.07%
QC value within limits for Se 196.026 Recovery = 99.64%								
Si 251.611†	178225.8	4.96	mg/L	0.086	4.96	mg/L	0.086	1.73%
QC value within limits for Si 251.611 Recovery = 99.26%								
Sn 189.927†	7499.0	0.937	mg/L	0.0115	0.937	mg/L	0.0115	1.23%
QC value within limits for Sn 189.927 Recovery = 93.67%								
Ti 334.940†	757639.9	1.01	mg/L	0.003	1.01	mg/L	0.003	0.32%
QC value within limits for Ti 334.940 Recovery = 100.65%								
Tl 190.801†	1043.5	0.525	mg/L	0.0065	0.525	mg/L	0.0065	1.24%
QC value within limits for Tl 190.801 Recovery = 105.04%								
V 290.880†	200442.2	1.02	mg/L	0.022	1.02	mg/L	0.022	2.13%
QC value within limits for V 290.880 Recovery = 102.26%								
Zn 206.200†	36094.5	1.03	mg/L	0.020	1.03	mg/L	0.020	1.95%
QC value within limits for Zn 206.200 Recovery = 103.34%								
K 766.490†	73044.2	51.1	mg/L	0.63	51.1	mg/L	0.63	1.23%
QC value within limits for K 766.490 Recovery = 102.15%								
Na 589.592†	541860.4	51.7	mg/L	0.78	51.7	mg/L	0.78	1.52%
QC value within limits for Na 589.592 Recovery = 103.43%								
Sr 407.771†	1229289.2	1.02	mg/L	0.014	1.02	mg/L	0.014	1.41%
QC value within limits for Sr 407.771 Recovery = 102.44%								
Li 670.784†	70894.8	1.01	mg/L	0.016	1.01	mg/L	0.016	1.64%
QC value within limits for Li 670.784 Recovery = 100.79%								

All analyte(s) passed QC.

Sequence No.: 48 **Autosampler Location: 1**
Sample ID: CCB **Date Collected: 5/30/2013 1:29:37 PM**

Approved: May 31, 2013
Lynn H. Rhoden

Analyst:
Logged In Analyst (Original) : peicp2
Initial Sample Wt:
Dilution:

Data Type: Reprocessed on 5/30/2013 1:51:36 PM
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: CCB

Analyte	Back Pressure	Flow
All	164.0 kPa	0.48 L/min

Mean Data: CCB

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2510614.1						51803.91	2.06%
YRADIAL	188423.6						1793.59	0.95%
Ga 417.206	939264.5						20400.36	2.17%
GaRADIAL	50330.0						448.38	0.89%
Ag 328.068†	45.7	0.00046	mg/L	0.000307	0.00046	mg/L	0.000307	66.72%
QC value within limits for Ag 328.068 Recovery = Not calculated								
Al 396.153†	34.1	0.0593	mg/L	0.00474	0.0593	mg/L	0.00474	7.99%
QC value within limits for Al 396.153 Recovery = Not calculated								
As 188.979†	2.6	-0.00112	mg/L	0.002239	-0.00112	mg/L	0.002239	200.23%
QC value within limits for As 188.979 Recovery = Not calculated								
Ba 233.527†	-18.1	0.00187	mg/L	0.000127	0.00187	mg/L	0.000127	6.78%
QC value within limits for Ba 233.527 Recovery = Not calculated								
Be 234.861†	-20.2	0.00013	mg/L	0.000057	0.00013	mg/L	0.000057	45.02%
QC value within limits for Be 234.861 Recovery = Not calculated								
B 249.677†	487.0	0.0107	mg/L	0.00051	0.0107	mg/L	0.00051	4.74%
QC value within limits for B 249.677 Recovery = Not calculated								
Ca 227.546†	10.8	0.0885	mg/L	0.03805	0.0885	mg/L	0.03805	42.98%
QC value within limits for Ca 227.546 Recovery = Not calculated								
Cd 228.802†	-4.6	0.00006	mg/L	0.000110	0.00006	mg/L	0.000110	194.36%
QC value within limits for Cd 228.802 Recovery = Not calculated								
Co 228.616†	-1.1	0.00005	mg/L	0.000272	0.00005	mg/L	0.000272	536.87%
QC value within limits for Co 228.616 Recovery = Not calculated								
Cr 267.716†	13.4	0.00132	mg/L	0.000120	0.00132	mg/L	0.000120	9.13%
QC value within limits for Cr 267.716 Recovery = Not calculated								
Cu 327.393†	38.0	0.00088	mg/L	0.000562	0.00088	mg/L	0.000562	63.96%
QC value within limits for Cu 327.393 Recovery = Not calculated								
Fe 239.562†	35.4	0.0244	mg/L	0.00251	0.0244	mg/L	0.00251	10.28%
QC value within limits for Fe 239.562 Recovery = Not calculated								
Mg 279.077†	19.2	0.0511	mg/L	0.00657	0.0511	mg/L	0.00657	12.86%
QC value within limits for Mg 279.077 Recovery = Not calculated								
Mn 257.610†	253.0	0.00042	mg/L	0.000038	0.00042	mg/L	0.000038	9.04%
QC value within limits for Mn 257.610 Recovery = Not calculated								
Mo 202.031†	1.5	0.00202	mg/L	0.000365	0.00202	mg/L	0.000365	18.08%
QC value within limits for Mo 202.031 Recovery = Not calculated								
Ni 231.604†	-12.0	0.00218	mg/L	0.000182	0.00218	mg/L	0.000182	8.36%
QC value within limits for Ni 231.604 Recovery = Not calculated								
Pb 220.353†	4.4	0.00080	mg/L	0.000547	0.00080	mg/L	0.000547	68.04%
QC value within limits for Pb 220.353 Recovery = Not calculated								
Sb 206.836†	-0.9	0.00237	mg/L	0.000963	0.00237	mg/L	0.000963	40.62%
QC value within limits for Sb 206.836 Recovery = Not calculated								
Se 196.026†	5.2	0.00354	mg/L	0.004939	0.00354	mg/L	0.004939	139.45%
QC value within limits for Se 196.026 Recovery = Not calculated								
Si 251.611†	71.2	0.00865	mg/L	0.000493	0.00865	mg/L	0.000493	5.70%
QC value within limits for Si 251.611 Recovery = Not calculated								
Sn 189.927†	9.7	0.00351	mg/L	0.000464	0.00351	mg/L	0.000464	13.23%
QC value within limits for Sn 189.927 Recovery = Not calculated								
Ti 334.940†	-19.8	0.00320	mg/L	0.000344	0.00320	mg/L	0.000344	10.75%
QC value within limits for Ti 334.940 Recovery = Not calculated								
Tl 190.801†	6.1	0.00294	mg/L	0.003414	0.00294	mg/L	0.003414	116.06%
QC value within limits for Tl 190.801 Recovery = Not calculated								
V 290.880†	251.3	0.00234	mg/L	0.000514	0.00234	mg/L	0.000514	21.98%
QC value within limits for V 290.880 Recovery = Not calculated								
Zn 206.200†	3.1	0.00239	mg/L	0.000087	0.00239	mg/L	0.000087	3.62%
QC value within limits for Zn 206.200 Recovery = Not calculated								
K 766.490†	125.2	0.0499	mg/L	0.03269	0.0499	mg/L	0.03269	65.52%
QC value within limits for K 766.490 Recovery = Not calculated								
Na 589.592†	855.7	0.0526	mg/L	0.02851	0.0526	mg/L	0.02851	54.23%
QC value within limits for Na 589.592 Recovery = Not calculated								

Approved: May 31, 2013

Sr 407.771†	110.6	0.00405 mg/L	0.000056	0.00405 mg/L	0.000056	1.39%
QC value within limits for Sr 407.771 Recovery = Not calculated						
Li 670.784†	116.2	0.00415 mg/L	0.001891	0.00415 mg/L	0.001891	45.56%
QC value within limits for Li 670.784 Recovery = Not calculated						

All analyte(s) passed QC.

==========

Sequence No.: 49 **Autosampler Location: 90**
Sample ID: LRC **Date Collected: 5/30/2013 1:32:36 PM**
Analyst: KHR **Data Type: Reprocessed on 5/30/2013 1:51:38 PM**
Logged In Analyst (Original) : peicp2
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: LRC

Analyte	Back Pressure	Flow
All	164.0 kPa	0.48 L/min

Mean Data: LRC

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2540353.7						9136.76	0.36%
YRADIAL	179170.7						2473.40	1.38%
Ga 417.206	967915.0						9820.33	1.01%
GaRADIAL	50138.3						1584.31	3.16%
Ag 328.068†	-59850.1	-0.0804	mg/L	0.01304	-0.0804	mg/L	0.01304	16.22%
Al 396.153†	-89.4	0.0734	mg/L	0.00462	0.0734	mg/L	0.00462	6.29%
As 188.979†	-105.5	0.0494	mg/L	0.00462	0.0494	mg/L	0.00462	9.35%
Ba 233.527†	1590.0	0.00483	mg/L	0.000804	0.00483	mg/L	0.000804	16.63%
Be 234.861†	84287.6	0.0190	mg/L	0.00584	0.0190	mg/L	0.00584	30.73%
B 249.677†	16123.1	0.0378	mg/L	0.01305	0.0378	mg/L	0.01305	34.53%
Ca 227.546†	-2738.3	-2.19	mg/L	0.659	-2.19	mg/L	0.659	30.13%
Cd 228.802†	-31.2	-0.00087	mg/L	0.000151	-0.00087	mg/L	0.000151	17.30%
Co 228.616†	319.8	0.00151	mg/L	0.000722	0.00151	mg/L	0.000722	47.78%
Cr 267.716†	-1680.8	-0.0465	mg/L	0.00095	-0.0465	mg/L	0.00095	2.05%
Cu 327.393†	-4475.5	0.0105	mg/L	0.00195	0.0105	mg/L	0.00195	18.52%
Fe 239.562†	1916148.5	447	mg/L	7.6	447	mg/L	7.6	1.70%
Mg 279.077†	164.5	-0.0887	mg/L	0.01171	-0.0887	mg/L	0.01171	13.21%
Mn 257.610†	-2786.6	0.0146	mg/L	0.00052	0.0146	mg/L	0.00052	3.56%
Mo 202.031†	-359.1	0.00878	mg/L	0.000432	0.00878	mg/L	0.000432	4.93%
Ni 231.604†	184.6	0.00707	mg/L	0.000100	0.00707	mg/L	0.000100	1.42%
Pb 220.353†	393.9	0.0367	mg/L	0.00346	0.0367	mg/L	0.00346	9.42%
Sb 206.836†	-30.9	0.00651	mg/L	0.001518	0.00651	mg/L	0.001518	23.33%
Se 196.026†	-121.0	-0.0291	mg/L	0.00074	-0.0291	mg/L	0.00074	2.54%
Si 251.611†	-3215.8	-0.0828	mg/L	0.00209	-0.0828	mg/L	0.00209	2.52%
Sn 189.927†	-81.5	-0.00786	mg/L	0.001577	-0.00786	mg/L	0.001577	20.07%
Ti 334.940†	-351.1	0.00082	mg/L	0.000079	0.00082	mg/L	0.000079	9.62%
Tl 190.801†	13.3	0.00656	mg/L	0.004364	0.00656	mg/L	0.004364	66.52%
V 290.880†	8204.4	-0.0714	mg/L	0.00278	-0.0714	mg/L	0.00278	3.89%
Zn 206.200†	442.1	0.00486	mg/L	0.000388	0.00486	mg/L	0.000388	8.00%
K 766.490†	-47.2	-0.0746	mg/L	0.00458	-0.0746	mg/L	0.00458	6.15%
Na 589.592†	71.8	-0.0262	mg/L	0.00352	-0.0262	mg/L	0.00352	13.43%
Sr 407.771†	2456.4	0.00579	mg/L	0.000045	0.00579	mg/L	0.000045	0.77%
Li 670.784†	49.9	0.00321	mg/L	0.000154	0.00321	mg/L	0.000154	4.79%

==========

Sequence No.: 50 **Autosampler Location: 91**
Sample ID: BLANK **Date Collected: 5/30/2013 1:35:39 PM**
Analyst: KHR **Data Type: Reprocessed on 5/30/2013 1:51:39 PM**
Logged In Analyst (Original) : peicp2
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: BLANK

Analyte	Back Pressure	Flow
All	164.0 kPa	0.48 L/min

Mean Data: BLANK

Approved: May 31, 2013

Kym H. Rhoden

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2546316.0						29021.02	1.14%
YRADIAL	183130.6						3207.03	1.75%
Ga 417.206	960503.2						14026.42	1.46%
GaRADIAL	48874.5						1193.30	2.44%
Ag 328.068†	-24.2	0.00019	mg/L	0.000106	0.00019	mg/L	0.000106	55.26%
Al 396.153†	-10.3	0.0449	mg/L	0.00048	0.0449	mg/L	0.00048	1.07%
As 188.979†	1.4	-0.00171	mg/L	0.002803	-0.00171	mg/L	0.002803	163.51%
Ba 233.527†	-26.4	0.00178	mg/L	0.000081	0.00178	mg/L	0.000081	4.58%
Be 234.861†	-29.4	0.00009	mg/L	0.000021	0.00009	mg/L	0.000021	22.73%
B 249.677†	182.6	0.00643	mg/L	0.000274	0.00643	mg/L	0.000274	4.26%
Ca 227.546†	11.4	0.0934	mg/L	0.03718	0.0934	mg/L	0.03718	39.81%
Cd 228.802†	-8.5	-0.00006	mg/L	0.000127	-0.00006	mg/L	0.000127	203.34%
Co 228.616†	-6.5	-0.00017	mg/L	0.000209	-0.00017	mg/L	0.000209	120.24%
Cr 267.716†	2.9	0.00120	mg/L	0.000103	0.00120	mg/L	0.000103	8.60%
Cu 327.393†	136.9	0.00145	mg/L	0.000419	0.00145	mg/L	0.000419	28.87%
Fe 239.562†	416.0	0.113	mg/L	0.0484	0.113	mg/L	0.0484	42.81%
Mg 279.077†	-1.5	0.0366	mg/L	0.00430	0.0366	mg/L	0.00430	11.76%
Mn 257.610†	389.3	0.00068	mg/L	0.000016	0.00068	mg/L	0.000016	2.36%
Mo 202.031†	-3.0	0.00180	mg/L	0.000044	0.00180	mg/L	0.000044	2.42%
Ni 231.604†	-5.6	0.00234	mg/L	0.000316	0.00234	mg/L	0.000316	13.52%
Pb 220.353†	10.2	0.00155	mg/L	0.001359	0.00155	mg/L	0.001359	87.43%
Sb 206.836†	3.0	0.00399	mg/L	0.001658	0.00399	mg/L	0.001658	41.56%
Se 196.026†	4.7	0.00304	mg/L	0.001139	0.00304	mg/L	0.001139	37.52%
Si 251.611†	16.2	0.00712	mg/L	0.000241	0.00712	mg/L	0.000241	3.39%
Sn 189.927†	-10.0	0.00105	mg/L	0.000602	0.00105	mg/L	0.000602	57.28%
Ti 334.940†	-102.8	0.00309	mg/L	0.000078	0.00309	mg/L	0.000078	2.53%
Tl 190.801†	-1.4	-0.00070	mg/L	0.003543	-0.00070	mg/L	0.003543	507.42%
V 290.880†	135.1	0.00172	mg/L	0.000625	0.00172	mg/L	0.000625	36.28%
Zn 206.200†	57.9	0.00395	mg/L	0.000280	0.00395	mg/L	0.000280	7.09%
K 766.490†	36.2	-0.0144	mg/L	0.04815	-0.0144	mg/L	0.04815	335.25%
Na 589.592†	210.6	-0.0123	mg/L	0.00536	-0.0123	mg/L	0.00536	43.78%
Sr 407.771†	-95.0	0.00388	mg/L	0.000022	0.00388	mg/L	0.000022	0.57%
Li 670.784†	78.3	0.00361	mg/L	0.000914	0.00361	mg/L	0.000914	25.30%

Sequence No.: 51 **Autosampler Location: 6**
Sample ID: CCV **Date Collected: 5/30/2013 1:38:39 PM**
Analyst: **Data Type: Reprocessed on 5/30/2013 1:51:40 PM**
Logged In Analyst (Original) : peicp2
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: CCV

Analyte	Back Pressure	Flow
All	164.0 kPa	0.48 L/min

Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2481708.0						49625.14	2.00%
YRADIAL	182585.5						3995.23	2.19%
Ga 417.206	949615.4						10242.53	1.08%
GaRADIAL	50326.0						1193.74	2.37%
Ag 328.068†	91644.0	0.400	mg/L	0.0080	0.400	mg/L	0.0080	2.01%
QC value within limits for Ag 328.068 Recovery = 100.02%								
Al 396.153†	29232.0	9.53	mg/L	0.081	9.53	mg/L	0.081	0.85%
QC value within limits for Al 396.153 Recovery = 95.30%								
As 188.979†	780.9	0.381	mg/L	0.0078	0.381	mg/L	0.0078	2.04%
QC value within limits for As 188.979 Recovery = 95.31%								
Ba 233.527†	90124.2	1.01	mg/L	0.019	1.01	mg/L	0.019	1.90%
QC value within limits for Ba 233.527 Recovery = 100.83%								
Be 234.861†	32525.1	0.0483	mg/L	0.00082	0.0483	mg/L	0.00082	1.71%
QC value within limits for Be 234.861 Recovery = 96.64%								
B 249.677†	33994.4	0.477	mg/L	0.0118	0.477	mg/L	0.0118	2.48%
QC value within limits for B 249.677 Recovery = 95.33%								
Ca 227.546†	2010.2	9.99	mg/L	0.181	9.99	mg/L	0.181	1.81%
QC value within limits for Ca 227.546 Recovery = 99.92%								
Cd 228.802†	1549.6	0.0470	mg/L	0.00051	0.0470	mg/L	0.00051	1.08%

Approved: May 31, 2013

```
   QC value within limits for Cd 228.802  Recovery = 94.00%
Co 228.616†            4867.2       0.200 mg/L        0.0058       0.200 mg/L        0.0058   2.90%
   QC value within limits for Co 228.616  Recovery = 99.80%
Cr 267.716†           47693.5       0.505 mg/L        0.0081       0.505 mg/L        0.0081   1.61%
   QC value within limits for Cr 267.716  Recovery = 100.94%
Cu 327.393†           84577.7       0.486 mg/L        0.0085       0.486 mg/L        0.0085   1.75%
   QC value within limits for Cu 327.393  Recovery = 97.27%
Fe 239.562†           16549.5        3.87 mg/L         0.035        3.87 mg/L         0.035   0.92%
   QC value within limits for Fe 239.562  Recovery = 96.84%
Mg 279.077†           13998.4        9.86 mg/L         0.126        9.86 mg/L         0.126   1.28%
   QC value within limits for Mg 279.077  Recovery = 98.57%
Mn 257.610†          275140.8       0.516 mg/L        0.0109       0.516 mg/L        0.0109   2.12%
   QC value within limits for Mn 257.610  Recovery = 103.11%
Mo 202.031†           19725.5       0.995 mg/L        0.0200       0.995 mg/L        0.0200   2.01%
   QC value within limits for Mo 202.031  Recovery = 99.49%
Ni 231.604†           19852.7       0.497 mg/L        0.0096       0.497 mg/L        0.0096   1.94%
   QC value within limits for Ni 231.604  Recovery = 99.48%
Pb 220.353†            3904.5       0.507 mg/L        0.0156       0.507 mg/L        0.0156   3.08%
   QC value within limits for Pb 220.353  Recovery = 101.46%
Sb 206.836†            2832.3        1.17 mg/L         0.015        1.17 mg/L         0.015   1.28%
   QC value within limits for Sb 206.836  Recovery = 97.13%
Se 196.026†             407.5       0.394 mg/L        0.0083       0.394 mg/L        0.0083   2.11%
   QC value within limits for Se 196.026  Recovery = 98.44%
Si 251.611†          175194.9        4.88 mg/L         0.091        4.88 mg/L         0.091   1.86%
   QC value within limits for Si 251.611  Recovery = 97.58%
Sn 189.927†            7323.7       0.915 mg/L        0.0245       0.915 mg/L        0.0245   2.68%
   QC value within limits for Sn 189.927  Recovery = 91.48%
Ti 334.940†          741251.4       0.985 mg/L        0.0066       0.985 mg/L        0.0066   0.67%
   QC value within limits for Ti 334.940  Recovery = 98.48%
Tl 190.801†            1023.6       0.515 mg/L        0.0123       0.515 mg/L        0.0123   2.38%
   QC value within limits for Tl 190.801  Recovery = 103.04%
V 290.880†           198004.9        1.01 mg/L         0.026        1.01 mg/L         0.026   2.62%
   QC value within limits for V 290.880  Recovery = 101.02%
Zn 206.200†           35679.0        1.02 mg/L         0.023        1.02 mg/L         0.023   2.25%
   QC value within limits for Zn 206.200  Recovery = 102.15%
K 766.490†            70649.2        49.4 mg/L          0.47        49.4 mg/L          0.47   0.95%
   QC value within limits for K 766.490  Recovery = 98.89%
Na 589.592†          524402.8        50.1 mg/L          0.31        50.1 mg/L          0.31   0.62%
   QC value within limits for Na 589.592  Recovery = 100.25%
Sr 407.771†         1219034.8        1.02 mg/L         0.007        1.02 mg/L         0.007   0.71%
   QC value within limits for Sr 407.771  Recovery = 101.59%
Li 670.784†           68206.0       0.970 mg/L        0.0102       0.970 mg/L        0.0102   1.05%
   QC value within limits for Li 670.784  Recovery = 96.97%
All analyte(s) passed QC.

==========================================================================================
Sequence No.: 52                                    Autosampler Location: 1
Sample ID: CCB                                      Date Collected: 5/30/2013 1:40:44 PM
Analyst:                                            Data Type: Reprocessed on 5/30/2013 1:51:41 PM
Logged In Analyst (Original) : peicp2
Initial Sample Wt:                                  Initial Sample Vol:
Dilution:                                           Sample Prep Vol:

------------------------------------------------------------------------------------------
Nebulizer Parameters: CCB
Analyte                 Back Pressure    Flow
All                    164.0 kPa         0.48 L/min

------------------------------------------------------------------------------------------
Mean Data: CCB
                   Mean Corrected         Calib.                          Sample
Analyte               Intensity     Conc. Units      Std.Dev.      Conc. Units      Std.Dev.   RSD
Y 371.029            2545153.4                                                     34713.34   1.36%
YRADIAL               191655.0                                                      3374.35   1.76%
Ga 417.206            960713.9                                                      8256.57   0.86%
GaRADIAL               50873.0                                                       504.58   0.99%
Ag 328.068†              114.1     0.00076 mg/L      0.000376     0.00076 mg/L      0.000376  49.64%
   QC value within limits for Ag 328.068  Recovery = Not calculated
Al 396.153†               14.4      0.0529 mg/L       0.00269      0.0529 mg/L       0.00269   5.08%
   QC value within limits for Al 396.153  Recovery = Not calculated
As 188.979†                3.0    -0.00092 mg/L      0.001683    -0.00092 mg/L      0.001683 182.22%
   QC value within limits for As 188.979  Recovery = Not calculated
```

Approved: May 31, 2013

Lynn H. Rhoden

```
Ba 233.527†              -17.9     0.00188 mg/L      0.000045     0.00188 mg/L      0.000045   2.39%
   QC value within limits for Ba 233.527  Recovery = Not calculated
Be 234.861†              -25.9     0.00012 mg/L      0.000028     0.00012 mg/L      0.000028  23.97%
   QC value within limits for Be 234.861  Recovery = Not calculated
B 249.677†               453.8      0.0103 mg/L       0.00081      0.0103 mg/L       0.00081   7.91%
   QC value within limits for B 249.677  Recovery = Not calculated
Ca 227.546†               8.3      0.0769 mg/L       0.03757      0.0769 mg/L       0.03757  48.87%
   QC value within limits for Ca 227.546  Recovery = Not calculated
Cd 228.802†               -2.1     0.00014 mg/L      0.000136     0.00014 mg/L      0.000136 100.69%
   QC value within limits for Cd 228.802  Recovery = Not calculated
Co 228.616†               1.3      0.00015 mg/L      0.000219     0.00015 mg/L      0.000219 149.48%
   QC value within limits for Co 228.616  Recovery = Not calculated
Cr 267.716†               11.1     0.00129 mg/L      0.000087     0.00129 mg/L      0.000087   6.70%
   QC value within limits for Cr 267.716  Recovery = Not calculated
Cu 327.393†              225.0     0.00195 mg/L      0.000584     0.00195 mg/L      0.000584  29.96%
   QC value within limits for Cu 327.393  Recovery = Not calculated
Fe 239.562†               55.5      0.0291 mg/L       0.00143      0.0291 mg/L       0.00143   4.92%
   QC value within limits for Fe 239.562  Recovery = Not calculated
Mg 279.077†               0.5      0.0380 mg/L       0.00237      0.0380 mg/L       0.00237   6.24%
   QC value within limits for Mg 279.077  Recovery = Not calculated
Mn 257.610†              324.3     0.00055 mg/L      0.000034     0.00055 mg/L      0.000034   6.05%
   QC value within limits for Mn 257.610  Recovery = Not calculated
Mo 202.031†               0.4      0.00196 mg/L      0.000496     0.00196 mg/L      0.000496  25.23%
   QC value within limits for Mo 202.031  Recovery = Not calculated
Ni 231.604†               -1.5     0.00244 mg/L      0.000111     0.00244 mg/L      0.000111   4.53%
   QC value within limits for Ni 231.604  Recovery = Not calculated
Pb 220.353†               0.1      0.00025 mg/L      0.001007     0.00025 mg/L      0.001007 410.28%
   QC value within limits for Pb 220.353  Recovery = Not calculated
Sb 206.836†               -5.1     0.00067 mg/L      0.002504     0.00067 mg/L      0.002504 371.15%
   QC value within limits for Sb 206.836  Recovery = Not calculated
Se 196.026†               6.5      0.00478 mg/L      0.001168     0.00478 mg/L      0.001168  24.41%
   QC value within limits for Se 196.026  Recovery = Not calculated
Si 251.611†               65.1     0.00848 mg/L      0.000971     0.00848 mg/L      0.000971  11.46%
   QC value within limits for Si 251.611  Recovery = Not calculated
Sn 189.927†               11.1     0.00368 mg/L      0.000345     0.00368 mg/L      0.000345   9.38%
   QC value within limits for Sn 189.927  Recovery = Not calculated
Ti 334.940†               -9.5     0.00321 mg/L      0.000109     0.00321 mg/L      0.000109   3.40%
   QC value within limits for Ti 334.940  Recovery = Not calculated
Tl 190.801†               -3.6    -0.00178 mg/L      0.003481    -0.00178 mg/L      0.003481 195.90%
   QC value within limits for Tl 190.801  Recovery = Not calculated
V 290.880†               150.6     0.00182 mg/L      0.000407     0.00182 mg/L      0.000407  22.35%
   QC value within limits for V 290.880  Recovery = Not calculated
Zn 206.200†               3.7      0.00241 mg/L      0.000131     0.00241 mg/L      0.000131   5.45%
   QC value within limits for Zn 206.200  Recovery = Not calculated
K 766.490†               103.9      0.0345 mg/L       0.01853      0.0345 mg/L       0.01853  53.70%
   QC value within limits for K 766.490  Recovery = Not calculated
Na 589.592†              681.6      0.0351 mg/L       0.03042      0.0351 mg/L       0.03042  86.72%
   QC value within limits for Na 589.592  Recovery = Not calculated
Sr 407.771†              116.5     0.00406 mg/L      0.000049     0.00406 mg/L      0.000049   1.20%
   QC value within limits for Sr 407.771  Recovery = Not calculated
Li 670.784†              144.8     0.00456 mg/L      0.000419     0.00456 mg/L      0.000419   9.21%
   QC value within limits for Li 670.784  Recovery = Not calculated
All analyte(s) passed QC.
```

Approved: May 31, 2013

Lynn H. Rhoden

==========

Analysis Begun

Start Time: 5/30/2013 1:56:44 PM **Plasma On Time: 5/30/2013 6:54:41 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\THURSDAY2.sif
Batch ID:
Results Data Set: 053013H2R
Results Library: C:\pe\peicp2\Results\Results.mdb

==========

Method Loaded
Method Name: 200.7-6010-3015 ASX **Method Last Saved: 5/30/2013 1:50:45 PM**
IEC File: CA227_LiBeMOD.iec **SIF File:**
Method Description: STANDARD

==========

Sequence No.: 1 **Autosampler Location: 64**
Sample ID: PBW 44 WG432128-02 **Date Collected: 5/30/2013 1:56:46 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: PBW 44 WG432128-02

Analyte	Back Pressure	Flow
All	163.0 kPa	0.48 L/min

Mean Data: PBW 44 WG432128-02

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2543992.4						56314.90	2.21%
YRADIAL	185419.8						4377.12	2.36%
Ga 417.206	964476.1						30009.01	3.11%
GaRADIAL	48923.9						1503.02	3.07%
Ag 328.068†	16.7	0.00033	mg/L	0.000211	0.00033	mg/L	0.000211	63.32%
Al 396.153†	1.3	0.0486	mg/L	0.00188	0.0486	mg/L	0.00188	3.86%
As 188.979†	-3.2	-0.00400	mg/L	0.002254	-0.00400	mg/L	0.002254	56.32%
Ba 233.527†	-10.9	0.00195	mg/L	0.000095	0.00195	mg/L	0.000095	4.86%
Be 234.861†	-19.8	0.00013	mg/L	0.000081	0.00013	mg/L	0.000081	64.59%
B 249.677†	51.0	0.00462	mg/L	0.000291	0.00462	mg/L	0.000291	6.31%
Ca 227.546†	4.8	0.0602	mg/L	0.02344	0.0602	mg/L	0.02344	38.94%
Cd 228.802†	-3.2	0.00011	mg/L	0.000011	0.00011	mg/L	0.000011	9.69%
Co 228.616†	0.0	0.00009	mg/L	0.000180	0.00009	mg/L	0.000180	190.11%
Cr 267.716†	-3.6	0.00114	mg/L	0.000115	0.00114	mg/L	0.000115	10.15%
Cu 327.393†	51.8	0.00096	mg/L	0.000373	0.00096	mg/L	0.000373	38.90%
Fe 239.562†	38.4	0.0251	mg/L	0.00064	0.0251	mg/L	0.00064	2.56%
Mg 279.077†	2.5	0.0394	mg/L	0.00769	0.0394	mg/L	0.00769	19.52%
Mn 257.610†	248.1	0.00041	mg/L	0.000023	0.00041	mg/L	0.000023	5.60%
Mo 202.031†	-3.2	0.00178	mg/L	0.000293	0.00178	mg/L	0.000293	16.46%
Ni 231.604†	-12.2	0.00217	mg/L	0.000279	0.00217	mg/L	0.000279	12.83%
Pb 220.353†	8.4	0.00132	mg/L	0.000881	0.00132	mg/L	0.000881	66.94%
Sb 206.836†	-1.3	0.00223	mg/L	0.002111	0.00223	mg/L	0.002111	94.48%
Se 196.026†	1.5	-0.00001	mg/L	0.005113	-0.00001	mg/L	0.005113	>999.9%
Si 251.611†	26.4	0.00740	mg/L	0.000832	0.00740	mg/L	0.000832	11.24%
Sn 189.927†	-18.9	-0.00006	mg/L	0.000241	-0.00006	mg/L	0.000241	389.78%
Ti 334.940†	-81.0	0.00311	mg/L	0.000088	0.00311	mg/L	0.000088	2.83%
Tl 190.801†	-1.7	-0.00086	mg/L	0.006569	-0.00086	mg/L	0.006569	762.34%
V 290.880†	55.5	0.00134	mg/L	0.001547	0.00134	mg/L	0.001547	115.52%
Zn 206.200†	136.3	0.00618	mg/L	0.000121	0.00618	mg/L	0.000121	1.96%
K 766.490†	29.8	-0.0190	mg/L	0.05892	-0.0190	mg/L	0.05892	310.11%
Na 589.592†	275.9	-0.00569	mg/L	0.018801	-0.00569	mg/L	0.018801	330.30%
Sr 407.771†	-10.5	0.00395	mg/L	0.000022	0.00395	mg/L	0.000022	0.55%
Li 670.784†	-50.7	0.00178	mg/L	0.000838	0.00178	mg/L	0.000838	47.00%

==========

Sequence No.: 2 **Autosampler Location: 65**
Sample ID: LCSW 44 WG432128-03 **Date Collected: 5/30/2013 1:59:46 PM**

Approved: May 31, 2013

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

Nebulizer Parameters: LCSW 44 WG432128-03

Analyte	Back Pressure	Flow
All	163.0 kPa	0.48 L/min

Mean Data: LCSW 44 WG432128-03

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2478656.6						18771.66	0.76%
YRADIAL	190539.0						2996.69	1.57%
Ga 417.206	947561.8						10421.82	1.10%
GaRADIAL	50785.0						805.13	1.59%
Ag 328.068†	44932.1	0.196	mg/L	0.0039	0.196	mg/L	0.0039	1.97%
Al 396.153†	14776.5	4.84	mg/L	0.073	4.84	mg/L	0.073	1.52%
As 188.979†	391.6	0.190	mg/L	0.0062	0.190	mg/L	0.0062	3.27%
Ba 233.527†	44214.0	0.496	mg/L	0.0064	0.496	mg/L	0.0064	1.28%
Be 234.861†	16036.6	0.0239	mg/L	0.00049	0.0239	mg/L	0.00049	2.05%
B 249.677†	66286.4	0.931	mg/L	0.0176	0.931	mg/L	0.0176	1.89%
Ca 227.546†	994.4	4.97	mg/L	0.081	4.97	mg/L	0.081	1.64%
Cd 228.802†	767.0	0.0234	mg/L	0.00051	0.0234	mg/L	0.00051	2.18%
Co 228.616†	2406.1	0.0987	mg/L	0.00078	0.0987	mg/L	0.00078	0.79%
Cr 267.716†	23396.6	0.248	mg/L	0.0049	0.248	mg/L	0.0049	1.96%
Cu 327.393†	42269.8	0.243	mg/L	0.0056	0.243	mg/L	0.0056	2.30%
Fe 239.562†	8184.0	1.92	mg/L	0.019	1.92	mg/L	0.019	0.97%
Mg 279.077†	6880.4	4.86	mg/L	0.039	4.86	mg/L	0.039	0.80%
Mn 257.610†	133719.1	0.251	mg/L	0.0029	0.251	mg/L	0.0029	1.17%
Mo 202.031†	9856.2	0.498	mg/L	0.0049	0.498	mg/L	0.0049	0.98%
Ni 231.604†	9968.9	0.251	mg/L	0.0021	0.251	mg/L	0.0021	0.84%
Pb 220.353†	1923.2	0.250	mg/L	0.0017	0.250	mg/L	0.0017	0.69%
Sb 206.836†	1390.5	0.574	mg/L	0.0066	0.574	mg/L	0.0066	1.16%
Se 196.026†	202.3	0.195	mg/L	0.0060	0.195	mg/L	0.0060	3.07%
Si 251.611†	85868.3	2.39	mg/L	0.047	2.39	mg/L	0.047	1.98%
Sn 189.927†	3930.7	0.492	mg/L	0.0051	0.492	mg/L	0.0051	1.03%
Ti 334.940†	371326.5	0.495	mg/L	0.0079	0.495	mg/L	0.0079	1.59%
Tl 190.801†	508.9	0.256	mg/L	0.0022	0.256	mg/L	0.0022	0.86%
V 290.880†	96827.6	0.495	mg/L	0.0025	0.495	mg/L	0.0025	0.51%
Zn 206.200†	17514.9	0.503	mg/L	0.0094	0.503	mg/L	0.0094	1.87%
K 766.490†	36068.6	25.6	mg/L	0.32	25.6	mg/L	0.32	1.26%
Na 589.592†	262362.8	25.7	mg/L	0.41	25.7	mg/L	0.41	1.59%
Sr 407.771†	579186.3	0.485	mg/L	0.0100	0.485	mg/L	0.0100	2.06%
Li 670.784†	34985.4	0.499	mg/L	0.0053	0.499	mg/L	0.0053	1.06%

Sequence No.: 3
Sample ID: L1305117203
Analyst: KHR
Initial Sample Wt:
Dilution:
Autosampler Location: 66
Date Collected: 5/30/2013 2:01:50 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: L1305117203

Analyte	Back Pressure	Flow
All	163.0 kPa	0.48 L/min

Mean Data: L1305117203

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2547342.6						44592.35	1.75%
YRADIAL	191092.6						2225.78	1.16%
Ga 417.206	1044133.0						25263.43	2.42%
GaRADIAL	52214.2						638.59	1.22%
Ag 328.068†	497.2	0.00241	mg/L	0.000209	0.00241	mg/L	0.000209	8.66%
Al 396.153†	7.7	0.0505	mg/L	0.00224	0.0505	mg/L	0.00224	4.44%
As 188.979†	2.2	-0.00033	mg/L	0.003071	-0.00033	mg/L	0.003071	921.87%
Ba 233.527†	874.2	0.0118	mg/L	0.00015	0.0118	mg/L	0.00015	1.30%
Be 234.861†	87.0	0.00029	mg/L	0.000029	0.00029	mg/L	0.000029	10.07%

Approved: May 31, 2013

Lynn H. Rhoden

B 249.677†	1168.7	0.0203	mg/L	0.00132	0.0203	mg/L	0.00132	6.52%
Ca 227.546†	9498.2	44.9	mg/L	1.42	44.9	mg/L	1.42	3.15%
Cd 228.802†	-6.4	0.00000	mg/L	0.000207	0.00000	mg/L	0.000207	>999.9%
Co 228.616†	5.5	0.00034	mg/L	0.000373	0.00034	mg/L	0.000373	110.03%
Cr 267.716†	85.4	0.00208	mg/L	0.000050	0.00208	mg/L	0.000050	2.41%
Cu 327.393†	585.0	0.00400	mg/L	0.000437	0.00400	mg/L	0.000437	10.91%
Fe 239.562†	79.1	0.0345	mg/L	0.00072	0.0345	mg/L	0.00072	2.08%
Mg 279.077†	9316.1	6.56	mg/L	0.100	6.56	mg/L	0.100	1.52%
Mn 257.610†	17111.9	0.0320	mg/L	0.00094	0.0320	mg/L	0.00094	2.93%
Mo 202.031†	64.5	0.00520	mg/L	0.000175	0.00520	mg/L	0.000175	3.36%
Ni 231.604†	44.9	0.00360	mg/L	0.000128	0.00360	mg/L	0.000128	3.55%
Pb 220.353†	31.3	0.00427	mg/L	0.000926	0.00427	mg/L	0.000926	21.68%
Sb 206.836†	-2.3	0.00182	mg/L	0.000222	0.00182	mg/L	0.000222	12.21%
Se 196.026†	3.8	0.00212	mg/L	0.008425	0.00212	mg/L	0.008425	396.65%
Si 251.611†	59040.6	1.65	mg/L	0.064	1.65	mg/L	0.064	3.90%
Sn 189.927†	-249.6	-0.0288	mg/L	0.00085	-0.0288	mg/L	0.00085	2.95%
Ti 334.940†	-5577.8	0.00258	mg/L	0.000137	0.00258	mg/L	0.000137	5.33%
Tl 190.801†	-24.9	-0.0123	mg/L	0.00229	-0.0123	mg/L	0.00229	18.61%
V 290.880†	1000.5	0.00599	mg/L	0.000834	0.00599	mg/L	0.000834	13.92%
Zn 206.200†	175.5	0.00730	mg/L	0.000169	0.00730	mg/L	0.000169	2.32%
K 766.490†	599.3	0.392	mg/L	0.0190	0.392	mg/L	0.0190	4.86%
Na 589.592†	5872.3	0.556	mg/L	0.0171	0.556	mg/L	0.0171	3.08%
Sr 407.771†	50109.7	0.0463	mg/L	0.00020	0.0463	mg/L	0.00020	0.42%
Li 670.784†	60.4	0.00336	mg/L	0.001247	0.00336	mg/L	0.001247	37.11%

Sequence No.: 4
Sample ID: L1305118201
Analyst: KHR
Initial Sample Wt:
Dilution:

Autosampler Location: 67
Date Collected: 5/30/2013 2:04:50 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: L1305118201

Analyte	Back Pressure	Flow
All	163.0 kPa	0.48 L/min

Mean Data: L1305118201

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2385094.8						14346.44	0.60%
YRADIAL	183381.2						5470.57	2.98%
Ga 417.206	960475.4						9325.68	0.97%
GaRADIAL	51135.4						1075.80	2.10%
Ag 328.068†	-1320.0	0.00678	mg/L	0.000421	0.00678	mg/L	0.000421	6.21%
Al 396.153†	79.4	0.0778	mg/L	0.00475	0.0778	mg/L	0.00475	6.11%
As 188.979†	37.6	0.0290	mg/L	0.00215	0.0290	mg/L	0.00215	7.43%
Ba 233.527†	9965.4	0.112	mg/L	0.0017	0.112	mg/L	0.0017	1.50%
Be 234.861†	4988.4	0.00023	mg/L	0.000040	0.00023	mg/L	0.000040	17.44%
B 249.677†	469938.0	6.58	mg/L	0.074	6.58	mg/L	0.074	1.12%
Ca 227.546†	51325.2	243	mg/L	5.7	243	mg/L	5.7	2.34%
Cd 228.802†	3.9	0.00020	mg/L	0.000106	0.00020	mg/L	0.000106	51.83%
Co 228.616†	7.2	-0.00040	mg/L	0.000459	-0.00040	mg/L	0.000459	116.07%
Cr 267.716†	165.9	0.00084	mg/L	0.000187	0.00084	mg/L	0.000187	22.39%
Cu 327.393†	-560.0	-0.00010	mg/L	0.000976	-0.00010	mg/L	0.000976	979.94%
Fe 239.562†	134663.0	31.4	mg/L	0.13	31.4	mg/L	0.13	0.42%
Mg 279.077†	112999.6	79.2	mg/L	0.50	79.2	mg/L	0.50	0.63%
Mn 257.610†	781685.9	1.46	mg/L	0.006	1.46	mg/L	0.006	0.42%
Mo 202.031†	31.2	0.00558	mg/L	0.000602	0.00558	mg/L	0.000602	10.79%
Ni 231.604†	30.5	0.00325	mg/L	0.000831	0.00325	mg/L	0.000831	25.60%
Pb 220.353†	78.5	0.00851	mg/L	0.002173	0.00851	mg/L	0.002173	25.53%
Sb 206.836†	-3.1	0.00265	mg/L	0.001146	0.00265	mg/L	0.001146	43.21%
Se 196.026†	-2.0	0.00235	mg/L	0.002377	0.00235	mg/L	0.002377	100.98%
Si 251.611†	308250.2	8.60	mg/L	0.168	8.60	mg/L	0.168	1.96%
Sn 189.927†	-408.2	-0.0486	mg/L	0.00057	-0.0486	mg/L	0.00057	1.16%
Ti 334.940†	-23687.7	0.00829	mg/L	0.000930	0.00829	mg/L	0.000930	11.22%
Tl 190.801†	-45.1	-0.0239	mg/L	0.00752	-0.0239	mg/L	0.00752	31.50%
V 290.880†	4711.2	0.0150	mg/L	0.00211	0.0150	mg/L	0.00211	14.05%
Zn 206.200†	191.3	0.00706	mg/L	0.000214	0.00706	mg/L	0.000214	3.03%
K 766.490†	1185.8	0.753	mg/L	0.0147	0.753	mg/L	0.0147	1.95%
Na 589.592†	659514.1	62.3	mg/L	0.96	62.3	mg/L	0.96	1.54%

Approved: May 31, 2013

Sr 407.771†	899043.2	0.754 mg/L	0.0186	0.754 mg/L	0.0186	2.47%
Li 670.784†	12166.0	0.175 mg/L	0.0014	0.175 mg/L	0.0014	0.82%

Sequence No.: 5 **Autosampler Location: 68**
Sample ID: L1305118202 **Date Collected: 5/30/2013 2:06:55 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1305118202

Analyte	Back Pressure	Flow
All	164.0 kPa	0.48 L/min

Mean Data: L1305118202

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2357088.5						20070.17	0.85%
YRADIAL	178985.0						1311.05	0.73%
Ga 417.206	954664.8						17364.71	1.82%
GaRADIAL	49877.2						329.58	0.66%
Ag 328.068†	-1120.1	0.00719	mg/L	0.000291	0.00719	mg/L	0.000291	4.05%
Al 396.153†	-78.8	0.0259	mg/L	0.00660	0.0259	mg/L	0.00660	25.44%
As 188.979†	36.1	0.0278	mg/L	0.00458	0.0278	mg/L	0.00458	16.47%
Ba 233.527†	6559.3	0.0743	mg/L	0.00076	0.0743	mg/L	0.00076	1.03%
Be 234.861†	4682.9	0.00005	mg/L	0.000173	0.00005	mg/L	0.000173	381.69%
B 249.677†	471924.1	6.61	mg/L	0.105	6.61	mg/L	0.105	1.59%
Ca 227.546†	50431.9	239	mg/L	8.6	239	mg/L	8.6	3.60%
Cd 228.802†	-3.0	0.00000	mg/L	0.000171	0.00000	mg/L	0.000171	>999.9%
Co 228.616†	10.4	-0.00022	mg/L	0.000364	-0.00022	mg/L	0.000364	167.89%
Cr 267.716†	93.4	0.00015	mg/L	0.000191	0.00015	mg/L	0.000191	130.78%
Cu 327.393†	-520.3	0.00003	mg/L	0.000703	0.00003	mg/L	0.000703	>999.9%
Fe 239.562†	129758.3	30.3	mg/L	0.51	30.3	mg/L	0.51	1.67%
Mg 279.077†	114287.2	80.1	mg/L	1.19	80.1	mg/L	1.19	1.49%
Mn 257.610†	762201.5	1.43	mg/L	0.004	1.43	mg/L	0.004	0.29%
Mo 202.031†	32.4	0.00557	mg/L	0.000494	0.00557	mg/L	0.000494	8.88%
Ni 231.604†	21.5	0.00302	mg/L	0.000260	0.00302	mg/L	0.000260	8.59%
Pb 220.353†	53.9	0.00538	mg/L	0.001860	0.00538	mg/L	0.001860	34.56%
Sb 206.836†	-6.5	0.00123	mg/L	0.001492	0.00123	mg/L	0.001492	120.85%
Se 196.026†	1.6	0.00564	mg/L	0.005104	0.00564	mg/L	0.005104	90.48%
Si 251.611†	301717.8	8.42	mg/L	0.241	8.42	mg/L	0.241	2.86%
Sn 189.927†	-409.2	-0.0487	mg/L	0.00205	-0.0487	mg/L	0.00205	4.21%
Ti 334.940†	-25722.5	0.00497	mg/L	0.001229	0.00497	mg/L	0.001229	24.76%
Tl 190.801†	-46.1	-0.0244	mg/L	0.00263	-0.0244	mg/L	0.00263	10.79%
V 290.880†	4490.9	0.0142	mg/L	0.00047	0.0142	mg/L	0.00047	3.35%
Zn 206.200†	201.8	0.00738	mg/L	0.000247	0.00738	mg/L	0.000247	3.34%
K 766.490†	1179.0	0.746	mg/L	0.0304	0.746	mg/L	0.0304	4.08%
Na 589.592†	679835.5	64.1	mg/L	0.91	64.1	mg/L	0.91	1.42%
Sr 407.771†	908637.5	0.762	mg/L	0.0151	0.762	mg/L	0.0151	1.98%
Li 670.784†	12348.2	0.178	mg/L	0.0026	0.178	mg/L	0.0026	1.47%

Sequence No.: 6 **Autosampler Location: 69**
Sample ID: L1305118203 **Date Collected: 5/30/2013 2:09:00 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1305118203

Analyte	Back Pressure	Flow
All	164.0 kPa	0.48 L/min

Mean Data: L1305118203

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2512995.6						44836.08	1.78%
YRADIAL	188345.6						2655.58	1.41%
Ga 417.206	992794.4						20433.28	2.06%

Approved: May 31, 2013

Kym H. Rhoden

GaRADIAL	52067.7					671.55	1.29%
Ag 328.068†	-12049.4	-0.00610	mg/L	0.000503	-0.00610 mg/L	0.000503	8.25%
Al 396.153†	56977.4	18.7	mg/L	0.06	18.7 mg/L	0.06	0.30%
As 188.979†	70.9	0.0602	mg/L	0.00203	0.0602 mg/L	0.00203	3.37%
Ba 233.527†	299702.7	3.34	mg/L	0.047	3.34 mg/L	0.047	1.41%
Be 234.861†	19073.0	0.00127	mg/L	0.000487	0.00127 mg/L	0.000487	38.43%
B 249.677†	16906.4	0.191	mg/L	0.0269	0.191 mg/L	0.0269	14.09%
Ca 227.546†	22017.9	107	mg/L	3.2	107 mg/L	3.2	2.97%
Cd 228.802†	13.4	0.00037	mg/L	0.000332	0.00037 mg/L	0.000332	89.29%
Co 228.616†	255.4	0.00594	mg/L	0.000422	0.00594 mg/L	0.000422	7.10%
Cr 267.716†	2524.3	0.0206	mg/L	0.00027	0.0206 mg/L	0.00027	1.30%
Cu 327.393†	3720.4	0.0314	mg/L	0.00042	0.0314 mg/L	0.00042	1.33%
Fe 239.562†	495376.5	115	mg/L	3.1	115 mg/L	3.1	2.67%
Mg 279.077†	37496.7	26.2	mg/L	0.15	26.2 mg/L	0.15	0.59%
Mn 257.610†	1582315.3	2.97	mg/L	0.008	2.97 mg/L	0.008	0.26%
Mo 202.031†	-1.6	0.00895	mg/L	0.000447	0.00895 mg/L	0.000447	5.00%
Ni 231.604†	1483.7	0.0395	mg/L	0.00076	0.0395 mg/L	0.00076	1.94%
Pb 220.353†	271.3	0.0321	mg/L	0.00095	0.0321 mg/L	0.00095	2.96%
Sb 206.836†	-4.8	0.00488	mg/L	0.001541	0.00488 mg/L	0.001541	31.57%
Se 196.026†	-15.4	0.00621	mg/L	0.006699	0.00621 mg/L	0.006699	107.85%
Si 251.611†	1450131.4	40.4	mg/L	0.28	40.4 mg/L	0.28	0.69%
Sn 189.927†	-336.8	-0.0397	mg/L	0.00130	-0.0397 mg/L	0.00130	3.28%
Ti 334.940†	174770.1	0.250	mg/L	0.0044	0.250 mg/L	0.0044	1.76%
Tl 190.801†	-43.2	-0.0207	mg/L	0.00554	-0.0207 mg/L	0.00554	26.75%
V 290.880†	12553.7	0.0348	mg/L	0.00198	0.0348 mg/L	0.00198	5.69%
Zn 206.200†	4590.0	0.131	mg/L	0.0029	0.131 mg/L	0.0029	2.20%
K 766.490†	7297.2	5.20	mg/L	0.054	5.20 mg/L	0.054	1.03%
Na 589.592†	126521.4	12.5	mg/L	0.03	12.5 mg/L	0.03	0.27%
Sr 407.771†	252787.8	0.215	mg/L	0.0061	0.215 mg/L	0.0061	2.82%
Li 670.784†	2075.4	0.0319	mg/L	0.00070	0.0319 mg/L	0.00070	2.20%

Sequence No.: 7 **Autosampler Location: 70**
Sample ID: L1305118204 **Date Collected: 5/30/2013 2:11:05 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1305118204

Analyte	Back Pressure	Flow
All	163.0 kPa	0.48 L/min

Mean Data: L1305118204

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2422190.0						22523.76	0.93%
YRADIAL	184283.4						545.87	0.30%
Ga 417.206	967425.9						19014.51	1.97%
GaRADIAL	51503.2						126.10	0.24%
Ag 328.068†	-335.7	0.00279	mg/L	0.000794	0.00279	mg/L	0.000794	28.49%
Al 396.153†	-10.3	0.0460	mg/L	0.00949	0.0460	mg/L	0.00949	20.65%
As 188.979†	5.0	0.00416	mg/L	0.001143	0.00416	mg/L	0.001143	27.49%
Ba 233.527†	18104.3	0.204	mg/L	0.0021	0.204	mg/L	0.0021	1.01%
Be 234.861†	1680.8	0.00030	mg/L	0.000016	0.00030	mg/L	0.000016	5.23%
B 249.677†	8043.4	0.112	mg/L	0.0113	0.112	mg/L	0.0113	10.09%
Ca 227.546†	15783.1	74.9	mg/L	2.11	74.9	mg/L	2.11	2.82%
Cd 228.802†	-5.0	0.00003	mg/L	0.000112	0.00003	mg/L	0.000112	344.80%
Co 228.616†	32.6	0.00112	mg/L	0.000342	0.00112	mg/L	0.000342	30.45%
Cr 267.716†	63.7	0.00115	mg/L	0.000148	0.00115	mg/L	0.000148	12.84%
Cu 327.393†	-154.4	0.00060	mg/L	0.000386	0.00060	mg/L	0.000386	64.64%
Fe 239.562†	44760.8	10.5	mg/L	0.17	10.5	mg/L	0.17	1.58%
Mg 279.077†	24321.3	17.1	mg/L	0.26	17.1	mg/L	0.26	1.51%
Mn 257.610†	713311.0	1.34	mg/L	0.006	1.34	mg/L	0.006	0.46%
Mo 202.031†	39.2	0.00478	mg/L	0.000350	0.00478	mg/L	0.000350	7.32%
Ni 231.604†	135.0	0.00585	mg/L	0.000579	0.00585	mg/L	0.000579	9.89%
Pb 220.353†	58.6	0.00669	mg/L	0.001235	0.00669	mg/L	0.001235	18.46%
Sb 206.836†	-5.0	0.00111	mg/L	0.001200	0.00111	mg/L	0.001200	108.33%
Se 196.026†	2.8	0.00285	mg/L	0.004592	0.00285	mg/L	0.004592	161.00%
Si 251.611†	311484.2	8.69	mg/L	0.192	8.69	mg/L	0.192	2.21%
Sn 189.927†	-307.8	-0.0361	mg/L	0.00058	-0.0361	mg/L	0.00058	1.61%

Approved: May 31, 2013
Kym H. Rhoden

Ti 334.940†	-8228.0	0.00353 mg/L	0.000289	0.00353 mg/L	0.000289	8.20%
Tl 190.801†	-25.5	-0.0140 mg/L	0.00108	-0.0140 mg/L	0.00108	7.74%
V 290.880†	1933.6	0.00780 mg/L	0.000724	0.00780 mg/L	0.000724	9.27%
Zn 206.200†	150.6	0.00636 mg/L	0.000339	0.00636 mg/L	0.000339	5.33%
K 766.490†	800.7	0.525 mg/L	0.0377	0.525 mg/L	0.0377	7.18%
Na 589.592†	124644.3	12.3 mg/L	0.08	12.3 mg/L	0.08	0.65%
Sr 407.771†	167495.2	0.144 mg/L	0.0011	0.144 mg/L	0.0011	0.76%
Li 670.784†	464.4	0.00909 mg/L	0.000520	0.00909 mg/L	0.000520	5.73%

Sequence No.: 8 **Autosampler Location: 71**
Sample ID: L1305118205 **Date Collected: 5/30/2013 2:13:10 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1305118205

Analyte	Back Pressure	Flow
All	164.0 kPa	0.48 L/min

Mean Data: L1305118205

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2325292.7						35945.89	1.55%
YRADIAL	172108.8						1256.40	0.73%
Ga 417.206	919521.7						9759.56	1.06%
GaRADIAL	49364.6						179.26	0.36%
Ag 328.068†	1771.1	0.00796	mg/L	0.000372	0.00796	mg/L	0.000372	4.67%
Al 396.153†	109.8	0.0840	mg/L	0.00422	0.0840	mg/L	0.00422	5.02%
As 188.979†	2.8	0.00393	mg/L	0.002627	0.00393	mg/L	0.002627	66.78%
Ba 233.527†	6691.2	0.0767	mg/L	0.00088	0.0767	mg/L	0.00088	1.14%
Be 234.861†	98.8	0.00022	mg/L	0.000042	0.00022	mg/L	0.000042	19.00%
B 249.677†	15198.5	0.217	mg/L	0.0020	0.217	mg/L	0.0020	0.94%
Ca 227.546†	45720.1	216	mg/L	2.5	216	mg/L	2.5	1.15%
Cd 228.802†	57.3	0.00198	mg/L	0.000040	0.00198	mg/L	0.000040	2.03%
Co 228.616†	46.3	0.00202	mg/L	0.000616	0.00202	mg/L	0.000616	30.56%
Cr 267.716†	219.6	0.00344	mg/L	0.000158	0.00344	mg/L	0.000158	4.60%
Cu 327.393†	-197.3	-0.00043	mg/L	0.000195	-0.00043	mg/L	0.000195	45.66%
Fe 239.562†	3765.0	0.893	mg/L	0.0155	0.893	mg/L	0.0155	1.74%
Mg 279.077†	60632.3	42.5	mg/L	0.97	42.5	mg/L	0.97	2.29%
Mn 257.610†	661156.6	1.24	mg/L	0.011	1.24	mg/L	0.011	0.90%
Mo 202.031†	50.0	0.00477	mg/L	0.000507	0.00477	mg/L	0.000507	10.62%
Ni 231.604†	258.1	0.00892	mg/L	0.000349	0.00892	mg/L	0.000349	3.91%
Pb 220.353†	31.1	0.00351	mg/L	0.001566	0.00351	mg/L	0.001566	44.66%
Sb 206.836†	-4.7	0.00085	mg/L	0.000761	0.00085	mg/L	0.000761	89.52%
Se 196.026†	10.2	0.00819	mg/L	0.001623	0.00819	mg/L	0.001623	19.83%
Si 251.611†	205941.9	5.75	mg/L	0.105	5.75	mg/L	0.105	1.82%
Sn 189.927†	-402.5	-0.0479	mg/L	0.00212	-0.0479	mg/L	0.00212	4.42%
Ti 334.940†	-21070.9	0.00777	mg/L	0.000762	0.00777	mg/L	0.000762	9.80%
Tl 190.801†	-37.8	-0.0200	mg/L	0.00014	-0.0200	mg/L	0.00014	0.68%
V 290.880†	3356.6	0.0169	mg/L	0.00135	0.0169	mg/L	0.00135	7.98%
Zn 206.200†	233.7	0.00895	mg/L	0.000041	0.00895	mg/L	0.000041	0.46%
K 766.490†	2603.9	1.58	mg/L	0.042	1.58	mg/L	0.042	2.65%
Na 589.592†	3255477.3	259	mg/L	5.3	259	mg/L	5.3	2.05%
Sr 407.771†	1142479.5	0.956	mg/L	0.0155	0.956	mg/L	0.0155	1.63%
Li 670.784†	2093.5	0.0322	mg/L	0.00100	0.0322	mg/L	0.00100	3.12%

Sequence No.: 9 **Autosampler Location: 72**
Sample ID: L1305118205PS WG432277-01 **Date Collected: 5/30/2013 2:15:15 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1305118205PS WG432277-01

Analyte	Back Pressure	Flow
All	164.0 kPa	0.48 L/min

Approved: May 31, 2013

Kym H. Rhoden

Mean Data: L1305118205PS WG432277-01

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2342500.4						37664.27	1.61%
YRADIAL	182372.1						2869.59	1.57%
Ga 417.206	931856.1						17290.65	1.86%
GaRADIAL	49805.4						712.07	1.43%
Ag 328.068†	45746.0	0.200	mg/L	0.0052	0.200	mg/L	0.0052	2.62%
Al 396.153†	15000.0	4.91	mg/L	0.070	4.91	mg/L	0.070	1.42%
As 188.979†	407.4	0.202	mg/L	0.0063	0.202	mg/L	0.0063	3.10%
Ba 233.527†	49797.2	0.558	mg/L	0.0093	0.558	mg/L	0.0093	1.68%
Be 234.861†	16190.6	0.0241	mg/L	0.00064	0.0241	mg/L	0.00064	2.64%
B 249.677†	81249.9	1.14	mg/L	0.033	1.14	mg/L	0.033	2.87%
Ca 227.546†	41426.9	196	mg/L	5.7	196	mg/L	5.7	2.92%
Cd 228.802†	796.2	0.0242	mg/L	0.00075	0.0242	mg/L	0.00075	3.11%
Co 228.616†	2383.9	0.0978	mg/L	0.00190	0.0978	mg/L	0.00190	1.95%
Cr 267.716†	23423.1	0.248	mg/L	0.0055	0.248	mg/L	0.0055	2.21%
Cu 327.393†	40674.6	0.234	mg/L	0.0075	0.234	mg/L	0.0075	3.22%
Fe 239.562†	11175.0	2.62	mg/L	0.060	2.62	mg/L	0.060	2.28%
Mg 279.077†	56772.9	39.8	mg/L	0.63	39.8	mg/L	0.63	1.57%
Mn 257.610†	717294.5	1.34	mg/L	0.030	1.34	mg/L	0.030	2.21%
Mo 202.031†	10143.0	0.513	mg/L	0.0092	0.513	mg/L	0.0092	1.79%
Ni 231.604†	9896.6	0.249	mg/L	0.0049	0.249	mg/L	0.0049	1.96%
Pb 220.353†	1920.9	0.249	mg/L	0.0077	0.249	mg/L	0.0077	3.10%
Sb 206.836†	1402.3	0.579	mg/L	0.0134	0.579	mg/L	0.0134	2.31%
Se 196.026†	208.5	0.201	mg/L	0.0043	0.201	mg/L	0.0043	2.14%
Si 251.611†	270217.1	7.53	mg/L	0.160	7.53	mg/L	0.160	2.12%
Sn 189.927†	3453.0	0.433	mg/L	0.0083	0.433	mg/L	0.0083	1.91%
Ti 334.940†	360312.8	0.509	mg/L	0.0102	0.509	mg/L	0.0102	2.01%
Tl 190.801†	443.6	0.223	mg/L	0.0032	0.223	mg/L	0.0032	1.43%
V 290.880†	102042.6	0.520	mg/L	0.0071	0.520	mg/L	0.0071	1.36%
Zn 206.200†	17143.2	0.492	mg/L	0.0046	0.492	mg/L	0.0046	0.93%
K 766.490†	38439.2	27.0	mg/L	0.21	27.0	mg/L	0.21	0.78%
Na 589.592†	3152241.0	252	mg/L	1.3	252	mg/L	1.3	0.52%
Sr 407.771†	1567409.3	1.31	mg/L	0.013	1.31	mg/L	0.013	0.98%
Li 670.784†	35901.8	0.512	mg/L	0.0030	0.512	mg/L	0.0030	0.59%

==========

Sequence No.: 10 **Autosampler Location: 73**
Sample ID: L1305118205DL WG432277-02 **Date Collected: 5/30/2013 2:17:20 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1305118205DL WG432277-02

Analyte	Back Pressure	Flow
All	163.0 kPa	0.48 L/min

Mean Data: L1305118205DL WG432277-02

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2491270.2						29666.36	1.19%
YRADIAL	184857.6						2644.19	1.43%
Ga 417.206	976380.4						9876.70	1.01%
GaRADIAL	51543.5						477.27	0.93%
Ag 328.068†	354.0	0.00180	mg/L	0.000287	0.00180	mg/L	0.000287	15.95%
Al 396.153†	30.5	0.0581	mg/L	0.00207	0.0581	mg/L	0.00207	3.55%
As 188.979†	2.6	-0.00023	mg/L	0.001643	-0.00023	mg/L	0.001643	715.86%
Ba 233.527†	1291.4	0.0165	mg/L	0.00021	0.0165	mg/L	0.00021	1.30%
Be 234.861†	49.0	0.00022	mg/L	0.000010	0.00022	mg/L	0.000010	4.72%
B 249.677†	4014.2	0.0601	mg/L	0.00377	0.0601	mg/L	0.00377	6.27%
Ca 227.546†	8376.2	39.6	mg/L	0.71	39.6	mg/L	0.71	1.79%
Cd 228.802†	3.4	0.00031	mg/L	0.000070	0.00031	mg/L	0.000070	22.86%
Co 228.616†	9.4	0.00049	mg/L	0.000107	0.00049	mg/L	0.000107	21.79%
Cr 267.716†	74.4	0.00195	mg/L	0.000067	0.00195	mg/L	0.000067	3.44%
Cu 327.393†	167.4	0.00163	mg/L	0.000205	0.00163	mg/L	0.000205	12.60%
Fe 239.562†	725.4	0.185	mg/L	0.0038	0.185	mg/L	0.0038	2.06%
Mg 279.077†	11665.7	8.21	mg/L	0.127	8.21	mg/L	0.127	1.54%
Mn 257.610†	133508.7	0.250	mg/L	0.0066	0.250	mg/L	0.0066	2.62%
Mo 202.031†	23.8	0.00321	mg/L	0.000476	0.00321	mg/L	0.000476	14.85%

Approved: May 31, 2013

Kym H. Rhoden

Ni 231.604†	57.5	0.00392 mg/L	0.000343	0.00392 mg/L	0.000343	8.77%
Pb 220.353†	33.1	0.00438 mg/L	0.001400	0.00438 mg/L	0.001400	31.99%
Sb 206.836†	-1.7	0.00208 mg/L	0.000646	0.00208 mg/L	0.000646	31.13%
Se 196.026†	2.8	0.00112 mg/L	0.007180	0.00112 mg/L	0.007180	638.75%
Si 251.611†	39653.2	1.11 mg/L	0.026	1.11 mg/L	0.026	2.31%
Sn 189.927†	-215.5	-0.0246 mg/L	0.00100	-0.0246 mg/L	0.00100	4.08%
Ti 334.940†	-4648.7	0.00301 mg/L	0.000024	0.00301 mg/L	0.000024	0.81%
Tl 190.801†	-24.2	-0.0122 mg/L	0.00240	-0.0122 mg/L	0.00240	19.72%
V 290.880†	1043.3	0.00613 mg/L	0.000880	0.00613 mg/L	0.000880	14.37%
Zn 206.200†	80.1	0.00458 mg/L	0.000141	0.00458 mg/L	0.000141	3.08%
K 766.490†	535.0	0.284 mg/L	0.0394	0.284 mg/L	0.0394	13.85%
Na 589.592†	652401.9	61.7 mg/L	0.53	61.7 mg/L	0.53	0.86%
Sr 407.771†	220541.9	0.188 mg/L	0.0041	0.188 mg/L	0.0041	2.19%
Li 670.784†	388.4	0.00801 mg/L	0.000748	0.00801 mg/L	0.000748	9.34%

==========

Sequence No.: 11 **Autosampler Location: 6**
Sample ID: CCV **Date Collected: 5/30/2013 2:20:24 PM**
Analyst: **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: CCV

Analyte	Back Pressure	Flow
All	163.0 kPa	0.48 L/min

Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Y 371.029	2504723.1				27111.59	1.08%
YRADIAL	182965.2				2890.98	1.58%
Ga 417.206	946967.3				1407.41	0.15%
GaRADIAL	50535.1				736.70	1.46%
Ag 328.068†	92236.2	0.403 mg/L	0.0069	0.403 mg/L	0.0069	1.71%
QC value within limits for Ag 328.068 Recovery = 100.67%						
Al 396.153†	29958.6	9.77 mg/L	0.023	9.77 mg/L	0.023	0.24%
QC value within limits for Al 396.153 Recovery = 97.67%						
As 188.979†	789.1	0.385 mg/L	0.0036	0.385 mg/L	0.0036	0.93%
QC value within limits for As 188.979 Recovery = 96.34%						
Ba 233.527†	89628.5	1.00 mg/L	0.024	1.00 mg/L	0.024	2.40%
QC value within limits for Ba 233.527 Recovery = 100.27%						
Be 234.861†	32804.1	0.0487 mg/L	0.00070	0.0487 mg/L	0.00070	1.44%
QC value within limits for Be 234.861 Recovery = 97.42%						
B 249.677†	35316.2	0.495 mg/L	0.0101	0.495 mg/L	0.0101	2.05%
QC value within limits for B 249.677 Recovery = 99.03%						
Ca 227.546†	2047.9	10.2 mg/L	0.06	10.2 mg/L	0.06	0.58%
QC value within limits for Ca 227.546 Recovery = 101.73%						
Cd 228.802†	1553.6	0.0471 mg/L	0.00091	0.0471 mg/L	0.00091	1.92%
QC value within limits for Cd 228.802 Recovery = 94.20%						
Co 228.616†	4851.0	0.199 mg/L	0.0020	0.199 mg/L	0.0020	1.01%
QC value within limits for Co 228.616 Recovery = 99.46%						
Cr 267.716†	47376.7	0.501 mg/L	0.0111	0.501 mg/L	0.0111	2.20%
QC value within limits for Cr 267.716 Recovery = 100.27%						
Cu 327.393†	85543.2	0.492 mg/L	0.0105	0.492 mg/L	0.0105	2.13%
QC value within limits for Cu 327.393 Recovery = 98.38%						
Fe 239.562†	16953.9	3.97 mg/L	0.021	3.97 mg/L	0.021	0.53%
QC value within limits for Fe 239.562 Recovery = 99.19%						
Mg 279.077†	14314.4	10.1 mg/L	0.03	10.1 mg/L	0.03	0.33%
QC value within limits for Mg 279.077 Recovery = 100.78%						
Mn 257.610†	273452.5	0.512 mg/L	0.0139	0.512 mg/L	0.0139	2.71%
QC value within limits for Mn 257.610 Recovery = 102.47%						
Mo 202.031†	19637.9	0.990 mg/L	0.0283	0.990 mg/L	0.0283	2.86%
QC value within limits for Mo 202.031 Recovery = 99.05%						
Ni 231.604†	19833.0	0.497 mg/L	0.0128	0.497 mg/L	0.0128	2.58%
QC value within limits for Ni 231.604 Recovery = 99.38%						
Pb 220.353†	3878.4	0.504 mg/L	0.0060	0.504 mg/L	0.0060	1.19%
QC value within limits for Pb 220.353 Recovery = 100.79%						
Sb 206.836†	2862.4	1.18 mg/L	0.007	1.18 mg/L	0.007	0.56%
QC value within limits for Sb 206.836 Recovery = 98.16%						
Se 196.026†	406.1	0.392 mg/L	0.0051	0.392 mg/L	0.0051	1.30%

Approved: May 31, 2013

QC value within limits for Se 196.026 Recovery = 98.10%
Si 251.611† 176641.1 4.92 mg/L 0.109 4.92 mg/L 0.109 2.22%
QC value within limits for Si 251.611 Recovery = 98.38%
Sn 189.927† 7379.3 0.922 mg/L 0.0087 0.922 mg/L 0.0087 0.94%
QC value within limits for Sn 189.927 Recovery = 92.18%
Ti 334.940† 740539.8 0.984 mg/L 0.0054 0.984 mg/L 0.0054 0.54%
QC value within limits for Ti 334.940 Recovery = 98.39%
Tl 190.801† 1018.5 0.513 mg/L 0.0025 0.513 mg/L 0.0025 0.49%
QC value within limits for Tl 190.801 Recovery = 102.54%
V 290.880† 197122.8 1.01 mg/L 0.033 1.01 mg/L 0.033 3.29%
QC value within limits for V 290.880 Recovery = 100.57%
Zn 206.200† 35470.5 1.02 mg/L 0.021 1.02 mg/L 0.021 2.07%
QC value within limits for Zn 206.200 Recovery = 101.56%
K 766.490† 72441.6 50.7 mg/L 0.24 50.7 mg/L 0.24 0.47%
QC value within limits for K 766.490 Recovery = 101.33%
Na 589.592† 544540.1 52.0 mg/L 0.75 52.0 mg/L 0.75 1.44%
QC value within limits for Na 589.592 Recovery = 103.91%
Sr 407.771† 1255439.2 1.05 mg/L 0.023 1.05 mg/L 0.023 2.20%
QC value within limits for Sr 407.771 Recovery = 104.61%
Li 670.784† 70066.3 0.996 mg/L 0.0030 0.996 mg/L 0.0030 0.30%
QC value within limits for Li 670.784 Recovery = 99.61%
All analyte(s) passed QC.

==========

Sequence No.: 12 **Autosampler Location: 1**
Sample ID: CCB **Date Collected: 5/30/2013 2:22:29 PM**
Analyst: **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: CCB

Analyte	Back Pressure	Flow
All	163.0 kPa	0.48 L/min

Mean Data: CCB

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2581463.7						40403.76	1.57%
YRADIAL	187722.1						1248.98	0.67%
Ga 417.206	977409.6						24293.33	2.49%
GaRADIAL	50095.0						1060.64	2.12%
Ag 328.068†	52.5	0.00049	mg/L	0.000486	0.00049	mg/L	0.000486	99.71%
QC value within limits for Ag 328.068 Recovery = Not calculated								
Al 396.153†	7.3	0.0506	mg/L	0.00072	0.0506	mg/L	0.00072	1.41%
QC value within limits for Al 396.153 Recovery = Not calculated								
As 188.979†	4.0	-0.00045	mg/L	0.004578	-0.00045	mg/L	0.004578	>999.9%
QC value within limits for As 188.979 Recovery = Not calculated								
Ba 233.527†	-17.1	0.00189	mg/L	0.000013	0.00189	mg/L	0.000013	0.69%
QC value within limits for Ba 233.527 Recovery = Not calculated								
Be 234.861†	9.0	0.00017	mg/L	0.000028	0.00017	mg/L	0.000028	16.69%
QC value within limits for Be 234.861 Recovery = Not calculated								
B 249.677†	1125.5	0.0197	mg/L	0.00196	0.0197	mg/L	0.00196	9.96%
QC value within limits for B 249.677 Recovery = Not calculated								
Ca 227.546†	13.6	0.102	mg/L	0.0263	0.102	mg/L	0.0263	25.86%
QC value within limits for Ca 227.546 Recovery = Not calculated								
Cd 228.802†	-5.3	0.00003	mg/L	0.000185	0.00003	mg/L	0.000185	604.41%
QC value within limits for Cd 228.802 Recovery = Not calculated								
Co 228.616†	-2.3	0.00000	mg/L	0.000117	0.00000	mg/L	0.000117	>999.9%
QC value within limits for Co 228.616 Recovery = Not calculated								
Cr 267.716†	4.7	0.00122	mg/L	0.000086	0.00122	mg/L	0.000086	7.05%
QC value within limits for Cr 267.716 Recovery = Not calculated								
Cu 327.393†	99.1	0.00123	mg/L	0.001150	0.00123	mg/L	0.001150	93.67%
QC value within limits for Cu 327.393 Recovery = Not calculated								
Fe 239.562†	27.2	0.0225	mg/L	0.00027	0.0225	mg/L	0.00027	1.20%
QC value within limits for Fe 239.562 Recovery = Not calculated								
Mg 279.077†	1.2	0.0385	mg/L	0.00211	0.0385	mg/L	0.00211	5.49%
QC value within limits for Mg 279.077 Recovery = Not calculated								
Mn 257.610†	308.3	0.00052	mg/L	0.000028	0.00052	mg/L	0.000028	5.27%
QC value within limits for Mn 257.610 Recovery = Not calculated								
Mo 202.031†	3.8	0.00213	mg/L	0.000367	0.00213	mg/L	0.000367	17.17%

Approved: May 31, 2013
Lynn H. Rhoden

QC value within limits for Mo 202.031 Recovery = Not calculated

Ni 231.604†	-0.2	0.00247 mg/L	0.000187	0.00247 mg/L	0.000187	7.56%

QC value within limits for Ni 231.604 Recovery = Not calculated

Pb 220.353†	-2.4	-0.00008 mg/L	0.000401	-0.00008 mg/L	0.000401	475.78%

QC value within limits for Pb 220.353 Recovery = Not calculated

Sb 206.836†	-0.4	0.00258 mg/L	0.001580	0.00258 mg/L	0.001580	61.22%

QC value within limits for Sb 206.836 Recovery = Not calculated

Se 196.026†	4.5	0.00284 mg/L	0.006208	0.00284 mg/L	0.006208	218.34%

QC value within limits for Se 196.026 Recovery = Not calculated

Si 251.611†	51.4	0.00809 mg/L	0.000507	0.00809 mg/L	0.000507	6.27%

QC value within limits for Si 251.611 Recovery = Not calculated

Sn 189.927†	10.5	0.00360 mg/L	0.000400	0.00360 mg/L	0.000400	11.11%

QC value within limits for Sn 189.927 Recovery = Not calculated

Ti 334.940†	-43.0	0.00317 mg/L	0.000084	0.00317 mg/L	0.000084	2.65%

QC value within limits for Ti 334.940 Recovery = Not calculated

Tl 190.801†	4.7	0.00225 mg/L	0.000739	0.00225 mg/L	0.000739	32.81%

QC value within limits for Tl 190.801 Recovery = Not calculated

V 290.880†	66.2	0.00139 mg/L	0.001262	0.00139 mg/L	0.001262	90.54%

QC value within limits for V 290.880 Recovery = Not calculated

Zn 206.200†	0.1	0.00231 mg/L	0.000069	0.00231 mg/L	0.000069	2.99%

QC value within limits for Zn 206.200 Recovery = Not calculated

K 766.490†	110.3	0.0391 mg/L	0.03859	0.0391 mg/L	0.03859	98.67%

QC value within limits for K 766.490 Recovery = Not calculated

Na 589.592†	1073.3	0.0744 mg/L	0.03081	0.0744 mg/L	0.03081	41.38%

QC value within limits for Na 589.592 Recovery = Not calculated

Sr 407.771†	80.3	0.00403 mg/L	0.000106	0.00403 mg/L	0.000106	2.62%

QC value within limits for Sr 407.771 Recovery = Not calculated

Li 670.784†	99.6	0.00392 mg/L	0.000734	0.00392 mg/L	0.000734	18.75%

QC value within limits for Li 670.784 Recovery = Not calculated

All analyte(s) passed QC.

==========

Sequence No.: 13 **Autosampler Location: 74**
Sample ID: L1305118206 **Date Collected: 5/30/2013 2:25:28 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1305118206

Analyte	Back Pressure	Flow
All	163.0 kPa	0.48 L/min

Mean Data: L1305118206

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2341130.0						10071.71	0.43%
YRADIAL	175893.5						748.65	0.43%
Ga 417.206	943581.7						11661.76	1.24%
GaRADIAL	50362.9						652.00	1.29%
Ag 328.068†	1781.9	0.00785	mg/L	0.000382	0.00785	mg/L	0.000382	4.87%
Al 396.153†	-61.2	0.0281	mg/L	0.00067	0.0281	mg/L	0.00067	2.37%
As 188.979†	-0.2	0.00220	mg/L	0.001819	0.00220	mg/L	0.001819	82.75%
Ba 233.527†	5294.2	0.0612	mg/L	0.00048	0.0612	mg/L	0.00048	0.78%
Be 234.861†	39.2	0.00021	mg/L	0.000031	0.00021	mg/L	0.000031	14.62%
B 249.677†	12562.8	0.180	mg/L	0.0026	0.180	mg/L	0.0026	1.45%
Ca 227.546†	44781.1	212	mg/L	1.9	212	mg/L	1.9	0.90%
Cd 228.802†	-1.0	0.00018	mg/L	0.000165	0.00018	mg/L	0.000165	91.48%
Co 228.616†	30.2	0.00138	mg/L	0.000199	0.00138	mg/L	0.000199	14.43%
Cr 267.716†	170.9	0.00297	mg/L	0.000201	0.00297	mg/L	0.000201	6.78%
Cu 327.393†	-291.6	-0.00102	mg/L	0.001028	-0.00102	mg/L	0.001028	101.17%
Fe 239.562†	1172.6	0.289	mg/L	0.0027	0.289	mg/L	0.0027	0.94%
Mg 279.077†	58405.0	40.9	mg/L	0.01	40.9	mg/L	0.01	0.02%
Mn 257.610†	303425.6	0.568	mg/L	0.0015	0.568	mg/L	0.0015	0.27%
Mo 202.031†	48.5	0.00452	mg/L	0.000452	0.00452	mg/L	0.000452	10.00%
Ni 231.604†	139.3	0.00596	mg/L	0.000230	0.00596	mg/L	0.000230	3.86%
Pb 220.353†	43.0	0.00547	mg/L	0.001001	0.00547	mg/L	0.001001	18.32%
Sb 206.836†	-6.1	0.00028	mg/L	0.001937	0.00028	mg/L	0.001937	688.83%
Se 196.026†	5.9	0.00405	mg/L	0.001962	0.00405	mg/L	0.001962	48.43%
Si 251.611†	202376.9	5.65	mg/L	0.033	5.65	mg/L	0.033	0.58%
Sn 189.927†	-394.1	-0.0468	mg/L	0.00109	-0.0468	mg/L	0.00109	2.34%

Approved: May 31, 2013

Kym H. Rhoden

Ti 334.940†	-23218.6	0.00427 mg/L	0.000364	0.00427 mg/L	0.000364	8.52%
Tl 190.801†	-40.8	-0.0209 mg/L	0.00199	-0.0209 mg/L	0.00199	9.53%
V 290.880†	3539.1	0.0180 mg/L	0.00132	0.0180 mg/L	0.00132	7.32%
Zn 206.200†	228.1	0.00880 mg/L	0.000227	0.00880 mg/L	0.000227	2.58%
K 766.490†	2724.9	1.67 mg/L	0.036	1.67 mg/L	0.036	2.14%
Na 589.592†	3247006.6	258 mg/L	4.4	258 mg/L	4.4	1.71%
Sr 407.771†	1136685.5	0.951 mg/L	0.0231	0.951 mg/L	0.0231	2.43%
Li 670.784†	2050.2	0.0316 mg/L	0.00033	0.0316 mg/L	0.00033	1.04%

Sequence No.: 14 **Autosampler Location: 75**
Sample ID: L1305118207 **Date Collected: 5/30/2013 2:28:33 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1305118207

Analyte	Back Pressure	Flow
All	163.0 kPa	0.48 L/min

Mean Data: L1305118207

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2443479.3						21008.63	0.86%
YRADIAL	186833.6						1950.61	1.04%
Ga 417.206	963899.8						17896.00	1.86%
GaRADIAL	51812.5						518.78	1.00%
Ag 328.068†	182.7	0.00370	mg/L	0.000384	0.00370	mg/L	0.000384	10.39%
Al 396.153†	8349.8	2.78	mg/L	0.036	2.78	mg/L	0.036	1.29%
As 188.979†	7.4	0.00429	mg/L	0.003133	0.00429	mg/L	0.003133	72.99%
Ba 233.527†	10680.2	0.121	mg/L	0.0008	0.121	mg/L	0.0008	0.66%
Be 234.861†	1297.9	0.00051	mg/L	0.000083	0.00051	mg/L	0.000083	16.11%
B 249.677†	47398.8	0.665	mg/L	0.0123	0.665	mg/L	0.0123	1.86%
Ca 227.546†	17117.3	81.1	mg/L	1.66	81.1	mg/L	1.66	2.04%
Cd 228.802†	9.3	0.00048	mg/L	0.000113	0.00048	mg/L	0.000113	23.64%
Co 228.616†	65.2	0.00250	mg/L	0.000267	0.00250	mg/L	0.000267	10.69%
Cr 267.716†	545.8	0.00656	mg/L	0.000166	0.00656	mg/L	0.000166	2.53%
Cu 327.393†	1267.3	0.00849	mg/L	0.000428	0.00849	mg/L	0.000428	5.04%
Fe 239.562†	29002.0	6.78	mg/L	0.101	6.78	mg/L	0.101	1.50%
Mg 279.077†	34690.3	24.3	mg/L	0.30	24.3	mg/L	0.30	1.22%
Mn 257.610†	189803.9	0.355	mg/L	0.0041	0.355	mg/L	0.0041	1.16%
Mo 202.031†	48.4	0.00484	mg/L	0.000269	0.00484	mg/L	0.000269	5.55%
Ni 231.604†	295.4	0.00985	mg/L	0.000429	0.00985	mg/L	0.000429	4.36%
Pb 220.353†	80.8	0.0106	mg/L	0.00185	0.0106	mg/L	0.00185	17.45%
Sb 206.836†	-2.0	0.00216	mg/L	0.002335	0.00216	mg/L	0.002335	108.27%
Se 196.026†	7.2	0.00673	mg/L	0.006125	0.00673	mg/L	0.006125	90.98%
Si 251.611†	418667.0	11.7	mg/L	0.21	11.7	mg/L	0.21	1.84%
Sn 189.927†	-308.3	-0.0361	mg/L	0.00090	-0.0361	mg/L	0.00090	2.50%
Ti 334.940†	23541.7	0.0465	mg/L	0.00072	0.0465	mg/L	0.00072	1.56%
Tl 190.801†	-27.7	-0.0135	mg/L	0.00247	-0.0135	mg/L	0.00247	18.36%
V 290.880†	3615.9	0.0171	mg/L	0.00291	0.0171	mg/L	0.00291	16.95%
Zn 206.200†	2852.7	0.0833	mg/L	0.00090	0.0833	mg/L	0.00090	1.08%
K 766.490†	3197.0	2.20	mg/L	0.041	2.20	mg/L	0.041	1.85%
Na 589.592†	648515.5	61.3	mg/L	0.41	61.3	mg/L	0.41	0.68%
Sr 407.771†	226450.2	0.193	mg/L	0.0012	0.193	mg/L	0.0012	0.63%
Li 670.784†	4154.8	0.0614	mg/L	0.00036	0.0614	mg/L	0.00036	0.59%

Sequence No.: 15 **Autosampler Location: 76**
Sample ID: L1305118208 **Date Collected: 5/30/2013 2:30:37 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1305118208

Analyte	Back Pressure	Flow
All	163.0 kPa	0.48 L/min

Approved: May 31, 2013

Kym H. Rhoden

Mean Data: L1305118208

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	2463222.9						42791.88	1.74%
YRADIAL	183368.3						2106.07	1.15%
Ga 417.206	987652.1						19421.98	1.97%
GaRADIAL	51779.9						378.03	0.73%
Ag 328.068†	763.5	0.00357	mg/L	0.000859	0.00357	mg/L	0.000859	24.08%
Al 396.153†	107.5	0.0832	mg/L	0.00484	0.0832	mg/L	0.00484	5.82%
As 188.979†	3.8	0.00119	mg/L	0.001754	0.00119	mg/L	0.001754	147.63%
Ba 233.527†	7075.4	0.0810	mg/L	0.00094	0.0810	mg/L	0.00094	1.16%
Be 234.861†	55.0	0.00023	mg/L	0.000053	0.00023	mg/L	0.000053	23.45%
B 249.677†	45439.1	0.641	mg/L	0.0168	0.641	mg/L	0.0168	2.62%
Ca 227.546†	16643.4	78.7	mg/L	1.38	78.7	mg/L	1.38	1.75%
Cd 228.802†	-5.9	0.00001	mg/L	0.000216	0.00001	mg/L	0.000216	>999.9%
Co 228.616†	4.7	0.00029	mg/L	0.000099	0.00029	mg/L	0.000099	34.73%
Cr 267.716†	180.3	0.00308	mg/L	0.000204	0.00308	mg/L	0.000204	6.64%
Cu 327.393†	76.2	0.00109	mg/L	0.000450	0.00109	mg/L	0.000450	41.33%
Fe 239.562†	255.7	0.0753	mg/L	0.00039	0.0753	mg/L	0.00039	0.52%
Mg 279.077†	34163.3	24.0	mg/L	0.12	24.0	mg/L	0.12	0.49%
Mn 257.610†	7873.0	0.0147	mg/L	0.00026	0.0147	mg/L	0.00026	1.76%
Mo 202.031†	39.0	0.00392	mg/L	0.000159	0.00392	mg/L	0.000159	4.06%
Ni 231.604†	36.2	0.00339	mg/L	0.000061	0.00339	mg/L	0.000061	1.79%
Pb 220.353†	38.9	0.00528	mg/L	0.000933	0.00528	mg/L	0.000933	17.68%
Sb 206.836†	-2.0	0.00193	mg/L	0.001794	0.00193	mg/L	0.001794	92.96%
Se 196.026†	6.3	0.00457	mg/L	0.004804	0.00457	mg/L	0.004804	105.22%
Si 251.611†	263339.9	7.35	mg/L	0.200	7.35	mg/L	0.200	2.72%
Sn 189.927†	-302.2	-0.0354	mg/L	0.00109	-0.0354	mg/L	0.00109	3.08%
Ti 334.940†	-8114.6	0.00429	mg/L	0.000379	0.00429	mg/L	0.000379	8.83%
Tl 190.801†	-31.1	-0.0154	mg/L	0.00486	-0.0154	mg/L	0.00486	31.58%
V 290.880†	2267.2	0.0120	mg/L	0.00046	0.0120	mg/L	0.00046	3.80%
Zn 206.200†	677.7	0.0216	mg/L	0.00064	0.0216	mg/L	0.00064	2.98%
K 766.490†	2297.4	1.55	mg/L	0.006	1.55	mg/L	0.006	0.39%
Na 589.592†	659953.9	62.4	mg/L	0.51	62.4	mg/L	0.51	0.82%
Sr 407.771†	231174.7	0.197	mg/L	0.0034	0.197	mg/L	0.0034	1.72%
Li 670.784†	3984.2	0.0590	mg/L	0.00047	0.0590	mg/L	0.00047	0.80%

==========

Sequence No.: 16 **Autosampler Location: 77**
Sample ID: L1305118209 **Date Collected: 5/30/2013 2:33:41 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1305118209

Analyte	Back Pressure	Flow
All	164.0 kPa	0.48 L/min

Mean Data: L1305118209

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	2356890.2						23762.03	1.01%
YRADIAL	175165.1						369.71	0.21%
Ga 417.206	966974.1						15323.16	1.58%
GaRADIAL	51481.8						851.92	1.65%
Ag 328.068†	2664.1	0.0114	mg/L	0.00017	0.0114	mg/L	0.00017	1.47%
Al 396.153†	81.5	0.0746	mg/L	0.00521	0.0746	mg/L	0.00521	6.98%
As 188.979†	8.2	0.00842	mg/L	0.002318	0.00842	mg/L	0.002318	27.53%
Ba 233.527†	1979.8	0.0242	mg/L	0.00029	0.0242	mg/L	0.00029	1.19%
Be 234.861†	-20.4	0.00039	mg/L	0.000018	0.00039	mg/L	0.000018	4.50%
B 249.677†	471311.6	6.61	mg/L	0.041	6.61	mg/L	0.041	0.63%
Ca 227.546†	65011.7	307	mg/L	3.7	307	mg/L	3.7	1.22%
Cd 228.802†	13.1	0.00067	mg/L	0.000048	0.00067	mg/L	0.000048	7.23%
Co 228.616†	523.1	0.0217	mg/L	0.00039	0.0217	mg/L	0.00039	1.82%
Cr 267.716†	339.1	0.00476	mg/L	0.000173	0.00476	mg/L	0.000173	3.63%
Cu 327.393†	-403.1	-0.00176	mg/L	0.000386	-0.00176	mg/L	0.000386	21.87%
Fe 239.562†	641.4	0.163	mg/L	0.0011	0.163	mg/L	0.0011	0.67%
Mg 279.077†	194803.8	136	mg/L	0.9	136	mg/L	0.9	0.66%
Mn 257.610†	1614178.2	3.02	mg/L	0.006	3.02	mg/L	0.006	0.21%
Mo 202.031†	68.9	0.00606	mg/L	0.000444	0.00606	mg/L	0.000444	7.32%

Approved: May 31, 2013

Kym H. Rhoden

Ni 231.604†	265.2	0.00908	mg/L	0.000278	0.00908	mg/L	0.000278	3.06%
Pb 220.353†	43.8	0.00410	mg/L	0.002502	0.00410	mg/L	0.002502	60.97%
Sb 206.836†	-4.4	0.00094	mg/L	0.000783	0.00094	mg/L	0.000783	83.41%
Se 196.026†	0.9	-0.00148	mg/L	0.003184	-0.00148	mg/L	0.003184	215.01%
Si 251.611†	215304.5	6.01	mg/L	0.078	6.01	mg/L	0.078	1.29%
Sn 189.927†	-419.8	-0.0500	mg/L	0.00041	-0.0500	mg/L	0.00041	0.81%
Ti 334.940†	-32505.3	0.00633	mg/L	0.000615	0.00633	mg/L	0.000615	9.72%
Tl 190.801†	-45.7	-0.0259	mg/L	0.00449	-0.0259	mg/L	0.00449	17.35%
V 290.880†	4718.6	0.0216	mg/L	0.00184	0.0216	mg/L	0.00184	8.53%
Zn 206.200†	112.1	0.00552	mg/L	0.000350	0.00552	mg/L	0.000350	6.35%
K 766.490†	7369.0	5.15	mg/L	0.066	5.15	mg/L	0.066	1.29%
Na 589.592†	1319215.3	118	mg/L	1.0	118	mg/L	1.0	0.89%
Sr 407.771†	813930.6	0.684	mg/L	0.0124	0.684	mg/L	0.0124	1.82%
Li 670.784†	40605.8	0.578	mg/L	0.0062	0.578	mg/L	0.0062	1.07%

Sequence No.: 17 **Autosampler Location: 78**
Sample ID: L1305118210 **Date Collected: 5/30/2013 2:36:43 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1305118210

Analyte	Back Pressure	Flow
All	164.0 kPa	0.48 L/min

Mean Data: L1305118210

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2311765.4						6841.73	0.30%
YRADIAL	173915.3						2392.13	1.38%
Ga 417.206	945037.4						1193.65	0.13%
GaRADIAL	50610.4						618.10	1.22%
Ag 328.068†	2796.8	0.0119	mg/L	0.00057	0.0119	mg/L	0.00057	4.84%
Al 396.153†	-87.8	0.0192	mg/L	0.00139	0.0192	mg/L	0.00139	7.23%
As 188.979†	12.9	0.0115	mg/L	0.00081	0.0115	mg/L	0.00081	7.08%
Ba 233.527†	1209.5	0.0156	mg/L	0.00009	0.0156	mg/L	0.00009	0.56%
Be 234.861†	-100.2	0.00033	mg/L	0.000008	0.00033	mg/L	0.000008	2.38%
B 249.677†	523017.7	7.34	mg/L	0.066	7.34	mg/L	0.066	0.90%
Ca 227.546†	71657.1	339	mg/L	5.7	339	mg/L	5.7	1.68%
Cd 228.802†	3.9	0.00038	mg/L	0.000107	0.00038	mg/L	0.000107	28.22%
Co 228.616†	566.1	0.0235	mg/L	0.00076	0.0235	mg/L	0.00076	3.21%
Cr 267.716†	296.7	0.00432	mg/L	0.000277	0.00432	mg/L	0.000277	6.42%
Cu 327.393†	-469.1	-0.00217	mg/L	0.000415	-0.00217	mg/L	0.000415	19.14%
Fe 239.562†	61.5	0.0274	mg/L	0.00137	0.0274	mg/L	0.00137	5.00%
Mg 279.077†	213686.0	150	mg/L	1.2	150	mg/L	1.2	0.83%
Mn 257.610†	1731826.7	3.24	mg/L	0.008	3.24	mg/L	0.008	0.26%
Mo 202.031†	86.3	0.00698	mg/L	0.000612	0.00698	mg/L	0.000612	8.78%
Ni 231.604†	286.6	0.00961	mg/L	0.000264	0.00961	mg/L	0.000264	2.75%
Pb 220.353†	36.5	0.00302	mg/L	0.002010	0.00302	mg/L	0.002010	66.50%
Sb 206.836†	-6.8	-0.00004	mg/L	0.001472	-0.00004	mg/L	0.001472	>999.9%
Se 196.026†	14.9	0.0120	mg/L	0.00506	0.0120	mg/L	0.00506	42.35%
Si 251.611†	236417.7	6.60	mg/L	0.118	6.60	mg/L	0.118	1.79%
Sn 189.927†	-423.7	-0.0505	mg/L	0.00062	-0.0505	mg/L	0.00062	1.23%
Ti 334.940†	-37453.9	0.00450	mg/L	0.000289	0.00450	mg/L	0.000289	6.42%
Tl 190.801†	-43.7	-0.0252	mg/L	0.00218	-0.0252	mg/L	0.00218	8.65%
V 290.880†	5247.2	0.0239	mg/L	0.00141	0.0239	mg/L	0.00141	5.89%
Zn 206.200†	122.7	0.00582	mg/L	0.000150	0.00582	mg/L	0.000150	2.58%
K 766.490†	7857.7	5.49	mg/L	0.105	5.49	mg/L	0.105	1.92%
Na 589.592†	1439875.7	128	mg/L	1.3	128	mg/L	1.3	1.05%
Sr 407.771†	855210.1	0.719	mg/L	0.0174	0.719	mg/L	0.0174	2.42%
Li 670.784†	43804.3	0.624	mg/L	0.0061	0.624	mg/L	0.0061	0.98%

Sequence No.: 18 **Autosampler Location: 79**
Sample ID: L1305118211 **Date Collected: 5/30/2013 2:39:49 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Approved: May 31, 2013

Nebulizer Parameters: L1305118211

Analyte	Back Pressure	Flow
All	164.0 kPa	0.48 L/min

Mean Data: L1305118211

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2552565.4						68645.23	2.69%
YRADIAL	186704.3						3378.35	1.81%
Ga 417.206	976910.5						32686.88	3.35%
GaRADIAL	50856.7						987.89	1.94%
Ag 328.068†	-6059.0	-0.00236	mg/L	0.000497	-0.00236	mg/L	0.000497	21.06%
Al 396.153†	79178.5	25.9	mg/L	0.32	25.9	mg/L	0.32	1.23%
As 188.979†	62.8	0.0413	mg/L	0.00609	0.0413	mg/L	0.00609	14.74%
Ba 233.527†	45916.3	0.513	mg/L	0.0141	0.513	mg/L	0.0141	2.75%
Be 234.861†	10793.5	0.00223	mg/L	0.000090	0.00223	mg/L	0.000090	4.01%
B 249.677†	26894.8	0.355	mg/L	0.0399	0.355	mg/L	0.0399	11.25%
Ca 227.546†	11733.2	57.0	mg/L	2.26	57.0	mg/L	2.26	3.96%
Cd 228.802†	9.5	0.00039	mg/L	0.000227	0.00039	mg/L	0.000227	58.26%
Co 228.616†	700.0	0.0267	mg/L	0.00055	0.0267	mg/L	0.00055	2.04%
Cr 267.716†	3452.7	0.0342	mg/L	0.00108	0.0342	mg/L	0.00108	3.15%
Cu 327.393†	8542.0	0.0545	mg/L	0.00161	0.0545	mg/L	0.00161	2.95%
Fe 239.562†	256905.5	59.9	mg/L	0.64	59.9	mg/L	0.64	1.07%
Mg 279.077†	30582.3	21.4	mg/L	0.26	21.4	mg/L	0.26	1.21%
Mn 257.610†	1628104.4	3.05	mg/L	0.014	3.05	mg/L	0.014	0.46%
Mo 202.031†	45.5	0.00824	mg/L	0.000204	0.00824	mg/L	0.000204	2.48%
Ni 231.604†	1995.5	0.0522	mg/L	0.00134	0.0522	mg/L	0.00134	2.57%
Pb 220.353†	342.4	0.0439	mg/L	0.00131	0.0439	mg/L	0.00131	2.98%
Sb 206.836†	-3.7	0.00323	mg/L	0.002318	0.00323	mg/L	0.002318	71.84%
Se 196.026†	-2.0	0.00819	mg/L	0.009049	0.00819	mg/L	0.009049	110.47%
Si 251.611†	1298706.3	36.2	mg/L	0.47	36.2	mg/L	0.47	1.31%
Sn 189.927†	-266.6	-0.0309	mg/L	0.00193	-0.0309	mg/L	0.00193	6.26%
Ti 334.940†	160355.7	0.224	mg/L	0.0067	0.224	mg/L	0.0067	3.01%
Tl 190.801†	-31.6	-0.0151	mg/L	0.00082	-0.0151	mg/L	0.00082	5.39%
V 290.880†	13296.2	0.0530	mg/L	0.00215	0.0530	mg/L	0.00215	4.06%
Zn 206.200†	6683.4	0.191	mg/L	0.0050	0.191	mg/L	0.0050	2.61%
K 766.490†	8082.7	5.75	mg/L	0.136	5.75	mg/L	0.136	2.37%
Na 589.592†	277686.3	27.1	mg/L	0.63	27.1	mg/L	0.63	2.32%
Sr 407.771†	216996.5	0.185	mg/L	0.0036	0.185	mg/L	0.0036	1.96%
Li 670.784†	2409.8	0.0367	mg/L	0.00118	0.0367	mg/L	0.00118	3.21%

Sequence No.: 19 **Autosampler Location: 80**
Sample ID: L1305118212 **Date Collected: 5/30/2013 2:41:54 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1305118212

Analyte	Back Pressure	Flow
All	164.0 kPa	0.48 L/min

Mean Data: L1305118212

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2394161.3						20283.30	0.85%
YRADIAL	177078.9						1825.33	1.03%
Ga 417.206	956988.0						21348.83	2.23%
GaRADIAL	49755.5						723.86	1.45%
Ag 328.068†	477.3	0.00290	mg/L	0.000133	0.00290	mg/L	0.000133	4.58%
Al 396.153†	2871.6	0.986	mg/L	0.0357	0.986	mg/L	0.0357	3.62%
As 188.979†	4.5	0.00120	mg/L	0.002898	0.00120	mg/L	0.002898	240.80%
Ba 233.527†	2991.5	0.0354	mg/L	0.00044	0.0354	mg/L	0.00044	1.24%
Be 234.861†	266.4	0.00021	mg/L	0.000060	0.00021	mg/L	0.000060	28.94%
B 249.677†	19492.1	0.276	mg/L	0.0225	0.276	mg/L	0.0225	8.14%
Ca 227.546†	11214.5	53.1	mg/L	2.41	53.1	mg/L	2.41	4.54%
Cd 228.802†	-4.1	0.00007	mg/L	0.000324	0.00007	mg/L	0.000324	447.06%
Co 228.616†	48.7	0.00202	mg/L	0.000225	0.00202	mg/L	0.000225	11.12%

Approved: May 31, 2013

Kym H. Rhoden

Cr 267.716†	229.3	0.00352	mg/L	0.000206	0.00352	mg/L	0.000206	5.84%
Cu 327.393†	91.0	0.00132	mg/L	0.000331	0.00132	mg/L	0.000331	25.17%
Fe 239.562†	6368.1	1.50	mg/L	0.032	1.50	mg/L	0.032	2.12%
Mg 279.077†	24121.0	16.9	mg/L	0.45	16.9	mg/L	0.45	2.65%
Mn 257.610†	42737.3	0.0800	mg/L	0.00176	0.0800	mg/L	0.00176	2.20%
Mo 202.031†	26.7	0.00339	mg/L	0.000588	0.00339	mg/L	0.000588	17.35%
Ni 231.604†	93.9	0.00482	mg/L	0.000284	0.00482	mg/L	0.000284	5.89%
Pb 220.353†	40.9	0.00556	mg/L	0.001111	0.00556	mg/L	0.001111	20.00%
Sb 206.836†	-0.6	0.00257	mg/L	0.001986	0.00257	mg/L	0.001986	77.38%
Se 196.026†	4.9	0.00357	mg/L	0.002551	0.00357	mg/L	0.002551	71.44%
Si 251.611†	268039.4	7.48	mg/L	0.171	7.48	mg/L	0.171	2.29%
Sn 189.927†	-279.0	-0.0325	mg/L	0.00104	-0.0325	mg/L	0.00104	3.21%
Ti 334.940†	9211.2	0.0234	mg/L	0.00177	0.0234	mg/L	0.00177	7.59%
Tl 190.801†	-25.6	-0.0125	mg/L	0.00326	-0.0125	mg/L	0.00326	26.14%
V 290.880†	2244.1	0.0117	mg/L	0.00031	0.0117	mg/L	0.00031	2.69%
Zn 206.200†	326.2	0.0116	mg/L	0.00027	0.0116	mg/L	0.00027	2.36%
K 766.490†	1097.4	0.724	mg/L	0.0604	0.724	mg/L	0.0604	8.34%
Na 589.592†	281189.8	27.5	mg/L	0.06	27.5	mg/L	0.06	0.21%
Sr 407.771†	169905.7	0.146	mg/L	0.0005	0.146	mg/L	0.0005	0.33%
Li 670.784†	282.9	0.00651	mg/L	0.000920	0.00651	mg/L	0.000920	14.13%

Sequence No.: 20
Sample ID: L1305118213
Analyst: KHR
Initial Sample Wt:
Dilution:

Autosampler Location: 81
Date Collected: 5/30/2013 2:43:58 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: L1305118213

Analyte	Back Pressure	Flow
All	164.0 kPa	0.48 L/min

Mean Data: L1305118213

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2548439.6						38915.93	1.53%
YRADIAL	187516.1						2354.50	1.26%
Ga 417.206	972834.8						15387.47	1.58%
GaRADIAL	50520.0						316.46	0.63%
Ag 328.068†	111.8	0.00074	mg/L	0.000260	0.00074	mg/L	0.000260	34.95%
Al 396.153†	6.3	0.0503	mg/L	0.00299	0.0503	mg/L	0.00299	5.95%
As 188.979†	5.0	0.00008	mg/L	0.001961	0.00008	mg/L	0.001961	>999.9%
Ba 233.527†	-17.6	0.00188	mg/L	0.000059	0.00188	mg/L	0.000059	3.16%
Be 234.861†	-28.7	0.00011	mg/L	0.000034	0.00011	mg/L	0.000034	29.63%
B 249.677†	3643.3	0.0550	mg/L	0.00366	0.0550	mg/L	0.00366	6.67%
Ca 227.546†	13.6	0.102	mg/L	0.0279	0.102	mg/L	0.0279	27.50%
Cd 228.802†	-8.6	-0.00007	mg/L	0.000146	-0.00007	mg/L	0.000146	200.75%
Co 228.616†	3.7	0.00025	mg/L	0.000070	0.00025	mg/L	0.000070	28.30%
Cr 267.716†	12.2	0.00130	mg/L	0.000043	0.00130	mg/L	0.000043	3.27%
Cu 327.393†	143.5	0.00148	mg/L	0.000453	0.00148	mg/L	0.000453	30.56%
Fe 239.562†	25.9	0.0222	mg/L	0.00038	0.0222	mg/L	0.00038	1.70%
Mg 279.077†	17.7	0.0501	mg/L	0.00727	0.0501	mg/L	0.00727	14.51%
Mn 257.610†	589.9	0.00105	mg/L	0.000045	0.00105	mg/L	0.000045	4.27%
Mo 202.031†	0.8	0.00198	mg/L	0.000308	0.00198	mg/L	0.000308	15.56%
Ni 231.604†	-11.2	0.00220	mg/L	0.000815	0.00220	mg/L	0.000815	37.06%
Pb 220.353†	6.6	0.00109	mg/L	0.000765	0.00109	mg/L	0.000765	70.08%
Sb 206.836†	-0.3	0.00262	mg/L	0.000697	0.00262	mg/L	0.000697	26.57%
Se 196.026†	3.7	0.00210	mg/L	0.004256	0.00210	mg/L	0.004256	202.43%
Si 251.611†	178.9	0.0116	mg/L	0.00064	0.0116	mg/L	0.00064	5.52%
Sn 189.927†	-17.3	0.00015	mg/L	0.000240	0.00015	mg/L	0.000240	163.60%
Ti 334.940†	-78.9	0.00312	mg/L	0.000191	0.00312	mg/L	0.000191	6.13%
Tl 190.801†	-3.0	-0.00149	mg/L	0.003315	-0.00149	mg/L	0.003315	222.10%
V 290.880†	93.5	0.00153	mg/L	0.000203	0.00153	mg/L	0.000203	13.26%
Zn 206.200†	94.4	0.00499	mg/L	0.000103	0.00499	mg/L	0.000103	2.06%
K 766.490†	47.2	-0.00643	mg/L	0.059317	-0.00643	mg/L	0.059317	922.40%
Na 589.592†	926.3	0.0597	mg/L	0.01762	0.0597	mg/L	0.01762	29.53%
Sr 407.771†	69.6	0.00402	mg/L	0.000025	0.00402	mg/L	0.000025	0.62%
Li 670.784†	37.9	0.00304	mg/L	0.000526	0.00304	mg/L	0.000526	17.31%

Approved: May 31, 2013

Sequence No.: 21
Sample ID: L1305118214
Analyst: KHR
Initial Sample Wt:
Dilution:

Autosampler Location: 82
Date Collected: 5/30/2013 2:46:59 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: L1305118214

Analyte	Back Pressure	Flow
All	164.0 kPa	0.48 L/min

Mean Data: L1305118214

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2502176.6						45630.29	1.82%
YRADIAL	183825.7						4896.28	2.66%
Ga 417.206	955183.8						13875.64	1.45%
GaRADIAL	50516.0						1440.50	2.85%
Ag 328.068†	-28.7	0.00014	mg/L	0.000208	0.00014	mg/L	0.000208	144.82%
Al 396.153†	29.0	0.0577	mg/L	0.00228	0.0577	mg/L	0.00228	3.95%
As 188.979†	0.5	-0.00216	mg/L	0.000360	-0.00216	mg/L	0.000360	16.68%
Ba 233.527†	-13.0	0.00193	mg/L	0.000083	0.00193	mg/L	0.000083	4.29%
Be 234.861†	-40.0	0.00009	mg/L	0.000027	0.00009	mg/L	0.000027	29.41%
B 249.677†	2266.5	0.0357	mg/L	0.00296	0.0357	mg/L	0.00296	8.29%
Ca 227.546†	18.4	0.125	mg/L	0.0486	0.125	mg/L	0.0486	38.95%
Cd 228.802†	-4.1	0.00008	mg/L	0.000148	0.00008	mg/L	0.000148	189.52%
Co 228.616†	-1.8	0.00002	mg/L	0.000154	0.00002	mg/L	0.000154	715.81%
Cr 267.716†	11.9	0.00130	mg/L	0.000196	0.00130	mg/L	0.000196	15.05%
Cu 327.393†	-6.0	0.00063	mg/L	0.000133	0.00063	mg/L	0.000133	21.15%
Fe 239.562†	90.9	0.0374	mg/L	0.01066	0.0374	mg/L	0.01066	28.53%
Mg 279.077†	18.6	0.0507	mg/L	0.00217	0.0507	mg/L	0.00217	4.28%
Mn 257.610†	725.7	0.00131	mg/L	0.000041	0.00131	mg/L	0.000041	3.12%
Mo 202.031†	-1.4	0.00187	mg/L	0.000312	0.00187	mg/L	0.000312	16.65%
Ni 231.604†	-14.6	0.00212	mg/L	0.000227	0.00212	mg/L	0.000227	10.72%
Pb 220.353†	17.3	0.00248	mg/L	0.000448	0.00248	mg/L	0.000448	18.06%
Sb 206.836†	0.8	0.00308	mg/L	0.001713	0.00308	mg/L	0.001713	55.60%
Se 196.026†	3.3	0.00171	mg/L	0.004457	0.00171	mg/L	0.004457	260.23%
Si 251.611†	210.2	0.0125	mg/L	0.00067	0.0125	mg/L	0.00067	5.36%
Sn 189.927†	-14.3	0.00052	mg/L	0.000304	0.00052	mg/L	0.000304	58.60%
Ti 334.940†	43.1	0.00329	mg/L	0.000089	0.00329	mg/L	0.000089	2.72%
Tl 190.801†	-4.1	-0.00203	mg/L	0.001227	-0.00203	mg/L	0.001227	60.53%
V 290.880†	265.1	0.00241	mg/L	0.000505	0.00241	mg/L	0.000505	20.98%
Zn 206.200†	177.2	0.00734	mg/L	0.000055	0.00734	mg/L	0.000055	0.75%
K 766.490†	105.8	0.0359	mg/L	0.03263	0.0359	mg/L	0.03263	91.01%
Na 589.592†	841.0	0.0511	mg/L	0.00797	0.0511	mg/L	0.00797	15.60%
Sr 407.771†	209.8	0.00414	mg/L	0.000014	0.00414	mg/L	0.000014	0.35%
Li 670.784†	-7.5	0.00240	mg/L	0.000239	0.00240	mg/L	0.000239	9.95%

==========

Sequence No.: 22
Sample ID: CCV
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 6
Date Collected: 5/30/2013 2:50:00 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: CCV

Analyte	Back Pressure	Flow
All	164.0 kPa	0.48 L/min

Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2376313.7						7781.81	0.33%
YRADIAL	179774.6						4625.18	2.57%
Ga 417.206	911678.9						13134.41	1.44%
GaRADIAL	49068.8						947.02	1.93%
Ag 328.068†	99350.3	0.434	mg/L	0.0056	0.434	mg/L	0.0056	1.30%
QC value within limits for Ag 328.068 Recovery = 108.43%								
Al 396.153†	31907.0	10.4	mg/L	0.18	10.4	mg/L	0.18	1.70%

Approved: May 31, 2013

Lynn H. Rhoden

```
   QC value within limits for Al 396.153  Recovery = 103.97%
As 188.979†              852.8       0.417 mg/L        0.0028       0.417 mg/L        0.0028   0.66%
   QC value within limits for As 188.979  Recovery = 104.15%
Ba 233.527†            97900.7        1.10 mg/L         0.003        1.10 mg/L         0.003   0.25%
   QC value within limits for Ba 233.527  Recovery = 109.51%
Be 234.861†            35357.3      0.0525 mg/L       0.00065      0.0525 mg/L       0.00065   1.23%
   QC value within limits for Be 234.861  Recovery = 105.02%
B 249.677†             38721.5       0.543 mg/L        0.0064       0.543 mg/L        0.0064   1.19%
   QC value within limits for B 249.677  Recovery = 108.52%
Ca 227.546†             2204.0        10.9 mg/L          0.10        10.9 mg/L          0.10   0.92%
   QC value within limits for Ca 227.546  Recovery = 109.49%
Cd 228.802†             1669.9      0.0506 mg/L       0.00113      0.0506 mg/L       0.00113   2.24%
   QC value within limits for Cd 228.802  Recovery = 101.22%
Co 228.616†             5290.2       0.217 mg/L        0.0007       0.217 mg/L        0.0007   0.31%
   QC value within limits for Co 228.616  Recovery = 108.47%
Cr 267.716†            51665.9       0.547 mg/L        0.0036       0.547 mg/L        0.0036   0.65%
   QC value within limits for Cr 267.716  Recovery = 109.33%
Cu 327.393†            92289.6       0.531 mg/L        0.0053       0.531 mg/L        0.0053   1.00%
   QC value within limits for Cu 327.393  Recovery = 106.13%
Fe 239.562†            18049.5        4.22 mg/L         0.039        4.22 mg/L         0.039   0.93%
   QC value within limits for Fe 239.562  Recovery = 105.58%
Mg 279.077†            15254.4        10.7 mg/L          0.10        10.7 mg/L          0.10   0.93%
   QC value within limits for Mg 279.077  Recovery = 107.38%
Mn 257.610†           299103.1       0.560 mg/L        0.0032       0.560 mg/L        0.0032   0.56%
   QC value greater than the upper limit for Mn 257.610  Recovery = 112.09%
Mo 202.031†            21478.6        1.08 mg/L         0.011        1.08 mg/L         0.011   1.03%
   QC value within limits for Mo 202.031  Recovery = 108.31%
Ni 231.604†            21597.6       0.541 mg/L        0.0022       0.541 mg/L        0.0022   0.41%
   QC value within limits for Ni 231.604  Recovery = 108.18%
Pb 220.353†             4229.1       0.549 mg/L        0.0017       0.549 mg/L        0.0017   0.31%
   QC value within limits for Pb 220.353  Recovery = 109.90%
Sb 206.836†             3084.1        1.27 mg/L         0.018        1.27 mg/L         0.018   1.42%
   QC value within limits for Sb 206.836  Recovery = 105.75%
Se 196.026†              430.9       0.416 mg/L        0.0114       0.416 mg/L        0.0114   2.73%
   QC value within limits for Se 196.026  Recovery = 104.12%
Si 251.611†           190515.6        5.30 mg/L         0.070        5.30 mg/L         0.070   1.32%
   QC value within limits for Si 251.611  Recovery = 106.10%
Sn 189.927†             8066.8        1.01 mg/L         0.003        1.01 mg/L         0.003   0.26%
   QC value within limits for Sn 189.927  Recovery = 100.74%
Ti 334.940†           805224.6        1.07 mg/L         0.011        1.07 mg/L         0.011   1.04%
   QC value within limits for Ti 334.940  Recovery = 106.95%
Tl 190.801†             1119.7       0.563 mg/L        0.0016       0.563 mg/L        0.0016   0.29%
   QC value greater than the upper limit for Tl 190.801  Recovery = 112.70%
V 290.880†            216087.7        1.10 mg/L         0.010        1.10 mg/L         0.010   0.91%
   QC value greater than the upper limit for V 290.880  Recovery = 110.24%
Zn 206.200†             38559.1        1.10 mg/L         0.003        1.10 mg/L         0.003   0.25%
   QC value greater than the upper limit for Zn 206.200  Recovery = 110.38%
K 766.490†              77499.9        54.1 mg/L          0.80        54.1 mg/L          0.80   1.49%
   QC value within limits for K 766.490  Recovery = 108.19%
Na 589.592†            565194.0        53.8 mg/L          1.42        53.8 mg/L          1.42   2.63%
   QC value within limits for Na 589.592  Recovery = 107.66%
Sr 407.771†           1302594.3        1.09 mg/L         0.037        1.09 mg/L         0.037   3.44%
   QC value within limits for Sr 407.771  Recovery = 108.53%
Li 670.784†             74925.7        1.07 mg/L         0.017        1.07 mg/L         0.017   1.63%
   QC value within limits for Li 670.784  Recovery = 106.50%
QC Failed.  Continue with analysis.

==========================================================================================
Sequence No.: 23                                  Autosampler Location: 1
Sample ID: CCB                                    Date Collected: 5/30/2013 2:52:05 PM
Analyst:                                          Data Type: Original
Initial Sample Wt:                                Initial Sample Vol:
Dilution:                                         Sample Prep Vol:

------------------------------------------------------------------------------------------
Nebulizer Parameters: CCB
Analyte                 Back Pressure    Flow
All                    164.0 kPa         0.48 L/min

------------------------------------------------------------------------------------------
Mean Data: CCB
                  Mean Corrected         Calib.                        Sample
```

Approved: May 31, 2013

Analyte	Intensity	Conc. Units	Std.Dev.	Conc. Units	Std.Dev.	RSD
Y 371.029	2462509.5				11458.39	0.47%
YRADIAL	182926.7				3913.88	2.14%
Ga 417.206	934299.3				11625.41	1.24%
GaRADIAL	49299.1				1161.52	2.36%
Ag 328.068†	60.8	0.00052 mg/L	0.000729	0.00052 mg/L	0.000729	139.15%
QC value within limits for Ag 328.068 Recovery = Not calculated						
Al 396.153†	10.4	0.0516 mg/L	0.00253	0.0516 mg/L	0.00253	4.91%
QC value within limits for Al 396.153 Recovery = Not calculated						
As 188.979†	0.4	-0.00222 mg/L	0.001446	-0.00222 mg/L	0.001446	65.08%
QC value within limits for As 188.979 Recovery = Not calculated						
Ba 233.527†	-28.8	0.00175 mg/L	0.000037	0.00175 mg/L	0.000037	2.08%
QC value within limits for Ba 233.527 Recovery = Not calculated						
Be 234.861†	-56.0	0.00007 mg/L	0.000051	0.00007 mg/L	0.000051	69.97%
QC value within limits for Be 234.861 Recovery = Not calculated						
B 249.677†	1482.3	0.0247 mg/L	0.00220	0.0247 mg/L	0.00220	8.93%
QC value within limits for B 249.677 Recovery = Not calculated						
Ca 227.546†	10.7	0.0877 mg/L	0.03529	0.0877 mg/L	0.03529	40.23%
QC value within limits for Ca 227.546 Recovery = Not calculated						
Cd 228.802†	-11.1	-0.00014 mg/L	0.000107	-0.00014 mg/L	0.000107	75.78%
QC value within limits for Cd 228.802 Recovery = Not calculated						
Co 228.616†	-3.0	-0.00003 mg/L	0.000247	-0.00003 mg/L	0.000247	833.86%
QC value within limits for Co 228.616 Recovery = Not calculated						
Cr 267.716†	12.3	0.00130 mg/L	0.000058	0.00130 mg/L	0.000058	4.46%
QC value within limits for Cr 267.716 Recovery = Not calculated						
Cu 327.393†	55.1	0.00098 mg/L	0.000270	0.00098 mg/L	0.000270	27.63%
QC value within limits for Cu 327.393 Recovery = Not calculated						
Fe 239.562†	23.3	0.0216 mg/L	0.00072	0.0216 mg/L	0.00072	3.33%
QC value within limits for Fe 239.562 Recovery = Not calculated						
Mg 279.077†	7.8	0.0431 mg/L	0.00740	0.0431 mg/L	0.00740	17.17%
QC value within limits for Mg 279.077 Recovery = Not calculated						
Mn 257.610†	417.6	0.00073 mg/L	0.000031	0.00073 mg/L	0.000031	4.28%
QC value within limits for Mn 257.610 Recovery = Not calculated						
Mo 202.031†	7.1	0.00230 mg/L	0.000378	0.00230 mg/L	0.000378	16.42%
QC value within limits for Mo 202.031 Recovery = Not calculated						
Ni 231.604†	-21.7	0.00194 mg/L	0.000133	0.00194 mg/L	0.000133	6.87%
QC value within limits for Ni 231.604 Recovery = Not calculated						
Pb 220.353†	3.5	0.00069 mg/L	0.001038	0.00069 mg/L	0.001038	150.00%
QC value within limits for Pb 220.353 Recovery = Not calculated						
Sb 206.836†	-1.9	0.00198 mg/L	0.000437	0.00198 mg/L	0.000437	22.05%
QC value within limits for Sb 206.836 Recovery = Not calculated						
Se 196.026†	5.2	0.00351 mg/L	0.004814	0.00351 mg/L	0.004814	137.05%
QC value within limits for Se 196.026 Recovery = Not calculated						
Si 251.611†	74.7	0.00874 mg/L	0.000494	0.00874 mg/L	0.000494	5.65%
QC value within limits for Si 251.611 Recovery = Not calculated						
Sn 189.927†	7.0	0.00317 mg/L	0.000750	0.00317 mg/L	0.000750	23.66%
QC value within limits for Sn 189.927 Recovery = Not calculated						
Ti 334.940†	-39.8	0.00317 mg/L	0.000029	0.00317 mg/L	0.000029	0.92%
QC value within limits for Ti 334.940 Recovery = Not calculated						
Tl 190.801†	-2.6	-0.00132 mg/L	0.003831	-0.00132 mg/L	0.003831	290.96%
QC value within limits for Tl 190.801 Recovery = Not calculated						
V 290.880†	230.8	0.00223 mg/L	0.000467	0.00223 mg/L	0.000467	20.90%
QC value within limits for V 290.880 Recovery = Not calculated						
Zn 206.200†	-8.9	0.00205 mg/L	0.000160	0.00205 mg/L	0.000160	7.83%
QC value within limits for Zn 206.200 Recovery = Not calculated						
K 766.490†	80.0	0.0173 mg/L	0.02237	0.0173 mg/L	0.02237	129.43%
QC value within limits for K 766.490 Recovery = Not calculated						
Na 589.592†	668.8	0.0338 mg/L	0.03251	0.0338 mg/L	0.03251	96.21%
QC value within limits for Na 589.592 Recovery = Not calculated						
Sr 407.771†	146.7	0.00408 mg/L	0.000057	0.00408 mg/L	0.000057	1.40%
QC value within limits for Sr 407.771 Recovery = Not calculated						
Li 670.784†	148.8	0.00461 mg/L	0.000774	0.00461 mg/L	0.000774	16.79%
QC value within limits for Li 670.784 Recovery = Not calculated						

All analyte(s) passed QC.
User canceled analysis.

Approved: May 31, 2013

==========

Analysis Begun

Start Time: 5/30/2013 2:58:21 PM **Plasma On Time: 5/30/2013 6:54:41 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\THURSDAY2.sif
Batch ID:
Results Data Set: 053013H2R
Results Library: C:\pe\peicp2\Results\Results.mdb

==========

Sequence No.: 1 **Autosampler Location: 6**
Sample ID: CCV **Date Collected: 5/30/2013 2:58:24 PM**
Analyst: **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: CCV

Analyte	Back Pressure	Flow
All	164.0 kPa	0.48 L/min

Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2422083.5						9260.11	0.38%
YRADIAL	192676.1						1533.35	0.80%
Ga 417.206	919880.1						15116.19	1.64%
GaRADIAL	48645.3						464.45	0.95%
Ag 328.068†	96593.9	0.422	mg/L	0.0036	0.422	mg/L	0.0036	0.86%
QC value within limits for Ag 328.068 Recovery = 105.42%								
Al 396.153†	31898.5	10.4	mg/L	0.07	10.4	mg/L	0.07	0.65%
QC value within limits for Al 396.153 Recovery = 103.97%								
As 188.979†	846.6	0.414	mg/L	0.0111	0.414	mg/L	0.0111	2.68%
QC value within limits for As 188.979 Recovery = 103.42%								
Ba 233.527†	94342.4	1.06	mg/L	0.020	1.06	mg/L	0.020	1.86%
QC value within limits for Ba 233.527 Recovery = 105.54%								
Be 234.861†	34593.2	0.0514	mg/L	0.00033	0.0514	mg/L	0.00033	0.65%
QC value within limits for Be 234.861 Recovery = 102.74%								
B 249.677†	36666.1	0.514	mg/L	0.0042	0.514	mg/L	0.0042	0.82%
QC value within limits for B 249.677 Recovery = 102.77%								
Ca 227.546†	2184.7	10.8	mg/L	0.20	10.8	mg/L	0.20	1.84%
QC value within limits for Ca 227.546 Recovery = 108.41%								
Cd 228.802†	1688.5	0.0512	mg/L	0.00178	0.0512	mg/L	0.00178	3.48%
QC value within limits for Cd 228.802 Recovery = 102.38%								
Co 228.616†	5177.9	0.212	mg/L	0.0010	0.212	mg/L	0.0010	0.48%
QC value within limits for Co 228.616 Recovery = 106.13%								
Cr 267.716†	49981.4	0.529	mg/L	0.0067	0.529	mg/L	0.0067	1.27%
QC value within limits for Cr 267.716 Recovery = 105.77%								
Cu 327.393†	89331.2	0.514	mg/L	0.0040	0.514	mg/L	0.0040	0.77%
QC value within limits for Cu 327.393 Recovery = 102.73%								
Fe 239.562†	17738.3	4.15	mg/L	0.041	4.15	mg/L	0.041	0.98%
QC value within limits for Fe 239.562 Recovery = 103.76%								
Mg 279.077†	14716.3	10.4	mg/L	0.06	10.4	mg/L	0.06	0.56%
QC value within limits for Mg 279.077 Recovery = 103.60%								
Mn 257.610†	287298.5	0.538	mg/L	0.0112	0.538	mg/L	0.0112	2.08%
QC value within limits for Mn 257.610 Recovery = 107.66%								
Mo 202.031†	20712.3	1.04	mg/L	0.015	1.04	mg/L	0.015	1.40%
QC value within limits for Mo 202.031 Recovery = 104.45%								
Ni 231.604†	20813.6	0.521	mg/L	0.0085	0.521	mg/L	0.0085	1.62%
QC value within limits for Ni 231.604 Recovery = 104.27%								
Pb 220.353†	4141.2	0.538	mg/L	0.0034	0.538	mg/L	0.0034	0.62%
QC value within limits for Pb 220.353 Recovery = 107.62%								
Sb 206.836†	3073.9	1.26	mg/L	0.028	1.26	mg/L	0.028	2.20%
QC value within limits for Sb 206.836 Recovery = 105.40%								
Se 196.026†	433.6	0.419	mg/L	0.0065	0.419	mg/L	0.0065	1.54%
QC value within limits for Se 196.026 Recovery = 104.78%								
Si 251.611†	184407.5	5.14	mg/L	0.041	5.14	mg/L	0.041	0.80%

Approved: May 31, 2013

Lynn H. Rhoden

```
   QC value within limits for Si 251.611  Recovery = 102.70%
Sn 189.927†            7901.5       0.987 mg/L        0.0046       0.987 mg/L        0.0046   0.47%
   QC value within limits for Sn 189.927  Recovery = 98.68%
Ti 334.940†          801236.1        1.06 mg/L         0.011        1.06 mg/L         0.011   1.05%
   QC value within limits for Ti 334.940  Recovery = 106.42%
Tl 190.801†            1097.3       0.552 mg/L        0.0083       0.552 mg/L        0.0083   1.50%
   QC value greater than the upper limit for Tl 190.801  Recovery = 110.46%
V 290.880†           203765.1        1.04 mg/L         0.036        1.04 mg/L         0.036   3.47%
   QC value within limits for V 290.880  Recovery = 103.95%
Zn 206.200†           37538.8        1.07 mg/L         0.016        1.07 mg/L         0.016   1.49%
   QC value within limits for Zn 206.200  Recovery = 107.47%
K 766.490†            75371.1        52.7 mg/L          0.29        52.7 mg/L          0.29   0.55%
   QC value within limits for K 766.490  Recovery = 105.31%
Na 589.592†          576572.5        54.9 mg/L          0.47        54.9 mg/L          0.47   0.85%
   QC value within limits for Na 589.592  Recovery = 109.72%
Sr 407.771†          1163409.5       0.970 mg/L        0.0134       0.970 mg/L        0.0134   1.38%
   QC value within limits for Sr 407.771  Recovery = 96.98%
Li 670.784†           75834.0        1.08 mg/L         0.008        1.08 mg/L         0.008   0.71%
   QC value within limits for Li 670.784  Recovery = 107.79%
QC Failed.  Continue with analysis.

==========================================================================================
Sequence No.: 2                                   Autosampler Location: 1
Sample ID: CCB                                    Date Collected: 5/30/2013 3:00:28 PM
Analyst:                                          Data Type: Original
Initial Sample Wt:                                Initial Sample Vol:
Dilution:                                         Sample Prep Vol:

------------------------------------------------------------------------------------------
Nebulizer Parameters: CCB
Analyte                 Back Pressure    Flow
All                     164.0 kPa        0.48 L/min

------------------------------------------------------------------------------------------
Mean Data: CCB
                   Mean Corrected        Calib.                          Sample
Analyte               Intensity     Conc. Units     Std.Dev.     Conc. Units     Std.Dev.   RSD
Y 371.029            2557229.3                                                  37557.36   1.47%
YRADIAL               186299.5                                                   2206.12   1.18%
Ga 417.206            974062.9                                                  29617.91   3.04%
GaRADIAL               49863.6                                                    399.15   0.80%
Ag 328.068†               56.6     0.00051 mg/L      0.000509     0.00051 mg/L      0.000509 100.53%
   QC value within limits for Ag 328.068  Recovery = Not calculated
Al 396.153†               9.6      0.0513 mg/L       0.00294      0.0513 mg/L       0.00294   5.72%
   QC value within limits for Al 396.153  Recovery = Not calculated
As 188.979†               4.4    -0.00025 mg/L      0.003223    -0.00025 mg/L      0.003223 >999.9%
   QC value within limits for As 188.979  Recovery = Not calculated
Ba 233.527†             -20.5     0.00185 mg/L      0.000076     0.00185 mg/L      0.000076   4.11%
   QC value within limits for Ba 233.527  Recovery = Not calculated
Be 234.861†               5.0     0.00016 mg/L      0.000080     0.00016 mg/L      0.000080  48.82%
   QC value within limits for Be 234.861  Recovery = Not calculated
B 249.677†               852.8      0.0159 mg/L       0.00122      0.0159 mg/L       0.00122   7.72%
   QC value within limits for B 249.677  Recovery = Not calculated
Ca 227.546†              14.3       0.105 mg/L        0.0104       0.105 mg/L        0.0104   9.84%
   QC value within limits for Ca 227.546  Recovery = Not calculated
Cd 228.802†              -7.0    -0.00002 mg/L      0.000100    -0.00002 mg/L      0.000100 450.69%
   QC value within limits for Cd 228.802  Recovery = Not calculated
Co 228.616†              -3.5    -0.00005 mg/L      0.000290    -0.00005 mg/L      0.000290 627.42%
   QC value within limits for Co 228.616  Recovery = Not calculated
Cr 267.716†               8.9     0.00127 mg/L      0.000131     0.00127 mg/L      0.000131  10.34%
   QC value within limits for Cr 267.716  Recovery = Not calculated
Cu 327.393†              97.7     0.00122 mg/L      0.000741     0.00122 mg/L      0.000741  60.74%
   QC value within limits for Cu 327.393  Recovery = Not calculated
Fe 239.562†              37.5      0.0249 mg/L       0.00185      0.0249 mg/L       0.00185   7.45%
   QC value within limits for Fe 239.562  Recovery = Not calculated
Mg 279.077†              -3.9      0.0350 mg/L       0.00422      0.0350 mg/L       0.00422  12.09%
   QC value within limits for Mg 279.077  Recovery = Not calculated
Mn 257.610†             343.2     0.00059 mg/L      0.000020     0.00059 mg/L      0.000020   3.38%
   QC value within limits for Mn 257.610  Recovery = Not calculated
Mo 202.031†               5.5     0.00222 mg/L      0.000235     0.00222 mg/L      0.000235  10.58%
   QC value within limits for Mo 202.031  Recovery = Not calculated
Ni 231.604†              -5.1     0.00235 mg/L      0.000011     0.00235 mg/L      0.000011   0.45%
```

Approved: May 31, 2013

Lynn H. Rhoden

```
   QC value within limits for Ni 231.604  Recovery = Not calculated
Pb 220.353†                 2.5     0.00055 mg/L      0.000829     0.00055 mg/L      0.000829 150.48%
   QC value within limits for Pb 220.353  Recovery = Not calculated
Sb 206.836†                 0.9     0.00313 mg/L      0.000930     0.00313 mg/L      0.000930  29.68%
   QC value within limits for Sb 206.836  Recovery = Not calculated
Se 196.026†                 2.8     0.00121 mg/L      0.000799     0.00121 mg/L      0.000799  65.95%
   QC value within limits for Se 196.026  Recovery = Not calculated
Si 251.611†                52.2     0.00811 mg/L      0.000405     0.00811 mg/L      0.000405   4.99%
   QC value within limits for Si 251.611  Recovery = Not calculated
Sn 189.927†                10.2     0.00357 mg/L      0.000142     0.00357 mg/L      0.000142   3.98%
   QC value within limits for Sn 189.927  Recovery = Not calculated
Ti 334.940†              -173.8     0.00300 mg/L      0.000149     0.00300 mg/L      0.000149   4.96%
   QC value within limits for Ti 334.940  Recovery = Not calculated
Tl 190.801†                -3.9    -0.00196 mg/L      0.002672    -0.00196 mg/L      0.002672 136.57%
   QC value within limits for Tl 190.801  Recovery = Not calculated
V 290.880†                128.4     0.00171 mg/L      0.000287     0.00171 mg/L      0.000287  16.77%
   QC value within limits for V 290.880  Recovery = Not calculated
Zn 206.200†                -6.9     0.00211 mg/L      0.000043     0.00211 mg/L      0.000043   2.05%
   QC value within limits for Zn 206.200  Recovery = Not calculated
K 766.490†                101.1      0.0325 mg/L       0.00727      0.0325 mg/L       0.00727  22.36%
   QC value within limits for K 766.490  Recovery = Not calculated
Na 589.592†               679.6      0.0349 mg/L       0.03111      0.0349 mg/L       0.03111  89.18%
   QC value within limits for Na 589.592  Recovery = Not calculated
Sr 407.771†               119.9     0.00406 mg/L      0.000087     0.00406 mg/L      0.000087   2.15%
   QC value within limits for Sr 407.771  Recovery = Not calculated
Li 670.784†               108.3     0.00404 mg/L      0.000475     0.00404 mg/L      0.000475  11.76%
   QC value within limits for Li 670.784  Recovery = Not calculated
All analyte(s) passed QC.

==========================================================================================
Sequence No.: 3                                    Autosampler Location: 147
Sample ID: L1305123701                             Date Collected: 5/30/2013 3:03:27 PM
Analyst: KHR                                       Data Type: Original
Initial Sample Wt:                                 Initial Sample Vol:
Dilution:                                          Sample Prep Vol:

------------------------------------------------------------------------------------------
Nebulizer Parameters: L1305123701
Analyte                  Back Pressure     Flow
All                     164.0 kPa         0.48 L/min

------------------------------------------------------------------------------------------
Mean Data: L1305123701
                    Mean Corrected          Calib.                          Sample
Analyte                Intensity      Conc. Units      Std.Dev.      Conc. Units      Std.Dev.   RSD
Y 371.029             2514001.2                                                      46543.91   1.85%
YRADIAL                172902.1                                                       3476.35   2.01%
Ga 417.206             992640.4                                                      15430.17   1.55%
GaRADIAL                49382.2                                                        801.41   1.62%
Ag 328.068†               249.1     0.00131 mg/L      0.000265     0.00131 mg/L      0.000265  20.19%
Al 396.153†               161.5       0.101 mg/L        0.0003       0.101 mg/L        0.0003   0.26%
As 188.979†                 3.2    -0.00044 mg/L      0.001735    -0.00044 mg/L      0.001735 391.81%
Ba 233.527†              3626.9      0.0426 mg/L       0.00087      0.0426 mg/L       0.00087   2.05%
Be 234.861†                31.6     0.00018 mg/L      0.000030     0.00018 mg/L      0.000030  16.64%
B 249.677†               1214.6      0.0209 mg/L       0.00021      0.0209 mg/L       0.00021   1.00%
Ca 227.546†              3612.3        17.1 mg/L          0.29        17.1 mg/L          0.29   1.71%
Cd 228.802†               -11.7    -0.00017 mg/L      0.000164    -0.00017 mg/L      0.000164  98.34%
Co 228.616†               -12.0    -0.00041 mg/L      0.000147    -0.00041 mg/L      0.000147  35.84%
Cr 267.716†                69.8     0.00191 mg/L      0.000109     0.00191 mg/L      0.000109   5.72%
Cu 327.393†               129.3     0.00141 mg/L      0.000336     0.00141 mg/L      0.000336  23.84%
Fe 239.562†               479.5       0.128 mg/L        0.0034       0.128 mg/L        0.0034   2.66%
Mg 279.077†             15099.7        10.6 mg/L          0.26        10.6 mg/L          0.26   2.41%
Mn 257.610†              3459.8     0.00643 mg/L      0.000154     0.00643 mg/L      0.000154   2.39%
Mo 202.031†                15.1     0.00271 mg/L      0.000112     0.00271 mg/L      0.000112   4.13%
Ni 231.604†                37.3     0.00341 mg/L      0.000215     0.00341 mg/L      0.000215   6.32%
Pb 220.353†                20.0     0.00282 mg/L      0.001360     0.00282 mg/L      0.001360  48.20%
Sb 206.836†                 0.2     0.00285 mg/L      0.000789     0.00285 mg/L      0.000789  27.69%
Se 196.026†                 1.2    -0.00029 mg/L      0.003475    -0.00029 mg/L      0.003475 >999.9%
Si 251.611†             92570.1        2.59 mg/L         0.018        2.59 mg/L         0.018   0.69%
Sn 189.927†              -136.3     -0.0147 mg/L       0.00119     -0.0147 mg/L       0.00119   8.10%
Ti 334.940†             -1579.8     0.00369 mg/L      0.000168     0.00369 mg/L      0.000168   4.56%
Tl 190.801†               -10.9    -0.00538 mg/L      0.000463    -0.00538 mg/L      0.000463   8.60%
```

Approved: May 31, 2013

Lynn H. Rhoden

V 290.880†	1147.4	0.00661 mg/L	0.000190	0.00661 mg/L	0.000190	2.88%
Zn 206.200†	159.4	0.00684 mg/L	0.000266	0.00684 mg/L	0.000266	3.89%
K 766.490†	3117.3	2.20 mg/L	0.082	2.20 mg/L	0.082	3.71%
Na 589.592†	54792.9	5.44 mg/L	0.144	5.44 mg/L	0.144	2.64%
Sr 407.771†	473157.7	0.397 mg/L	0.0103	0.397 mg/L	0.0103	2.60%
Li 670.784†	540.7	0.0102 mg/L	0.00072	0.0102 mg/L	0.00072	7.03%

Sequence No.: 4 **Autosampler Location: 148**
Sample ID: L1305123702 **Date Collected: 5/30/2013 3:06:28 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1305123702

Analyte	Back Pressure	Flow
All	163.0 kPa	0.48 L/min

Mean Data: L1305123702

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2522365.3						18806.51	0.75%
YRADIAL	184710.4						2435.05	1.32%
Ga 417.206	993710.2						5001.40	0.50%
GaRADIAL	50803.6						726.47	1.43%
Ag 328.068†	231.1	0.00120	mg/L	0.000550	0.00120	mg/L	0.000550	45.95%
Al 396.153†	49.6	0.0643	mg/L	0.00296	0.0643	mg/L	0.00296	4.60%
As 188.979†	-0.8	-0.00245	mg/L	0.000810	-0.00245	mg/L	0.000810	33.00%
Ba 233.527†	3528.1	0.0415	mg/L	0.00071	0.0415	mg/L	0.00071	1.72%
Be 234.861†	14.0	0.00018	mg/L	0.000032	0.00018	mg/L	0.000032	17.84%
B 249.677†	1116.7	0.0196	mg/L	0.00008	0.0196	mg/L	0.00008	0.40%
Ca 227.546†	3792.3	18.0	mg/L	0.25	18.0	mg/L	0.25	1.40%
Cd 228.802†	-5.5	0.00004	mg/L	0.000092	0.00004	mg/L	0.000092	244.56%
Co 228.616†	-6.6	-0.00018	mg/L	0.000165	-0.00018	mg/L	0.000165	89.94%
Cr 267.716†	72.2	0.00194	mg/L	0.000155	0.00194	mg/L	0.000155	8.00%
Cu 327.393†	221.8	0.00193	mg/L	0.000497	0.00193	mg/L	0.000497	25.74%
Fe 239.562†	44.8	0.0264	mg/L	0.00092	0.0264	mg/L	0.00092	3.48%
Mg 279.077†	15396.3	10.8	mg/L	0.16	10.8	mg/L	0.16	1.44%
Mn 257.610†	1445.8	0.00266	mg/L	0.000062	0.00266	mg/L	0.000062	2.33%
Mo 202.031†	18.4	0.00287	mg/L	0.000258	0.00287	mg/L	0.000258	8.98%
Ni 231.604†	13.1	0.00281	mg/L	0.000687	0.00281	mg/L	0.000687	24.45%
Pb 220.353†	15.9	0.00230	mg/L	0.001425	0.00230	mg/L	0.001425	62.10%
Sb 206.836†	1.2	0.00324	mg/L	0.000901	0.00324	mg/L	0.000901	27.83%
Se 196.026†	11.3	0.00942	mg/L	0.004413	0.00942	mg/L	0.004413	46.83%
Si 251.611†	92717.0	2.59	mg/L	0.014	2.59	mg/L	0.014	0.55%
Sn 189.927†	-145.1	-0.0158	mg/L	0.00052	-0.0158	mg/L	0.00052	3.27%
Ti 334.940†	-2248.4	0.00293	mg/L	0.000090	0.00293	mg/L	0.000090	3.08%
Tl 190.801†	-15.3	-0.00755	mg/L	0.004133	-0.00755	mg/L	0.004133	54.76%
V 290.880†	1283.3	0.00732	mg/L	0.001112	0.00732	mg/L	0.001112	15.18%
Zn 206.200†	167.7	0.00708	mg/L	0.000235	0.00708	mg/L	0.000235	3.32%
K 766.490†	3572.6	2.53	mg/L	0.007	2.53	mg/L	0.007	0.27%
Na 589.592†	56807.8	5.64	mg/L	0.055	5.64	mg/L	0.055	0.98%
Sr 407.771†	462316.2	0.388	mg/L	0.0028	0.388	mg/L	0.0028	0.73%
Li 670.784†	469.7	0.00916	mg/L	0.000354	0.00916	mg/L	0.000354	3.87%

Sequence No.: 5 **Autosampler Location: 149**
Sample ID: L1305123703 **Date Collected: 5/30/2013 3:09:32 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1305123703

Analyte	Back Pressure	Flow
All	164.0 kPa	0.48 L/min

Mean Data: L1305123703

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

Approved: May 31, 2013

Lynn H. Rhoden

Analyte	Intensity	Conc.	Units	Std.Dev.	Conc.	Units	Std.Dev.	RSD
Y 371.029	2478316.8						29427.68	1.19%
YRADIAL	181995.8						5226.67	2.87%
Ga 417.206	975152.2						9492.63	0.97%
GaRADIAL	51911.7						807.90	1.56%
Ag 328.068†	273.6	0.00141	mg/L	0.000515	0.00141	mg/L	0.000515	36.59%
Al 396.153†	115.8	0.0860	mg/L	0.00143	0.0860	mg/L	0.00143	1.66%
As 188.979†	2.3	-0.00078	mg/L	0.002750	-0.00078	mg/L	0.002750	352.47%
Ba 233.527†	3394.4	0.0400	mg/L	0.00052	0.0400	mg/L	0.00052	1.30%
Be 234.861†	3.1	0.00014	mg/L	0.000036	0.00014	mg/L	0.000036	25.31%
B 249.677†	974.0	0.0175	mg/L	0.00041	0.0175	mg/L	0.00041	2.36%
Ca 227.546†	4744.9	22.5	mg/L	0.20	22.5	mg/L	0.20	0.91%
Cd 228.802†	-4.3	0.00007	mg/L	0.000074	0.00007	mg/L	0.000074	112.39%
Co 228.616†	-6.4	-0.00018	mg/L	0.000054	-0.00018	mg/L	0.000054	30.66%
Cr 267.716†	64.8	0.00186	mg/L	0.000123	0.00186	mg/L	0.000123	6.60%
Cu 327.393†	36.3	0.00087	mg/L	0.000922	0.00087	mg/L	0.000922	105.60%
Fe 239.562†	364.7	0.101	mg/L	0.0023	0.101	mg/L	0.0023	2.25%
Mg 279.077†	18071.0	12.7	mg/L	0.30	12.7	mg/L	0.30	2.33%
Mn 257.610†	3299.8	0.00613	mg/L	0.000081	0.00613	mg/L	0.000081	1.32%
Mo 202.031†	17.0	0.00281	mg/L	0.000059	0.00281	mg/L	0.000059	2.11%
Ni 231.604†	21.3	0.00301	mg/L	0.000125	0.00301	mg/L	0.000125	4.14%
Pb 220.353†	29.6	0.00407	mg/L	0.001151	0.00407	mg/L	0.001151	28.32%
Sb 206.836†	-1.5	0.00216	mg/L	0.000917	0.00216	mg/L	0.000917	42.37%
Se 196.026†	4.9	0.00328	mg/L	0.004466	0.00328	mg/L	0.004466	136.11%
Si 251.611†	101026.7	2.82	mg/L	0.042	2.82	mg/L	0.042	1.48%
Sn 189.927†	-165.5	-0.0183	mg/L	0.00067	-0.0183	mg/L	0.00067	3.63%
Ti 334.940†	-2384.5	0.00343	mg/L	0.000050	0.00343	mg/L	0.000050	1.47%
Tl 190.801†	-12.5	-0.00619	mg/L	0.002772	-0.00619	mg/L	0.002772	44.77%
V 290.880†	1440.5	0.00806	mg/L	0.001027	0.00806	mg/L	0.001027	12.75%
Zn 206.200†	116.3	0.00561	mg/L	0.000152	0.00561	mg/L	0.000152	2.70%
K 766.490†	2888.9	2.04	mg/L	0.040	2.04	mg/L	0.040	1.96%
Na 589.592†	38006.4	3.77	mg/L	0.018	3.77	mg/L	0.018	0.48%
Sr 407.771†	489568.6	0.411	mg/L	0.0087	0.411	mg/L	0.0087	2.12%
Li 670.784†	824.6	0.0142	mg/L	0.00037	0.0142	mg/L	0.00037	2.60%

Sequence No.: 6 **Autosampler Location: 105**
Sample ID: L1305123704 **Date Collected: 5/30/2013 3:12:33 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1305123704

Analyte	Back Pressure	Flow
All	163.0 kPa	0.48 L/min

Mean Data: L1305123704

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2377389.4						48718.88	2.05%
YRADIAL	176615.0						3562.22	2.02%
Ga 417.206	973316.2						17633.19	1.81%
GaRADIAL	50863.1						565.76	1.11%
Ag 328.068†	1113.7	0.00499	mg/L	0.000789	0.00499	mg/L	0.000789	15.80%
Al 396.153†	17.4	0.0538	mg/L	0.00130	0.0538	mg/L	0.00130	2.42%
As 188.979†	7.2	0.00374	mg/L	0.002728	0.00374	mg/L	0.002728	72.98%
Ba 233.527†	1898.5	0.0233	mg/L	0.00036	0.0233	mg/L	0.00036	1.55%
Be 234.861†	27.7	0.00020	mg/L	0.000034	0.00020	mg/L	0.000034	16.70%
B 249.677†	1537.8	0.0255	mg/L	0.00028	0.0255	mg/L	0.00028	1.08%
Ca 227.546†	24788.0	117	mg/L	1.6	117	mg/L	1.6	1.35%
Cd 228.802†	-4.8	0.00004	mg/L	0.000322	0.00004	mg/L	0.000322	829.65%
Co 228.616†	8.6	0.00049	mg/L	0.000359	0.00049	mg/L	0.000359	73.91%
Cr 267.716†	255.8	0.00389	mg/L	0.000136	0.00389	mg/L	0.000136	3.51%
Cu 327.393†	-92.2	0.00012	mg/L	0.000378	0.00012	mg/L	0.000378	308.27%
Fe 239.562†	26.3	0.0203	mg/L	0.00203	0.0203	mg/L	0.00203	10.01%
Mg 279.077†	143964.9	101	mg/L	1.0	101	mg/L	1.0	0.96%
Mn 257.610†	27075.0	0.0506	mg/L	0.00158	0.0506	mg/L	0.00158	3.13%
Mo 202.031†	30.6	0.00350	mg/L	0.000329	0.00350	mg/L	0.000329	9.39%
Ni 231.604†	216.4	0.00788	mg/L	0.000094	0.00788	mg/L	0.000094	1.19%
Pb 220.353†	45.9	0.00616	mg/L	0.000543	0.00616	mg/L	0.000543	8.82%

Approved: May 31, 2013

Sb 206.836†	-2.1	0.00189 mg/L	0.000405	0.00189 mg/L	0.000405	21.43%
Se 196.026†	3.9	0.00229 mg/L	0.003382	0.00229 mg/L	0.003382	147.37%
Si 251.611†	87115.7	2.43 mg/L	0.063	2.43 mg/L	0.063	2.59%
Sn 189.927†	-344.5	-0.0406 mg/L	0.00049	-0.0406 mg/L	0.00049	1.19%
Ti 334.940†	-13781.3	0.00257 mg/L	0.000370	0.00257 mg/L	0.000370	14.40%
Tl 190.801†	-30.7	-0.0152 mg/L	0.00115	-0.0152 mg/L	0.00115	7.55%
V 290.880†	4808.8	0.0230 mg/L	0.00107	0.0230 mg/L	0.00107	4.67%
Zn 206.200†	166.8	0.00707 mg/L	0.000253	0.00707 mg/L	0.000253	3.58%
K 766.490†	11307.9	8.08 mg/L	0.028	8.08 mg/L	0.028	0.35%
Na 589.592†	35943.4	3.57 mg/L	0.017	3.57 mg/L	0.017	0.48%
Sr 407.771†	771879.6	0.646 mg/L	0.0071	0.646 mg/L	0.0071	1.10%
Li 670.784†	1047.7	0.0174 mg/L	0.00034	0.0174 mg/L	0.00034	1.99%

Sequence No.: 7 **Autosampler Location: 151**
Sample ID: L1305123705 **Date Collected: 5/30/2013 3:15:38 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1305123705

Analyte	Back Pressure	Flow
All	164.0 kPa	0.48 L/min

Mean Data: L1305123705

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2440337.2						46167.16	1.89%
YRADIAL	177655.6						3617.72	2.04%
Ga 417.206	950558.2						29431.89	3.10%
GaRADIAL	50289.6						858.17	1.71%
Ag 328.068†	185.1	0.00102	mg/L	0.000528	0.00102	mg/L	0.000528	51.96%
Al 396.153†	-1.7	0.0476	mg/L	0.00354	0.0476	mg/L	0.00354	7.43%
As 188.979†	4.9	0.00042	mg/L	0.001984	0.00042	mg/L	0.001984	470.03%
Ba 233.527†	56499.1	0.633	mg/L	0.0063	0.633	mg/L	0.0063	1.00%
Be 234.861†	-37.8	0.00008	mg/L	0.000063	0.00008	mg/L	0.000063	74.60%
B 249.677†	1386.4	0.0233	mg/L	0.00075	0.0233	mg/L	0.00075	3.22%
Ca 227.546†	3628.0	17.2	mg/L	0.56	17.2	mg/L	0.56	3.27%
Cd 228.802†	-3.5	0.00008	mg/L	0.000139	0.00008	mg/L	0.000139	169.38%
Co 228.616†	-22.2	-0.00103	mg/L	0.000279	-0.00103	mg/L	0.000279	27.14%
Cr 267.716†	56.1	0.00176	mg/L	0.000192	0.00176	mg/L	0.000192	10.90%
Cu 327.393†	-33.7	0.00047	mg/L	0.000936	0.00047	mg/L	0.000936	197.42%
Fe 239.562†	413.8	0.113	mg/L	0.0018	0.113	mg/L	0.0018	1.61%
Mg 279.077†	5788.7	4.09	mg/L	0.092	4.09	mg/L	0.092	2.24%
Mn 257.610†	29268.5	0.0547	mg/L	0.00049	0.0547	mg/L	0.00049	0.89%
Mo 202.031†	22.6	0.00310	mg/L	0.000264	0.00310	mg/L	0.000264	8.52%
Ni 231.604†	-16.8	0.00206	mg/L	0.000627	0.00206	mg/L	0.000627	30.41%
Pb 220.353†	19.8	0.00277	mg/L	0.000399	0.00277	mg/L	0.000399	14.42%
Sb 206.836†	-1.3	0.00222	mg/L	0.003074	0.00222	mg/L	0.003074	138.78%
Se 196.026†	4.5	0.00286	mg/L	0.004130	0.00286	mg/L	0.004130	144.42%
Si 251.611†	124640.1	3.48	mg/L	0.059	3.48	mg/L	0.059	1.70%
Sn 189.927†	-144.1	-0.0157	mg/L	0.00054	-0.0157	mg/L	0.00054	3.47%
Ti 334.940†	-2061.2	0.00306	mg/L	0.000026	0.00306	mg/L	0.000026	0.85%
Tl 190.801†	-13.2	-0.00657	mg/L	0.003091	-0.00657	mg/L	0.003091	47.08%
V 290.880†	1001.9	0.00602	mg/L	0.000816	0.00602	mg/L	0.000816	13.56%
Zn 206.200†	55.6	0.00389	mg/L	0.000121	0.00389	mg/L	0.000121	3.11%
K 766.490†	3222.8	2.24	mg/L	0.023	2.24	mg/L	0.023	1.03%
Na 589.592†	441757.7	42.5	mg/L	0.36	42.5	mg/L	0.36	0.85%
Sr 407.771†	499031.7	0.418	mg/L	0.0043	0.418	mg/L	0.0043	1.04%
Li 670.784†	656.7	0.0118	mg/L	0.00053	0.0118	mg/L	0.00053	4.50%

Sequence No.: 8 **Autosampler Location: 152**
Sample ID: L1305124901 **Date Collected: 5/30/2013 3:18:39 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1305124901

Approved: May 31, 2013

Analyte	Back Pressure	Flow
All	164.0 kPa	0.48 L/min

Mean Data: L1305124901

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2486694.0						35532.52	1.43%
YRADIAL	178193.9						2899.46	1.63%
Ga 417.206	990100.3						21711.71	2.19%
GaRADIAL	50694.2						1009.97	1.99%
Ag 328.068†	153.9	0.00093	mg/L	0.000138	0.00093	mg/L	0.000138	14.91%
Al 396.153†	251.8	0.130	mg/L	0.0015	0.130	mg/L	0.0015	1.17%
As 188.979†	2.6	-0.00063	mg/L	0.003714	-0.00063	mg/L	0.003714	585.95%
Ba 233.527†	3461.7	0.0407	mg/L	0.00038	0.0407	mg/L	0.00038	0.92%
Be 234.861†	20.6	0.00015	mg/L	0.000046	0.00015	mg/L	0.000046	31.02%
B 249.677†	829.8	0.0155	mg/L	0.00246	0.0155	mg/L	0.00246	15.93%
Ca 227.546†	4558.7	21.6	mg/L	0.37	21.6	mg/L	0.37	1.73%
Cd 228.802†	-6.0	0.00001	mg/L	0.000123	0.00001	mg/L	0.000123	978.38%
Co 228.616†	-8.7	-0.00027	mg/L	0.000175	-0.00027	mg/L	0.000175	63.93%
Cr 267.716†	77.3	0.00199	mg/L	0.000058	0.00199	mg/L	0.000058	2.93%
Cu 327.393†	109.9	0.00130	mg/L	0.001125	0.00130	mg/L	0.001125	86.32%
Fe 239.562†	726.2	0.185	mg/L	0.0034	0.185	mg/L	0.0034	1.82%
Mg 279.077†	17085.7	12.0	mg/L	0.23	12.0	mg/L	0.23	1.95%
Mn 257.610†	5644.2	0.0105	mg/L	0.00050	0.0105	mg/L	0.00050	4.74%
Mo 202.031†	18.6	0.00289	mg/L	0.000402	0.00289	mg/L	0.000402	13.89%
Ni 231.604†	37.9	0.00343	mg/L	0.000203	0.00343	mg/L	0.000203	5.93%
Pb 220.353†	26.6	0.00368	mg/L	0.001085	0.00368	mg/L	0.001085	29.46%
Sb 206.836†	-4.7	0.00082	mg/L	0.000691	0.00082	mg/L	0.000691	84.07%
Se 196.026†	6.0	0.00429	mg/L	0.002291	0.00429	mg/L	0.002291	53.36%
Si 251.611†	97129.4	2.71	mg/L	0.137	2.71	mg/L	0.137	5.04%
Sn 189.927†	-171.3	-0.0190	mg/L	0.00085	-0.0190	mg/L	0.00085	4.48%
Ti 334.940†	-1969.1	0.00385	mg/L	0.000163	0.00385	mg/L	0.000163	4.23%
Tl 190.801†	-16.8	-0.00827	mg/L	0.002567	-0.00827	mg/L	0.002567	31.04%
V 290.880†	1415.0	0.00792	mg/L	0.001588	0.00792	mg/L	0.001588	20.04%
Zn 206.200†	545.6	0.0178	mg/L	0.00030	0.0178	mg/L	0.00030	1.70%
K 766.490†	3068.0	2.17	mg/L	0.036	2.17	mg/L	0.036	1.67%
Na 589.592†	37667.9	3.74	mg/L	0.076	3.74	mg/L	0.076	2.02%
Sr 407.771†	450508.4	0.378	mg/L	0.0038	0.378	mg/L	0.0038	1.00%
Li 670.784†	735.3	0.0129	mg/L	0.00138	0.0129	mg/L	0.00138	10.70%

Sequence No.: 9
Sample ID: L1305125101
Analyst: KHR
Initial Sample Wt:
Dilution:

Autosampler Location: 153
Date Collected: 5/30/2013 3:21:40 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: L1305125101

Analyte	Back Pressure	Flow
All	164.0 kPa	0.48 L/min

Mean Data: L1305125101

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2485339.8						54368.71	2.19%
YRADIAL	176091.5						3062.67	1.74%
Ga 417.206	1008447.8						29441.79	2.92%
GaRADIAL	50654.7						779.77	1.54%
Ag 328.068†	752.7	0.00350	mg/L	0.000445	0.00350	mg/L	0.000445	12.71%
Al 396.153†	607.6	0.247	mg/L	0.0056	0.247	mg/L	0.0056	2.27%
As 188.979†	3.7	0.00123	mg/L	0.001287	0.00123	mg/L	0.001287	104.82%
Ba 233.527†	1492.8	0.0187	mg/L	0.00038	0.0187	mg/L	0.00038	2.04%
Be 234.861†	234.5	0.00052	mg/L	0.000044	0.00052	mg/L	0.000044	8.53%
B 249.677†	757.2	0.0144	mg/L	0.00043	0.0144	mg/L	0.00043	2.98%
Ca 227.546†	17255.4	81.7	mg/L	1.74	81.7	mg/L	1.74	2.13%
Cd 228.802†	-0.9	0.00020	mg/L	0.000090	0.00020	mg/L	0.000090	46.01%
Co 228.616†	173.7	0.00725	mg/L	0.000312	0.00725	mg/L	0.000312	4.30%
Cr 267.716†	195.0	0.00324	mg/L	0.000265	0.00324	mg/L	0.000265	8.18%
Cu 327.393†	-24.4	0.00053	mg/L	0.000393	0.00053	mg/L	0.000393	74.77%

Approved: May 31, 2013

Fe 239.562†	902.2	0.225	mg/L	0.0033	0.225	mg/L	0.0033	1.47%
Mg 279.077†	107243.6	75.1	mg/L	0.70	75.1	mg/L	0.70	0.94%
Mn 257.610†	326409.3	0.611	mg/L	0.0133	0.611	mg/L	0.0133	2.18%
Mo 202.031†	23.8	0.00329	mg/L	0.000205	0.00329	mg/L	0.000205	6.24%
Ni 231.604†	2374.5	0.0617	mg/L	0.00121	0.0617	mg/L	0.00121	1.97%
Pb 220.353†	52.8	0.00675	mg/L	0.002224	0.00675	mg/L	0.002224	32.96%
Sb 206.836†	-9.5	-0.00110	mg/L	0.000447	-0.00110	mg/L	0.000447	40.65%
Se 196.026†	9.0	0.00708	mg/L	0.006588	0.00708	mg/L	0.006588	93.02%
Si 251.611†	86399.9	2.41	mg/L	0.062	2.41	mg/L	0.062	2.58%
Sn 189.927†	-303.0	-0.0355	mg/L	0.00009	-0.0355	mg/L	0.00009	0.26%
Ti 334.940†	-8653.3	0.00401	mg/L	0.001147	0.00401	mg/L	0.001147	28.61%
Tl 190.801†	-30.0	-0.0154	mg/L	0.00105	-0.0154	mg/L	0.00105	6.84%
V 290.880†	3827.0	0.0186	mg/L	0.00040	0.0186	mg/L	0.00040	2.17%
Zn 206.200†	2829.1	0.0828	mg/L	0.00172	0.0828	mg/L	0.00172	2.07%
K 766.490†	10362.8	7.41	mg/L	0.102	7.41	mg/L	0.102	1.37%
Na 589.592†	22801.2	2.25	mg/L	0.048	2.25	mg/L	0.048	2.15%
Sr 407.771†	353604.5	0.299	mg/L	0.0014	0.299	mg/L	0.0014	0.47%
Li 670.784†	1038.9	0.0172	mg/L	0.00098	0.0172	mg/L	0.00098	5.70%

Sequence No.: 10 **Autosampler Location: 154**
Sample ID: L1305125102 **Date Collected: 5/30/2013 3:24:41 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1305125102

Analyte	Back Pressure	Flow
All	163.0 kPa	0.48 L/min

Mean Data: L1305125102

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2470737.9						8504.64	0.34%
YRADIAL	173757.2						1012.46	0.58%
Ga 417.206	998000.4						17144.53	1.72%
GaRADIAL	50334.2						719.74	1.43%
Ag 328.068†	928.9	0.00419	mg/L	0.000669	0.00419	mg/L	0.000669	15.97%
Al 396.153†	159.3	0.100	mg/L	0.0021	0.100	mg/L	0.0021	2.08%
As 188.979†	2.1	0.00048	mg/L	0.000579	0.00048	mg/L	0.000579	120.43%
Ba 233.527†	1439.5	0.0181	mg/L	0.00017	0.0181	mg/L	0.00017	0.95%
Be 234.861†	80.3	0.00033	mg/L	0.000054	0.00033	mg/L	0.000054	16.34%
B 249.677†	747.7	0.0143	mg/L	0.00037	0.0143	mg/L	0.00037	2.61%
Ca 227.546†	17821.5	84.3	mg/L	1.57	84.3	mg/L	1.57	1.87%
Cd 228.802†	-1.6	0.00017	mg/L	0.000189	0.00017	mg/L	0.000189	107.88%
Co 228.616†	146.3	0.00613	mg/L	0.000188	0.00613	mg/L	0.000188	3.06%
Cr 267.716†	200.1	0.00330	mg/L	0.000276	0.00330	mg/L	0.000276	8.36%
Cu 327.393†	-75.9	0.00021	mg/L	0.000139	0.00021	mg/L	0.000139	65.16%
Fe 239.562†	51.0	0.0265	mg/L	0.00048	0.0265	mg/L	0.00048	1.79%
Mg 279.077†	111350.8	78.0	mg/L	0.53	78.0	mg/L	0.53	0.68%
Mn 257.610†	291671.6	0.546	mg/L	0.0077	0.546	mg/L	0.0077	1.41%
Mo 202.031†	27.0	0.00343	mg/L	0.000489	0.00343	mg/L	0.000489	14.28%
Ni 231.604†	2230.3	0.0581	mg/L	0.00052	0.0581	mg/L	0.00052	0.90%
Pb 220.353†	46.8	0.00599	mg/L	0.000733	0.00599	mg/L	0.000733	12.23%
Sb 206.836†	-1.8	0.00206	mg/L	0.000860	0.00206	mg/L	0.000860	41.68%
Se 196.026†	7.8	0.00586	mg/L	0.011997	0.00586	mg/L	0.011997	204.85%
Si 251.611†	84897.9	2.37	mg/L	0.054	2.37	mg/L	0.054	2.28%
Sn 189.927†	-299.6	-0.0350	mg/L	0.00100	-0.0350	mg/L	0.00100	2.85%
Ti 334.940†	-10113.6	0.00248	mg/L	0.000515	0.00248	mg/L	0.000515	20.75%
Tl 190.801†	-29.8	-0.0153	mg/L	0.00394	-0.0153	mg/L	0.00394	25.78%
V 290.880†	3867.7	0.0188	mg/L	0.00053	0.0188	mg/L	0.00053	2.83%
Zn 206.200†	1949.1	0.0578	mg/L	0.00051	0.0578	mg/L	0.00051	0.89%
K 766.490†	10706.9	7.65	mg/L	0.092	7.65	mg/L	0.092	1.20%
Na 589.592†	23295.6	2.30	mg/L	0.028	2.30	mg/L	0.028	1.22%
Sr 407.771†	369286.8	0.312	mg/L	0.0027	0.312	mg/L	0.0027	0.87%
Li 670.784†	1083.8	0.0179	mg/L	0.00155	0.0179	mg/L	0.00155	8.65%

Sequence No.: 11 **Autosampler Location: 6**
Sample ID: CCV **Date Collected: 5/30/2013 3:27:43 PM**

Approved: May 31, 2013

Analyst:
Initial Sample Wt:
Dilution:

Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: CCV

Analyte	Back Pressure	Flow
All	164.0 kPa	0.48 L/min

Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2410608.7						11956.56	0.50%
YRADIAL	177889.0						2797.66	1.57%
Ga 417.206	926934.3						7096.08	0.77%
GaRADIAL	48985.4						592.27	1.21%
Ag 328.068†	95968.5	0.419	mg/L	0.0048	0.419	mg/L	0.0048	1.15%
QC value within limits for Ag 328.068 Recovery = 104.76%								
Al 396.153†	31480.3	10.3	mg/L	0.03	10.3	mg/L	0.03	0.34%
QC value within limits for Al 396.153 Recovery = 102.60%								
As 188.979†	830.1	0.405	mg/L	0.0057	0.405	mg/L	0.0057	1.40%
QC value within limits for As 188.979 Recovery = 101.36%								
Ba 233.527†	95407.5	1.07	mg/L	0.007	1.07	mg/L	0.007	0.69%
QC value within limits for Ba 233.527 Recovery = 106.72%								
Be 234.861†	34264.3	0.0509	mg/L	0.00024	0.0509	mg/L	0.00024	0.47%
QC value within limits for Be 234.861 Recovery = 101.75%								
B 249.677†	35933.1	0.504	mg/L	0.0068	0.504	mg/L	0.0068	1.35%
QC value within limits for B 249.677 Recovery = 100.72%								
Ca 227.546†	2152.0	10.7	mg/L	0.12	10.7	mg/L	0.12	1.10%
QC value within limits for Ca 227.546 Recovery = 106.92%								
Cd 228.802†	1615.3	0.0490	mg/L	0.00070	0.0490	mg/L	0.00070	1.43%
QC value within limits for Cd 228.802 Recovery = 97.92%								
Co 228.616†	5194.3	0.213	mg/L	0.0003	0.213	mg/L	0.0003	0.15%
QC value within limits for Co 228.616 Recovery = 106.49%								
Cr 267.716†	50315.7	0.532	mg/L	0.0050	0.532	mg/L	0.0050	0.95%
QC value within limits for Cr 267.716 Recovery = 106.48%								
Cu 327.393†	89279.3	0.513	mg/L	0.0056	0.513	mg/L	0.0056	1.09%
QC value within limits for Cu 327.393 Recovery = 102.67%								
Fe 239.562†	17871.5	4.18	mg/L	0.025	4.18	mg/L	0.025	0.59%
QC value within limits for Fe 239.562 Recovery = 104.54%								
Mg 279.077†	15068.8	10.6	mg/L	0.06	10.6	mg/L	0.06	0.52%
QC value within limits for Mg 279.077 Recovery = 106.07%								
Mn 257.610†	290456.0	0.544	mg/L	0.0042	0.544	mg/L	0.0042	0.77%
QC value within limits for Mn 257.610 Recovery = 108.85%								
Mo 202.031†	20910.5	1.05	mg/L	0.008	1.05	mg/L	0.008	0.71%
QC value within limits for Mo 202.031 Recovery = 105.45%								
Ni 231.604†	21060.6	0.527	mg/L	0.0053	0.527	mg/L	0.0053	1.01%
QC value within limits for Ni 231.604 Recovery = 105.50%								
Pb 220.353†	4140.2	0.538	mg/L	0.0041	0.538	mg/L	0.0041	0.75%
QC value within limits for Pb 220.353 Recovery = 107.59%								
Sb 206.836†	3007.6	1.24	mg/L	0.014	1.24	mg/L	0.014	1.11%
QC value within limits for Sb 206.836 Recovery = 103.13%								
Se 196.026†	426.7	0.412	mg/L	0.0048	0.412	mg/L	0.0048	1.17%
QC value within limits for Se 196.026 Recovery = 103.10%								
Si 251.611†	184552.5	5.14	mg/L	0.039	5.14	mg/L	0.039	0.76%
QC value within limits for Si 251.611 Recovery = 102.78%								
Sn 189.927†	7904.4	0.987	mg/L	0.0050	0.987	mg/L	0.0050	0.51%
QC value within limits for Sn 189.927 Recovery = 98.72%								
Ti 334.940†	791603.3	1.05	mg/L	0.004	1.05	mg/L	0.004	0.39%
QC value within limits for Ti 334.940 Recovery = 105.15%								
Tl 190.801†	1084.7	0.546	mg/L	0.0038	0.546	mg/L	0.0038	0.69%
QC value within limits for Tl 190.801 Recovery = 109.22%								
V 290.880†	209909.8	1.07	mg/L	0.014	1.07	mg/L	0.014	1.31%
QC value within limits for V 290.880 Recovery = 107.09%								
Zn 206.200†	37740.8	1.08	mg/L	0.006	1.08	mg/L	0.006	0.57%
QC value within limits for Zn 206.200 Recovery = 108.04%								
K 766.490†	76591.2	53.5	mg/L	0.30	53.5	mg/L	0.30	0.56%
QC value within limits for K 766.490 Recovery = 106.96%								
Na 589.592†	571857.1	54.4	mg/L	0.81	54.4	mg/L	0.81	1.49%
QC value within limits for Na 589.592 Recovery = 108.87%								
Sr 407.771†	1324399.8	1.10	mg/L	0.016	1.10	mg/L	0.016	1.43%

Approved: May 31, 2013

Lynn H. Rhoden

QC value greater than the upper limit for Sr 407.771 Recovery = 110.34%
Li 670.784† 73716.6 1.05 mg/L 0.004 1.05 mg/L 0.004 0.40%
QC value within limits for Li 670.784 Recovery = 104.79%
QC Failed. Continue with analysis.

==========

Sequence No.: 12 **Autosampler Location: 1**
Sample ID: CCB **Date Collected: 5/30/2013 3:29:48 PM**
Analyst: **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: CCB

Analyte	Back Pressure	Flow
All	164.0 kPa	0.48 L/min

Mean Data: CCB

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2475641.0						27136.02	1.10%
YRADIAL	179997.5						3020.94	1.68%
Ga 417.206	942808.4						10282.66	1.09%
GaRADIAL	48708.6						649.42	1.33%
Ag 328.068†	56.8	0.00051	mg/L	0.000323	0.00051	mg/L	0.000323	63.72%
QC value within limits for Ag 328.068 Recovery = Not calculated								
Al 396.153†	2.5	0.0490	mg/L	0.00189	0.0490	mg/L	0.00189	3.86%
QC value within limits for Al 396.153 Recovery = Not calculated								
As 188.979†	2.5	-0.00115	mg/L	0.000887	-0.00115	mg/L	0.000887	76.84%
QC value within limits for As 188.979 Recovery = Not calculated								
Ba 233.527†	-29.0	0.00175	mg/L	0.000113	0.00175	mg/L	0.000113	6.45%
QC value within limits for Ba 233.527 Recovery = Not calculated								
Be 234.861†	-42.9	0.00009	mg/L	0.000029	0.00009	mg/L	0.000029	31.86%
QC value within limits for Be 234.861 Recovery = Not calculated								
B 249.677†	491.5	0.0108	mg/L	0.00063	0.0108	mg/L	0.00063	5.81%
QC value within limits for B 249.677 Recovery = Not calculated								
Ca 227.546†	5.0	0.0610	mg/L	0.03529	0.0610	mg/L	0.03529	57.90%
QC value within limits for Ca 227.546 Recovery = Not calculated								
Cd 228.802†	-4.0	0.00007	mg/L	0.000108	0.00007	mg/L	0.000108	146.15%
QC value within limits for Cd 228.802 Recovery = Not calculated								
Co 228.616†	-9.6	-0.00030	mg/L	0.000111	-0.00030	mg/L	0.000111	37.07%
QC value within limits for Co 228.616 Recovery = Not calculated								
Cr 267.716†	9.5	0.00128	mg/L	0.000086	0.00128	mg/L	0.000086	6.77%
QC value within limits for Cr 267.716 Recovery = Not calculated								
Cu 327.393†	104.0	0.00126	mg/L	0.000626	0.00126	mg/L	0.000626	49.83%
QC value within limits for Cu 327.393 Recovery = Not calculated								
Fe 239.562†	25.0	0.0220	mg/L	0.00078	0.0220	mg/L	0.00078	3.55%
QC value within limits for Fe 239.562 Recovery = Not calculated								
Mg 279.077†	4.3	0.0406	mg/L	0.00254	0.0406	mg/L	0.00254	6.26%
QC value within limits for Mg 279.077 Recovery = Not calculated								
Mn 257.610†	269.5	0.00045	mg/L	0.000018	0.00045	mg/L	0.000018	4.04%
QC value within limits for Mn 257.610 Recovery = Not calculated								
Mo 202.031†	-5.1	0.00169	mg/L	0.000445	0.00169	mg/L	0.000445	26.36%
QC value within limits for Mo 202.031 Recovery = Not calculated								
Ni 231.604†	-24.6	0.00187	mg/L	0.000295	0.00187	mg/L	0.000295	15.83%
QC value within limits for Ni 231.604 Recovery = Not calculated								
Pb 220.353†	6.2	0.00104	mg/L	0.000872	0.00104	mg/L	0.000872	83.73%
QC value within limits for Pb 220.353 Recovery = Not calculated								
Sb 206.836†	-3.3	0.00141	mg/L	0.002967	0.00141	mg/L	0.002967	210.32%
QC value within limits for Sb 206.836 Recovery = Not calculated								
Se 196.026†	0.5	-0.00104	mg/L	0.005350	-0.00104	mg/L	0.005350	516.45%
QC value within limits for Se 196.026 Recovery = Not calculated								
Si 251.611†	80.2	0.00890	mg/L	0.000566	0.00890	mg/L	0.000566	6.35%
QC value within limits for Si 251.611 Recovery = Not calculated								
Sn 189.927†	9.8	0.00352	mg/L	0.001325	0.00352	mg/L	0.001325	37.67%
QC value within limits for Sn 189.927 Recovery = Not calculated								
Ti 334.940†	-89.8	0.00310	mg/L	0.000160	0.00310	mg/L	0.000160	5.14%
QC value within limits for Ti 334.940 Recovery = Not calculated								
Tl 190.801†	-3.8	-0.00188	mg/L	0.002722	-0.00188	mg/L	0.002722	144.91%
QC value within limits for Tl 190.801 Recovery = Not calculated								
V 290.880†	162.3	0.00188	mg/L	0.001020	0.00188	mg/L	0.001020	54.14%

Approved: May 31, 2013

QC value within limits for V 290.880 Recovery = Not calculated

Zn 206.200†	-5.8	0.00214 mg/L	0.000324	0.00214 mg/L	0.000324	15.16%

QC value within limits for Zn 206.200 Recovery = Not calculated

K 766.490†	55.5	-0.00044 mg/L	0.063683	-0.00044 mg/L	0.063683	>999.9%

QC value within limits for K 766.490 Recovery = Not calculated

Na 589.592†	586.5	0.0255 mg/L	0.01805	0.0255 mg/L	0.01805	70.73%

QC value within limits for Na 589.592 Recovery = Not calculated

Sr 407.771†	109.4	0.00405 mg/L	0.000066	0.00405 mg/L	0.000066	1.64%

QC value within limits for Sr 407.771 Recovery = Not calculated

Li 670.784†	48.4	0.00319 mg/L	0.000526	0.00319 mg/L	0.000526	16.51%

QC value within limits for Li 670.784 Recovery = Not calculated

All analyte(s) passed QC.

Sequence No.: 13 **Autosampler Location: 83**
Sample ID: L1305122101 WG432128-01 **Date Collected: 5/30/2013 3:32:47 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1305122101 WG432128-01

Analyte	Back Pressure	Flow
All	164.0 kPa	0.48 L/min

Mean Data: L1305122101 WG432128-01

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2503452.6						25202.31	1.01%
YRADIAL	182026.2						5836.38	3.21%
Ga 417.206	992334.9						7756.70	0.78%
GaRADIAL	51032.6						875.35	1.72%
Ag 328.068†	318.3	0.00179	mg/L	0.000260	0.00179	mg/L	0.000260	14.56%
Al 396.153†	189.6	0.110	mg/L	0.0026	0.110	mg/L	0.0026	2.39%
As 188.979†	4.0	0.00029	mg/L	0.000751	0.00029	mg/L	0.000751	259.21%
Ba 233.527†	1460.8	0.0184	mg/L	0.00019	0.0184	mg/L	0.00019	1.06%
Be 234.861†	140.1	0.00027	mg/L	0.000040	0.00027	mg/L	0.000040	14.73%
B 249.677†	860.3	0.0158	mg/L	0.00085	0.0158	mg/L	0.00085	5.37%
Ca 227.546†	5868.5	27.8	mg/L	0.20	27.8	mg/L	0.20	0.72%
Cd 228.802†	-0.4	0.00018	mg/L	0.000143	0.00018	mg/L	0.000143	77.99%
Co 228.616†	-5.3	-0.00013	mg/L	0.000317	-0.00013	mg/L	0.000317	238.04%
Cr 267.716†	91.0	0.00211	mg/L	0.000034	0.00211	mg/L	0.000034	1.61%
Cu 327.393†	402.6	0.00300	mg/L	0.000770	0.00300	mg/L	0.000770	25.65%
Fe 239.562†	1910.2	0.461	mg/L	0.0136	0.461	mg/L	0.0136	2.94%
Mg 279.077†	5662.8	4.00	mg/L	0.147	4.00	mg/L	0.147	3.66%
Mn 257.610†	55890.6	0.105	mg/L	0.0004	0.105	mg/L	0.0004	0.34%
Mo 202.031†	31.4	0.00357	mg/L	0.000291	0.00357	mg/L	0.000291	8.16%
Ni 231.604†	10.3	0.00274	mg/L	0.000139	0.00274	mg/L	0.000139	5.06%
Pb 220.353†	30.7	0.00414	mg/L	0.001472	0.00414	mg/L	0.001472	35.58%
Sb 206.836†	-2.7	0.00165	mg/L	0.001137	0.00165	mg/L	0.001137	68.89%
Se 196.026†	7.5	0.00584	mg/L	0.000851	0.00584	mg/L	0.000851	14.57%
Si 251.611†	72693.9	2.03	mg/L	0.004	2.03	mg/L	0.004	0.19%
Sn 189.927†	-192.8	-0.0217	mg/L	0.00136	-0.0217	mg/L	0.00136	6.27%
Ti 334.940†	-1715.6	0.00511	mg/L	0.000240	0.00511	mg/L	0.000240	4.70%
Tl 190.801†	-19.6	-0.00974	mg/L	0.003092	-0.00974	mg/L	0.003092	31.75%
V 290.880†	845.5	0.00516	mg/L	0.000445	0.00516	mg/L	0.000445	8.64%
Zn 206.200†	390.1	0.0134	mg/L	0.00031	0.0134	mg/L	0.00031	2.32%
K 766.490†	3059.5	2.16	mg/L	0.061	2.16	mg/L	0.061	2.83%
Na 589.592†	34446.0	3.42	mg/L	0.020	3.42	mg/L	0.020	0.60%
Sr 407.771†	127744.5	0.110	mg/L	0.0011	0.110	mg/L	0.0011	0.99%
Li 670.784†	54.1	0.00327	mg/L	0.000163	0.00327	mg/L	0.000163	4.97%

Sequence No.: 14 **Autosampler Location: 84**
Sample ID: L1305122102MS WG432128-04 **Date Collected: 5/30/2013 3:35:48 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1305122102MS WG432128-04

Approved: May 31, 2013

Kym H. Rhoden

Analyte	Back Pressure	Flow
All	163.0 kPa	0.48 L/min

Mean Data: L1305122102MS WG432128-04

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2445086.2						19384.77	0.79%
YRADIAL	183274.3						1760.85	0.96%
Ga 417.206	955456.7						3652.52	0.38%
GaRADIAL	49616.5						148.69	0.30%
Ag 328.068†	44564.0	0.195	mg/L	0.0044	0.195	mg/L	0.0044	2.24%
Al 396.153†	15108.4	4.95	mg/L	0.006	4.95	mg/L	0.006	0.12%
As 188.979†	390.3	0.190	mg/L	0.0048	0.190	mg/L	0.0048	2.52%
Ba 233.527†	45615.2	0.511	mg/L	0.0120	0.511	mg/L	0.0120	2.34%
Be 234.861†	16091.9	0.0239	mg/L	0.00046	0.0239	mg/L	0.00046	1.92%
B 249.677†	67291.4	0.945	mg/L	0.0302	0.945	mg/L	0.0302	3.20%
Ca 227.546†	6842.3	32.6	mg/L	0.37	32.6	mg/L	0.37	1.15%
Cd 228.802†	744.9	0.0227	mg/L	0.00016	0.0227	mg/L	0.00016	0.71%
Co 228.616†	2390.7	0.0981	mg/L	0.00103	0.0981	mg/L	0.00103	1.05%
Cr 267.716†	23517.9	0.249	mg/L	0.0058	0.249	mg/L	0.0058	2.31%
Cu 327.393†	41434.7	0.239	mg/L	0.0062	0.239	mg/L	0.0062	2.59%
Fe 239.562†	9896.2	2.32	mg/L	0.022	2.32	mg/L	0.022	0.95%
Mg 279.077†	12373.6	8.71	mg/L	0.066	8.71	mg/L	0.066	0.76%
Mn 257.610†	183425.5	0.344	mg/L	0.0089	0.344	mg/L	0.0089	2.60%
Mo 202.031†	10036.4	0.507	mg/L	0.0065	0.507	mg/L	0.0065	1.28%
Ni 231.604†	9883.1	0.249	mg/L	0.0027	0.249	mg/L	0.0027	1.07%
Pb 220.353†	1948.3	0.253	mg/L	0.0031	0.253	mg/L	0.0031	1.21%
Sb 206.836†	1384.0	0.571	mg/L	0.0040	0.571	mg/L	0.0040	0.71%
Se 196.026†	204.5	0.197	mg/L	0.0041	0.197	mg/L	0.0041	2.07%
Si 251.611†	157571.2	4.39	mg/L	0.106	4.39	mg/L	0.106	2.40%
Sn 189.927†	3916.1	0.490	mg/L	0.0057	0.490	mg/L	0.0057	1.17%
Ti 334.940†	374779.7	0.504	mg/L	0.0106	0.504	mg/L	0.0106	2.11%
Tl 190.801†	494.3	0.249	mg/L	0.0017	0.249	mg/L	0.0017	0.69%
V 290.880†	99494.8	0.508	mg/L	0.0154	0.508	mg/L	0.0154	3.04%
Zn 206.200†	17363.4	0.498	mg/L	0.0148	0.498	mg/L	0.0148	2.97%
K 766.490†	39866.2	28.2	mg/L	0.15	28.2	mg/L	0.15	0.54%
Na 589.592†	298152.4	29.1	mg/L	0.11	29.1	mg/L	0.11	0.38%
Sr 407.771†	717640.7	0.600	mg/L	0.0054	0.600	mg/L	0.0054	0.90%
Li 670.784†	35448.7	0.505	mg/L	0.0018	0.505	mg/L	0.0018	0.35%

Sequence No.: 15
Sample ID: L1305122101SD WG432128-05
Analyst: KHR
Initial Sample Wt:
Dilution:

Autosampler Location: 85
Date Collected: 5/30/2013 3:37:52 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: L1305122101SD WG432128-05

Analyte	Back Pressure	Flow
All	163.0 kPa	0.48 L/min

Mean Data: L1305122101SD WG432128-05

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2425311.6						30986.84	1.28%
YRADIAL	187151.3						1611.55	0.86%
Ga 417.206	946558.5						7168.43	0.76%
GaRADIAL	50533.1						531.70	1.05%
Ag 328.068†	44744.7	0.196	mg/L	0.0037	0.196	mg/L	0.0037	1.91%
Al 396.153†	14768.0	4.84	mg/L	0.012	4.84	mg/L	0.012	0.24%
As 188.979†	400.7	0.195	mg/L	0.0075	0.195	mg/L	0.0075	3.83%
Ba 233.527†	46162.4	0.517	mg/L	0.0125	0.517	mg/L	0.0125	2.42%
Be 234.861†	16287.9	0.0242	mg/L	0.00033	0.0242	mg/L	0.00033	1.37%
B 249.677†	68531.4	0.963	mg/L	0.0253	0.963	mg/L	0.0253	2.63%
Ca 227.546†	7105.5	33.9	mg/L	0.38	33.9	mg/L	0.38	1.12%
Cd 228.802†	758.8	0.0231	mg/L	0.00044	0.0231	mg/L	0.00044	1.90%
Co 228.616†	2440.5	0.100	mg/L	0.0015	0.100	mg/L	0.0015	1.52%
Cr 267.716†	23776.9	0.252	mg/L	0.0076	0.252	mg/L	0.0076	2.99%
Cu 327.393†	41692.6	0.240	mg/L	0.0052	0.240	mg/L	0.0052	2.16%

Approved: May 31, 2013

Kym H. Rhoden

Fe 239.562†	9610.8	2.26	mg/L	0.019	2.26	mg/L	0.019	0.86%
Mg 279.077†	12267.4	8.64	mg/L	0.031	8.64	mg/L	0.031	0.36%
Mn 257.610†	181961.7	0.341	mg/L	0.0101	0.341	mg/L	0.0101	2.96%
Mo 202.031†	10278.9	0.519	mg/L	0.0066	0.519	mg/L	0.0066	1.28%
Ni 231.604†	10125.0	0.255	mg/L	0.0037	0.255	mg/L	0.0037	1.46%
Pb 220.353†	1983.6	0.258	mg/L	0.0050	0.258	mg/L	0.0050	1.95%
Sb 206.836†	1414.1	0.583	mg/L	0.0064	0.583	mg/L	0.0064	1.09%
Se 196.026†	206.9	0.199	mg/L	0.0033	0.199	mg/L	0.0033	1.68%
Si 251.611†	159748.9	4.45	mg/L	0.098	4.45	mg/L	0.098	2.20%
Sn 189.927†	4083.6	0.511	mg/L	0.0080	0.511	mg/L	0.0080	1.57%
Ti 334.940†	377344.7	0.507	mg/L	0.0139	0.507	mg/L	0.0139	2.74%
Tl 190.801†	508.4	0.256	mg/L	0.0067	0.256	mg/L	0.0067	2.63%
V 290.880†	99924.7	0.510	mg/L	0.0189	0.510	mg/L	0.0189	3.70%
Zn 206.200†	17656.3	0.507	mg/L	0.0112	0.507	mg/L	0.0112	2.22%
K 766.490†	39129.0	27.7	mg/L	0.03	27.7	mg/L	0.03	0.13%
Na 589.592†	295825.3	28.9	mg/L	1.23	28.9	mg/L	1.23	4.26%
Sr 407.771†	710365.8	0.594	mg/L	0.0299	0.594	mg/L	0.0299	5.03%
Li 670.784†	34666.5	0.494	mg/L	0.0015	0.494	mg/L	0.0015	0.30%

Sequence No.: 16 **Autosampler Location: 86**
Sample ID: L1305130401 **Date Collected: 5/30/2013 3:39:56 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1305130401

Analyte	Back Pressure	Flow
All	163.0 kPa	0.48 L/min

Mean Data: L1305130401

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2498422.7						22635.16	0.91%
YRADIAL	183285.3						2619.31	1.43%
Ga 417.206	1005220.4						10375.47	1.03%
GaRADIAL	50869.6						1100.22	2.16%
Ag 328.068†	266.6	0.00139	mg/L	0.000457	0.00139	mg/L	0.000457	32.92%
Al 396.153†	9.6	0.0510	mg/L	0.00302	0.0510	mg/L	0.00302	5.92%
As 188.979†	0.1	-0.00189	mg/L	0.001591	-0.00189	mg/L	0.001591	84.26%
Ba 233.527†	5395.3	0.0623	mg/L	0.00079	0.0623	mg/L	0.00079	1.27%
Be 234.861†	35.7	0.00021	mg/L	0.000032	0.00021	mg/L	0.000032	15.16%
B 249.677†	1611.4	0.0265	mg/L	0.00107	0.0265	mg/L	0.00107	4.03%
Ca 227.546†	5137.8	24.3	mg/L	0.31	24.3	mg/L	0.31	1.28%
Cd 228.802†	-4.3	0.00007	mg/L	0.000176	0.00007	mg/L	0.000176	247.09%
Co 228.616†	-10.2	-0.00033	mg/L	0.000372	-0.00033	mg/L	0.000372	113.42%
Cr 267.716†	69.5	0.00191	mg/L	0.000055	0.00191	mg/L	0.000055	2.87%
Cu 327.393†	50.7	0.00095	mg/L	0.000431	0.00095	mg/L	0.000431	45.34%
Fe 239.562†	42.4	0.0259	mg/L	0.00049	0.0259	mg/L	0.00049	1.88%
Mg 279.077†	8830.8	6.22	mg/L	0.004	6.22	mg/L	0.004	0.07%
Mn 257.610†	820.2	0.00149	mg/L	0.000043	0.00149	mg/L	0.000043	2.87%
Mo 202.031†	101.4	0.00705	mg/L	0.000383	0.00705	mg/L	0.000383	5.43%
Ni 231.604†	-3.7	0.00239	mg/L	0.000242	0.00239	mg/L	0.000242	10.13%
Pb 220.353†	28.0	0.00387	mg/L	0.000656	0.00387	mg/L	0.000656	16.96%
Sb 206.836†	-1.2	0.00228	mg/L	0.002734	0.00228	mg/L	0.002734	119.86%
Se 196.026†	6.8	0.00512	mg/L	0.004241	0.00512	mg/L	0.004241	82.89%
Si 251.611†	526381.7	14.7	mg/L	0.12	14.7	mg/L	0.12	0.81%
Sn 189.927†	-177.5	-0.0198	mg/L	0.00085	-0.0198	mg/L	0.00085	4.28%
Ti 334.940†	-3043.0	0.00284	mg/L	0.000239	0.00284	mg/L	0.000239	8.41%
Tl 190.801†	-22.5	-0.0111	mg/L	0.00365	-0.0111	mg/L	0.00365	32.95%
V 290.880†	1517.4	0.00864	mg/L	0.001997	0.00864	mg/L	0.001997	23.12%
Zn 206.200†	585.9	0.0190	mg/L	0.00016	0.0190	mg/L	0.00016	0.87%
K 766.490†	2372.5	1.65	mg/L	0.006	1.65	mg/L	0.006	0.35%
Na 589.592†	204971.6	20.2	mg/L	0.21	20.2	mg/L	0.21	1.06%
Sr 407.771†	247969.1	0.210	mg/L	0.0034	0.210	mg/L	0.0034	1.63%
Li 670.784†	273.6	0.00638	mg/L	0.001092	0.00638	mg/L	0.001092	17.11%

Sequence No.: 17 **Autosampler Location: 87**
Sample ID: L1305130402 **Date Collected: 5/30/2013 3:43:00 PM**

Approved: May 31, 2013
Lynn H. Rhoden

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

Nebulizer Parameters: L1305130402

Analyte	Back Pressure	Flow
All	163.0 kPa	0.48 L/min

Mean Data: L1305130402

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2472483.3						35982.96	1.46%
YRADIAL	178974.2						3526.82	1.97%
Ga 417.206	996569.2						22798.42	2.29%
GaRADIAL	51345.9						1729.63	3.37%
Ag 328.068†	248.5	0.00134	mg/L	0.000159	0.00134	mg/L	0.000159	11.90%
Al 396.153†	2.4	0.0486	mg/L	0.00159	0.0486	mg/L	0.00159	3.27%
As 188.979†	1.8	-0.00092	mg/L	0.001849	-0.00092	mg/L	0.001849	200.80%
Ba 233.527†	5986.4	0.0689	mg/L	0.00046	0.0689	mg/L	0.00046	0.66%
Be 234.861†	29.0	0.00018	mg/L	0.000043	0.00018	mg/L	0.000043	23.69%
B 249.677†	1192.8	0.0206	mg/L	0.00010	0.0206	mg/L	0.00010	0.51%
Ca 227.546†	5893.7	27.9	mg/L	0.67	27.9	mg/L	0.67	2.39%
Cd 228.802†	-9.3	-0.00009	mg/L	0.000157	-0.00009	mg/L	0.000157	180.67%
Co 228.616†	-8.4	-0.00026	mg/L	0.000601	-0.00026	mg/L	0.000601	231.90%
Cr 267.716†	1039.2	0.0121	mg/L	0.00012	0.0121	mg/L	0.00012	1.02%
Cu 327.393†	172.6	0.00165	mg/L	0.000320	0.00165	mg/L	0.000320	19.40%
Fe 239.562†	392.1	0.107	mg/L	0.0019	0.107	mg/L	0.0019	1.73%
Mg 279.077†	9791.0	6.89	mg/L	0.131	6.89	mg/L	0.131	1.90%
Mn 257.610†	1122.1	0.00206	mg/L	0.000029	0.00206	mg/L	0.000029	1.41%
Mo 202.031†	106.4	0.00730	mg/L	0.000058	0.00730	mg/L	0.000058	0.79%
Ni 231.604†	2146.3	0.0560	mg/L	0.00108	0.0560	mg/L	0.00108	1.92%
Pb 220.353†	26.0	0.00361	mg/L	0.000574	0.00361	mg/L	0.000574	15.91%
Sb 206.836†	0.5	0.00292	mg/L	0.001172	0.00292	mg/L	0.001172	40.18%
Se 196.026†	7.7	0.00600	mg/L	0.004541	0.00600	mg/L	0.004541	75.68%
Si 251.611†	540226.3	15.1	mg/L	0.27	15.1	mg/L	0.27	1.78%
Sn 189.927†	-201.2	-0.0228	mg/L	0.00081	-0.0228	mg/L	0.00081	3.54%
Ti 334.940†	-3457.8	0.00282	mg/L	0.000225	0.00282	mg/L	0.000225	7.96%
Tl 190.801†	-16.6	-0.00819	mg/L	0.002529	-0.00819	mg/L	0.002529	30.90%
V 290.880†	1575.5	0.00889	mg/L	0.000622	0.00889	mg/L	0.000622	7.00%
Zn 206.200†	586.5	0.0191	mg/L	0.00013	0.0191	mg/L	0.00013	0.69%
K 766.490†	2591.3	1.81	mg/L	0.005	1.81	mg/L	0.005	0.29%
Na 589.592†	220040.5	21.6	mg/L	0.38	21.6	mg/L	0.38	1.77%
Sr 407.771†	292204.3	0.247	mg/L	0.0024	0.247	mg/L	0.0024	0.97%
Li 670.784†	391.2	0.00805	mg/L	0.000862	0.00805	mg/L	0.000862	10.70%

Sequence No.: 18 **Autosampler Location: 88**
Sample ID: L1305130403 **Date Collected: 5/30/2013 3:46:01 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1305130403

Analyte	Back Pressure	Flow
All	163.0 kPa	0.48 L/min

Mean Data: L1305130403

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2425038.5						26392.22	1.09%
YRADIAL	175104.9						2870.81	1.64%
Ga 417.206	969896.3						10405.81	1.07%
GaRADIAL	50387.6						1202.78	2.39%
Ag 328.068†	435.2	0.00211	mg/L	0.000219	0.00211	mg/L	0.000219	10.37%
Al 396.153†	126.7	0.0893	mg/L	0.00060	0.0893	mg/L	0.00060	0.67%
As 188.979†	1.6	-0.00078	mg/L	0.000456	-0.00078	mg/L	0.000456	58.14%
Ba 233.527†	5336.2	0.0616	mg/L	0.00096	0.0616	mg/L	0.00096	1.56%
Be 234.861†	-2.4	0.00014	mg/L	0.000038	0.00014	mg/L	0.000038	26.58%

Approved: May 31, 2013

Kym H. Rhoden

B 249.677†	1249.3	0.0214	mg/L	0.00188	0.0214	mg/L	0.00188	8.81%
Ca 227.546†	8363.0	39.6	mg/L	0.69	39.6	mg/L	0.69	1.76%
Cd 228.802†	-3.8	0.00008	mg/L	0.000188	0.00008	mg/L	0.000188	231.00%
Co 228.616†	-8.8	-0.00027	mg/L	0.000528	-0.00027	mg/L	0.000528	195.84%
Cr 267.716†	155.8	0.00282	mg/L	0.000178	0.00282	mg/L	0.000178	6.32%
Cu 327.393†	-31.0	0.00049	mg/L	0.000469	0.00049	mg/L	0.000469	96.32%
Fe 239.562†	231.0	0.0698	mg/L	0.00077	0.0698	mg/L	0.00077	1.10%
Mg 279.077†	12664.0	8.91	mg/L	0.198	8.91	mg/L	0.198	2.22%
Mn 257.610†	1141.3	0.00209	mg/L	0.000048	0.00209	mg/L	0.000048	2.31%
Mo 202.031†	84.2	0.00619	mg/L	0.000320	0.00619	mg/L	0.000320	5.17%
Ni 231.604†	-9.1	0.00226	mg/L	0.000197	0.00226	mg/L	0.000197	8.71%
Pb 220.353†	38.4	0.00522	mg/L	0.000540	0.00522	mg/L	0.000540	10.34%
Sb 206.836†	-1.6	0.00210	mg/L	0.001172	0.00210	mg/L	0.001172	55.89%
Se 196.026†	9.0	0.00719	mg/L	0.005021	0.00719	mg/L	0.005021	69.80%
Si 251.611†	568065.9	15.8	mg/L	0.27	15.8	mg/L	0.27	1.68%
Sn 189.927†	-238.9	-0.0275	mg/L	0.00075	-0.0275	mg/L	0.00075	2.75%
Ti 334.940†	-3658.8	0.00431	mg/L	0.000179	0.00431	mg/L	0.000179	4.15%
Tl 190.801†	-25.5	-0.0125	mg/L	0.00268	-0.0125	mg/L	0.00268	21.37%
V 290.880†	2071.4	0.0114	mg/L	0.00056	0.0114	mg/L	0.00056	4.96%
Zn 206.200†	281.3	0.0103	mg/L	0.00049	0.0103	mg/L	0.00049	4.76%
K 766.490†	3069.2	2.15	mg/L	0.018	2.15	mg/L	0.018	0.83%
Na 589.592†	245534.6	24.1	mg/L	0.24	24.1	mg/L	0.24	0.99%
Sr 407.771†	407214.2	0.343	mg/L	0.0031	0.343	mg/L	0.0031	0.91%
Li 670.784†	593.9	0.0109	mg/L	0.00092	0.0109	mg/L	0.00092	8.43%

Sequence No.: 19 **Autosampler Location: 89**
Sample ID: L1305136001 **Date Collected: 5/30/2013 3:49:02 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1305136001

Analyte	Back Pressure	Flow
All	163.0 kPa	0.48 L/min

Mean Data: L1305136001

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	2480672.9						6376.06	0.26%
YRADIAL	186387.1						5759.19	3.09%
Ga 417.206	989347.5						8649.89	0.87%
GaRADIAL	51105.5						1104.40	2.16%
Ag 328.068†	307.6	0.00240	mg/L	0.000243	0.00240	mg/L	0.000243	10.15%
Al 396.153†	10565.5	3.50	mg/L	0.027	3.50	mg/L	0.027	0.76%
As 188.979†	2.5	0.00010	mg/L	0.002007	0.00010	mg/L	0.002007	>999.9%
Ba 233.527†	8731.5	0.0995	mg/L	0.00030	0.0995	mg/L	0.00030	0.30%
Be 234.861†	505.3	0.00042	mg/L	0.000160	0.00042	mg/L	0.000160	38.19%
B 249.677†	993.5	0.0169	mg/L	0.00052	0.0169	mg/L	0.00052	3.07%
Ca 227.546†	11204.2	53.1	mg/L	0.43	53.1	mg/L	0.43	0.81%
Cd 228.802†	-1.1	0.00016	mg/L	0.000122	0.00016	mg/L	0.000122	74.25%
Co 228.616†	1.7	-0.00001	mg/L	0.000363	-0.00001	mg/L	0.000363	>999.9%
Cr 267.716†	423.3	0.00559	mg/L	0.000146	0.00559	mg/L	0.000146	2.62%
Cu 327.393†	242.2	0.00226	mg/L	0.000459	0.00226	mg/L	0.000459	20.32%
Fe 239.562†	8882.2	2.09	mg/L	0.022	2.09	mg/L	0.022	1.04%
Mg 279.077†	10323.9	7.27	mg/L	0.086	7.27	mg/L	0.086	1.18%
Mn 257.610†	12328.8	0.0231	mg/L	0.00008	0.0231	mg/L	0.00008	0.37%
Mo 202.031†	37.0	0.00393	mg/L	0.000640	0.00393	mg/L	0.000640	16.30%
Ni 231.604†	78.6	0.00444	mg/L	0.000131	0.00444	mg/L	0.000131	2.95%
Pb 220.353†	38.3	0.00554	mg/L	0.000528	0.00554	mg/L	0.000528	9.53%
Sb 206.836†	-4.0	0.00114	mg/L	0.001909	0.00114	mg/L	0.001909	166.90%
Se 196.026†	8.8	0.00750	mg/L	0.005392	0.00750	mg/L	0.005392	71.94%
Si 251.611†	328122.8	9.15	mg/L	0.224	9.15	mg/L	0.224	2.45%
Sn 189.927†	-259.6	-0.0300	mg/L	0.00072	-0.0300	mg/L	0.00072	2.40%
Ti 334.940†	31092.3	0.0523	mg/L	0.00075	0.0523	mg/L	0.00075	1.44%
Tl 190.801†	-26.4	-0.0123	mg/L	0.00142	-0.0123	mg/L	0.00142	11.49%
V 290.880†	1837.7	0.00972	mg/L	0.001262	0.00972	mg/L	0.001262	12.99%
Zn 206.200†	276.9	0.0102	mg/L	0.00003	0.0102	mg/L	0.00003	0.31%
K 766.490†	2488.2	1.75	mg/L	0.062	1.75	mg/L	0.062	3.53%
Na 589.592†	28986.3	2.87	mg/L	0.012	2.87	mg/L	0.012	0.43%

Approved: May 31, 2013

Sr 407.771†	209732.0	0.179 mg/L	0.0064	0.179 mg/L	0.0064	3.55%
Li 670.784†	313.8	0.00695 mg/L	0.001133	0.00695 mg/L	0.001133	16.30%

==========

Sequence No.: 20 **Autosampler Location: 6**
Sample ID: CCV **Date Collected: 5/30/2013 3:51:05 PM**
Analyst: **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: CCV

Analyte	Back Pressure	Flow
All	163.0 kPa	0.48 L/min

Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2391532.8						30914.84	1.29%
YRADIAL	177930.6						5017.28	2.82%
Ga 417.206	911090.1						15496.93	1.70%
GaRADIAL	48920.3						1178.98	2.41%
Ag 328.068†	97005.1	0.424	mg/L	0.0082	0.424	mg/L	0.0082	1.93%
QC value within limits for Ag 328.068 Recovery = 105.88%								
Al 396.153†	31943.1	10.4	mg/L	0.09	10.4	mg/L	0.09	0.87%
QC value within limits for Al 396.153 Recovery = 104.11%								
As 188.979†	847.4	0.414	mg/L	0.0103	0.414	mg/L	0.0103	2.48%
QC value within limits for As 188.979 Recovery = 103.51%								
Ba 233.527†	94905.7	1.06	mg/L	0.012	1.06	mg/L	0.012	1.17%
QC value within limits for Ba 233.527 Recovery = 106.16%								
Be 234.861†	34579.0	0.0513	mg/L	0.00099	0.0513	mg/L	0.00099	1.93%
QC value within limits for Be 234.861 Recovery = 102.66%								
B 249.677†	36075.6	0.506	mg/L	0.0077	0.506	mg/L	0.0077	1.53%
QC value within limits for B 249.677 Recovery = 101.11%								
Ca 227.546†	2202.0	10.9	mg/L	0.19	10.9	mg/L	0.19	1.73%
QC value within limits for Ca 227.546 Recovery = 109.27%								
Cd 228.802†	1658.3	0.0503	mg/L	0.00108	0.0503	mg/L	0.00108	2.15%
QC value within limits for Cd 228.802 Recovery = 100.52%								
Co 228.616†	5249.8	0.215	mg/L	0.0024	0.215	mg/L	0.0024	1.12%
QC value within limits for Co 228.616 Recovery = 107.62%								
Cr 267.716†	50239.0	0.532	mg/L	0.0056	0.532	mg/L	0.0056	1.06%
QC value within limits for Cr 267.716 Recovery = 106.31%								
Cu 327.393†	89891.8	0.517	mg/L	0.0093	0.517	mg/L	0.0093	1.80%
QC value within limits for Cu 327.393 Recovery = 103.38%								
Fe 239.562†	18110.1	4.24	mg/L	0.053	4.24	mg/L	0.053	1.24%
QC value within limits for Fe 239.562 Recovery = 105.93%								
Mg 279.077†	15190.2	10.7	mg/L	0.18	10.7	mg/L	0.18	1.71%
QC value within limits for Mg 279.077 Recovery = 106.92%								
Mn 257.610†	289016.6	0.542	mg/L	0.0068	0.542	mg/L	0.0068	1.26%
QC value within limits for Mn 257.610 Recovery = 108.31%								
Mo 202.031†	20986.7	1.06	mg/L	0.011	1.06	mg/L	0.011	1.08%
QC value within limits for Mo 202.031 Recovery = 105.84%								
Ni 231.604†	20940.9	0.525	mg/L	0.0048	0.525	mg/L	0.0048	0.91%
QC value within limits for Ni 231.604 Recovery = 104.90%								
Pb 220.353†	4215.7	0.548	mg/L	0.0057	0.548	mg/L	0.0057	1.05%
QC value within limits for Pb 220.353 Recovery = 109.55%								
Sb 206.836†	3083.0	1.27	mg/L	0.027	1.27	mg/L	0.027	2.09%
QC value within limits for Sb 206.836 Recovery = 105.71%								
Se 196.026†	436.8	0.422	mg/L	0.0101	0.422	mg/L	0.0101	2.40%
QC value within limits for Se 196.026 Recovery = 105.56%								
Si 251.611†	185418.6	5.16	mg/L	0.091	5.16	mg/L	0.091	1.76%
QC value within limits for Si 251.611 Recovery = 103.26%								
Sn 189.927†	8062.6	1.01	mg/L	0.011	1.01	mg/L	0.011	1.10%
QC value within limits for Sn 189.927 Recovery = 100.69%								
Ti 334.940†	804133.9	1.07	mg/L	0.012	1.07	mg/L	0.012	1.12%
QC value within limits for Ti 334.940 Recovery = 106.81%								
Tl 190.801†	1093.1	0.550	mg/L	0.0057	0.550	mg/L	0.0057	1.04%
QC value greater than the upper limit for Tl 190.801 Recovery = 110.07%								
V 290.880†	209006.2	1.07	mg/L	0.017	1.07	mg/L	0.017	1.61%
QC value within limits for V 290.880 Recovery = 106.63%								
Zn 206.200†	37592.6	1.08	mg/L	0.008	1.08	mg/L	0.008	0.77%

Approved: May 31, 2013

Lynn H. Rhoden

```
   QC value within limits for Zn 206.200  Recovery = 107.62%
K 766.490†            77906.8        54.4 mg/L          0.65        54.4 mg/L          0.65   1.20%
   QC value within limits for K 766.490  Recovery = 108.75%
Na 589.592†          563527.8        53.7 mg/L          1.53        53.7 mg/L          1.53   2.85%
   QC value within limits for Na 589.592  Recovery = 107.36%
Sr 407.771†         1302457.3        1.09 mg/L         0.041        1.09 mg/L         0.041   3.74%
   QC value within limits for Sr 407.771  Recovery = 108.52%
Li 670.784†           75009.7        1.07 mg/L         0.008        1.07 mg/L         0.008   0.75%
   QC value within limits for Li 670.784  Recovery = 106.62%
QC Failed.  Continue with analysis.

==========================================================================================
Sequence No.: 21                                    Autosampler Location: 1
Sample ID: CCB                                      Date Collected: 5/30/2013 3:53:10 PM
Analyst:                                            Data Type: Original
Initial Sample Wt:                                  Initial Sample Vol:
Dilution:                                           Sample Prep Vol:

------------------------------------------------------------------------------------------
Nebulizer Parameters: CCB
Analyte                 Back Pressure    Flow
All                     163.0 kPa        0.48 L/min

------------------------------------------------------------------------------------------
Mean Data: CCB
                   Mean Corrected        Calib.                          Sample
Analyte               Intensity     Conc. Units     Std.Dev.     Conc. Units     Std.Dev.   RSD
Y 371.029            2452829.5                                                  33497.16   1.37%
YRADIAL               185540.1                                                   5629.41   3.03%
Ga 417.206            930444.9                                                  15792.13   1.70%
GaRADIAL               50088.0                                                    515.05   1.03%
Ag 328.068†               43.3     0.00045 mg/L     0.000247     0.00045 mg/L     0.000247  54.95%
   QC value within limits for Ag 328.068  Recovery = Not calculated
Al 396.153†                4.5      0.0497 mg/L      0.00308      0.0497 mg/L      0.00308   6.19%
   QC value within limits for Al 396.153  Recovery = Not calculated
As 188.979†               -0.5    -0.00268 mg/L     0.002330    -0.00268 mg/L     0.002330  86.90%
   QC value within limits for As 188.979  Recovery = Not calculated
Ba 233.527†              -20.9     0.00184 mg/L     0.000059     0.00184 mg/L     0.000059   3.19%
   QC value within limits for Ba 233.527  Recovery = Not calculated
Be 234.861†              -52.7     0.00008 mg/L     0.000007     0.00008 mg/L     0.000007   9.41%
   QC value within limits for Be 234.861  Recovery = Not calculated
B 249.677†               520.6      0.0112 mg/L      0.00073      0.0112 mg/L      0.00073   6.50%
   QC value within limits for B 249.677  Recovery = Not calculated
Ca 227.546†                9.2      0.0810 mg/L      0.04492      0.0810 mg/L      0.04492  55.46%
   QC value within limits for Ca 227.546  Recovery = Not calculated
Cd 228.802†              -10.8    -0.00013 mg/L     0.000093    -0.00013 mg/L     0.000093  72.43%
   QC value within limits for Cd 228.802  Recovery = Not calculated
Co 228.616†              -11.5    -0.00038 mg/L     0.000401    -0.00038 mg/L     0.000401 106.56%
   QC value within limits for Co 228.616  Recovery = Not calculated
Cr 267.716†               12.5     0.00131 mg/L     0.000025     0.00131 mg/L     0.000025   1.94%
   QC value within limits for Cr 267.716  Recovery = Not calculated
Cu 327.393†              154.8     0.00155 mg/L     0.000759     0.00155 mg/L     0.000759  49.05%
   QC value within limits for Cu 327.393  Recovery = Not calculated
Fe 239.562†               26.9      0.0224 mg/L      0.00089      0.0224 mg/L      0.00089   3.97%
   QC value within limits for Fe 239.562  Recovery = Not calculated
Mg 279.077†                4.6      0.0409 mg/L      0.00721      0.0409 mg/L      0.00721  17.62%
   QC value within limits for Mg 279.077  Recovery = Not calculated
Mn 257.610†              211.4     0.00034 mg/L     0.000017     0.00034 mg/L     0.000017   4.91%
   QC value within limits for Mn 257.610  Recovery = Not calculated
Mo 202.031†                4.0     0.00215 mg/L     0.000159     0.00215 mg/L     0.000159   7.43%
   QC value within limits for Mo 202.031  Recovery = Not calculated
Ni 231.604†              -16.1     0.00208 mg/L     0.000277     0.00208 mg/L     0.000277  13.34%
   QC value within limits for Ni 231.604  Recovery = Not calculated
Pb 220.353†               -2.3    -0.00006 mg/L     0.001958    -0.00006 mg/L     0.001958 >999.9%
   QC value within limits for Pb 220.353  Recovery = Not calculated
Sb 206.836†                2.4     0.00373 mg/L     0.000782     0.00373 mg/L     0.000782  20.99%
   QC value within limits for Sb 206.836  Recovery = Not calculated
Se 196.026†                2.6     0.00104 mg/L     0.004656     0.00104 mg/L     0.004656 447.78%
   QC value within limits for Se 196.026  Recovery = Not calculated
Si 251.611†              170.8      0.0114 mg/L      0.00070      0.0114 mg/L      0.00070   6.10%
   QC value within limits for Si 251.611  Recovery = Not calculated
Sn 189.927†                6.7     0.00313 mg/L     0.000574     0.00313 mg/L     0.000574  18.35%
```

Approved: May 31, 2013

Lynn H. Rhoden

QC value within limits for Sn 189.927 Recovery = Not calculated

Ti 334.940†	-70.3	0.00313 mg/L	0.000056	0.00313 mg/L	0.000056	1.79%

QC value within limits for Ti 334.940 Recovery = Not calculated

Tl 190.801†	-4.0	-0.00200 mg/L	0.003430	-0.00200 mg/L	0.003430	171.07%

QC value within limits for Tl 190.801 Recovery = Not calculated

V 290.880†	208.6	0.00212 mg/L	0.000802	0.00212 mg/L	0.000802	37.81%

QC value within limits for V 290.880 Recovery = Not calculated

Zn 206.200†	-1.7	0.00225 mg/L	0.000078	0.00225 mg/L	0.000078	3.45%

QC value within limits for Zn 206.200 Recovery = Not calculated

K 766.490†	153.0	0.0700 mg/L	0.03138	0.0700 mg/L	0.03138	44.83%

QC value within limits for K 766.490 Recovery = Not calculated

Na 589.592†	591.1	0.0260 mg/L	0.02474	0.0260 mg/L	0.02474	95.21%

QC value within limits for Na 589.592 Recovery = Not calculated

Sr 407.771†	120.4	0.00406 mg/L	0.000079	0.00406 mg/L	0.000079	1.94%

QC value within limits for Sr 407.771 Recovery = Not calculated

Li 670.784†	95.1	0.00385 mg/L	0.001801	0.00385 mg/L	0.001801	46.77%

QC value within limits for Li 670.784 Recovery = Not calculated

All analyte(s) passed QC.

==========

Sequence No.: 22 **Autosampler Location: 94**
Sample ID: PBW 66 WG432284-01 **Date Collected: 5/30/2013 3:56:10 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: PBW 66 WG432284-01

Analyte	Back Pressure	Flow
All	163.0 kPa	0.48 L/min

Mean Data: PBW 66 WG432284-01

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2516323.9						18294.94	0.73%
YRADIAL	181295.9						717.96	0.40%
Ga 417.206	933993.1						8592.89	0.92%
GaRADIAL	49804.4						732.70	1.47%
Ag 328.068†	36.0	0.00042	mg/L	0.000340	0.00042	mg/L	0.000340	81.50%
Al 396.153†	35.3	0.0597	mg/L	0.00130	0.0597	mg/L	0.00130	2.17%
As 188.979†	-3.9	-0.00435	mg/L	0.002970	-0.00435	mg/L	0.002970	68.33%
Ba 233.527†	-48.7	0.00153	mg/L	0.000125	0.00153	mg/L	0.000125	8.16%
Be 234.861†	-221.2	-0.00017	mg/L	0.000023	-0.00017	mg/L	0.000023	12.94%
B 249.677†	221.0	0.00700	mg/L	0.000144	0.00700	mg/L	0.000144	2.06%
Ca 227.546†	4.8	0.0597	mg/L	0.02508	0.0597	mg/L	0.02508	41.98%
Cd 228.802†	-1.1	0.00018	mg/L	0.000070	0.00018	mg/L	0.000070	38.71%
Co 228.616†	-7.9	-0.00023	mg/L	0.000101	-0.00023	mg/L	0.000101	44.03%
Cr 267.716†	33.0	0.00152	mg/L	0.000278	0.00152	mg/L	0.000278	18.24%
Cu 327.393†	-47.7	0.00039	mg/L	0.000361	0.00039	mg/L	0.000361	92.61%
Fe 239.562†	31.7	0.0236	mg/L	0.00087	0.0236	mg/L	0.00087	3.71%
Mg 279.077†	-3.7	0.0351	mg/L	0.00232	0.0351	mg/L	0.00232	6.62%
Mn 257.610†	155.2	0.00024	mg/L	0.000022	0.00024	mg/L	0.000022	9.36%
Mo 202.031†	5.2	0.00221	mg/L	0.000490	0.00221	mg/L	0.000490	22.21%
Ni 231.604†	-37.8	0.00154	mg/L	0.000086	0.00154	mg/L	0.000086	5.62%
Pb 220.353†	1.0	0.00036	mg/L	0.001353	0.00036	mg/L	0.001353	374.86%
Sb 206.836†	5.5	0.00503	mg/L	0.000788	0.00503	mg/L	0.000788	15.66%
Se 196.026†	5.0	0.00331	mg/L	0.002584	0.00331	mg/L	0.002584	77.96%
Si 251.611†	871.0	0.0309	mg/L	0.00024	0.0309	mg/L	0.00024	0.78%
Sn 189.927†	-9.7	0.00108	mg/L	0.000584	0.00108	mg/L	0.000584	53.90%
Ti 334.940†	212.0	0.00350	mg/L	0.000117	0.00350	mg/L	0.000117	3.34%
Tl 190.801†	-5.2	-0.00257	mg/L	0.001144	-0.00257	mg/L	0.001144	44.48%
V 290.880†	170.7	0.00193	mg/L	0.000121	0.00193	mg/L	0.000121	6.26%
Zn 206.200†	108.9	0.00540	mg/L	0.000153	0.00540	mg/L	0.000153	2.83%
K 766.490†	85.7	0.0214	mg/L	0.02210	0.0214	mg/L	0.02210	103.32%
Na 589.592†	106.4	-0.0227	mg/L	0.01082	-0.0227	mg/L	0.01082	47.58%
Sr 407.771†	9.8	0.00397	mg/L	0.000074	0.00397	mg/L	0.000074	1.87%
Li 670.784†	-54.6	0.00173	mg/L	0.000589	0.00173	mg/L	0.000589	34.09%

==========

Sequence No.: 23 **Autosampler Location: 95**
Sample ID: LCSW 66 WG432284-02 **Date Collected: 5/30/2013 3:59:11 PM**

Approved: May 31, 2013

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

Nebulizer Parameters: LCSW 66 WG432284-02

Analyte	Back Pressure	Flow
All	163.0 kPa	0.48 L/min

Mean Data: LCSW 66 WG432284-02

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2410898.7						43789.59	1.82%
YRADIAL	177945.7						2510.19	1.41%
Ga 417.206	896468.5						12957.44	1.45%
GaRADIAL	48608.9						407.78	0.84%
Ag 328.068†	46648.3	0.204	mg/L	0.0030	0.204	mg/L	0.0030	1.47%
Al 396.153†	15595.3	5.11	mg/L	0.025	5.11	mg/L	0.025	0.49%
As 188.979†	400.6	0.194	mg/L	0.0029	0.194	mg/L	0.0029	1.50%
Ba 233.527†	46137.6	0.517	mg/L	0.0053	0.517	mg/L	0.0053	1.03%
Be 234.861†	16270.0	0.0242	mg/L	0.00034	0.0242	mg/L	0.00034	1.40%
B 249.677†	66783.5	0.938	mg/L	0.0130	0.938	mg/L	0.0130	1.38%
Ca 227.546†	1021.9	5.11	mg/L	0.005	5.11	mg/L	0.005	0.09%
Cd 228.802†	799.2	0.0243	mg/L	0.00033	0.0243	mg/L	0.00033	1.36%
Co 228.616†	2507.2	0.103	mg/L	0.0017	0.103	mg/L	0.0017	1.61%
Cr 267.716†	24466.8	0.259	mg/L	0.0027	0.259	mg/L	0.0027	1.04%
Cu 327.393†	44618.5	0.257	mg/L	0.0037	0.257	mg/L	0.0037	1.45%
Fe 239.562†	8836.8	2.08	mg/L	0.035	2.08	mg/L	0.035	1.67%
Mg 279.077†	7423.3	5.24	mg/L	0.092	5.24	mg/L	0.092	1.76%
Mn 257.610†	139129.1	0.261	mg/L	0.0026	0.261	mg/L	0.0026	0.99%
Mo 202.031†	10440.6	0.527	mg/L	0.0095	0.527	mg/L	0.0095	1.79%
Ni 231.604†	10336.4	0.260	mg/L	0.0042	0.260	mg/L	0.0042	1.61%
Pb 220.353†	1976.0	0.257	mg/L	0.0074	0.257	mg/L	0.0074	2.88%
Sb 206.836†	1471.5	0.607	mg/L	0.0044	0.607	mg/L	0.0044	0.73%
Se 196.026†	206.1	0.198	mg/L	0.0034	0.198	mg/L	0.0034	1.70%
Si 251.611†	89282.0	2.49	mg/L	0.045	2.49	mg/L	0.045	1.80%
Sn 189.927†	-19.4	-0.00012	mg/L	0.001710	-0.00012	mg/L	0.001710	>999.9%
Ti 334.940†	390243.5	0.520	mg/L	0.0041	0.520	mg/L	0.0041	0.80%
Tl 190.801†	509.8	0.257	mg/L	0.0028	0.257	mg/L	0.0028	1.10%
V 290.880†	101752.9	0.520	mg/L	0.0062	0.520	mg/L	0.0062	1.19%
Zn 206.200†	17654.9	0.507	mg/L	0.0059	0.507	mg/L	0.0059	1.17%
K 766.490†	38452.2	27.3	mg/L	0.20	27.3	mg/L	0.20	0.75%
Na 589.592†	282742.8	27.6	mg/L	0.26	27.6	mg/L	0.26	0.94%
Sr 407.771†	652404.2	0.546	mg/L	0.0037	0.546	mg/L	0.0037	0.67%
Li 670.784†	36813.7	0.525	mg/L	0.0024	0.525	mg/L	0.0024	0.46%

Sequence No.: 24
Sample ID: LCSW 66 WG432284-03
Analyst: KHR
Initial Sample Wt:
Dilution:
Autosampler Location: 96
Date Collected: 5/30/2013 4:01:15 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: LCSW 66 WG432284-03

Analyte	Back Pressure	Flow
All	163.0 kPa	0.48 L/min

Mean Data: LCSW 66 WG432284-03

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2422742.4						70876.20	2.93%
YRADIAL	181419.3						1715.60	0.95%
Ga 417.206	914249.4						30210.38	3.30%
GaRADIAL	48517.1						543.16	1.12%
Ag 328.068†	46081.1	0.201	mg/L	0.0084	0.201	mg/L	0.0084	4.19%
Al 396.153†	15384.1	5.04	mg/L	0.077	5.04	mg/L	0.077	1.53%
As 188.979†	402.5	0.195	mg/L	0.0046	0.195	mg/L	0.0046	2.36%
Ba 233.527†	45651.4	0.512	mg/L	0.0187	0.512	mg/L	0.0187	3.65%
Be 234.861†	15922.6	0.0237	mg/L	0.00099	0.0237	mg/L	0.00099	4.16%

Approved: May 31, 2013

Lynn H. Rhoden

B 249.677†	66905.5	0.940	mg/L	0.0403	0.940	mg/L	0.0403	4.29%
Ca 227.546†	1006.5	5.03	mg/L	0.148	5.03	mg/L	0.148	2.94%
Cd 228.802†	775.3	0.0236	mg/L	0.00115	0.0236	mg/L	0.00115	4.88%
Co 228.616†	2482.9	0.102	mg/L	0.0031	0.102	mg/L	0.0031	3.06%
Cr 267.716†	24420.9	0.259	mg/L	0.0095	0.259	mg/L	0.0095	3.66%
Cu 327.393†	44176.7	0.254	mg/L	0.0100	0.254	mg/L	0.0100	3.94%
Fe 239.562†	8451.8	1.99	mg/L	0.021	1.99	mg/L	0.021	1.04%
Mg 279.077†	7120.1	5.03	mg/L	0.104	5.03	mg/L	0.104	2.06%
Mn 257.610†	138389.5	0.259	mg/L	0.0102	0.259	mg/L	0.0102	3.93%
Mo 202.031†	10389.1	0.525	mg/L	0.0160	0.525	mg/L	0.0160	3.04%
Ni 231.604†	10250.4	0.258	mg/L	0.0073	0.258	mg/L	0.0073	2.84%
Pb 220.353†	1957.4	0.254	mg/L	0.0056	0.254	mg/L	0.0056	2.19%
Sb 206.836†	1432.9	0.591	mg/L	0.0206	0.591	mg/L	0.0206	3.48%
Se 196.026†	201.0	0.193	mg/L	0.0046	0.193	mg/L	0.0046	2.35%
Si 251.611†	89058.6	2.48	mg/L	0.102	2.48	mg/L	0.102	4.10%
Sn 189.927†	-14.7	0.00046	mg/L	0.000754	0.00046	mg/L	0.000754	163.57%
Ti 334.940†	388459.8	0.518	mg/L	0.0199	0.518	mg/L	0.0199	3.85%
Tl 190.801†	500.3	0.252	mg/L	0.0096	0.252	mg/L	0.0096	3.80%
V 290.880†	101530.1	0.519	mg/L	0.0209	0.519	mg/L	0.0209	4.04%
Zn 206.200†	17383.2	0.499	mg/L	0.0168	0.499	mg/L	0.0168	3.37%
K 766.490†	37943.1	26.9	mg/L	0.31	26.9	mg/L	0.31	1.16%
Na 589.592†	280069.7	27.4	mg/L	1.13	27.4	mg/L	1.13	4.14%
Sr 407.771†	625967.3	0.524	mg/L	0.0183	0.524	mg/L	0.0183	3.49%
Li 670.784†	36435.0	0.519	mg/L	0.0071	0.519	mg/L	0.0071	1.37%

==========

Sequence No.: 25 **Autosampler Location: 97**
Sample ID: L1305150601 **Date Collected: 5/30/2013 4:03:19 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1305150601

Analyte	Back Pressure	Flow
All	163.0 kPa	0.48 L/min

Mean Data: L1305150601

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2537652.1						21123.75	0.83%
YRADIAL	184010.3						3072.63	1.67%
Ga 417.206	947503.2						16619.58	1.75%
GaRADIAL	50188.7						1198.88	2.39%
Ag 328.068†	18.8	0.00059	mg/L	0.000585	0.00059	mg/L	0.000585	99.88%
Al 396.153†	843.3	0.324	mg/L	0.0065	0.324	mg/L	0.0065	2.02%
As 188.979†	-5.5	-0.00499	mg/L	0.001735	-0.00499	mg/L	0.001735	34.76%
Ba 233.527†	254.0	0.00489	mg/L	0.000092	0.00489	mg/L	0.000092	1.88%
Be 234.861†	-42.6	-0.00005	mg/L	0.000042	-0.00005	mg/L	0.000042	84.74%
B 249.677†	2700.3	0.0415	mg/L	0.00215	0.0415	mg/L	0.00215	5.18%
Ca 227.546†	492.4	2.38	mg/L	0.032	2.38	mg/L	0.032	1.35%
Cd 228.802†	-0.9	0.00019	mg/L	0.000214	0.00019	mg/L	0.000214	111.99%
Co 228.616†	1.3	0.00013	mg/L	0.000325	0.00013	mg/L	0.000325	255.08%
Cr 267.716†	94.4	0.00214	mg/L	0.000116	0.00214	mg/L	0.000116	5.44%
Cu 327.393†	177.1	0.00173	mg/L	0.000263	0.00173	mg/L	0.000263	15.20%
Fe 239.562†	2758.7	0.659	mg/L	0.0144	0.659	mg/L	0.0144	2.18%
Mg 279.077†	813.9	0.607	mg/L	0.0181	0.607	mg/L	0.0181	2.98%
Mn 257.610†	53178.0	0.0995	mg/L	0.00095	0.0995	mg/L	0.00095	0.95%
Mo 202.031†	17.0	0.00286	mg/L	0.000274	0.00286	mg/L	0.000274	9.59%
Ni 231.604†	13.7	0.00282	mg/L	0.000559	0.00282	mg/L	0.000559	19.80%
Pb 220.353†	13.4	0.00193	mg/L	0.000590	0.00193	mg/L	0.000590	30.62%
Sb 206.836†	5.6	0.00506	mg/L	0.001197	0.00506	mg/L	0.001197	23.63%
Se 196.026†	8.5	0.00682	mg/L	0.001376	0.00682	mg/L	0.001376	20.16%
Si 251.611†	15077.6	0.427	mg/L	0.0070	0.427	mg/L	0.0070	1.65%
Sn 189.927†	-31.5	-0.00163	mg/L	0.001158	-0.00163	mg/L	0.001158	71.24%
Ti 334.940†	2333.2	0.00665	mg/L	0.000340	0.00665	mg/L	0.000340	5.11%
Tl 190.801†	-13.2	-0.00655	mg/L	0.002277	-0.00655	mg/L	0.002277	34.77%
V 290.880†	607.9	0.00398	mg/L	0.001445	0.00398	mg/L	0.001445	36.29%
Zn 206.200†	530.1	0.0174	mg/L	0.00027	0.0174	mg/L	0.00027	1.55%
K 766.490†	585.1	0.378	mg/L	0.0159	0.378	mg/L	0.0159	4.20%
Na 589.592†	40886.4	4.06	mg/L	0.041	4.06	mg/L	0.041	1.00%

Approved: May 31, 2013

Kym H. Rhoden

Sr 407.771†	16812.2	0.0180	mg/L	0.00017	0.0180	mg/L	0.00017	0.95%
Li 670.784†	166.5	0.00486	mg/L	0.000024	0.00486	mg/L	0.000024	0.49%

Sequence No.: 26 **Autosampler Location: 98**
Sample ID: L1305150601PS WG432292-01 **Date Collected: 5/30/2013 4:06:19 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1305150601PS WG432292-01

Analyte	Back Pressure	Flow
All	163.0 kPa	0.48 L/min

Mean Data: L1305150601PS WG432292-01

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2493235.7						49588.89	1.99%
YRADIAL	183497.3						2873.09	1.57%
Ga 417.206	950680.3						21134.71	2.22%
GaRADIAL	49222.0						671.98	1.37%
Ag 328.068†	46268.8	0.202	mg/L	0.0035	0.202	mg/L	0.0035	1.74%
Al 396.153†	16546.5	5.42	mg/L	0.057	5.42	mg/L	0.057	1.05%
As 188.979†	395.4	0.192	mg/L	0.0047	0.192	mg/L	0.0047	2.44%
Ba 233.527†	46566.0	0.522	mg/L	0.0116	0.522	mg/L	0.0116	2.22%
Be 234.861†	16181.6	0.0240	mg/L	0.00058	0.0240	mg/L	0.00058	2.44%
B 249.677†	69034.4	0.969	mg/L	0.0210	0.969	mg/L	0.0210	2.16%
Ca 227.546†	1460.6	7.19	mg/L	0.154	7.19	mg/L	0.154	2.14%
Cd 228.802†	768.4	0.0234	mg/L	0.00100	0.0234	mg/L	0.00100	4.29%
Co 228.616†	2502.4	0.103	mg/L	0.0023	0.103	mg/L	0.0023	2.26%
Cr 267.716†	24661.8	0.262	mg/L	0.0051	0.262	mg/L	0.0051	1.97%
Cu 327.393†	44706.9	0.257	mg/L	0.0059	0.257	mg/L	0.0059	2.30%
Fe 239.562†	11100.3	2.60	mg/L	0.024	2.60	mg/L	0.024	0.93%
Mg 279.077†	8012.9	5.66	mg/L	0.040	5.66	mg/L	0.040	0.71%
Mn 257.610†	187257.4	0.351	mg/L	0.0080	0.351	mg/L	0.0080	2.28%
Mo 202.031†	10390.3	0.525	mg/L	0.0130	0.525	mg/L	0.0130	2.47%
Ni 231.604†	10372.9	0.261	mg/L	0.0064	0.261	mg/L	0.0064	2.43%
Pb 220.353†	1964.8	0.255	mg/L	0.0066	0.255	mg/L	0.0066	2.59%
Sb 206.836†	1437.7	0.593	mg/L	0.0177	0.593	mg/L	0.0177	2.98%
Se 196.026†	202.6	0.195	mg/L	0.0021	0.195	mg/L	0.0021	1.07%
Si 251.611†	102369.0	2.85	mg/L	0.057	2.85	mg/L	0.057	2.00%
Sn 189.927†	-76.6	-0.00724	mg/L	0.001174	-0.00724	mg/L	0.001174	16.21%
Ti 334.940†	396070.9	0.528	mg/L	0.0121	0.528	mg/L	0.0121	2.29%
Tl 190.801†	506.8	0.256	mg/L	0.0036	0.256	mg/L	0.0036	1.39%
V 290.880†	102542.7	0.524	mg/L	0.0128	0.524	mg/L	0.0128	2.44%
Zn 206.200†	18101.6	0.519	mg/L	0.0108	0.519	mg/L	0.0108	2.08%
K 766.490†	39377.4	27.9	mg/L	0.34	27.9	mg/L	0.34	1.23%
Na 589.592†	320607.5	31.2	mg/L	0.55	31.2	mg/L	0.55	1.76%
Sr 407.771†	657626.5	0.550	mg/L	0.0132	0.550	mg/L	0.0132	2.39%
Li 670.784†	37502.7	0.534	mg/L	0.0059	0.534	mg/L	0.0059	1.11%

Sequence No.: 27 **Autosampler Location: 99**
Sample ID: L1305150601DL WG432292-02 **Date Collected: 5/30/2013 4:08:23 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1305150601DL WG432292-02

Analyte	Back Pressure	Flow
All	163.0 kPa	0.48 L/min

Mean Data: L1305150601DL WG432292-02

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2554037.0						26757.48	1.05%
YRADIAL	182997.5						1606.82	0.88%
Ga 417.206	961372.0						7987.46	0.83%

Approved: May 31, 2013

Kym H. Rhoden

GaRADIAL	49424.1				475.83	0.96%
Ag 328.068†	59.4	0.00057 mg/L	0.000529	0.00057 mg/L	0.000529	93.42%
Al 396.153†	171.0	0.104 mg/L	0.0017	0.104 mg/L	0.0017	1.67%
As 188.979†	3.0	-0.00089 mg/L	0.000706	-0.00089 mg/L	0.000706	79.34%
Ba 233.527†	31.9	0.00243 mg/L	0.000044	0.00243 mg/L	0.000044	1.80%
Be 234.861†	-30.5	0.00008 mg/L	0.000016	0.00008 mg/L	0.000016	19.33%
B 249.677†	1366.5	0.0230 mg/L	0.00211	0.0230 mg/L	0.00211	9.15%
Ca 227.546†	101.7	0.522 mg/L	0.0316	0.522 mg/L	0.0316	6.06%
Cd 228.802†	-11.6	-0.00016 mg/L	0.000130	-0.00016 mg/L	0.000130	80.97%
Co 228.616†	-3.1	-0.00004 mg/L	0.000265	-0.00004 mg/L	0.000265	703.52%
Cr 267.716†	33.2	0.00152 mg/L	0.000132	0.00152 mg/L	0.000132	8.72%
Cu 327.393†	32.8	0.00086 mg/L	0.000608	0.00086 mg/L	0.000608	70.70%
Fe 239.562†	564.8	0.148 mg/L	0.0035	0.148 mg/L	0.0035	2.34%
Mg 279.077†	163.5	0.152 mg/L	0.0038	0.152 mg/L	0.0038	2.51%
Mn 257.610†	10461.8	0.0195 mg/L	0.00068	0.0195 mg/L	0.00068	3.50%
Mo 202.031†	1.7	0.00204 mg/L	0.000266	0.00204 mg/L	0.000266	13.04%
Ni 231.604†	-5.8	0.00233 mg/L	0.000195	0.00233 mg/L	0.000195	8.34%
Pb 220.353†	10.3	0.00156 mg/L	0.001184	0.00156 mg/L	0.001184	76.07%
Sb 206.836†	-1.4	0.00218 mg/L	0.001450	0.00218 mg/L	0.001450	66.48%
Se 196.026†	8.7	0.00689 mg/L	0.001321	0.00689 mg/L	0.001321	19.16%
Si 251.611†	3110.5	0.0934 mg/L	0.00116	0.0934 mg/L	0.00116	1.24%
Sn 189.927†	-13.4	0.00063 mg/L	0.000239	0.00063 mg/L	0.000239	37.78%
Ti 334.940†	264.6	0.00364 mg/L	0.000143	0.00364 mg/L	0.000143	3.92%
Tl 190.801†	-1.7	-0.00086 mg/L	0.002127	-0.00086 mg/L	0.002127	248.24%
V 290.880†	278.2	0.00244 mg/L	0.000175	0.00244 mg/L	0.000175	7.16%
Zn 206.200†	151.0	0.00659 mg/L	0.000268	0.00659 mg/L	0.000268	4.06%
K 766.490†	155.2	0.0708 mg/L	0.02699	0.0708 mg/L	0.02699	38.15%
Na 589.592†	8558.2	0.826 mg/L	0.0260	0.826 mg/L	0.0260	3.15%
Sr 407.771†	3322.9	0.00673 mg/L	0.000049	0.00673 mg/L	0.000049	0.73%
Li 670.784†	43.8	0.00312 mg/L	0.000155	0.00312 mg/L	0.000155	4.97%

==========

Sequence No.: 28 **Autosampler Location: 6**
Sample ID: CCV **Date Collected: 5/30/2013 4:11:23 PM**
Analyst: **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: CCV

Analyte	Back Pressure	Flow
All	163.0 kPa	0.48 L/min

Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2398790.0						70243.07	2.93%
YRADIAL	178112.4						1388.76	0.78%
Ga 417.206	920567.9						26064.16	2.83%
GaRADIAL	49664.9						418.06	0.84%
Ag 328.068†	95125.4	0.415	mg/L	0.0135	0.415	mg/L	0.0135	3.26%
QC value within limits for Ag 328.068 Recovery = 103.84%								
Al 396.153†	31400.8	10.2	mg/L	0.05	10.2	mg/L	0.05	0.54%
QC value within limits for Al 396.153 Recovery = 102.35%								
As 188.979†	824.8	0.403	mg/L	0.0127	0.403	mg/L	0.0127	3.14%
QC value within limits for As 188.979 Recovery = 100.71%								
Ba 233.527†	94367.0	1.06	mg/L	0.037	1.06	mg/L	0.037	3.50%
QC value within limits for Ba 233.527 Recovery = 105.56%								
Be 234.861†	34013.2	0.0505	mg/L	0.00163	0.0505	mg/L	0.00163	3.23%
QC value within limits for Be 234.861 Recovery = 100.98%								
B 249.677†	35960.9	0.504	mg/L	0.0184	0.504	mg/L	0.0184	3.65%
QC value within limits for B 249.677 Recovery = 100.80%								
Ca 227.546†	2161.3	10.7	mg/L	0.38	10.7	mg/L	0.38	3.58%
QC value within limits for Ca 227.546 Recovery = 107.30%								
Cd 228.802†	1628.8	0.0494	mg/L	0.00195	0.0494	mg/L	0.00195	3.95%
QC value within limits for Cd 228.802 Recovery = 98.78%								
Co 228.616†	5186.1	0.213	mg/L	0.0076	0.213	mg/L	0.0076	3.58%
QC value within limits for Co 228.616 Recovery = 106.32%								
Cr 267.716†	49673.9	0.526	mg/L	0.0182	0.526	mg/L	0.0182	3.46%
QC value within limits for Cr 267.716 Recovery = 105.12%								
Cu 327.393†	88300.0	0.508	mg/L	0.0183	0.508	mg/L	0.0183	3.60%

Approved: May 31, 2013

```
   QC value within limits for Cu 327.393  Recovery = 101.55%
Fe 239.562†            17878.9        4.18 mg/L         0.017        4.18 mg/L         0.017   0.41%
   QC value within limits for Fe 239.562  Recovery = 104.58%
Mg 279.077†            15125.5         10.6 mg/L          0.04         10.6 mg/L          0.04   0.41%
   QC value within limits for Mg 279.077  Recovery = 106.47%
Mn 257.610†           287419.9       0.539 mg/L        0.0186       0.539 mg/L        0.0186   3.45%
   QC value within limits for Mn 257.610  Recovery = 107.71%
Mo 202.031†            20721.6        1.05 mg/L         0.039        1.05 mg/L         0.039   3.71%
   QC value within limits for Mo 202.031  Recovery = 104.50%
Ni 231.604†            20755.1       0.520 mg/L        0.0148       0.520 mg/L        0.0148   2.85%
   QC value within limits for Ni 231.604  Recovery = 103.97%
Pb 220.353†             4140.5       0.538 mg/L        0.0190       0.538 mg/L        0.0190   3.53%
   QC value within limits for Pb 220.353  Recovery = 107.60%
Sb 206.836†             3013.2        1.24 mg/L         0.047        1.24 mg/L         0.047   3.78%
   QC value within limits for Sb 206.836  Recovery = 103.32%
Se 196.026†              423.5       0.409 mg/L        0.0135       0.409 mg/L        0.0135   3.30%
   QC value within limits for Se 196.026  Recovery = 102.34%
Si 251.611†           182704.0        5.09 mg/L         0.164        5.09 mg/L         0.164   3.22%
   QC value within limits for Si 251.611  Recovery = 101.75%
Sn 189.927†             7922.2       0.989 mg/L        0.0343       0.989 mg/L        0.0343   3.47%
   QC value within limits for Sn 189.927  Recovery = 98.94%
Ti 334.940†           787397.1        1.05 mg/L         0.014        1.05 mg/L         0.014   1.37%
   QC value within limits for Ti 334.940  Recovery = 104.59%
Tl 190.801†             1085.0       0.546 mg/L        0.0213       0.546 mg/L        0.0213   3.90%
   QC value within limits for Tl 190.801  Recovery = 109.23%
V 290.880†            208007.5        1.06 mg/L         0.037        1.06 mg/L         0.037   3.49%
   QC value within limits for V 290.880  Recovery = 106.12%
Zn 206.200†            37176.6        1.06 mg/L         0.036        1.06 mg/L         0.036   3.40%
   QC value within limits for Zn 206.200  Recovery = 106.43%
K 766.490†             76741.6        53.6 mg/L          0.10        53.6 mg/L          0.10   0.19%
   QC value within limits for K 766.490  Recovery = 107.17%
Na 589.592†           554320.4        52.8 mg/L          0.40        52.8 mg/L          0.40   0.76%
   QC value within limits for Na 589.592  Recovery = 105.69%
Sr 407.771†          1300389.8        1.08 mg/L         0.009        1.08 mg/L         0.009   0.84%
   QC value within limits for Sr 407.771  Recovery = 108.35%
Li 670.784†            73848.4        1.05 mg/L         0.002        1.05 mg/L         0.002   0.15%
   QC value within limits for Li 670.784  Recovery = 104.98%
All analyte(s) passed QC.

==========================================================================================
Sequence No.: 29                                    Autosampler Location: 1
Sample ID: CCB                                      Date Collected: 5/30/2013 4:13:28 PM
Analyst:                                            Data Type: Original
Initial Sample Wt:                                  Initial Sample Vol:
Dilution:                                           Sample Prep Vol:

------------------------------------------------------------------------------------------
Nebulizer Parameters: CCB
Analyte                  Back Pressure    Flow
All                     163.0 kPa        0.48 L/min

------------------------------------------------------------------------------------------
Mean Data: CCB
                   Mean Corrected         Calib.                          Sample
Analyte               Intensity     Conc. Units      Std.Dev.      Conc. Units      Std.Dev.   RSD
Y 371.029            2536690.9                                                     7578.49   0.30%
YRADIAL               180007.9                                                     3131.69   1.74%
Ga 417.206            975034.9                                                     5122.66   0.53%
GaRADIAL               50061.0                                                      528.38   1.06%
Ag 328.068†               52.5     0.00049 mg/L      0.000306     0.00049 mg/L      0.000306  62.70%
   QC value within limits for Ag 328.068  Recovery = Not calculated
Al 396.153†                7.3      0.0506 mg/L       0.00399      0.0506 mg/L       0.00399   7.88%
   QC value within limits for Al 396.153  Recovery = Not calculated
As 188.979†                4.1    -0.00037 mg/L      0.001602    -0.00037 mg/L      0.001602 432.36%
   QC value within limits for As 188.979  Recovery = Not calculated
Ba 233.527†              -21.6     0.00183 mg/L      0.000061     0.00183 mg/L      0.000061   3.32%
   QC value within limits for Ba 233.527  Recovery = Not calculated
Be 234.861†                4.7     0.00016 mg/L      0.000028     0.00016 mg/L      0.000028  17.28%
   QC value within limits for Be 234.861  Recovery = Not calculated
B 249.677†               708.0      0.0138 mg/L       0.00088      0.0138 mg/L       0.00088   6.39%
   QC value within limits for B 249.677  Recovery = Not calculated
Ca 227.546†                8.9      0.0793 mg/L       0.01962      0.0793 mg/L       0.01962  24.72%
```

Approved: May 31, 2013

Lynn H. Rhoden

```
   QC value within limits for Ca 227.546  Recovery = Not calculated
Cd 228.802†              -12.9    -0.00021 mg/L      0.000042    -0.00021 mg/L      0.000042  20.40%
   QC value within limits for Cd 228.802  Recovery = Not calculated
Co 228.616†               -6.5    -0.00017 mg/L      0.000280    -0.00017 mg/L      0.000280 161.83%
   QC value within limits for Co 228.616  Recovery = Not calculated
Cr 267.716†                1.6     0.00119 mg/L      0.000117     0.00119 mg/L      0.000117   9.81%
   QC value within limits for Cr 267.716  Recovery = Not calculated
Cu 327.393†              137.3     0.00145 mg/L      0.000489     0.00145 mg/L      0.000489  33.78%
   QC value within limits for Cu 327.393  Recovery = Not calculated
Fe 239.562†               40.3      0.0256 mg/L       0.00104      0.0256 mg/L       0.00104   4.07%
   QC value within limits for Fe 239.562  Recovery = Not calculated
Mg 279.077†                3.7      0.0403 mg/L       0.00651      0.0403 mg/L       0.00651  16.17%
   QC value within limits for Mg 279.077  Recovery = Not calculated
Mn 257.610†              265.2     0.00044 mg/L      0.000012     0.00044 mg/L      0.000012   2.80%
   QC value within limits for Mn 257.610  Recovery = Not calculated
Mo 202.031†                0.1     0.00195 mg/L      0.000230     0.00195 mg/L      0.000230  11.80%
   QC value within limits for Mo 202.031  Recovery = Not calculated
Ni 231.604†              -10.2     0.00222 mg/L      0.000146     0.00222 mg/L      0.000146   6.58%
   QC value within limits for Ni 231.604  Recovery = Not calculated
Pb 220.353†               -0.4     0.00018 mg/L      0.000590     0.00018 mg/L      0.000590 321.98%
   QC value within limits for Pb 220.353  Recovery = Not calculated
Sb 206.836†               -1.2     0.00228 mg/L      0.000558     0.00228 mg/L      0.000558  24.50%
   QC value within limits for Sb 206.836  Recovery = Not calculated
Se 196.026†                3.0     0.00140 mg/L      0.001090     0.00140 mg/L      0.001090  77.96%
   QC value within limits for Se 196.026  Recovery = Not calculated
Si 251.611†              102.0     0.00951 mg/L      0.000574     0.00951 mg/L      0.000574   6.04%
   QC value within limits for Si 251.611  Recovery = Not calculated
Sn 189.927†                6.7     0.00314 mg/L      0.000364     0.00314 mg/L      0.000364  11.62%
   QC value within limits for Sn 189.927  Recovery = Not calculated
Ti 334.940†              -43.9     0.00317 mg/L      0.000112     0.00317 mg/L      0.000112   3.53%
   QC value within limits for Ti 334.940  Recovery = Not calculated
Tl 190.801†               -4.1    -0.00202 mg/L      0.001477    -0.00202 mg/L      0.001477  73.26%
   QC value within limits for Tl 190.801  Recovery = Not calculated
V 290.880†                88.8     0.00151 mg/L      0.000257     0.00151 mg/L      0.000257  17.04%
   QC value within limits for V 290.880  Recovery = Not calculated
Zn 206.200†               -3.8     0.00219 mg/L      0.000185     0.00219 mg/L      0.000185   8.44%
   QC value within limits for Zn 206.200  Recovery = Not calculated
K 766.490†                69.9     0.00994 mg/L      0.033126     0.00994 mg/L      0.033126 333.33%
   QC value within limits for K 766.490  Recovery = Not calculated
Na 589.592†              723.7      0.0393 mg/L       0.02847      0.0393 mg/L       0.02847  72.43%
   QC value within limits for Na 589.592  Recovery = Not calculated
Sr 407.771†              130.4     0.00407 mg/L      0.000147     0.00407 mg/L      0.000147   3.61%
   QC value within limits for Sr 407.771  Recovery = Not calculated
Li 670.784†              105.9     0.00400 mg/L      0.000137     0.00400 mg/L      0.000137   3.42%
   QC value within limits for Li 670.784  Recovery = Not calculated
All analyte(s) passed QC.

==========================================================================================
Sequence No.: 30                                    Autosampler Location: 100
Sample ID: PBW B9 WG432276-03                       Date Collected: 5/30/2013 4:16:27 PM
Analyst: KHR                                        Data Type: Original
Initial Sample Wt:                                  Initial Sample Vol:
Dilution:                                           Sample Prep Vol:

------------------------------------------------------------------------------------------
Nebulizer Parameters: PBW B9 WG432276-03
Analyte                 Back Pressure    Flow
All                   163.0 kPa         0.48 L/min

------------------------------------------------------------------------------------------
Mean Data: PBW B9 WG432276-03
                   Mean Corrected         Calib.                          Sample
Analyte               Intensity     Conc. Units      Std.Dev.      Conc. Units      Std.Dev.   RSD
Y 371.029            2477125.9                                                     36273.54   1.46%
YRADIAL               179117.3                                                      5319.72   2.97%
Ga 417.206            942008.6                                                     15612.33   1.66%
GaRADIAL               48808.1                                                      1066.36   2.18%
Ag 328.068†              150.0     0.00091 mg/L      0.000448     0.00091 mg/L      0.000448  49.10%
Al 396.153†                3.5      0.0493 mg/L       0.00135      0.0493 mg/L       0.00135   2.74%
As 188.979†                2.2    -0.00135 mg/L      0.002993    -0.00135 mg/L      0.002993 221.84%
Ba 233.527†              -33.3     0.00170 mg/L      0.000106     0.00170 mg/L      0.000106   6.25%
Be 234.861†              -72.3     0.00005 mg/L      0.000046     0.00005 mg/L      0.000046  96.06%
```

Approved: May 31, 2013

Lynn H. Rhoden

B 249.677†	402.2	0.00954	mg/L	0.000505	0.00954	mg/L	0.000505	5.29%
Ca 227.546†	5.5	0.0635	mg/L	0.07462	0.0635	mg/L	0.07462	117.55%
Cd 228.802†	-4.3	0.00007	mg/L	0.000132	0.00007	mg/L	0.000132	198.45%
Co 228.616†	-1.0	0.00005	mg/L	0.000379	0.00005	mg/L	0.000379	703.24%
Cr 267.716†	29.7	0.00149	mg/L	0.000096	0.00149	mg/L	0.000096	6.42%
Cu 327.393†	110.5	0.00129	mg/L	0.000548	0.00129	mg/L	0.000548	42.29%
Fe 239.562†	42.1	0.0260	mg/L	0.00067	0.0260	mg/L	0.00067	2.57%
Mg 279.077†	5.3	0.0413	mg/L	0.00399	0.0413	mg/L	0.00399	9.65%
Mn 257.610†	444.0	0.00078	mg/L	0.000028	0.00078	mg/L	0.000028	3.66%
Mo 202.031†	2.2	0.00205	mg/L	0.000205	0.00205	mg/L	0.000205	9.99%
Ni 231.604†	-17.9	0.00203	mg/L	0.000073	0.00203	mg/L	0.000073	3.58%
Pb 220.353†	0.6	0.00031	mg/L	0.000506	0.00031	mg/L	0.000506	160.89%
Sb 206.836†	-1.9	0.00197	mg/L	0.001218	0.00197	mg/L	0.001218	61.88%
Se 196.026†	3.0	0.00141	mg/L	0.000921	0.00141	mg/L	0.000921	65.16%
Si 251.611†	147.8	0.0108	mg/L	0.00035	0.0108	mg/L	0.00035	3.24%
Sn 189.927†	-12.9	0.00069	mg/L	0.000308	0.00069	mg/L	0.000308	44.64%
Ti 334.940†	-71.5	0.00313	mg/L	0.000082	0.00313	mg/L	0.000082	2.63%
Tl 190.801†	-11.2	-0.00553	mg/L	0.003080	-0.00553	mg/L	0.003080	55.71%
V 290.880†	290.9	0.00254	mg/L	0.000560	0.00254	mg/L	0.000560	22.05%
Zn 206.200†	108.2	0.00538	mg/L	0.000085	0.00538	mg/L	0.000085	1.57%
K 766.490†	61.5	0.00393	mg/L	0.002550	0.00393	mg/L	0.002550	64.83%
Na 589.592†	-31.1	-0.0366	mg/L	0.00599	-0.0366	mg/L	0.00599	16.38%
Sr 407.771†	-58.1	0.00391	mg/L	0.000007	0.00391	mg/L	0.000007	0.18%
Li 670.784†	7.6	0.00261	mg/L	0.001100	0.00261	mg/L	0.001100	42.16%

Sequence No.: 31 **Autosampler Location: 101**
Sample ID: LCSW B9 WG432276-04 **Date Collected: 5/30/2013 4:19:27 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: LCSW B9 WG432276-04

Analyte	Back Pressure	Flow
All	163.0 kPa	0.48 L/min

Mean Data: LCSW B9 WG432276-04

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2453310.6						34937.76	1.42%
YRADIAL	182056.8						822.61	0.45%
Ga 417.206	945349.7						21684.56	2.29%
GaRADIAL	49386.7						394.50	0.80%
Ag 328.068†	44951.3	0.196	mg/L	0.0019	0.196	mg/L	0.0019	0.99%
Al 396.153†	14581.6	4.78	mg/L	0.026	4.78	mg/L	0.026	0.54%
As 188.979†	392.4	0.190	mg/L	0.0030	0.190	mg/L	0.0030	1.58%
Ba 233.527†	44953.8	0.504	mg/L	0.0017	0.504	mg/L	0.0017	0.33%
Be 234.861†	16019.7	0.0239	mg/L	0.00032	0.0239	mg/L	0.00032	1.34%
B 249.677†	66128.7	0.929	mg/L	0.0099	0.929	mg/L	0.0099	1.06%
Ca 227.546†	984.7	4.92	mg/L	0.092	4.92	mg/L	0.092	1.86%
Cd 228.802†	755.2	0.0230	mg/L	0.00046	0.0230	mg/L	0.00046	1.99%
Co 228.616†	2428.3	0.0996	mg/L	0.00131	0.0996	mg/L	0.00131	1.31%
Cr 267.716†	23461.6	0.249	mg/L	0.0020	0.249	mg/L	0.0020	0.79%
Cu 327.393†	42148.2	0.243	mg/L	0.0027	0.243	mg/L	0.0027	1.13%
Fe 239.562†	8306.6	1.95	mg/L	0.023	1.95	mg/L	0.023	1.20%
Mg 279.077†	6918.3	4.89	mg/L	0.079	4.89	mg/L	0.079	1.62%
Mn 257.610†	135952.5	0.255	mg/L	0.0014	0.255	mg/L	0.0014	0.56%
Mo 202.031†	9964.7	0.504	mg/L	0.0074	0.504	mg/L	0.0074	1.47%
Ni 231.604†	10103.9	0.254	mg/L	0.0039	0.254	mg/L	0.0039	1.54%
Pb 220.353†	1958.5	0.255	mg/L	0.0046	0.255	mg/L	0.0046	1.82%
Sb 206.836†	1400.8	0.578	mg/L	0.0142	0.578	mg/L	0.0142	2.46%
Se 196.026†	202.9	0.195	mg/L	0.0075	0.195	mg/L	0.0075	3.85%
Si 251.611†	86200.4	2.40	mg/L	0.019	2.40	mg/L	0.019	0.79%
Sn 189.927†	-15.7	0.00034	mg/L	0.001152	0.00034	mg/L	0.001152	342.34%
Ti 334.940†	375605.8	0.501	mg/L	0.0017	0.501	mg/L	0.0017	0.34%
Tl 190.801†	512.2	0.258	mg/L	0.0063	0.258	mg/L	0.0063	2.45%
V 290.880†	98362.4	0.502	mg/L	0.0054	0.502	mg/L	0.0054	1.07%
Zn 206.200†	17716.6	0.508	mg/L	0.0055	0.508	mg/L	0.0055	1.08%
K 766.490†	36266.1	25.7	mg/L	0.13	25.7	mg/L	0.13	0.51%
Na 589.592†	263901.8	25.8	mg/L	0.71	25.8	mg/L	0.71	2.74%

Approved: May 31, 2013

Sr 407.771†	597173.6	0.500 mg/L	0.0206	0.500 mg/L	0.0206	4.12%
Li 670.784†	34554.6	0.493 mg/L	0.0022	0.493 mg/L	0.0022	0.46%

==========

Sequence No.: 32 **Autosampler Location: 102**
Sample ID: L1305134401 WG432276-01 **Date Collected: 5/30/2013 4:21:31 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1305134401 WG432276-01

Analyte	Back Pressure	Flow
All	163.0 kPa	0.48 L/min

Mean Data: L1305134401 WG432276-01

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2433777.4						22539.06	0.93%
YRADIAL	178937.7						529.78	0.30%
Ga 417.206	998187.3						10235.96	1.03%
GaRADIAL	51674.5						541.17	1.05%
Ag 328.068†	1010.2	0.00455	mg/L	0.000316	0.00455	mg/L	0.000316	6.95%
Al 396.153†	35.9	0.0598	mg/L	0.00160	0.0598	mg/L	0.00160	2.67%
As 188.979†	4.4	0.00228	mg/L	0.003214	0.00228	mg/L	0.003214	141.27%
Ba 233.527†	1825.0	0.0224	mg/L	0.00024	0.0224	mg/L	0.00024	1.05%
Be 234.861†	76.1	0.00027	mg/L	0.000023	0.00027	mg/L	0.000023	8.50%
B 249.677†	2010.2	0.0321	mg/L	0.00127	0.0321	mg/L	0.00127	3.97%
Ca 227.546†	24198.0	114	mg/L	2.3	114	mg/L	2.3	1.97%
Cd 228.802†	-6.2	0.00000	mg/L	0.000216	0.00000	mg/L	0.000216	>999.9%
Co 228.616†	0.4	0.00014	mg/L	0.000077	0.00014	mg/L	0.000077	53.22%
Cr 267.716†	223.6	0.00354	mg/L	0.000201	0.00354	mg/L	0.000201	5.66%
Cu 327.393†	-93.9	0.00011	mg/L	0.000173	0.00011	mg/L	0.000173	151.52%
Fe 239.562†	154.8	0.0502	mg/L	0.00067	0.0502	mg/L	0.00067	1.33%
Mg 279.077†	142470.1	99.8	mg/L	1.22	99.8	mg/L	1.22	1.22%
Mn 257.610†	38033.5	0.0711	mg/L	0.00070	0.0711	mg/L	0.00070	0.98%
Mo 202.031†	30.8	0.00352	mg/L	0.000439	0.00352	mg/L	0.000439	12.47%
Ni 231.604†	212.9	0.00780	mg/L	0.000146	0.00780	mg/L	0.000146	1.87%
Pb 220.353†	48.3	0.00646	mg/L	0.002102	0.00646	mg/L	0.002102	32.55%
Sb 206.836†	-2.3	0.00180	mg/L	0.000332	0.00180	mg/L	0.000332	18.41%
Se 196.026†	4.0	0.00234	mg/L	0.001082	0.00234	mg/L	0.001082	46.30%
Si 251.611†	84848.2	2.37	mg/L	0.032	2.37	mg/L	0.032	1.36%
Sn 189.927†	-328.0	-0.0386	mg/L	0.00132	-0.0386	mg/L	0.00132	3.43%
Ti 334.940†	-13525.8	0.00249	mg/L	0.000338	0.00249	mg/L	0.000338	13.57%
Tl 190.801†	-34.4	-0.0171	mg/L	0.00438	-0.0171	mg/L	0.00438	25.67%
V 290.880†	4258.8	0.0202	mg/L	0.00110	0.0202	mg/L	0.00110	5.44%
Zn 206.200†	193.6	0.00783	mg/L	0.000392	0.00783	mg/L	0.000392	5.01%
K 766.490†	11160.6	7.98	mg/L	0.053	7.98	mg/L	0.053	0.66%
Na 589.592†	34201.5	3.39	mg/L	0.069	3.39	mg/L	0.069	2.04%
Sr 407.771†	760279.6	0.637	mg/L	0.0261	0.637	mg/L	0.0261	4.10%
Li 670.784†	1114.2	0.0183	mg/L	0.00040	0.0183	mg/L	0.00040	2.21%

==========

Sequence No.: 33 **Autosampler Location: 103**
Sample ID: L1305134401DU WG432276-05 **Date Collected: 5/30/2013 4:24:35 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1305134401DU WG432276-05

Analyte	Back Pressure	Flow
All	163.0 kPa	0.48 L/min

Mean Data: L1305134401DU WG432276-05

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2424987.2						55868.40	2.30%
YRADIAL	175400.3						4289.38	2.45%
Ga 417.206	994014.4						24439.00	2.46%

Approved: May 31, 2013

Kym H. Rhoden

GaRADIAL	50929.0					253.25	0.50%
Ag 328.068†	1150.9	0.00516	mg/L	0.000142	0.00516 mg/L	0.000142	2.75%
Al 396.153†	41.2	0.0616	mg/L	0.00259	0.0616 mg/L	0.00259	4.21%
As 188.979†	4.8	0.00250	mg/L	0.002413	0.00250 mg/L	0.002413	96.50%
Ba 233.527†	1803.3	0.0222	mg/L	0.00039	0.0222 mg/L	0.00039	1.77%
Be 234.861†	69.0	0.00026	mg/L	0.000064	0.00026 mg/L	0.000064	24.62%
B 249.677†	1626.6	0.0267	mg/L	0.00030	0.0267 mg/L	0.00030	1.11%
Ca 227.546†	24267.8	115	mg/L	1.3	115 mg/L	1.3	1.10%
Cd 228.802†	-8.4	-0.00007	mg/L	0.000168	-0.00007 mg/L	0.000168	241.33%
Co 228.616†	-4.0	-0.00003	mg/L	0.000457	-0.00003 mg/L	0.000457	>999.9%
Cr 267.716†	236.2	0.00368	mg/L	0.000075	0.00368 mg/L	0.000075	2.05%
Cu 327.393†	-125.5	-0.00007	mg/L	0.000195	-0.00007 mg/L	0.000195	294.40%
Fe 239.562†	145.4	0.0480	mg/L	0.00123	0.0480 mg/L	0.00123	2.57%
Mg 279.077†	143772.3	101	mg/L	0.3	101 mg/L	0.3	0.31%
Mn 257.610†	37535.7	0.0702	mg/L	0.00046	0.0702 mg/L	0.00046	0.65%
Mo 202.031†	29.7	0.00346	mg/L	0.000269	0.00346 mg/L	0.000269	7.76%
Ni 231.604†	210.4	0.00773	mg/L	0.000336	0.00773 mg/L	0.000336	4.34%
Pb 220.353†	50.7	0.00677	mg/L	0.000701	0.00677 mg/L	0.000701	10.34%
Sb 206.836†	-3.9	0.00115	mg/L	0.002803	0.00115 mg/L	0.002803	242.84%
Se 196.026†	6.5	0.00477	mg/L	0.004194	0.00477 mg/L	0.004194	87.97%
Si 251.611†	85147.5	2.38	mg/L	0.011	2.38 mg/L	0.011	0.45%
Sn 189.927†	-331.2	-0.0390	mg/L	0.00296	-0.0390 mg/L	0.00296	7.60%
Ti 334.940†	-13633.3	0.00240	mg/L	0.000294	0.00240 mg/L	0.000294	12.25%
Tl 190.801†	-32.4	-0.0161	mg/L	0.00364	-0.0161 mg/L	0.00364	22.62%
V 290.880†	4546.8	0.0216	mg/L	0.00069	0.0216 mg/L	0.00069	3.20%
Zn 206.200†	210.1	0.00830	mg/L	0.000163	0.00830 mg/L	0.000163	1.97%
K 766.490†	11191.1	8.00	mg/L	0.085	8.00 mg/L	0.085	1.06%
Na 589.592†	34101.9	3.38	mg/L	0.052	3.38 mg/L	0.052	1.53%
Sr 407.771†	785036.3	0.657	mg/L	0.0064	0.657 mg/L	0.0064	0.98%
Li 670.784†	1067.8	0.0176	mg/L	0.00046	0.0176 mg/L	0.00046	2.59%

==========

Sequence No.: 34 **Autosampler Location: 104**
Sample ID: L1305134401MS WG432276-06 **Date Collected: 5/30/2013 4:27:39 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1305134401MS WG432276-06

Analyte	Back Pressure	Flow
All	163.0 kPa	0.48 L/min

Mean Data: L1305134401MS WG432276-06

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2316927.1						15639.79	0.68%
YRADIAL	173587.7						2488.27	1.43%
Ga 417.206	932253.7						15823.59	1.70%
GaRADIAL	48805.2						696.10	1.43%
Ag 328.068†	44956.8	0.196	mg/L	0.0017	0.196	mg/L	0.0017	0.87%
Al 396.153†	15172.5	4.97	mg/L	0.051	4.97	mg/L	0.051	1.03%
As 188.979†	406.6	0.200	mg/L	0.0023	0.200	mg/L	0.0023	1.17%
Ba 233.527†	47148.5	0.528	mg/L	0.0099	0.528	mg/L	0.0099	1.87%
Be 234.861†	15941.0	0.0238	mg/L	0.00029	0.0238	mg/L	0.00029	1.22%
B 249.677†	68573.5	0.963	mg/L	0.0171	0.963	mg/L	0.0171	1.78%
Ca 227.546†	26694.9	126	mg/L	1.6	126	mg/L	1.6	1.26%
Cd 228.802†	752.0	0.0228	mg/L	0.00058	0.0228	mg/L	0.00058	2.55%
Co 228.616†	2406.5	0.0988	mg/L	0.00063	0.0988	mg/L	0.00063	0.64%
Cr 267.716†	23968.5	0.254	mg/L	0.0062	0.254	mg/L	0.0062	2.42%
Cu 327.393†	40589.1	0.234	mg/L	0.0016	0.234	mg/L	0.0016	0.66%
Fe 239.562†	8605.4	2.02	mg/L	0.040	2.02	mg/L	0.040	1.99%
Mg 279.077†	154201.2	108	mg/L	1.3	108	mg/L	1.3	1.16%
Mn 257.610†	176634.5	0.331	mg/L	0.0068	0.331	mg/L	0.0068	2.05%
Mo 202.031†	10466.4	0.529	mg/L	0.0036	0.529	mg/L	0.0036	0.68%
Ni 231.604†	10240.2	0.258	mg/L	0.0013	0.258	mg/L	0.0013	0.51%
Pb 220.353†	2007.9	0.261	mg/L	0.0033	0.261	mg/L	0.0033	1.27%
Sb 206.836†	1427.2	0.589	mg/L	0.0112	0.589	mg/L	0.0112	1.91%
Se 196.026†	203.1	0.196	mg/L	0.0052	0.196	mg/L	0.0052	2.65%
Si 251.611†	175967.7	4.91	mg/L	0.054	4.91	mg/L	0.054	1.10%
Sn 189.927†	-297.0	-0.0347	mg/L	0.00042	-0.0347	mg/L	0.00042	1.20%

Approved: May 31, 2013

Ti 334.940†	371838.5	0.514	mg/L	0.0102	0.514	mg/L	0.0102	1.98%
Tl 190.801†	472.1	0.238	mg/L	0.0044	0.238	mg/L	0.0044	1.85%
V 290.880†	105819.9	0.538	mg/L	0.0176	0.538	mg/L	0.0176	3.26%
Zn 206.200†	17182.0	0.493	mg/L	0.0102	0.493	mg/L	0.0102	2.08%
K 766.490†	49384.2	34.9	mg/L	0.57	34.9	mg/L	0.57	1.64%
Na 589.592†	312794.9	30.5	mg/L	0.46	30.5	mg/L	0.46	1.51%
Sr 407.771†	1409482.0	1.18	mg/L	0.015	1.18	mg/L	0.015	1.28%
Li 670.784†	36655.4	0.522	mg/L	0.0073	0.522	mg/L	0.0073	1.40%

Sequence No.: 35 **Autosampler Location: 105**
Sample ID: L1305134402 **Date Collected: 5/30/2013 4:29:43 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1305134402

Analyte	Back Pressure	Flow
All	160.0 kPa	0.48 L/min

Mean Data: L1305134402

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	5894128.3						165470.93	2.81%
YRADIAL	369210.7						35001.98	9.48%
Ga 417.206	1856408.8						55356.74	2.98%
GaRADIAL	101264.6						10036.63	9.91%
Ag 328.068†	211.7	0.00114	mg/L	0.000056	0.00114	mg/L	0.000056	4.95%
Al 396.153†	31.4	0.0586	mg/L	0.00097	0.0586	mg/L	0.00097	1.65%
As 188.979†	3.7	-0.00057	mg/L	0.001060	-0.00057	mg/L	0.001060	185.00%
Ba 233.527†	45.6	0.00259	mg/L	0.000063	0.00259	mg/L	0.000063	2.43%
Be 234.861†	494.5	0.00090	mg/L	0.000040	0.00090	mg/L	0.000040	4.45%
B 249.677†	362.3	0.00900	mg/L	0.000828	0.00900	mg/L	0.000828	9.20%
Ca 227.546†	37.2	0.215	mg/L	0.0229	0.215	mg/L	0.0229	10.67%
Cd 228.802†	-22.3	-0.00049	mg/L	0.000134	-0.00049	mg/L	0.000134	27.25%
Co 228.616†	5.9	0.00033	mg/L	0.000039	0.00033	mg/L	0.000039	11.71%
Cr 267.716†	-55.8	0.00058	mg/L	0.000064	0.00058	mg/L	0.000064	11.15%
Cu 327.393†	259.8	0.00214	mg/L	0.000243	0.00214	mg/L	0.000243	11.37%
Fe 239.562†	10.5	0.0186	mg/L	0.00009	0.0186	mg/L	0.00009	0.46%
Mg 279.077†	41.8	0.0670	mg/L	0.07521	0.0670	mg/L	0.07521	112.34%
Mn 257.610†	-142.0	-0.00032	mg/L	0.000009	-0.00032	mg/L	0.000009	2.67%
Mo 202.031†	-25.1	0.00067	mg/L	0.000094	0.00067	mg/L	0.000094	13.95%
Ni 231.604†	71.1	0.00425	mg/L	0.000118	0.00425	mg/L	0.000118	2.77%
Pb 220.353†	37.5	0.00509	mg/L	0.000398	0.00509	mg/L	0.000398	7.82%
Sb 206.836†	-1.2	0.00226	mg/L	0.000643	0.00226	mg/L	0.000643	28.40%
Se 196.026†	-3.8	-0.00520	mg/L	0.000678	-0.00520	mg/L	0.000678	13.04%
Si 251.611†	-266.2	-0.00074	mg/L	0.000174	-0.00074	mg/L	0.000174	23.46%
Sn 189.927†	-25.4	-0.00087	mg/L	0.000470	-0.00087	mg/L	0.000470	53.87%
Ti 334.940†	-413.8	0.00270	mg/L	0.000059	0.00270	mg/L	0.000059	2.20%
Tl 190.801†	29.5	0.0144	mg/L	0.00095	0.0144	mg/L	0.00095	6.58%
V 290.880†	-3561.1	-0.0171	mg/L	0.00058	-0.0171	mg/L	0.00058	3.39%
Zn 206.200†	-0.4	0.00228	mg/L	0.000031	0.00228	mg/L	0.000031	1.37%
K 766.490†	5.5	-0.0365	mg/L	0.03270	-0.0365	mg/L	0.03270	89.71%
Na 589.592†	-119.2	-0.0454	mg/L	0.03481	-0.0454	mg/L	0.03481	76.65%
Sr 407.771†	1502.2	0.00521	mg/L	0.002424	0.00521	mg/L	0.002424	46.52%
Li 670.784†	12.4	0.00268	mg/L	0.000455	0.00268	mg/L	0.000455	16.99%

Sequence No.: 36 **Autosampler Location: 106**
Sample ID: L1305134403 **Date Collected: 5/30/2013 4:32:44 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1305134403

Analyte	Back Pressure	Flow
All	163.0 kPa	0.48 L/min

Approved: May 31, 2013

Kym H. Rhoden

Mean Data: L1305134403

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	2433013.9						26131.72	1.07%
YRADIAL	178936.5						1143.60	0.64%
Ga 417.206	985985.9						15802.65	1.60%
GaRADIAL	51504.1						354.72	0.69%
Ag 328.068†	405.7	0.00201	mg/L	0.000263	0.00201	mg/L	0.000263	13.06%
Al 396.153†	249.7	0.130	mg/L	0.0017	0.130	mg/L	0.0017	1.33%
As 188.979†	0.8	-0.00107	mg/L	0.001022	-0.00107	mg/L	0.001022	95.87%
Ba 233.527†	2701.2	0.0322	mg/L	0.00021	0.0322	mg/L	0.00021	0.66%
Be 234.861†	91.9	0.00029	mg/L	0.000003	0.00029	mg/L	0.000003	1.08%
B 249.677†	861.9	0.0159	mg/L	0.00057	0.0159	mg/L	0.00057	3.61%
Ca 227.546†	9052.5	42.8	mg/L	0.56	42.8	mg/L	0.56	1.32%
Cd 228.802†	-12.8	-0.00018	mg/L	0.000210	-0.00018	mg/L	0.000210	114.24%
Co 228.616†	57.9	0.00248	mg/L	0.000248	0.00248	mg/L	0.000248	9.99%
Cr 267.716†	129.9	0.00255	mg/L	0.000154	0.00255	mg/L	0.000154	6.06%
Cu 327.393†	75.1	0.00110	mg/L	0.000228	0.00110	mg/L	0.000228	20.76%
Fe 239.562†	487.8	0.129	mg/L	0.0023	0.129	mg/L	0.0023	1.76%
Mg 279.077†	50179.8	35.2	mg/L	0.39	35.2	mg/L	0.39	1.10%
Mn 257.610†	116436.9	0.218	mg/L	0.0064	0.218	mg/L	0.0064	2.95%
Mo 202.031†	26.7	0.00334	mg/L	0.000307	0.00334	mg/L	0.000307	9.18%
Ni 231.604†	340.1	0.0110	mg/L	0.00025	0.0110	mg/L	0.00025	2.25%
Pb 220.353†	38.6	0.00511	mg/L	0.000920	0.00511	mg/L	0.000920	17.99%
Sb 206.836†	-0.4	0.00260	mg/L	0.003950	0.00260	mg/L	0.003950	152.04%
Se 196.026†	7.7	0.00590	mg/L	0.005001	0.00590	mg/L	0.005001	84.83%
Si 251.611†	77527.0	2.17	mg/L	0.094	2.17	mg/L	0.094	4.35%
Sn 189.927†	-243.9	-0.0281	mg/L	0.00015	-0.0281	mg/L	0.00015	0.54%
Ti 334.940†	-4972.8	0.00306	mg/L	0.000304	0.00306	mg/L	0.000304	9.93%
Tl 190.801†	-28.7	-0.0143	mg/L	0.00219	-0.0143	mg/L	0.00219	15.31%
V 290.880†	2813.5	0.0145	mg/L	0.00098	0.0145	mg/L	0.00098	6.79%
Zn 206.200†	446.4	0.0150	mg/L	0.00024	0.0150	mg/L	0.00024	1.60%
K 766.490†	5780.3	4.10	mg/L	0.060	4.10	mg/L	0.060	1.47%
Na 589.592†	191680.0	18.9	mg/L	0.13	18.9	mg/L	0.13	0.68%
Sr 407.771†	267138.2	0.226	mg/L	0.0050	0.226	mg/L	0.0050	2.20%
Li 670.784†	629.2	0.0114	mg/L	0.00017	0.0114	mg/L	0.00017	1.51%

==========

Sequence No.: 37 **Autosampler Location: 107**
Sample ID: L1305134404 **Date Collected: 5/30/2013 4:35:45 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1305134404

Analyte	Back Pressure	Flow
All	163.0 kPa	0.48 L/min

Mean Data: L1305134404

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	2453017.2						34410.18	1.40%
YRADIAL	173299.1						2082.33	1.20%
Ga 417.206	994552.6						24130.78	2.43%
GaRADIAL	50251.2						996.96	1.98%
Ag 328.068†	460.2	0.00224	mg/L	0.000716	0.00224	mg/L	0.000716	32.02%
Al 396.153†	177.5	0.106	mg/L	0.0023	0.106	mg/L	0.0023	2.15%
As 188.979†	6.5	0.00177	mg/L	0.003489	0.00177	mg/L	0.003489	197.47%
Ba 233.527†	2739.8	0.0326	mg/L	0.00043	0.0326	mg/L	0.00043	1.30%
Be 234.861†	61.3	0.00025	mg/L	0.000017	0.00025	mg/L	0.000017	6.65%
B 249.677†	3843.7	0.0577	mg/L	0.00164	0.0577	mg/L	0.00164	2.84%
Ca 227.546†	9290.9	44.0	mg/L	1.19	44.0	mg/L	1.19	2.71%
Cd 228.802†	-3.2	0.00009	mg/L	0.000083	0.00009	mg/L	0.000083	89.71%
Co 228.616†	25.3	0.00114	mg/L	0.000354	0.00114	mg/L	0.000354	31.08%
Cr 267.716†	128.9	0.00254	mg/L	0.000145	0.00254	mg/L	0.000145	5.72%
Cu 327.393†	57.2	0.00099	mg/L	0.000790	0.00099	mg/L	0.000790	79.70%
Fe 239.562†	297.1	0.0847	mg/L	0.00299	0.0847	mg/L	0.00299	3.53%
Mg 279.077†	52540.0	36.8	mg/L	0.25	36.8	mg/L	0.25	0.69%
Mn 257.610†	88106.1	0.165	mg/L	0.0041	0.165	mg/L	0.0041	2.52%
Mo 202.031†	16.4	0.00282	mg/L	0.000297	0.00282	mg/L	0.000297	10.53%

Approved: May 31, 2013
Kym H. Rhoden

Ni 231.604†	280.7	0.00949 mg/L	0.000206	0.00949 mg/L	0.000206	2.17%
Pb 220.353†	29.2	0.00393 mg/L	0.001302	0.00393 mg/L	0.001302	33.11%
Sb 206.836†	-1.4	0.00220 mg/L	0.001424	0.00220 mg/L	0.001424	64.71%
Se 196.026†	9.9	0.00802 mg/L	0.002064	0.00802 mg/L	0.002064	25.73%
Si 251.611†	77888.1	2.18 mg/L	0.070	2.18 mg/L	0.070	3.21%
Sn 189.927†	-244.6	-0.0282 mg/L	0.00028	-0.0282 mg/L	0.00028	0.99%
Ti 334.940†	-4578.7	0.00375 mg/L	0.000448	0.00375 mg/L	0.000448	11.94%
Tl 190.801†	-25.6	-0.0127 mg/L	0.00254	-0.0127 mg/L	0.00254	19.96%
V 290.880†	2818.8	0.0145 mg/L	0.00126	0.0145 mg/L	0.00126	8.69%
Zn 206.200†	325.6	0.0116 mg/L	0.00011	0.0116 mg/L	0.00011	0.96%
K 766.490†	5956.8	4.23 mg/L	0.078	4.23 mg/L	0.078	1.85%
Na 589.592†	203949.3	20.1 mg/L	0.20	20.1 mg/L	0.20	1.02%
Sr 407.771†	281080.9	0.238 mg/L	0.0021	0.238 mg/L	0.0021	0.88%
Li 670.784†	660.1	0.0119 mg/L	0.00061	0.0119 mg/L	0.00061	5.17%

Sequence No.: 38 **Autosampler Location: 108**
Sample ID: L1305134404PS WG432295-01 **Date Collected: 5/30/2013 4:38:46 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1305134404PS WG432295-01

Analyte	Back Pressure	Flow
All	163.0 kPa	0.48 L/min

Mean Data: L1305134404PS WG432295-01

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2410213.6						28713.26	1.19%
YRADIAL	181570.5						2006.52	1.11%
Ga 417.206	953769.1						5033.89	0.53%
GaRADIAL	49929.7						628.16	1.26%
Ag 328.068†	45186.3	0.197	mg/L	0.0034	0.197	mg/L	0.0034	1.70%
Al 396.153†	15311.8	5.01	mg/L	0.024	5.01	mg/L	0.024	0.47%
As 188.979†	404.6	0.197	mg/L	0.0037	0.197	mg/L	0.0037	1.87%
Ba 233.527†	48193.8	0.540	mg/L	0.0107	0.540	mg/L	0.0107	1.97%
Be 234.861†	16284.5	0.0243	mg/L	0.00038	0.0243	mg/L	0.00038	1.57%
B 249.677†	72246.8	1.01	mg/L	0.021	1.01	mg/L	0.021	2.08%
Ca 227.546†	9853.9	46.9	mg/L	0.27	46.9	mg/L	0.27	0.58%
Cd 228.802†	763.7	0.0232	mg/L	0.00018	0.0232	mg/L	0.00018	0.75%
Co 228.616†	2478.9	0.102	mg/L	0.0013	0.102	mg/L	0.0013	1.29%
Cr 267.716†	24076.6	0.255	mg/L	0.0043	0.255	mg/L	0.0043	1.68%
Cu 327.393†	41407.2	0.238	mg/L	0.0052	0.238	mg/L	0.0052	2.17%
Fe 239.562†	8759.3	2.06	mg/L	0.006	2.06	mg/L	0.006	0.30%
Mg 279.077†	53142.3	37.3	mg/L	0.27	37.3	mg/L	0.27	0.71%
Mn 257.610†	220659.1	0.413	mg/L	0.0087	0.413	mg/L	0.0087	2.11%
Mo 202.031†	10469.1	0.529	mg/L	0.0080	0.529	mg/L	0.0080	1.51%
Ni 231.604†	10423.7	0.262	mg/L	0.0032	0.262	mg/L	0.0032	1.22%
Pb 220.353†	2014.9	0.262	mg/L	0.0036	0.262	mg/L	0.0036	1.37%
Sb 206.836†	1442.7	0.595	mg/L	0.0076	0.595	mg/L	0.0076	1.28%
Se 196.026†	202.6	0.195	mg/L	0.0035	0.195	mg/L	0.0035	1.81%
Si 251.611†	161678.3	4.51	mg/L	0.091	4.51	mg/L	0.091	2.01%
Sn 189.927†	-241.5	-0.0278	mg/L	0.00090	-0.0278	mg/L	0.00090	3.23%
Ti 334.940†	384246.0	0.518	mg/L	0.0100	0.518	mg/L	0.0100	1.94%
Tl 190.801†	502.5	0.253	mg/L	0.0051	0.253	mg/L	0.0051	2.01%
V 290.880†	104967.3	0.535	mg/L	0.0123	0.535	mg/L	0.0123	2.31%
Zn 206.200†	17800.0	0.511	mg/L	0.0117	0.511	mg/L	0.0117	2.30%
K 766.490†	43252.3	30.6	mg/L	0.13	30.6	mg/L	0.13	0.43%
Na 589.592†	463017.3	44.5	mg/L	1.08	44.5	mg/L	1.08	2.43%
Sr 407.771†	875090.2	0.731	mg/L	0.0163	0.731	mg/L	0.0163	2.23%
Li 670.784†	36552.5	0.521	mg/L	0.0031	0.521	mg/L	0.0031	0.60%

Sequence No.: 39 **Autosampler Location: 109**
Sample ID: L1305134404DL WG432295-02 **Date Collected: 5/30/2013 4:40:50 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Approved: May 31, 2013
Kym H. Rhoden

Nebulizer Parameters: L1305134404DL WG432295-02

Analyte	Back Pressure	Flow
All	163.0 kPa	0.48 L/min

Mean Data: L1305134404DL WG432295-02

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2492899.5						61412.94	2.46%
YRADIAL	180164.6						5066.35	2.81%
Ga 417.206	981962.6						25540.01	2.60%
GaRADIAL	50891.4						828.39	1.63%
Ag 328.068†	162.6	0.00096	mg/L	0.000451	0.00096	mg/L	0.000451	46.89%
Al 396.153†	40.9	0.0615	mg/L	0.00259	0.0615	mg/L	0.00259	4.20%
As 188.979†	6.5	0.00101	mg/L	0.001527	0.00101	mg/L	0.001527	151.82%
Ba 233.527†	529.7	0.00799	mg/L	0.000077	0.00799	mg/L	0.000077	0.96%
Be 234.861†	19.0	0.00019	mg/L	0.000054	0.00019	mg/L	0.000054	28.92%
B 249.677†	1506.4	0.0250	mg/L	0.00149	0.0250	mg/L	0.00149	5.95%
Ca 227.546†	1855.0	8.81	mg/L	0.201	8.81	mg/L	0.201	2.29%
Cd 228.802†	-10.7	-0.00014	mg/L	0.000173	-0.00014	mg/L	0.000173	122.94%
Co 228.616†	1.3	0.00015	mg/L	0.000084	0.00015	mg/L	0.000084	55.28%
Cr 267.716†	43.2	0.00163	mg/L	0.000033	0.00163	mg/L	0.000033	2.00%
Cu 327.393†	77.5	0.00111	mg/L	0.000275	0.00111	mg/L	0.000275	24.92%
Fe 239.562†	72.9	0.0330	mg/L	0.00100	0.0330	mg/L	0.00100	3.02%
Mg 279.077†	10534.4	7.42	mg/L	0.140	7.42	mg/L	0.140	1.89%
Mn 257.610†	18237.6	0.0341	mg/L	0.00021	0.0341	mg/L	0.00021	0.63%
Mo 202.031†	7.9	0.00235	mg/L	0.000372	0.00235	mg/L	0.000372	15.85%
Ni 231.604†	45.8	0.00362	mg/L	0.000199	0.00362	mg/L	0.000199	5.50%
Pb 220.353†	10.5	0.00158	mg/L	0.001168	0.00158	mg/L	0.001168	73.88%
Sb 206.836†	0.9	0.00315	mg/L	0.001383	0.00315	mg/L	0.001383	43.91%
Se 196.026†	5.2	0.00348	mg/L	0.001309	0.00348	mg/L	0.001309	37.59%
Si 251.611†	16158.0	0.457	mg/L	0.0028	0.457	mg/L	0.0028	0.62%
Sn 189.927†	-86.3	-0.00845	mg/L	0.000505	-0.00845	mg/L	0.000505	5.98%
Ti 334.940†	-1103.0	0.00307	mg/L	0.000157	0.00307	mg/L	0.000157	5.10%
Tl 190.801†	0.1	-0.00001	mg/L	0.001336	-0.00001	mg/L	0.001336	>999.9%
V 290.880†	835.4	0.00512	mg/L	0.001583	0.00512	mg/L	0.001583	30.89%
Zn 206.200†	109.8	0.00543	mg/L	0.000168	0.00543	mg/L	0.000168	3.10%
K 766.490†	1313.8	0.904	mg/L	0.0318	0.904	mg/L	0.0318	3.52%
Na 589.592†	41883.5	4.16	mg/L	0.050	4.16	mg/L	0.050	1.20%
Sr 407.771†	56446.8	0.0510	mg/L	0.00087	0.0510	mg/L	0.00087	1.70%
Li 670.784†	123.3	0.00425	mg/L	0.000153	0.00425	mg/L	0.000153	3.59%

Sequence No.: 40
Sample ID: CCV
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 7
Date Collected: 5/30/2013 4:43:50 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: CCV

Analyte	Back Pressure	Flow
All	163.0 kPa	0.48 L/min

Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2385791.0						32679.65	1.37%
YRADIAL	175796.9						4516.64	2.57%
Ga 417.206	914286.7						23077.49	2.52%
GaRADIAL	48907.8						1080.63	2.21%
Ag 328.068†	97749.3	0.427	mg/L	0.0105	0.427	mg/L	0.0105	2.45%
QC value within limits for Ag 328.068 Recovery = 106.69%								
Al 396.153†	31187.3	10.2	mg/L	0.12	10.2	mg/L	0.12	1.20%
QC value within limits for Al 396.153 Recovery = 101.63%								
As 188.979†	843.0	0.412	mg/L	0.0083	0.412	mg/L	0.0083	2.02%
QC value within limits for As 188.979 Recovery = 102.95%								
Ba 233.527†	96544.0	1.08	mg/L	0.029	1.08	mg/L	0.029	2.68%
QC value within limits for Ba 233.527 Recovery = 107.99%								
Be 234.861†	34793.7	0.0517	mg/L	0.00139	0.0517	mg/L	0.00139	2.69%

Approved: May 31, 2013

```
   QC value within limits for Be 234.861  Recovery = 103.36%
B 249.677†            36880.5       0.517 mg/L        0.0156       0.517 mg/L        0.0156   3.02%
   QC value within limits for B 249.677  Recovery = 103.38%
Ca 227.546†            2178.3        10.8 mg/L          0.24        10.8 mg/L          0.24   2.21%
   QC value within limits for Ca 227.546  Recovery = 108.20%
Cd 228.802†            1638.3      0.0496 mg/L       0.00125      0.0496 mg/L       0.00125   2.53%
   QC value within limits for Cd 228.802  Recovery = 99.29%
Co 228.616†            5228.7       0.214 mg/L        0.0032       0.214 mg/L        0.0032   1.50%
   QC value within limits for Co 228.616  Recovery = 107.21%
Cr 267.716†           50912.4       0.539 mg/L        0.0134       0.539 mg/L        0.0134   2.49%
   QC value within limits for Cr 267.716  Recovery = 107.74%
Cu 327.393†           90951.7       0.523 mg/L        0.0133       0.523 mg/L        0.0133   2.54%
   QC value within limits for Cu 327.393  Recovery = 104.59%
Fe 239.562†           17682.8        4.14 mg/L         0.068        4.14 mg/L         0.068   1.65%
   QC value within limits for Fe 239.562  Recovery = 103.44%
Mg 279.077†           14945.9        10.5 mg/L          0.09        10.5 mg/L          0.09   0.84%
   QC value within limits for Mg 279.077  Recovery = 105.21%
Mn 257.610†          294648.0       0.552 mg/L        0.0132       0.552 mg/L        0.0132   2.40%
   QC value greater than the upper limit for Mn 257.610  Recovery = 110.42%
Mo 202.031†           21147.1        1.07 mg/L         0.024        1.07 mg/L         0.024   2.30%
   QC value within limits for Mo 202.031  Recovery = 106.64%
Ni 231.604†           21317.6       0.534 mg/L        0.0130       0.534 mg/L        0.0130   2.44%
   QC value within limits for Ni 231.604  Recovery = 106.78%
Pb 220.353†            4178.8       0.543 mg/L        0.0047       0.543 mg/L        0.0047   0.87%
   QC value within limits for Pb 220.353  Recovery = 108.59%
Sb 206.836†            3041.1        1.25 mg/L         0.034        1.25 mg/L         0.034   2.74%
   QC value within limits for Sb 206.836  Recovery = 104.27%
Se 196.026†             430.3       0.416 mg/L        0.0079       0.416 mg/L        0.0079   1.89%
   QC value within limits for Se 196.026  Recovery = 103.99%
Si 251.611†          187737.0        5.23 mg/L         0.133        5.23 mg/L         0.133   2.54%
   QC value within limits for Si 251.611  Recovery = 104.55%
Sn 189.927†            7994.2       0.998 mg/L        0.0097       0.998 mg/L        0.0097   0.97%
   QC value within limits for Sn 189.927  Recovery = 99.84%
Ti 334.940†          791817.0        1.05 mg/L         0.009        1.05 mg/L         0.009   0.89%
   QC value within limits for Ti 334.940  Recovery = 105.17%
Tl 190.801†            1090.4       0.549 mg/L        0.0088       0.549 mg/L        0.0088   1.59%
   QC value within limits for Tl 190.801  Recovery = 109.78%
V 290.880†           213081.0        1.09 mg/L         0.029        1.09 mg/L         0.029   2.71%
   QC value within limits for V 290.880  Recovery = 108.71%
Zn 206.200†           38045.8        1.09 mg/L         0.027        1.09 mg/L         0.027   2.50%
   QC value within limits for Zn 206.200  Recovery = 108.92%
K 766.490†            77260.7        53.9 mg/L          0.26        53.9 mg/L          0.26   0.49%
   QC value within limits for K 766.490  Recovery = 107.87%
Na 589.592†          544684.3        52.0 mg/L          0.66        52.0 mg/L          0.66   1.27%
   QC value within limits for Na 589.592  Recovery = 103.94%
Sr 407.771†         1278054.8        1.06 mg/L         0.012        1.06 mg/L         0.012   1.11%
   QC value within limits for Sr 407.771  Recovery = 106.49%
Li 670.784†           73192.0        1.04 mg/L         0.008        1.04 mg/L         0.008   0.77%
   QC value within limits for Li 670.784  Recovery = 104.05%
QC Failed.  Continue with analysis.

==========================================================================================
Sequence No.: 41                                  Autosampler Location: 8
Sample ID: CCB                                    Date Collected: 5/30/2013 4:45:55 PM
Analyst:                                          Data Type: Original
Initial Sample Wt:                                Initial Sample Vol:
Dilution:                                         Sample Prep Vol:

------------------------------------------------------------------------------------------
Nebulizer Parameters: CCB
Analyte                 Back Pressure    Flow
All                     163.0 kPa        0.48 L/min

------------------------------------------------------------------------------------------
Mean Data: CCB
                   Mean Corrected        Calib.                          Sample
Analyte               Intensity     Conc. Units      Std.Dev.     Conc. Units      Std.Dev.   RSD
Y 371.029            2436268.0                                                    29233.12   1.20%
YRADIAL               178484.7                                                     1603.57   0.90%
Ga 417.206            933766.2                                                    16030.05   1.72%
GaRADIAL               48612.8                                                     1217.38   2.50%
Ag 328.068†              116.3     0.00077 mg/L      0.000443     0.00077 mg/L      0.000443  57.91%
```

Approved: May 31, 2013

Lynn H. Rhoden

```
   QC value within limits for Ag 328.068  Recovery = Not calculated
Al 396.153†                 3.5      0.0493 mg/L       0.00233      0.0493 mg/L       0.00233   4.72%
   QC value within limits for Al 396.153  Recovery = Not calculated
As 188.979†                 5.4     0.00028 mg/L      0.004059     0.00028 mg/L      0.004059 >999.9%
   QC value within limits for As 188.979  Recovery = Not calculated
Ba 233.527†               -29.8     0.00174 mg/L      0.000049     0.00174 mg/L      0.000049   2.82%
   QC value within limits for Ba 233.527  Recovery = Not calculated
Be 234.861†               -64.7     0.00006 mg/L      0.000033     0.00006 mg/L      0.000033  55.05%
   QC value within limits for Be 234.861  Recovery = Not calculated
B 249.677†                622.6      0.0126 mg/L       0.00092      0.0126 mg/L       0.00092   7.28%
   QC value within limits for B 249.677  Recovery = Not calculated
Ca 227.546†                13.2      0.0994 mg/L       0.04410      0.0994 mg/L       0.04410  44.39%
   QC value within limits for Ca 227.546  Recovery = Not calculated
Cd 228.802†                -5.0     0.00004 mg/L      0.000153     0.00004 mg/L      0.000153 419.58%
   QC value within limits for Cd 228.802  Recovery = Not calculated
Co 228.616†                -5.1    -0.00011 mg/L      0.000042    -0.00011 mg/L      0.000042  36.78%
   QC value within limits for Co 228.616  Recovery = Not calculated
Cr 267.716†                19.8     0.00138 mg/L      0.000221     0.00138 mg/L      0.000221  15.97%
   QC value within limits for Cr 267.716  Recovery = Not calculated
Cu 327.393†                22.6     0.00079 mg/L      0.000497     0.00079 mg/L      0.000497  62.89%
   QC value within limits for Cu 327.393  Recovery = Not calculated
Fe 239.562†                20.9      0.0210 mg/L       0.00157      0.0210 mg/L       0.00157   7.47%
   QC value within limits for Fe 239.562  Recovery = Not calculated
Mg 279.077†                12.3      0.0463 mg/L       0.00032      0.0463 mg/L       0.00032   0.69%
   QC value within limits for Mg 279.077  Recovery = Not calculated
Mn 257.610†               221.6     0.00036 mg/L      0.000023     0.00036 mg/L      0.000023   6.29%
   QC value within limits for Mn 257.610  Recovery = Not calculated
Mo 202.031†                 5.2     0.00221 mg/L      0.000404     0.00221 mg/L      0.000404  18.30%
   QC value within limits for Mo 202.031  Recovery = Not calculated
Ni 231.604†               -22.0     0.00193 mg/L      0.000065     0.00193 mg/L      0.000065   3.36%
   QC value within limits for Ni 231.604  Recovery = Not calculated
Pb 220.353†                 0.9     0.00034 mg/L      0.001541     0.00034 mg/L      0.001541 446.85%
   QC value within limits for Pb 220.353  Recovery = Not calculated
Sb 206.836†                -2.1     0.00189 mg/L      0.001101     0.00189 mg/L      0.001101  58.35%
   QC value within limits for Sb 206.836  Recovery = Not calculated
Se 196.026†                 9.2     0.00736 mg/L      0.004919     0.00736 mg/L      0.004919  66.86%
   QC value within limits for Se 196.026  Recovery = Not calculated
Si 251.611†                91.5     0.00921 mg/L      0.000894     0.00921 mg/L      0.000894   9.71%
   QC value within limits for Si 251.611  Recovery = Not calculated
Sn 189.927†                 1.9     0.00253 mg/L      0.000493     0.00253 mg/L      0.000493  19.48%
   QC value within limits for Sn 189.927  Recovery = Not calculated
Ti 334.940†              -125.4     0.00306 mg/L      0.000141     0.00306 mg/L      0.000141   4.61%
   QC value within limits for Ti 334.940  Recovery = Not calculated
Tl 190.801†                -7.5    -0.00370 mg/L      0.002912    -0.00370 mg/L      0.002912  78.75%
   QC value within limits for Tl 190.801  Recovery = Not calculated
V 290.880†                370.1     0.00295 mg/L      0.000300     0.00295 mg/L      0.000300  10.19%
   QC value within limits for V 290.880  Recovery = Not calculated
Zn 206.200†                14.1     0.00271 mg/L      0.000173     0.00271 mg/L      0.000173   6.41%
   QC value within limits for Zn 206.200  Recovery = Not calculated
K 766.490†                140.9      0.0613 mg/L       0.01886      0.0613 mg/L       0.01886  30.79%
   QC value within limits for K 766.490  Recovery = Not calculated
Na 589.592†               555.2      0.0224 mg/L       0.02931      0.0224 mg/L       0.02931 130.96%
   QC value within limits for Na 589.592  Recovery = Not calculated
Sr 407.771†                98.3     0.00404 mg/L      0.000098     0.00404 mg/L      0.000098   2.41%
   QC value within limits for Sr 407.771  Recovery = Not calculated
Li 670.784†                56.2     0.00330 mg/L      0.000733     0.00330 mg/L      0.000733  22.21%
   QC value within limits for Li 670.784  Recovery = Not calculated
All analyte(s) passed QC.

==========================================================================================================
Sequence No.: 42                                    Autosampler Location: 110
Sample ID: L1305134405                              Date Collected: 5/30/2013 4:48:56 PM
Analyst: KHR                                        Data Type: Original
Initial Sample Wt:                                  Initial Sample Vol:
Dilution:                                           Sample Prep Vol:

----------------------------------------------------------------------------------------------------------
Nebulizer Parameters: L1305134405
Analyte                 Back Pressure    Flow
All                   163.0 kPa         0.48 L/min

----------------------------------------------------------------------------------------------------------
```

Approved: May 31, 2013

Mean Data: L1305134405

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	2464781.9						20348.29	0.83%
YRADIAL	178484.9						4005.83	2.24%
Ga 417.206	986572.1						25364.35	2.57%
GaRADIAL	51308.4						552.07	1.08%
Ag 328.068†	433.0	0.00211	mg/L	0.000423	0.00211	mg/L	0.000423	20.01%
Al 396.153†	190.5	0.110	mg/L	0.0027	0.110	mg/L	0.0027	2.44%
As 188.979†	3.8	0.00033	mg/L	0.001758	0.00033	mg/L	0.001758	535.40%
Ba 233.527†	2785.3	0.0332	mg/L	0.00017	0.0332	mg/L	0.00017	0.53%
Be 234.861†	65.8	0.00027	mg/L	0.000037	0.00027	mg/L	0.000037	14.01%
B 249.677†	848.1	0.0158	mg/L	0.00056	0.0158	mg/L	0.00056	3.52%
Ca 227.546†	8261.7	39.1	mg/L	1.05	39.1	mg/L	1.05	2.68%
Cd 228.802†	-10.8	-0.00013	mg/L	0.000080	-0.00013	mg/L	0.000080	60.63%
Co 228.616†	50.0	0.00215	mg/L	0.000242	0.00215	mg/L	0.000242	11.22%
Cr 267.716†	118.2	0.00243	mg/L	0.000194	0.00243	mg/L	0.000194	8.01%
Cu 327.393†	-31.5	0.00048	mg/L	0.000198	0.00048	mg/L	0.000198	41.17%
Fe 239.562†	244.8	0.0726	mg/L	0.00031	0.0726	mg/L	0.00031	0.42%
Mg 279.077†	46882.9	32.9	mg/L	0.23	32.9	mg/L	0.23	0.69%
Mn 257.610†	119124.9	0.223	mg/L	0.0013	0.223	mg/L	0.0013	0.60%
Mo 202.031†	14.4	0.00272	mg/L	0.000137	0.00272	mg/L	0.000137	5.03%
Ni 231.604†	353.9	0.0113	mg/L	0.00029	0.0113	mg/L	0.00029	2.54%
Pb 220.353†	27.9	0.00373	mg/L	0.001203	0.00373	mg/L	0.001203	32.26%
Sb 206.836†	2.0	0.00358	mg/L	0.001640	0.00358	mg/L	0.001640	45.76%
Se 196.026†	3.6	0.00190	mg/L	0.001791	0.00190	mg/L	0.001791	94.35%
Si 251.611†	82171.6	2.30	mg/L	0.054	2.30	mg/L	0.054	2.34%
Sn 189.927†	-224.4	-0.0257	mg/L	0.00051	-0.0257	mg/L	0.00051	1.99%
Ti 334.940†	-4680.3	0.00289	mg/L	0.000159	0.00289	mg/L	0.000159	5.50%
Tl 190.801†	-27.3	-0.0136	mg/L	0.00203	-0.0136	mg/L	0.00203	14.89%
V 290.880†	2656.2	0.0137	mg/L	0.00073	0.0137	mg/L	0.00073	5.32%
Zn 206.200†	408.9	0.0139	mg/L	0.00034	0.0139	mg/L	0.00034	2.47%
K 766.490†	5635.3	4.00	mg/L	0.065	4.00	mg/L	0.065	1.64%
Na 589.592†	222855.5	21.9	mg/L	0.22	21.9	mg/L	0.22	1.00%
Sr 407.771†	244045.9	0.207	mg/L	0.0008	0.207	mg/L	0.0008	0.40%
Li 670.784†	665.5	0.0119	mg/L	0.00037	0.0119	mg/L	0.00037	3.07%

==========

Sequence No.: 43 **Autosampler Location: 111**
Sample ID: L1305134406 **Date Collected: 5/30/2013 4:51:57 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1305134406

Analyte	Back Pressure	Flow
All	163.0 kPa	0.48 L/min

Mean Data: L1305134406

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	2462032.0						42480.97	1.73%
YRADIAL	177320.5						1389.86	0.78%
Ga 417.206	988916.4						24695.60	2.50%
GaRADIAL	51063.7						530.07	1.04%
Ag 328.068†	388.0	0.00190	mg/L	0.000190	0.00190	mg/L	0.000190	9.99%
Al 396.153†	84.1	0.0756	mg/L	0.00239	0.0756	mg/L	0.00239	3.16%
As 188.979†	2.0	-0.00057	mg/L	0.002482	-0.00057	mg/L	0.002482	434.73%
Ba 233.527†	2610.1	0.0312	mg/L	0.00049	0.0312	mg/L	0.00049	1.58%
Be 234.861†	25.8	0.00022	mg/L	0.000044	0.00022	mg/L	0.000044	20.30%
B 249.677†	677.0	0.0134	mg/L	0.00062	0.0134	mg/L	0.00062	4.60%
Ca 227.546†	8085.8	38.3	mg/L	1.03	38.3	mg/L	1.03	2.69%
Cd 228.802†	-7.6	-0.00003	mg/L	0.000183	-0.00003	mg/L	0.000183	635.41%
Co 228.616†	45.1	0.00196	mg/L	0.000342	0.00196	mg/L	0.000342	17.49%
Cr 267.716†	116.1	0.00241	mg/L	0.000016	0.00241	mg/L	0.000016	0.65%
Cu 327.393†	-1.7	0.00065	mg/L	0.000346	0.00065	mg/L	0.000346	53.43%
Fe 239.562†	30.4	0.0226	mg/L	0.00092	0.0226	mg/L	0.00092	4.08%
Mg 279.077†	45493.7	31.9	mg/L	0.41	31.9	mg/L	0.41	1.28%
Mn 257.610†	110033.9	0.206	mg/L	0.0039	0.206	mg/L	0.0039	1.89%
Mo 202.031†	21.7	0.00308	mg/L	0.000427	0.00308	mg/L	0.000427	13.84%

Approved: May 31, 2013

Kym H. Rhoden

Ni 231.604†	320.3	0.0105	mg/L	0.00038	0.0105	mg/L	0.00038	3.67%
Pb 220.353†	24.5	0.00329	mg/L	0.000275	0.00329	mg/L	0.000275	8.35%
Sb 206.836†	1.4	0.00335	mg/L	0.002143	0.00335	mg/L	0.002143	64.08%
Se 196.026†	8.4	0.00654	mg/L	0.003145	0.00654	mg/L	0.003145	48.06%
Si 251.611†	78473.1	2.19	mg/L	0.059	2.19	mg/L	0.059	2.67%
Sn 189.927†	-229.3	-0.0263	mg/L	0.00046	-0.0263	mg/L	0.00046	1.75%
Ti 334.940†	-4787.8	0.00262	mg/L	0.000053	0.00262	mg/L	0.000053	2.03%
Tl 190.801†	-28.0	-0.0140	mg/L	0.00296	-0.0140	mg/L	0.00296	21.20%
V 290.880†	2605.5	0.0135	mg/L	0.00096	0.0135	mg/L	0.00096	7.09%
Zn 206.200†	361.3	0.0126	mg/L	0.00036	0.0126	mg/L	0.00036	2.85%
K 766.490†	5423.7	3.85	mg/L	0.094	3.85	mg/L	0.094	2.45%
Na 589.592†	218554.9	21.5	mg/L	0.26	21.5	mg/L	0.26	1.21%
Sr 407.771†	237309.2	0.202	mg/L	0.0041	0.202	mg/L	0.0041	2.04%
Li 670.784†	627.3	0.0114	mg/L	0.00049	0.0114	mg/L	0.00049	4.27%

Sequence No.: 44 **Autosampler Location: 112**
Sample ID: L1305134501 **Date Collected: 5/30/2013 4:54:58 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1305134501

Analyte	Back Pressure	Flow
All	163.0 kPa	0.48 L/min

Mean Data: L1305134501

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2381735.3						17767.49	0.75%
YRADIAL	176852.8						5670.84	3.21%
Ga 417.206	979445.8						7646.10	0.78%
GaRADIAL	51101.4						1019.79	2.00%
Ag 328.068†	1057.5	0.00476	mg/L	0.000221	0.00476	mg/L	0.000221	4.64%
Al 396.153†	83.0	0.0752	mg/L	0.00267	0.0752	mg/L	0.00267	3.55%
As 188.979†	-0.1	0.00006	mg/L	0.002861	0.00006	mg/L	0.002861	>999.9%
Ba 233.527†	1869.6	0.0229	mg/L	0.00011	0.0229	mg/L	0.00011	0.47%
Be 234.861†	38.3	0.00021	mg/L	0.000023	0.00021	mg/L	0.000023	10.91%
B 249.677†	1437.8	0.0240	mg/L	0.00002	0.0240	mg/L	0.00002	0.08%
Ca 227.546†	24295.3	115	mg/L	1.6	115	mg/L	1.6	1.36%
Cd 228.802†	-5.7	0.00003	mg/L	0.000146	0.00003	mg/L	0.000146	464.24%
Co 228.616†	18.5	0.00089	mg/L	0.000482	0.00089	mg/L	0.000482	54.20%
Cr 267.716†	228.8	0.00360	mg/L	0.000097	0.00360	mg/L	0.000097	2.71%
Cu 327.393†	-102.8	0.00007	mg/L	0.000905	0.00007	mg/L	0.000905	>999.9%
Fe 239.562†	218.5	0.0651	mg/L	0.00071	0.0651	mg/L	0.00071	1.09%
Mg 279.077†	142559.2	99.9	mg/L	0.82	99.9	mg/L	0.82	0.82%
Mn 257.610†	54530.2	0.102	mg/L	0.0015	0.102	mg/L	0.0015	1.42%
Mo 202.031†	27.5	0.00336	mg/L	0.000247	0.00336	mg/L	0.000247	7.36%
Ni 231.604†	255.5	0.00886	mg/L	0.000280	0.00886	mg/L	0.000280	3.16%
Pb 220.353†	53.1	0.00707	mg/L	0.000424	0.00707	mg/L	0.000424	6.00%
Sb 206.836†	-2.0	0.00193	mg/L	0.001052	0.00193	mg/L	0.001052	54.55%
Se 196.026†	4.1	0.00245	mg/L	0.006980	0.00245	mg/L	0.006980	284.77%
Si 251.611†	85145.1	2.38	mg/L	0.036	2.38	mg/L	0.036	1.52%
Sn 189.927†	-329.6	-0.0388	mg/L	0.00103	-0.0388	mg/L	0.00103	2.66%
Ti 334.940†	-13354.0	0.00279	mg/L	0.000463	0.00279	mg/L	0.000463	16.61%
Tl 190.801†	-40.8	-0.0203	mg/L	0.00161	-0.0203	mg/L	0.00161	7.95%
V 290.880†	4665.6	0.0223	mg/L	0.00170	0.0223	mg/L	0.00170	7.63%
Zn 206.200†	272.9	0.0101	mg/L	0.00015	0.0101	mg/L	0.00015	1.48%
K 766.490†	11148.0	7.97	mg/L	0.127	7.97	mg/L	0.127	1.60%
Na 589.592†	34422.1	3.41	mg/L	0.030	3.41	mg/L	0.030	0.88%
Sr 407.771†	755265.1	0.633	mg/L	0.0223	0.633	mg/L	0.0223	3.53%
Li 670.784†	1029.3	0.0171	mg/L	0.00025	0.0171	mg/L	0.00025	1.48%

Sequence No.: 45 **Autosampler Location: 113**
Sample ID: L1305134502 **Date Collected: 5/30/2013 4:58:02 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Approved: May 31, 2013

Nebulizer Parameters: L1305134502

Analyte	Back Pressure	Flow
All	163.0 kPa	0.48 L/min

Mean Data: L1305134502

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	2445970.1						34997.95	1.43%
YRADIAL	181392.1						6005.18	3.31%
Ga 417.206	1033696.0						9491.29	0.92%
GaRADIAL	52298.2						657.93	1.26%
Ag 328.068†	1069.0	0.00480	mg/L	0.000167	0.00480	mg/L	0.000167	3.48%
Al 396.153†	32.9	0.0589	mg/L	0.00138	0.0589	mg/L	0.00138	2.34%
As 188.979†	1.1	0.00060	mg/L	0.001660	0.00060	mg/L	0.001660	276.50%
Ba 233.527†	1824.7	0.0224	mg/L	0.00045	0.0224	mg/L	0.00045	2.02%
Be 234.861†	99.9	0.00031	mg/L	0.000038	0.00031	mg/L	0.000038	12.27%
B 249.677†	1323.3	0.0225	mg/L	0.00008	0.0225	mg/L	0.00008	0.36%
Ca 227.546†	23646.8	112	mg/L	1.4	112	mg/L	1.4	1.24%
Cd 228.802†	-10.7	-0.00013	mg/L	0.000175	-0.00013	mg/L	0.000175	132.90%
Co 228.616†	-3.3	-0.00001	mg/L	0.000192	-0.00001	mg/L	0.000192	>999.9%
Cr 267.716†	232.0	0.00363	mg/L	0.000225	0.00363	mg/L	0.000225	6.19%
Cu 327.393†	-194.5	-0.00046	mg/L	0.001067	-0.00046	mg/L	0.001067	230.17%
Fe 239.562†	33.2	0.0219	mg/L	0.00030	0.0219	mg/L	0.00030	1.38%
Mg 279.077†	142405.5	99.8	mg/L	1.27	99.8	mg/L	1.27	1.27%
Mn 257.610†	25206.5	0.0471	mg/L	0.00056	0.0471	mg/L	0.00056	1.18%
Mo 202.031†	24.4	0.00319	mg/L	0.000421	0.00319	mg/L	0.000421	13.20%
Ni 231.604†	201.2	0.00750	mg/L	0.000304	0.00750	mg/L	0.000304	4.05%
Pb 220.353†	43.0	0.00579	mg/L	0.000611	0.00579	mg/L	0.000611	10.55%
Sb 206.836†	-1.9	0.00200	mg/L	0.001526	0.00200	mg/L	0.001526	76.43%
Se 196.026†	11.4	0.00951	mg/L	0.004953	0.00951	mg/L	0.004953	52.09%
Si 251.611†	81722.0	2.28	mg/L	0.029	2.28	mg/L	0.029	1.28%
Sn 189.927†	-328.0	-0.0386	mg/L	0.00173	-0.0386	mg/L	0.00173	4.50%
Ti 334.940†	-13603.7	0.00200	mg/L	0.000058	0.00200	mg/L	0.000058	2.89%
Tl 190.801†	-30.3	-0.0151	mg/L	0.00446	-0.0151	mg/L	0.00446	29.58%
V 290.880†	4374.1	0.0208	mg/L	0.00101	0.0208	mg/L	0.00101	4.87%
Zn 206.200†	197.1	0.00793	mg/L	0.000215	0.00793	mg/L	0.000215	2.72%
K 766.490†	11217.3	8.02	mg/L	0.098	8.02	mg/L	0.098	1.22%
Na 589.592†	35370.1	3.51	mg/L	0.030	3.51	mg/L	0.030	0.87%
Sr 407.771†	765346.1	0.641	mg/L	0.0394	0.641	mg/L	0.0394	6.15%
Li 670.784†	1043.0	0.0173	mg/L	0.00036	0.0173	mg/L	0.00036	2.08%

Sequence No.: 46 **Autosampler Location: 114**
Sample ID: L1305134503 **Date Collected: 5/30/2013 5:01:11 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1305134503

Analyte	Back Pressure	Flow
All	164.0 kPa	0.48 L/min

Mean Data: L1305134503

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	2394270.3						12707.83	0.53%
YRADIAL	178859.9						4874.89	2.73%
Ga 417.206	966036.7						10947.45	1.13%
GaRADIAL	51308.7						1271.95	2.48%
Ag 328.068†	602.2	0.00320	mg/L	0.000401	0.00320	mg/L	0.000401	12.54%
Al 396.153†	2945.4	1.01	mg/L	0.050	1.01	mg/L	0.050	4.95%
As 188.979†	3.3	0.00109	mg/L	0.002842	0.00109	mg/L	0.002842	261.42%
Ba 233.527†	1130.5	0.0146	mg/L	0.00026	0.0146	mg/L	0.00026	1.80%
Be 234.861†	863.9	0.00125	mg/L	0.000072	0.00125	mg/L	0.000072	5.71%
B 249.677†	1142.9	0.0191	mg/L	0.00049	0.0191	mg/L	0.00049	2.59%
Ca 227.546†	15677.4	74.2	mg/L	1.40	74.2	mg/L	1.40	1.89%
Cd 228.802†	1.4	0.00035	mg/L	0.000068	0.00035	mg/L	0.000068	19.24%
Co 228.616†	738.4	0.0304	mg/L	0.00048	0.0304	mg/L	0.00048	1.59%

Approved: May 31, 2013

Cr 267.716†	232.9	0.00356	mg/L	0.000193	0.00356	mg/L	0.000193	5.43%
Cu 327.393†	41.5	0.00101	mg/L	0.000338	0.00101	mg/L	0.000338	33.33%
Fe 239.562†	6681.9	1.57	mg/L	0.044	1.57	mg/L	0.044	2.81%
Mg 279.077†	102322.8	71.7	mg/L	1.18	71.7	mg/L	1.18	1.64%
Mn 257.610†	946002.1	1.77	mg/L	0.011	1.77	mg/L	0.011	0.65%
Mo 202.031†	30.2	0.00393	mg/L	0.000532	0.00393	mg/L	0.000532	13.56%
Ni 231.604†	1718.6	0.0453	mg/L	0.00036	0.0453	mg/L	0.00036	0.79%
Pb 220.353†	44.4	0.00499	mg/L	0.001191	0.00499	mg/L	0.001191	23.86%
Sb 206.836†	-1.4	0.00225	mg/L	0.001399	0.00225	mg/L	0.001399	62.26%
Se 196.026†	7.4	0.00548	mg/L	0.004374	0.00548	mg/L	0.004374	79.82%
Si 251.611†	122417.5	3.42	mg/L	0.069	3.42	mg/L	0.069	2.00%
Sn 189.927†	-299.9	-0.0351	mg/L	0.00082	-0.0351	mg/L	0.00082	2.33%
Ti 334.940†	-2634.6	0.0109	mg/L	0.00108	0.0109	mg/L	0.00108	9.91%
Tl 190.801†	-33.0	-0.0180	mg/L	0.00513	-0.0180	mg/L	0.00513	28.60%
V 290.880†	4249.0	0.0205	mg/L	0.00056	0.0205	mg/L	0.00056	2.75%
Zn 206.200†	2764.2	0.0809	mg/L	0.00033	0.0809	mg/L	0.00033	0.41%
K 766.490†	8472.3	5.98	mg/L	0.237	5.98	mg/L	0.237	3.97%
Na 589.592†	793422.8	74.1	mg/L	0.78	74.1	mg/L	0.78	1.05%
Sr 407.771†	599550.6	0.503	mg/L	0.0068	0.503	mg/L	0.0068	1.35%
Li 670.784†	2061.0	0.0317	mg/L	0.00082	0.0317	mg/L	0.00082	2.59%

Sequence No.: 47
Sample ID: L1305134504
Analyst: KHR
Initial Sample Wt:
Dilution:

Autosampler Location: 115
Date Collected: 5/30/2013 5:03:16 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: L1305134504

Analyte	Back Pressure	Flow
All	163.0 kPa	0.48 L/min

Mean Data: L1305134504

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2449594.6						28194.62	1.15%
YRADIAL	176181.2						3066.61	1.74%
Ga 417.206	994064.6						16638.77	1.67%
GaRADIAL	50496.2						468.00	0.93%
Ag 328.068†	753.1	0.00341	mg/L	0.000371	0.00341	mg/L	0.000371	10.89%
Al 396.153†	305.9	0.148	mg/L	0.0016	0.148	mg/L	0.0016	1.11%
As 188.979†	6.7	0.00253	mg/L	0.001584	0.00253	mg/L	0.001584	62.49%
Ba 233.527†	762.2	0.0106	mg/L	0.00005	0.0106	mg/L	0.00005	0.52%
Be 234.861†	54.8	0.00028	mg/L	0.000039	0.00028	mg/L	0.000039	14.00%
B 249.677†	1008.1	0.0180	mg/L	0.00043	0.0180	mg/L	0.00043	2.36%
Ca 227.546†	15730.1	74.4	mg/L	1.21	74.4	mg/L	1.21	1.62%
Cd 228.802†	-5.9	0.00002	mg/L	0.000158	0.00002	mg/L	0.000158	772.73%
Co 228.616†	106.1	0.00448	mg/L	0.000389	0.00448	mg/L	0.000389	8.67%
Cr 267.716†	201.1	0.00331	mg/L	0.000167	0.00331	mg/L	0.000167	5.03%
Cu 327.393†	-69.8	0.00025	mg/L	0.000344	0.00025	mg/L	0.000344	136.49%
Fe 239.562†	31.8	0.0221	mg/L	0.00158	0.0221	mg/L	0.00158	7.15%
Mg 279.077†	100863.7	70.7	mg/L	2.07	70.7	mg/L	2.07	2.93%
Mn 257.610†	228466.9	0.428	mg/L	0.0070	0.428	mg/L	0.0070	1.63%
Mo 202.031†	27.3	0.00341	mg/L	0.000162	0.00341	mg/L	0.000162	4.75%
Ni 231.604†	312.2	0.0103	mg/L	0.00013	0.0103	mg/L	0.00013	1.22%
Pb 220.353†	54.9	0.00711	mg/L	0.001366	0.00711	mg/L	0.001366	19.22%
Sb 206.836†	2.1	0.00362	mg/L	0.001840	0.00362	mg/L	0.001840	50.82%
Se 196.026†	7.6	0.00573	mg/L	0.005092	0.00573	mg/L	0.005092	88.80%
Si 251.611†	87099.5	2.43	mg/L	0.046	2.43	mg/L	0.046	1.91%
Sn 189.927†	-291.3	-0.0340	mg/L	0.00181	-0.0340	mg/L	0.00181	5.32%
Ti 334.940†	-8675.7	0.00290	mg/L	0.000027	0.00290	mg/L	0.000027	0.92%
Tl 190.801†	-25.9	-0.0132	mg/L	0.00465	-0.0132	mg/L	0.00465	35.17%
V 290.880†	3756.8	0.0184	mg/L	0.00155	0.0184	mg/L	0.00155	8.44%
Zn 206.200†	166.0	0.00704	mg/L	0.000033	0.00704	mg/L	0.000033	0.47%
K 766.490†	8682.1	6.13	mg/L	0.029	6.13	mg/L	0.029	0.47%
Na 589.592†	794852.1	74.3	mg/L	1.29	74.3	mg/L	1.29	1.73%
Sr 407.771†	580339.3	0.487	mg/L	0.0085	0.487	mg/L	0.0085	1.75%
Li 670.784†	2028.2	0.0313	mg/L	0.00112	0.0313	mg/L	0.00112	3.59%

Approved: May 31, 2013

Sequence No.: 48
Sample ID: L1305134505
Analyst: KHR
Initial Sample Wt:
Dilution:

Autosampler Location: 116
Date Collected: 5/30/2013 5:06:20 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: L1305134505

Analyte	Back Pressure	Flow
All	163.0 kPa	0.48 L/min

Mean Data: L1305134505

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	2368868.3						30390.70	1.28%
YRADIAL	171471.1						1497.37	0.87%
Ga 417.206	954266.9						10023.87	1.05%
GaRADIAL	49620.1						521.32	1.05%
Ag 328.068†	478.1	0.00231	mg/L	0.000061	0.00231	mg/L	0.000061	2.63%
Al 396.153†	135.3	0.0923	mg/L	0.00184	0.0923	mg/L	0.00184	1.99%
As 188.979†	5.8	0.00131	mg/L	0.003804	0.00131	mg/L	0.003804	289.35%
Ba 233.527†	2823.1	0.0336	mg/L	0.00058	0.0336	mg/L	0.00058	1.71%
Be 234.861†	23.1	0.00021	mg/L	0.000020	0.00021	mg/L	0.000020	9.55%
B 249.677†	579.8	0.0120	mg/L	0.00023	0.0120	mg/L	0.00023	1.95%
Ca 227.546†	8304.1	39.3	mg/L	0.56	39.3	mg/L	0.56	1.42%
Cd 228.802†	-4.4	0.00006	mg/L	0.000066	0.00006	mg/L	0.000066	107.80%
Co 228.616†	50.0	0.00216	mg/L	0.000502	0.00216	mg/L	0.000502	23.25%
Cr 267.716†	119.4	0.00244	mg/L	0.000234	0.00244	mg/L	0.000234	9.57%
Cu 327.393†	73.2	0.00108	mg/L	0.000662	0.00108	mg/L	0.000662	61.27%
Fe 239.562†	174.2	0.0561	mg/L	0.00079	0.0561	mg/L	0.00079	1.41%
Mg 279.077†	45821.5	32.1	mg/L	0.11	32.1	mg/L	0.11	0.33%
Mn 257.610†	119327.2	0.223	mg/L	0.0040	0.223	mg/L	0.0040	1.81%
Mo 202.031†	23.9	0.00320	mg/L	0.000174	0.00320	mg/L	0.000174	5.43%
Ni 231.604†	354.8	0.0113	mg/L	0.00017	0.0113	mg/L	0.00017	1.50%
Pb 220.353†	28.6	0.00381	mg/L	0.001615	0.00381	mg/L	0.001615	42.36%
Sb 206.836†	-2.5	0.00175	mg/L	0.000867	0.00175	mg/L	0.000867	49.51%
Se 196.026†	8.1	0.00627	mg/L	0.007524	0.00627	mg/L	0.007524	120.08%
Si 251.611†	82417.6	2.30	mg/L	0.021	2.30	mg/L	0.021	0.93%
Sn 189.927†	-236.4	-0.0272	mg/L	0.00076	-0.0272	mg/L	0.00076	2.81%
Ti 334.940†	-4778.4	0.00279	mg/L	0.000309	0.00279	mg/L	0.000309	11.08%
Tl 190.801†	-26.9	-0.0134	mg/L	0.00455	-0.0134	mg/L	0.00455	33.88%
V 290.880†	3169.1	0.0164	mg/L	0.00080	0.0164	mg/L	0.00080	4.90%
Zn 206.200†	333.3	0.0118	mg/L	0.00017	0.0118	mg/L	0.00017	1.40%
K 766.490†	5469.5	3.88	mg/L	0.059	3.88	mg/L	0.059	1.52%
Na 589.592†	216424.7	21.3	mg/L	0.23	21.3	mg/L	0.23	1.07%
Sr 407.771†	238456.5	0.203	mg/L	0.0013	0.203	mg/L	0.0013	0.64%
Li 670.784†	641.5	0.0116	mg/L	0.00095	0.0116	mg/L	0.00095	8.21%

==========

Sequence No.: 49
Sample ID: L1305134506
Analyst: KHR
Initial Sample Wt:
Dilution:

Autosampler Location: 117
Date Collected: 5/30/2013 5:09:21 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: L1305134506

Analyte	Back Pressure	Flow
All	162.0 kPa	0.48 L/min

Mean Data: L1305134506

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	2389225.7						5597.29	0.23%
YRADIAL	173561.9						3957.71	2.28%
Ga 417.206	957659.9						6035.88	0.63%
GaRADIAL	50047.5						608.25	1.22%
Ag 328.068†	430.3	0.00210	mg/L	0.000146	0.00210	mg/L	0.000146	6.94%
Al 396.153†	172.2	0.104	mg/L	0.0022	0.104	mg/L	0.0022	2.12%
As 188.979†	1.1	-0.00098	mg/L	0.001304	-0.00098	mg/L	0.001304	133.45%

Approved: May 31, 2013

Kym H. Rhoden

Ba 233.527†	2863.8	0.0340	mg/L	0.00019	0.0340	mg/L	0.00019	0.54%
Be 234.861†	-9.7	0.00015	mg/L	0.000001	0.00015	mg/L	0.000001	0.49%
B 249.677†	590.9	0.0122	mg/L	0.00020	0.0122	mg/L	0.00020	1.64%
Ca 227.546†	8431.8	39.9	mg/L	0.53	39.9	mg/L	0.53	1.33%
Cd 228.802†	-4.4	0.00007	mg/L	0.000083	0.00007	mg/L	0.000083	112.02%
Co 228.616†	48.7	0.00210	mg/L	0.000507	0.00210	mg/L	0.000507	24.12%
Cr 267.716†	131.1	0.00257	mg/L	0.000165	0.00257	mg/L	0.000165	6.43%
Cu 327.393†	-81.8	0.00020	mg/L	0.000587	0.00020	mg/L	0.000587	300.29%
Fe 239.562†	224.8	0.0679	mg/L	0.00098	0.0679	mg/L	0.00098	1.44%
Mg 279.077†	46997.4	33.0	mg/L	0.35	33.0	mg/L	0.35	1.05%
Mn 257.610†	117316.8	0.220	mg/L	0.0029	0.220	mg/L	0.0029	1.34%
Mo 202.031†	23.2	0.00317	mg/L	0.000109	0.00317	mg/L	0.000109	3.43%
Ni 231.604†	338.8	0.0109	mg/L	0.00009	0.0109	mg/L	0.00009	0.81%
Pb 220.353†	37.2	0.00494	mg/L	0.001392	0.00494	mg/L	0.001392	28.18%
Sb 206.836†	0.8	0.00308	mg/L	0.001489	0.00308	mg/L	0.001489	48.42%
Se 196.026†	4.6	0.00290	mg/L	0.003308	0.00290	mg/L	0.003308	114.15%
Si 251.611†	83349.3	2.33	mg/L	0.026	2.33	mg/L	0.026	1.12%
Sn 189.927†	-239.4	-0.0275	mg/L	0.00032	-0.0275	mg/L	0.00032	1.17%
Ti 334.940†	-4612.5	0.00310	mg/L	0.000206	0.00310	mg/L	0.000206	6.66%
Tl 190.801†	-20.6	-0.0104	mg/L	0.00045	-0.0104	mg/L	0.00045	4.31%
V 290.880†	3288.1	0.0170	mg/L	0.00088	0.0170	mg/L	0.00088	5.21%
Zn 206.200†	385.1	0.0133	mg/L	0.00023	0.0133	mg/L	0.00023	1.71%
K 766.490†	5647.7	4.01	mg/L	0.028	4.01	mg/L	0.028	0.70%
Na 589.592†	222958.4	21.9	mg/L	0.26	21.9	mg/L	0.26	1.21%
Sr 407.771†	244277.5	0.207	mg/L	0.0012	0.207	mg/L	0.0012	0.57%
Li 670.784†	609.7	0.0111	mg/L	0.00122	0.0111	mg/L	0.00122	10.91%

Sequence No.: 50
Sample ID: L1305134507
Analyst: KHR
Initial Sample Wt:
Dilution:

Autosampler Location: 118
Date Collected: 5/30/2013 5:12:22 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: L1305134507

Analyte	Back Pressure	Flow
All	163.0 kPa	0.48 L/min

Mean Data: L1305134507

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2429794.8						29468.20	1.21%
YRADIAL	173491.4						3035.48	1.75%
Ga 417.206	980627.8						9640.80	0.98%
GaRADIAL	50020.1						1314.19	2.63%
Ag 328.068†	407.8	0.00201	mg/L	0.000471	0.00201	mg/L	0.000471	23.48%
Al 396.153†	164.6	0.102	mg/L	0.0059	0.102	mg/L	0.0059	5.81%
As 188.979†	0.2	-0.00135	mg/L	0.001149	-0.00135	mg/L	0.001149	84.99%
Ba 233.527†	2698.1	0.0322	mg/L	0.00039	0.0322	mg/L	0.00039	1.20%
Be 234.861†	67.0	0.00026	mg/L	0.000006	0.00026	mg/L	0.000006	2.16%
B 249.677†	585.5	0.0121	mg/L	0.00012	0.0121	mg/L	0.00012	1.00%
Ca 227.546†	9109.2	43.1	mg/L	0.53	43.1	mg/L	0.53	1.23%
Cd 228.802†	-4.7	0.00007	mg/L	0.000154	0.00007	mg/L	0.000154	232.72%
Co 228.616†	42.9	0.00187	mg/L	0.000114	0.00187	mg/L	0.000114	6.12%
Cr 267.716†	119.4	0.00244	mg/L	0.000072	0.00244	mg/L	0.000072	2.95%
Cu 327.393†	-85.4	0.00017	mg/L	0.000280	0.00017	mg/L	0.000280	160.72%
Fe 239.562†	265.0	0.0772	mg/L	0.00229	0.0772	mg/L	0.00229	2.97%
Mg 279.077†	50947.2	35.7	mg/L	0.08	35.7	mg/L	0.08	0.23%
Mn 257.610†	103748.0	0.194	mg/L	0.0083	0.194	mg/L	0.0083	4.28%
Mo 202.031†	21.5	0.00307	mg/L	0.000419	0.00307	mg/L	0.000419	13.62%
Ni 231.604†	301.3	0.01000	mg/L	0.000407	0.01000	mg/L	0.000407	4.07%
Pb 220.353†	39.8	0.00529	mg/L	0.001451	0.00529	mg/L	0.001451	27.45%
Sb 206.836†	-4.7	0.00083	mg/L	0.000277	0.00083	mg/L	0.000277	33.25%
Se 196.026†	0.2	-0.00135	mg/L	0.005468	-0.00135	mg/L	0.005468	404.73%
Si 251.611†	77809.4	2.18	mg/L	0.094	2.18	mg/L	0.094	4.31%
Sn 189.927†	-245.7	-0.0283	mg/L	0.00039	-0.0283	mg/L	0.00039	1.38%
Ti 334.940†	-5247.7	0.00274	mg/L	0.000366	0.00274	mg/L	0.000366	13.36%
Tl 190.801†	-23.0	-0.0115	mg/L	0.00486	-0.0115	mg/L	0.00486	42.25%
V 290.880†	2982.9	0.0153	mg/L	0.00315	0.0153	mg/L	0.00315	20.50%
Zn 206.200†	404.9	0.0138	mg/L	0.00027	0.0138	mg/L	0.00027	1.96%

Approved: May 31, 2013

K 766.490†	6105.2	4.34 mg/L	0.047	4.34 mg/L	0.047	1.09%
Na 589.592†	195582.4	19.2 mg/L	0.11	19.2 mg/L	0.11	0.60%
Sr 407.771†	275733.8	0.234 mg/L	0.0023	0.234 mg/L	0.0023	0.99%
Li 670.784†	692.0	0.0123 mg/L	0.00096	0.0123 mg/L	0.00096	7.82%

Sequence No.: 51 **Autosampler Location: 7**
Sample ID: CCV **Date Collected: 5/30/2013 5:15:24 PM**
Analyst: **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: CCV

Analyte	Back Pressure	Flow
All	163.0 kPa	0.48 L/min

Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2418241.9						42736.56	1.77%
YRADIAL	174345.4						1641.50	0.94%
Ga 417.206	935719.9						12211.19	1.31%
GaRADIAL	48363.5						397.95	0.82%
Ag 328.068†	93911.4	0.410	mg/L	0.0098	0.410	mg/L	0.0098	2.39%
QC value within limits for Ag 328.068 Recovery = 102.52%								
Al 396.153†	31254.1	10.2	mg/L	0.03	10.2	mg/L	0.03	0.33%
QC value within limits for Al 396.153 Recovery = 101.87%								
As 188.979†	809.7	0.395	mg/L	0.0036	0.395	mg/L	0.0036	0.91%
QC value within limits for As 188.979 Recovery = 98.84%								
Ba 233.527†	93729.1	1.05	mg/L	0.035	1.05	mg/L	0.035	3.36%
QC value within limits for Ba 233.527 Recovery = 104.85%								
Be 234.861†	33490.6	0.0497	mg/L	0.00124	0.0497	mg/L	0.00124	2.50%
QC value within limits for Be 234.861 Recovery = 99.43%								
B 249.677†	34876.9	0.489	mg/L	0.0146	0.489	mg/L	0.0146	2.98%
QC value within limits for B 249.677 Recovery = 97.77%								
Ca 227.546†	2111.5	10.5	mg/L	0.15	10.5	mg/L	0.15	1.43%
QC value within limits for Ca 227.546 Recovery = 104.93%								
Cd 228.802†	1588.5	0.0482	mg/L	0.00077	0.0482	mg/L	0.00077	1.60%
QC value within limits for Cd 228.802 Recovery = 96.33%								
Co 228.616†	5114.6	0.210	mg/L	0.0036	0.210	mg/L	0.0036	1.72%
QC value within limits for Co 228.616 Recovery = 104.86%								
Cr 267.716†	49507.1	0.524	mg/L	0.0158	0.524	mg/L	0.0158	3.01%
QC value within limits for Cr 267.716 Recovery = 104.77%								
Cu 327.393†	87431.5	0.503	mg/L	0.0119	0.503	mg/L	0.0119	2.37%
QC value within limits for Cu 327.393 Recovery = 100.55%								
Fe 239.562†	17779.1	4.16	mg/L	0.032	4.16	mg/L	0.032	0.76%
QC value within limits for Fe 239.562 Recovery = 104.00%								
Mg 279.077†	15068.9	10.6	mg/L	0.03	10.6	mg/L	0.03	0.25%
QC value within limits for Mg 279.077 Recovery = 106.07%								
Mn 257.610†	285535.2	0.535	mg/L	0.0165	0.535	mg/L	0.0165	3.09%
QC value within limits for Mn 257.610 Recovery = 107.00%								
Mo 202.031†	20644.2	1.04	mg/L	0.035	1.04	mg/L	0.035	3.40%
QC value within limits for Mo 202.031 Recovery = 104.11%								
Ni 231.604†	20713.3	0.519	mg/L	0.0137	0.519	mg/L	0.0137	2.64%
QC value within limits for Ni 231.604 Recovery = 103.77%								
Pb 220.353†	4075.7	0.530	mg/L	0.0106	0.530	mg/L	0.0106	2.00%
QC value within limits for Pb 220.353 Recovery = 105.92%								
Sb 206.836†	2934.5	1.21	mg/L	0.020	1.21	mg/L	0.020	1.66%
QC value within limits for Sb 206.836 Recovery = 100.63%								
Se 196.026†	415.4	0.401	mg/L	0.0028	0.401	mg/L	0.0028	0.69%
QC value within limits for Se 196.026 Recovery = 100.37%								
Si 251.611†	180044.2	5.01	mg/L	0.133	5.01	mg/L	0.133	2.66%
QC value within limits for Si 251.611 Recovery = 100.27%								
Sn 189.927†	7791.3	0.973	mg/L	0.0178	0.973	mg/L	0.0178	1.83%
QC value within limits for Sn 189.927 Recovery = 97.31%								
Ti 334.940†	782901.4	1.04	mg/L	0.005	1.04	mg/L	0.005	0.45%
QC value within limits for Ti 334.940 Recovery = 103.99%								
Tl 190.801†	1064.4	0.536	mg/L	0.0132	0.536	mg/L	0.0132	2.46%
QC value within limits for Tl 190.801 Recovery = 107.19%								
V 290.880†	206554.2	1.05	mg/L	0.033	1.05	mg/L	0.033	3.08%

Approved: May 31, 2013

Lynn H. Rhoden

QC value within limits for V 290.880 Recovery = 105.38%
Zn 206.200† 36956.7 1.06 mg/L 0.032 1.06 mg/L 0.032 3.03%
QC value within limits for Zn 206.200 Recovery = 105.80%
K 766.490† 76746.7 53.6 mg/L 0.17 53.6 mg/L 0.17 0.31%
QC value within limits for K 766.490 Recovery = 107.17%
Na 589.592† 571735.9 54.4 mg/L 0.73 54.4 mg/L 0.73 1.35%
QC value within limits for Na 589.592 Recovery = 108.85%
Sr 407.771† 1345761.4 1.12 mg/L 0.022 1.12 mg/L 0.022 1.92%
QC value greater than the upper limit for Sr 407.771 Recovery = 112.11%
Li 670.784† 73197.5 1.04 mg/L 0.005 1.04 mg/L 0.005 0.47%
QC value within limits for Li 670.784 Recovery = 104.05%
QC Failed. Continue with analysis.

==========

Sequence No.: 52 **Autosampler Location: 8**
Sample ID: CCB **Date Collected: 5/30/2013 5:17:30 PM**
Analyst: **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: CCB

Analyte	Back Pressure	Flow
All	163.0 kPa	0.48 L/min

Mean Data: CCB

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2508986.3						21410.67	0.85%
YRADIAL	181832.0						2737.56	1.51%
Ga 417.206	961662.0						18205.79	1.89%
GaRADIAL	49399.0						223.29	0.45%
Ag 328.068†	36.3	0.00042	mg/L	0.000198	0.00042	mg/L	0.000198	47.57%
QC value within limits for Ag 328.068 Recovery = Not calculated								
Al 396.153†	15.4	0.0532	mg/L	0.00363	0.0532	mg/L	0.00363	6.82%
QC value within limits for Al 396.153 Recovery = Not calculated								
As 188.979†	3.9	-0.00047	mg/L	0.003825	-0.00047	mg/L	0.003825	811.89%
QC value within limits for As 188.979 Recovery = Not calculated								
Ba 233.527†	-22.9	0.00182	mg/L	0.000038	0.00182	mg/L	0.000038	2.09%
QC value within limits for Ba 233.527 Recovery = Not calculated								
Be 234.861†	-11.5	0.00014	mg/L	0.000034	0.00014	mg/L	0.000034	24.08%
QC value within limits for Be 234.861 Recovery = Not calculated								
B 249.677†	356.6	0.00891	mg/L	0.000416	0.00891	mg/L	0.000416	4.67%
QC value within limits for B 249.677 Recovery = Not calculated								
Ca 227.546†	15.7	0.111	mg/L	0.0085	0.111	mg/L	0.0085	7.64%
QC value within limits for Ca 227.546 Recovery = Not calculated								
Cd 228.802†	-9.6	-0.00010	mg/L	0.000207	-0.00010	mg/L	0.000207	203.99%
QC value within limits for Cd 228.802 Recovery = Not calculated								
Co 228.616†	-8.8	-0.00027	mg/L	0.000187	-0.00027	mg/L	0.000187	70.30%
QC value within limits for Co 228.616 Recovery = Not calculated								
Cr 267.716†	8.2	0.00126	mg/L	0.000161	0.00126	mg/L	0.000161	12.74%
QC value within limits for Cr 267.716 Recovery = Not calculated								
Cu 327.393†	119.4	0.00134	mg/L	0.000298	0.00134	mg/L	0.000298	22.17%
QC value within limits for Cu 327.393 Recovery = Not calculated								
Fe 239.562†	13.7	0.0194	mg/L	0.00012	0.0194	mg/L	0.00012	0.62%
QC value within limits for Fe 239.562 Recovery = Not calculated								
Mg 279.077†	6.4	0.0422	mg/L	0.00490	0.0422	mg/L	0.00490	11.62%
QC value within limits for Mg 279.077 Recovery = Not calculated								
Mn 257.610†	186.9	0.00030	mg/L	0.000014	0.00030	mg/L	0.000014	4.72%
QC value within limits for Mn 257.610 Recovery = Not calculated								
Mo 202.031†	2.1	0.00205	mg/L	0.000137	0.00205	mg/L	0.000137	6.70%
QC value within limits for Mo 202.031 Recovery = Not calculated								
Ni 231.604†	-16.7	0.00206	mg/L	0.000102	0.00206	mg/L	0.000102	4.94%
QC value within limits for Ni 231.604 Recovery = Not calculated								
Pb 220.353†	9.9	0.00151	mg/L	0.001124	0.00151	mg/L	0.001124	74.29%
QC value within limits for Pb 220.353 Recovery = Not calculated								
Sb 206.836†	-1.5	0.00216	mg/L	0.001436	0.00216	mg/L	0.001436	66.60%
QC value within limits for Sb 206.836 Recovery = Not calculated								
Se 196.026†	1.4	-0.00017	mg/L	0.002264	-0.00017	mg/L	0.002264	>999.9%
QC value within limits for Se 196.026 Recovery = Not calculated								
Si 251.611†	53.6	0.00816	mg/L	0.000447	0.00816	mg/L	0.000447	5.48%

Approved: May 31, 2013

QC value within limits for Si 251.611 Recovery = Not calculated

Sn 189.927†	5.7	0.00301 mg/L	0.001068	0.00301 mg/L	0.001068	35.50%

QC value within limits for Sn 189.927 Recovery = Not calculated

Ti 334.940†	-118.9	0.00307 mg/L	0.000029	0.00307 mg/L	0.000029	0.95%

QC value within limits for Ti 334.940 Recovery = Not calculated

Tl 190.801†	-2.9	-0.00146 mg/L	0.003862	-0.00146 mg/L	0.003862	264.98%

QC value within limits for Tl 190.801 Recovery = Not calculated

V 290.880†	187.1	0.00201 mg/L	0.000292	0.00201 mg/L	0.000292	14.53%

QC value within limits for V 290.880 Recovery = Not calculated

Zn 206.200†	14.2	0.00271 mg/L	0.000195	0.00271 mg/L	0.000195	7.20%

QC value within limits for Zn 206.200 Recovery = Not calculated

K 766.490†	95.0	0.0281 mg/L	0.01416	0.0281 mg/L	0.01416	50.41%

QC value within limits for K 766.490 Recovery = Not calculated

Na 589.592†	482.1	0.0150 mg/L	0.03147	0.0150 mg/L	0.03147	209.39%

QC value within limits for Na 589.592 Recovery = Not calculated

Sr 407.771†	72.1	0.00402 mg/L	0.000078	0.00402 mg/L	0.000078	1.95%

QC value within limits for Sr 407.771 Recovery = Not calculated

Li 670.784†	62.6	0.00339 mg/L	0.000667	0.00339 mg/L	0.000667	19.68%

QC value within limits for Li 670.784 Recovery = Not calculated

All analyte(s) passed QC.

Sequence No.: 53 **Autosampler Location: 119**
Sample ID: L1305134508 **Date Collected: 5/30/2013 5:20:31 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1305134508

Analyte	Back Pressure	Flow
All	163.0 kPa	0.48 L/min

Mean Data: L1305134508

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2461613.1						57156.83	2.32%
YRADIAL	179268.0						2501.22	1.40%
Ga 417.206	1009114.7						19699.40	1.95%
GaRADIAL	50646.0						227.53	0.45%
Ag 328.068†	516.1	0.00246	mg/L	0.000161	0.00246	mg/L	0.000161	6.57%
Al 396.153†	69.7	0.0709	mg/L	0.00404	0.0709	mg/L	0.00404	5.70%
As 188.979†	7.1	0.00209	mg/L	0.000748	0.00209	mg/L	0.000748	35.83%
Ba 233.527†	2604.0	0.0311	mg/L	0.00083	0.0311	mg/L	0.00083	2.67%
Be 234.861†	69.4	0.00028	mg/L	0.000049	0.00028	mg/L	0.000049	17.55%
B 249.677†	702.8	0.0137	mg/L	0.00027	0.0137	mg/L	0.00027	1.94%
Ca 227.546†	9314.0	44.1	mg/L	1.07	44.1	mg/L	1.07	2.43%
Cd 228.802†	-7.4	-0.00004	mg/L	0.000151	-0.00004	mg/L	0.000151	400.37%
Co 228.616†	35.7	0.00157	mg/L	0.000522	0.00157	mg/L	0.000522	33.27%
Cr 267.716†	136.2	0.00262	mg/L	0.000127	0.00262	mg/L	0.000127	4.85%
Cu 327.393†	3.7	0.00068	mg/L	0.000188	0.00068	mg/L	0.000188	27.73%
Fe 239.562†	25.5	0.0214	mg/L	0.00108	0.0214	mg/L	0.00108	5.06%
Mg 279.077†	51913.2	36.4	mg/L	0.29	36.4	mg/L	0.29	0.81%
Mn 257.610†	85653.2	0.160	mg/L	0.0041	0.160	mg/L	0.0041	2.54%
Mo 202.031†	20.9	0.00303	mg/L	0.000545	0.00303	mg/L	0.000545	17.97%
Ni 231.604†	285.5	0.00960	mg/L	0.000283	0.00960	mg/L	0.000283	2.94%
Pb 220.353†	33.3	0.00447	mg/L	0.001632	0.00447	mg/L	0.001632	36.56%
Sb 206.836†	-3.0	0.00152	mg/L	0.001663	0.00152	mg/L	0.001663	109.12%
Se 196.026†	4.3	0.00257	mg/L	0.005142	0.00257	mg/L	0.005142	200.41%
Si 251.611†	77337.0	2.16	mg/L	0.045	2.16	mg/L	0.045	2.10%
Sn 189.927†	-227.4	-0.0260	mg/L	0.00091	-0.0260	mg/L	0.00091	3.48%
Ti 334.940†	-5442.9	0.00262	mg/L	0.000069	0.00262	mg/L	0.000069	2.62%
Tl 190.801†	-25.3	-0.0126	mg/L	0.00563	-0.0126	mg/L	0.00563	44.65%
V 290.880†	2912.2	0.0150	mg/L	0.00187	0.0150	mg/L	0.00187	12.47%
Zn 206.200†	266.6	0.00990	mg/L	0.000284	0.00990	mg/L	0.000284	2.87%
K 766.490†	5857.2	4.16	mg/L	0.028	4.16	mg/L	0.028	0.68%
Na 589.592†	196256.6	19.3	mg/L	0.23	19.3	mg/L	0.23	1.18%
Sr 407.771†	279995.5	0.237	mg/L	0.0033	0.237	mg/L	0.0033	1.38%
Li 670.784†	603.9	0.0111	mg/L	0.00129	0.0111	mg/L	0.00129	11.69%

Approved: May 31, 2013

Lynn H. Rhoden

Sequence No.: 54
Sample ID: L1305134509
Analyst: KHR
Initial Sample Wt:
Dilution:

Autosampler Location: 120
Date Collected: 5/30/2013 5:23:35 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: L1305134509

Analyte	Back Pressure	Flow
All	163.0 kPa	0.48 L/min

Mean Data: L1305134509

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	2460133.1						48527.58	1.97%
YRADIAL	174397.7						3965.37	2.27%
Ga 417.206	998462.5						20099.32	2.01%
GaRADIAL	50312.7						383.92	0.76%
Ag 328.068†	350.8	0.00176	mg/L	0.000307	0.00176	mg/L	0.000307	17.39%
Al 396.153†	611.3	0.248	mg/L	0.0040	0.248	mg/L	0.0040	1.63%
As 188.979†	2.4	-0.00041	mg/L	0.001226	-0.00041	mg/L	0.001226	297.62%
Ba 233.527†	3116.7	0.0369	mg/L	0.00064	0.0369	mg/L	0.00064	1.75%
Be 234.861†	180.3	0.00044	mg/L	0.000036	0.00044	mg/L	0.000036	8.11%
B 249.677†	548.2	0.0115	mg/L	0.00042	0.0115	mg/L	0.00042	3.63%
Ca 227.546†	8000.4	37.9	mg/L	0.81	37.9	mg/L	0.81	2.15%
Cd 228.802†	-6.0	0.00004	mg/L	0.000112	0.00004	mg/L	0.000112	283.90%
Co 228.616†	176.2	0.00734	mg/L	0.000299	0.00734	mg/L	0.000299	4.07%
Cr 267.716†	108.1	0.00232	mg/L	0.000190	0.00232	mg/L	0.000190	8.19%
Cu 327.393†	46.8	0.00094	mg/L	0.000562	0.00094	mg/L	0.000562	60.02%
Fe 239.562†	606.8	0.157	mg/L	0.0002	0.157	mg/L	0.0002	0.15%
Mg 279.077†	44324.5	31.1	mg/L	0.24	31.1	mg/L	0.24	0.76%
Mn 257.610†	245621.3	0.460	mg/L	0.0048	0.460	mg/L	0.0048	1.04%
Mo 202.031†	16.1	0.00286	mg/L	0.000131	0.00286	mg/L	0.000131	4.58%
Ni 231.604†	594.0	0.0173	mg/L	0.00033	0.0173	mg/L	0.00033	1.92%
Pb 220.353†	29.2	0.00376	mg/L	0.001005	0.00376	mg/L	0.001005	26.74%
Sb 206.836†	-0.9	0.00242	mg/L	0.001770	0.00242	mg/L	0.001770	73.19%
Se 196.026†	10.0	0.00803	mg/L	0.000933	0.00803	mg/L	0.000933	11.61%
Si 251.611†	81809.7	2.29	mg/L	0.031	2.29	mg/L	0.031	1.36%
Sn 189.927†	-227.5	-0.0261	mg/L	0.00152	-0.0261	mg/L	0.00152	5.85%
Ti 334.940†	-4065.2	0.00351	mg/L	0.000102	0.00351	mg/L	0.000102	2.90%
Tl 190.801†	-23.5	-0.0120	mg/L	0.00323	-0.0120	mg/L	0.00323	26.80%
V 290.880†	2643.4	0.0137	mg/L	0.00101	0.0137	mg/L	0.00101	7.34%
Zn 206.200†	852.2	0.0265	mg/L	0.00091	0.0265	mg/L	0.00091	3.42%
K 766.490†	5730.8	4.07	mg/L	0.033	4.07	mg/L	0.033	0.81%
Na 589.592†	158196.0	15.6	mg/L	0.12	15.6	mg/L	0.12	0.74%
Sr 407.771†	212481.2	0.181	mg/L	0.0016	0.181	mg/L	0.0016	0.89%
Li 670.784†	574.2	0.0106	mg/L	0.00035	0.0106	mg/L	0.00035	3.30%

==========

Sequence No.: 55
Sample ID: L1305134510
Analyst: KHR
Initial Sample Wt:
Dilution:

Autosampler Location: 121
Date Collected: 5/30/2013 5:26:36 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: L1305134510

Analyte	Back Pressure	Flow
All	163.0 kPa	0.48 L/min

Mean Data: L1305134510

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	2419742.8						32303.64	1.34%
YRADIAL	174524.3						4294.06	2.46%
Ga 417.206	984904.3						16402.91	1.67%
GaRADIAL	50356.4						654.33	1.30%
Ag 328.068†	345.2	0.00171	mg/L	0.000274	0.00171	mg/L	0.000274	16.01%
Al 396.153†	45.5	0.0630	mg/L	0.00132	0.0630	mg/L	0.00132	2.10%
As 188.979†	-0.5	-0.00185	mg/L	0.004288	-0.00185	mg/L	0.004288	231.21%

Approved: May 31, 2013

Kym H. Rhoden

Ba 233.527†	2952.6	0.0350	mg/L	0.00060	0.0350	mg/L	0.00060	1.71%
Be 234.861†	35.5	0.00023	mg/L	0.000020	0.00023	mg/L	0.000020	8.36%
B 249.677†	506.5	0.0110	mg/L	0.00008	0.0110	mg/L	0.00008	0.71%
Ca 227.546†	8022.3	38.0	mg/L	0.74	38.0	mg/L	0.74	1.96%
Cd 228.802†	-10.2	-0.00010	mg/L	0.000115	-0.00010	mg/L	0.000115	114.88%
Co 228.616†	71.8	0.00305	mg/L	0.000242	0.00305	mg/L	0.000242	7.92%
Cr 267.716†	109.0	0.00233	mg/L	0.000254	0.00233	mg/L	0.000254	10.91%
Cu 327.393†	-8.8	0.00061	mg/L	0.000723	0.00061	mg/L	0.000723	119.00%
Fe 239.562†	22.2	0.0207	mg/L	0.00114	0.0207	mg/L	0.00114	5.52%
Mg 279.077†	43120.6	30.2	mg/L	0.49	30.2	mg/L	0.49	1.61%
Mn 257.610†	128110.8	0.240	mg/L	0.0035	0.240	mg/L	0.0035	1.46%
Mo 202.031†	19.0	0.00295	mg/L	0.000325	0.00295	mg/L	0.000325	11.00%
Ni 231.604†	386.5	0.0121	mg/L	0.00019	0.0121	mg/L	0.00019	1.58%
Pb 220.353†	27.7	0.00368	mg/L	0.000573	0.00368	mg/L	0.000573	15.58%
Sb 206.836†	-0.6	0.00253	mg/L	0.001409	0.00253	mg/L	0.001409	55.65%
Se 196.026†	2.8	0.00116	mg/L	0.005522	0.00116	mg/L	0.005522	474.34%
Si 251.611†	78043.0	2.18	mg/L	0.046	2.18	mg/L	0.046	2.10%
Sn 189.927†	-231.1	-0.0265	mg/L	0.00148	-0.0265	mg/L	0.00148	5.57%
Ti 334.940†	-4692.5	0.00270	mg/L	0.000018	0.00270	mg/L	0.000018	0.67%
Tl 190.801†	-29.6	-0.0148	mg/L	0.00341	-0.0148	mg/L	0.00341	23.10%
V 290.880†	2561.3	0.0133	mg/L	0.00027	0.0133	mg/L	0.00027	2.01%
Zn 206.200†	321.7	0.0115	mg/L	0.00020	0.0115	mg/L	0.00020	1.76%
K 766.490†	5536.9	3.93	mg/L	0.046	3.93	mg/L	0.046	1.18%
Na 589.592†	155393.3	15.3	mg/L	0.26	15.3	mg/L	0.26	1.70%
Sr 407.771†	207965.6	0.177	mg/L	0.0029	0.177	mg/L	0.0029	1.63%
Li 670.784†	577.2	0.0107	mg/L	0.00046	0.0107	mg/L	0.00046	4.30%

Sequence No.: 56
Sample ID: L1305134601 WG432276-02
Analyst: KHR
Initial Sample Wt:
Dilution:

Autosampler Location: 122
Date Collected: 5/30/2013 5:29:37 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: L1305134601 WG432276-02

Analyte	Back Pressure	Flow
All	163.0 kPa	0.48 L/min

Mean Data: L1305134601 WG432276-02

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2355885.6						50934.52	2.16%
YRADIAL	172688.4						1479.16	0.86%
Ga 417.206	963766.7						20729.94	2.15%
GaRADIAL	49737.7						684.80	1.38%
Ag 328.068†	1202.9	0.00539	mg/L	0.000166	0.00539	mg/L	0.000166	3.08%
Al 396.153†	279.6	0.139	mg/L	0.0010	0.139	mg/L	0.0010	0.71%
As 188.979†	6.4	0.00359	mg/L	0.001732	0.00359	mg/L	0.001732	48.29%
Ba 233.527†	2170.5	0.0263	mg/L	0.00053	0.0263	mg/L	0.00053	2.01%
Be 234.861†	111.3	0.00035	mg/L	0.000045	0.00035	mg/L	0.000045	12.78%
B 249.677†	737.7	0.0142	mg/L	0.00028	0.0142	mg/L	0.00028	1.99%
Ca 227.546†	27033.0	128	mg/L	3.4	128	mg/L	3.4	2.68%
Cd 228.802†	-5.8	0.00004	mg/L	0.000133	0.00004	mg/L	0.000133	371.38%
Co 228.616†	174.0	0.00729	mg/L	0.000132	0.00729	mg/L	0.000132	1.81%
Cr 267.716†	232.6	0.00364	mg/L	0.000125	0.00364	mg/L	0.000125	3.44%
Cu 327.393†	-251.0	-0.00079	mg/L	0.000275	-0.00079	mg/L	0.000275	34.81%
Fe 239.562†	155.8	0.0506	mg/L	0.00286	0.0506	mg/L	0.00286	5.65%
Mg 279.077†	130505.1	91.4	mg/L	0.37	91.4	mg/L	0.37	0.40%
Mn 257.610†	189054.9	0.354	mg/L	0.0096	0.354	mg/L	0.0096	2.70%
Mo 202.031†	27.3	0.00340	mg/L	0.000492	0.00340	mg/L	0.000492	14.45%
Ni 231.604†	1031.9	0.0282	mg/L	0.00056	0.0282	mg/L	0.00056	2.00%
Pb 220.353†	52.2	0.00680	mg/L	0.000710	0.00680	mg/L	0.000710	10.43%
Sb 206.836†	-3.8	0.00123	mg/L	0.000441	0.00123	mg/L	0.000441	35.87%
Se 196.026†	15.5	0.0134	mg/L	0.00167	0.0134	mg/L	0.00167	12.52%
Si 251.611†	90273.0	2.52	mg/L	0.077	2.52	mg/L	0.077	3.06%
Sn 189.927†	-354.5	-0.0419	mg/L	0.00074	-0.0419	mg/L	0.00074	1.77%
Ti 334.940†	-14223.1	0.00358	mg/L	0.001380	0.00358	mg/L	0.001380	38.58%
Tl 190.801†	-42.9	-0.0215	mg/L	0.00329	-0.0215	mg/L	0.00329	15.28%
V 290.880†	4492.3	0.0216	mg/L	0.00162	0.0216	mg/L	0.00162	7.51%
Zn 206.200†	871.1	0.0271	mg/L	0.00054	0.0271	mg/L	0.00054	1.99%

Approved: May 31, 2013

K 766.490†	16778.3	11.9	mg/L	0.10	11.9	mg/L	0.10	0.82%
Na 589.592†	866741.4	80.5	mg/L	1.66	80.5	mg/L	1.66	2.07%
Sr 407.771†	528641.3	0.445	mg/L	0.0113	0.445	mg/L	0.0113	2.55%
Li 670.784†	882.4	0.0150	mg/L	0.00025	0.0150	mg/L	0.00025	1.64%

Sequence No.: 57 **Autosampler Location: 123**
Sample ID: L1305134601MS WG432276-07 **Date Collected: 5/30/2013 5:32:41 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1305134601MS WG432276-07

Analyte	Back Pressure	Flow
All	163.0 kPa	0.48 L/min

Mean Data: L1305134601MS WG432276-07

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2298319.8						42105.48	1.83%
YRADIAL	178089.1						2514.21	1.41%
Ga 417.206	932112.9						13689.31	1.47%
GaRADIAL	49529.6						558.72	1.13%
Ag 328.068†	44598.9	0.195	mg/L	0.0057	0.195	mg/L	0.0057	2.94%
Al 396.153†	15099.4	4.95	mg/L	0.017	4.95	mg/L	0.017	0.34%
As 188.979†	402.3	0.198	mg/L	0.0045	0.198	mg/L	0.0045	2.26%
Ba 233.527†	47527.6	0.533	mg/L	0.0190	0.533	mg/L	0.0190	3.56%
Be 234.861†	16003.3	0.0239	mg/L	0.00069	0.0239	mg/L	0.00069	2.89%
B 249.677†	67292.1	0.945	mg/L	0.0282	0.945	mg/L	0.0282	2.99%
Ca 227.546†	28426.9	135	mg/L	3.8	135	mg/L	3.8	2.81%
Cd 228.802†	745.7	0.0227	mg/L	0.00059	0.0227	mg/L	0.00059	2.59%
Co 228.616†	2553.4	0.105	mg/L	0.0022	0.105	mg/L	0.0022	2.09%
Cr 267.716†	23802.4	0.252	mg/L	0.0081	0.252	mg/L	0.0081	3.21%
Cu 327.393†	40540.6	0.234	mg/L	0.0066	0.234	mg/L	0.0066	2.83%
Fe 239.562†	8363.3	1.96	mg/L	0.019	1.96	mg/L	0.019	0.98%
Mg 279.077†	132755.5	93.0	mg/L	0.49	93.0	mg/L	0.49	0.52%
Mn 257.610†	326732.4	0.612	mg/L	0.0206	0.612	mg/L	0.0206	3.36%
Mo 202.031†	10353.8	0.523	mg/L	0.0098	0.523	mg/L	0.0098	1.88%
Ni 231.604†	10851.6	0.273	mg/L	0.0057	0.273	mg/L	0.0057	2.09%
Pb 220.353†	1982.2	0.257	mg/L	0.0054	0.257	mg/L	0.0054	2.11%
Sb 206.836†	1401.4	0.578	mg/L	0.0153	0.578	mg/L	0.0153	2.65%
Se 196.026†	205.1	0.197	mg/L	0.0072	0.197	mg/L	0.0072	3.67%
Si 251.611†	177518.7	4.95	mg/L	0.158	4.95	mg/L	0.158	3.20%
Sn 189.927†	-315.8	-0.0371	mg/L	0.00157	-0.0371	mg/L	0.00157	4.25%
Ti 334.940†	372281.7	0.516	mg/L	0.0171	0.516	mg/L	0.0171	3.31%
Tl 190.801†	461.3	0.233	mg/L	0.0031	0.233	mg/L	0.0031	1.35%
V 290.880†	106279.5	0.540	mg/L	0.0191	0.540	mg/L	0.0191	3.53%
Zn 206.200†	18021.7	0.517	mg/L	0.0149	0.517	mg/L	0.0149	2.88%
K 766.490†	53818.5	37.9	mg/L	0.17	37.9	mg/L	0.17	0.45%
Na 589.592†	1133889.7	103	mg/L	0.7	103	mg/L	0.7	0.63%
Sr 407.771†	1128649.3	0.943	mg/L	0.0089	0.943	mg/L	0.0089	0.94%
Li 670.784†	36031.8	0.513	mg/L	0.0026	0.513	mg/L	0.0026	0.50%

Sequence No.: 58 **Autosampler Location: 124**
Sample ID: L1305134602 **Date Collected: 5/30/2013 5:34:45 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1305134602

Analyte	Back Pressure	Flow
All	163.0 kPa	0.48 L/min

Mean Data: L1305134602

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2364825.5						55178.55	2.33%

Approved: May 31, 2013

Kym H. Rhoden

YRADIAL	174810.9					1724.60	0.99%
Ga 417.206	967853.1					24564.40	2.54%
GaRADIAL	50394.6					122.33	0.24%
Ag 328.068†	1170.3	0.00524	mg/L	0.000092	0.00524 mg/L	0.000092	1.75%
Al 396.153†	58.4	0.0672	mg/L	0.00385	0.0672 mg/L	0.00385	5.73%
As 188.979†	4.5	0.00252	mg/L	0.005287	0.00252 mg/L	0.005287	209.94%
Ba 233.527†	2100.9	0.0255	mg/L	0.00043	0.0255 mg/L	0.00043	1.67%
Be 234.861†	57.4	0.00028	mg/L	0.000070	0.00028 mg/L	0.000070	25.52%
B 249.677†	1167.6	0.0202	mg/L	0.00120	0.0202 mg/L	0.00120	5.94%
Ca 227.546†	26151.0	124	mg/L	4.0	124 mg/L	4.0	3.27%
Cd 228.802†	-6.0	0.00003	mg/L	0.000080	0.00003 mg/L	0.000080	252.31%
Co 228.616†	150.0	0.00630	mg/L	0.000168	0.00630 mg/L	0.000168	2.67%
Cr 267.716†	234.4	0.00366	mg/L	0.000108	0.00366 mg/L	0.000108	2.96%
Cu 327.393†	-58.7	0.00031	mg/L	0.000527	0.00031 mg/L	0.000527	170.85%
Fe 239.562†	22.1	0.0196	mg/L	0.00110	0.0196 mg/L	0.00110	5.65%
Mg 279.077†	124347.1	87.1	mg/L	0.22	87.1 mg/L	0.22	0.25%
Mn 257.610†	169855.4	0.318	mg/L	0.0068	0.318 mg/L	0.0068	2.14%
Mo 202.031†	33.3	0.00370	mg/L	0.000075	0.00370 mg/L	0.000075	2.02%
Ni 231.604†	959.9	0.0264	mg/L	0.00059	0.0264 mg/L	0.00059	2.24%
Pb 220.353†	46.7	0.00611	mg/L	0.001708	0.00611 mg/L	0.001708	27.96%
Sb 206.836†	-2.2	0.00188	mg/L	0.001333	0.00188 mg/L	0.001333	71.00%
Se 196.026†	16.7	0.0146	mg/L	0.01096	0.0146 mg/L	0.01096	75.16%
Si 251.611†	86043.9	2.40	mg/L	0.067	2.40 mg/L	0.067	2.77%
Sn 189.927†	-344.9	-0.0407	mg/L	0.00041	-0.0407 mg/L	0.00041	1.01%
Ti 334.940†	-14575.5	0.00249	mg/L	0.000267	0.00249 mg/L	0.000267	10.73%
Tl 190.801†	-37.8	-0.0190	mg/L	0.00064	-0.0190 mg/L	0.00064	3.36%
V 290.880†	4462.7	0.0216	mg/L	0.00204	0.0216 mg/L	0.00204	9.47%
Zn 206.200†	721.9	0.0229	mg/L	0.00025	0.0229 mg/L	0.00025	1.11%
K 766.490†	16075.7	11.4	mg/L	0.15	11.4 mg/L	0.15	1.32%
Na 589.592†	832900.5	77.6	mg/L	0.61	77.6 mg/L	0.61	0.78%
Sr 407.771†	509062.4	0.428	mg/L	0.0049	0.428 mg/L	0.0049	1.15%
Li 670.784†	892.9	0.0152	mg/L	0.00084	0.0152 mg/L	0.00084	5.56%

Sequence No.: 59 **Autosampler Location: 125**
Sample ID: L1305135201 **Date Collected: 5/30/2013 5:37:50 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1305135201

Analyte	Back Pressure	Flow
All	163.0 kPa	0.48 L/min

Mean Data: L1305135201

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2517302.7						3150.01	0.13%
YRADIAL	180275.7						2951.22	1.64%
Ga 417.206	992315.8						6874.01	0.69%
GaRADIAL	49922.8						891.46	1.79%
Ag 328.068†	-17.9	0.00019	mg/L	0.000176	0.00019	mg/L	0.000176	94.04%
Al 396.153†	181.3	0.107	mg/L	0.0012	0.107	mg/L	0.0012	1.15%
As 188.979†	3.2	-0.00081	mg/L	0.001196	-0.00081	mg/L	0.001196	147.69%
Ba 233.527†	2585.6	0.0309	mg/L	0.00011	0.0309	mg/L	0.00011	0.35%
Be 234.861†	51.3	0.00023	mg/L	0.000050	0.00023	mg/L	0.000050	21.59%
B 249.677†	537.2	0.0114	mg/L	0.00045	0.0114	mg/L	0.00045	3.96%
Ca 227.546†	323.1	1.57	mg/L	0.014	1.57	mg/L	0.014	0.91%
Cd 228.802†	-9.4	-0.00009	mg/L	0.000146	-0.00009	mg/L	0.000146	161.06%
Co 228.616†	10.4	0.00051	mg/L	0.000207	0.00051	mg/L	0.000207	40.47%
Cr 267.716†	38.1	0.00158	mg/L	0.000123	0.00158	mg/L	0.000123	7.83%
Cu 327.393†	83.1	0.00114	mg/L	0.000595	0.00114	mg/L	0.000595	52.22%
Fe 239.562†	107.9	0.0413	mg/L	0.00081	0.0413	mg/L	0.00081	1.96%
Mg 279.077†	778.3	0.583	mg/L	0.0127	0.583	mg/L	0.0127	2.18%
Mn 257.610†	8308.3	0.0155	mg/L	0.00055	0.0155	mg/L	0.00055	3.54%
Mo 202.031†	-2.0	0.00185	mg/L	0.000332	0.00185	mg/L	0.000332	17.98%
Ni 231.604†	15.5	0.00287	mg/L	0.000195	0.00287	mg/L	0.000195	6.81%
Pb 220.353†	10.8	0.00163	mg/L	0.001025	0.00163	mg/L	0.001025	63.02%
Sb 206.836†	-0.7	0.00247	mg/L	0.001450	0.00247	mg/L	0.001450	58.66%
Se 196.026†	6.8	0.00511	mg/L	0.004645	0.00511	mg/L	0.004645	90.90%

Approved: May 31, 2013

Si 251.611†	75573.1	2.11 mg/L	0.043	2.11 mg/L	0.043	2.02%
Sn 189.927†	-19.2	-0.00010 mg/L	0.000390	-0.00010 mg/L	0.000390	392.18%
Ti 334.940†	107.7	0.00359 mg/L	0.000114	0.00359 mg/L	0.000114	3.18%
Tl 190.801†	-7.3	-0.00361 mg/L	0.001765	-0.00361 mg/L	0.001765	48.91%
V 290.880†	252.5	0.00232 mg/L	0.000678	0.00232 mg/L	0.000678	29.16%
Zn 206.200†	198.9	0.00796 mg/L	0.000162	0.00796 mg/L	0.000162	2.04%
K 766.490†	2198.5	1.55 mg/L	0.015	1.55 mg/L	0.015	0.98%
Na 589.592†	5020.5	0.471 mg/L	0.0276	0.471 mg/L	0.0276	5.86%
Sr 407.771†	11799.8	0.0138 mg/L	0.00010	0.0138 mg/L	0.00010	0.71%
Li 670.784†	-44.2	0.00188 mg/L	0.000901	0.00188 mg/L	0.000901	48.03%

Sequence No.: 60
Sample ID: CCV
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 7
Date Collected: 5/30/2013 5:40:50 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: CCV

Analyte	Back Pressure	Flow
All	163.0 kPa	0.48 L/min

Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2465346.6						22952.04	0.93%
YRADIAL	178101.1						1490.77	0.84%
Ga 417.206	956767.2						6663.83	0.70%
GaRADIAL	49502.4						580.24	1.17%
Ag 328.068†	91056.2	0.398	mg/L	0.0078	0.398	mg/L	0.0078	1.96%
QC value within limits for Ag 328.068 Recovery = 99.41%								
Al 396.153†	30785.3	10.0	mg/L	0.03	10.0	mg/L	0.03	0.33%
QC value within limits for Al 396.153 Recovery = 100.36%								
As 188.979†	789.3	0.385	mg/L	0.0052	0.385	mg/L	0.0052	1.35%
QC value within limits for As 188.979 Recovery = 96.33%								
Ba 233.527†	91378.7	1.02	mg/L	0.028	1.02	mg/L	0.028	2.76%
QC value within limits for Ba 233.527 Recovery = 102.23%								
Be 234.861†	32549.1	0.0483	mg/L	0.00108	0.0483	mg/L	0.00108	2.24%
QC value within limits for Be 234.861 Recovery = 96.62%								
B 249.677†	33819.6	0.474	mg/L	0.0131	0.474	mg/L	0.0131	2.75%
QC value within limits for B 249.677 Recovery = 94.82%								
Ca 227.546†	2048.6	10.2	mg/L	0.07	10.2	mg/L	0.07	0.73%
QC value within limits for Ca 227.546 Recovery = 101.83%								
Cd 228.802†	1542.6	0.0468	mg/L	0.00072	0.0468	mg/L	0.00072	1.54%
QC value within limits for Cd 228.802 Recovery = 93.56%								
Co 228.616†	4999.1	0.205	mg/L	0.0022	0.205	mg/L	0.0022	1.07%
QC value within limits for Co 228.616 Recovery = 102.48%								
Cr 267.716†	48095.3	0.509	mg/L	0.0108	0.509	mg/L	0.0108	2.12%
QC value within limits for Cr 267.716 Recovery = 101.79%								
Cu 327.393†	84221.5	0.484	mg/L	0.0105	0.484	mg/L	0.0105	2.18%
QC value within limits for Cu 327.393 Recovery = 96.87%								
Fe 239.562†	17501.9	4.10	mg/L	0.029	4.10	mg/L	0.029	0.71%
QC value within limits for Fe 239.562 Recovery = 102.39%								
Mg 279.077†	14847.6	10.5	mg/L	0.13	10.5	mg/L	0.13	1.28%
QC value within limits for Mg 279.077 Recovery = 104.51%								
Mn 257.610†	277627.3	0.520	mg/L	0.0145	0.520	mg/L	0.0145	2.78%
QC value within limits for Mn 257.610 Recovery = 104.04%								
Mo 202.031†	20085.5	1.01	mg/L	0.024	1.01	mg/L	0.024	2.39%
QC value within limits for Mo 202.031 Recovery = 101.30%								
Ni 231.604†	20107.3	0.504	mg/L	0.0134	0.504	mg/L	0.0134	2.66%
QC value within limits for Ni 231.604 Recovery = 100.74%								
Pb 220.353†	3998.6	0.520	mg/L	0.0071	0.520	mg/L	0.0071	1.37%
QC value within limits for Pb 220.353 Recovery = 103.92%								
Sb 206.836†	2858.1	1.18	mg/L	0.009	1.18	mg/L	0.009	0.74%
QC value within limits for Sb 206.836 Recovery = 98.02%								
Se 196.026†	406.5	0.393	mg/L	0.0074	0.393	mg/L	0.0074	1.88%
QC value within limits for Se 196.026 Recovery = 98.21%								
Si 251.611†	174210.7	4.85	mg/L	0.121	4.85	mg/L	0.121	2.50%
QC value within limits for Si 251.611 Recovery = 97.02%								
Sn 189.927†	7642.8	0.955	mg/L	0.0088	0.955	mg/L	0.0088	0.92%

Approved: May 31, 2013

```
   QC value within limits for Sn 189.927  Recovery = 95.46%
Ti 334.940†          766966.7       1.02 mg/L        0.005        1.02 mg/L        0.005   0.46%
   QC value within limits for Ti 334.940  Recovery = 101.88%
Tl 190.801†           1041.0      0.524 mg/L       0.0063       0.524 mg/L       0.0063   1.20%
   QC value within limits for Tl 190.801  Recovery = 104.83%
V 290.880†           200627.4       1.02 mg/L        0.029        1.02 mg/L        0.029   2.84%
   QC value within limits for V 290.880  Recovery = 102.36%
Zn 206.200†           36182.5       1.04 mg/L        0.020        1.04 mg/L        0.020   1.94%
   QC value within limits for Zn 206.200  Recovery = 103.59%
K 766.490†            76239.0       53.2 mg/L         0.52        53.2 mg/L         0.52   0.97%
   QC value within limits for K 766.490  Recovery = 106.49%
Na 589.592†          546250.4       52.1 mg/L         1.23        52.1 mg/L         1.23   2.36%
   QC value within limits for Na 589.592  Recovery = 104.22%
Sr 407.771†         1277631.9       1.06 mg/L        0.029        1.06 mg/L        0.029   2.75%
   QC value within limits for Sr 407.771  Recovery = 106.46%
Li 670.784†           72150.1       1.03 mg/L        0.006        1.03 mg/L        0.006   0.55%
   QC value within limits for Li 670.784  Recovery = 102.57%
All analyte(s) passed QC.

==========================================================================================
Sequence No.: 61                                    Autosampler Location: 8
Sample ID: CCB                                      Date Collected: 5/30/2013 5:42:55 PM
Analyst:                                            Data Type: Original
Initial Sample Wt:                                  Initial Sample Vol:
Dilution:                                           Sample Prep Vol:

------------------------------------------------------------------------------------------
Nebulizer Parameters: CCB
Analyte                 Back Pressure    Flow
All                     162.0 kPa        0.48 L/min

------------------------------------------------------------------------------------------
Mean Data: CCB
                   Mean Corrected        Calib.                          Sample
Analyte               Intensity     Conc. Units     Std.Dev.     Conc. Units     Std.Dev.   RSD
Y 371.029            2446485.1                                                  16832.09   0.69%
YRADIAL               177186.9                                                   3150.58   1.78%
Ga 417.206            941103.9                                                   7727.82   0.82%
GaRADIAL               48504.5                                                    516.60   1.07%
Ag 328.068†               42.8     0.00045 mg/L      0.000387     0.00045 mg/L      0.000387  86.75%
   QC value within limits for Ag 328.068  Recovery = Not calculated
Al 396.153†                1.3      0.0486 mg/L       0.00297      0.0486 mg/L       0.00297   6.11%
   QC value within limits for Al 396.153  Recovery = Not calculated
As 188.979†                4.8    -0.00005 mg/L      0.001996    -0.00005 mg/L      0.001996 >999.9%
   QC value within limits for As 188.979  Recovery = Not calculated
Ba 233.527†              -31.0     0.00173 mg/L      0.000052     0.00173 mg/L      0.000052   2.99%
   QC value within limits for Ba 233.527  Recovery = Not calculated
Be 234.861†              -40.4     0.00010 mg/L      0.000025     0.00010 mg/L      0.000025  26.06%
   QC value within limits for Be 234.861  Recovery = Not calculated
B 249.677†               423.1     0.00984 mg/L      0.000734     0.00984 mg/L      0.000734   7.46%
   QC value within limits for B 249.677  Recovery = Not calculated
Ca 227.546†                7.4      0.0720 mg/L       0.01285      0.0720 mg/L       0.01285  17.85%
   QC value within limits for Ca 227.546  Recovery = Not calculated
Cd 228.802†               -8.8    -0.00008 mg/L      0.000130    -0.00008 mg/L      0.000130 163.73%
   QC value within limits for Cd 228.802  Recovery = Not calculated
Co 228.616†               -2.5    -0.00001 mg/L      0.000231    -0.00001 mg/L      0.000231 >999.9%
   QC value within limits for Co 228.616  Recovery = Not calculated
Cr 267.716†               18.0     0.00136 mg/L      0.000178     0.00136 mg/L      0.000178  13.00%
   QC value within limits for Cr 267.716  Recovery = Not calculated
Cu 327.393†               30.6     0.00084 mg/L      0.000263     0.00084 mg/L      0.000263  31.43%
   QC value within limits for Cu 327.393  Recovery = Not calculated
Fe 239.562†               16.9      0.0201 mg/L       0.00108      0.0201 mg/L       0.00108   5.39%
   QC value within limits for Fe 239.562  Recovery = Not calculated
Mg 279.077†               18.9      0.0509 mg/L       0.00244      0.0509 mg/L       0.00244   4.78%
   QC value within limits for Mg 279.077  Recovery = Not calculated
Mn 257.610†              188.1     0.00030 mg/L      0.000030     0.00030 mg/L      0.000030  10.05%
   QC value within limits for Mn 257.610  Recovery = Not calculated
Mo 202.031†                4.4     0.00216 mg/L      0.000431     0.00216 mg/L      0.000431  19.92%
   QC value within limits for Mo 202.031  Recovery = Not calculated
Ni 231.604†              -23.7     0.00189 mg/L      0.000096     0.00189 mg/L      0.000096   5.10%
   QC value within limits for Ni 231.604  Recovery = Not calculated
Pb 220.353†                4.5     0.00082 mg/L      0.001358     0.00082 mg/L      0.001358 165.93%
```

Approved: May 31, 2013

Lynn H. Rhoden

QC value within limits for Pb 220.353 Recovery = Not calculated

Sb 206.836†	3.6	0.00424 mg/L	0.000668	0.00424 mg/L	0.000668	15.75%

QC value within limits for Sb 206.836 Recovery = Not calculated

Se 196.026†	4.5	0.00289 mg/L	0.003427	0.00289 mg/L	0.003427	118.51%

QC value within limits for Se 196.026 Recovery = Not calculated

Si 251.611†	88.8	0.00913 mg/L	0.000732	0.00913 mg/L	0.000732	8.01%

QC value within limits for Si 251.611 Recovery = Not calculated

Sn 189.927†	5.4	0.00297 mg/L	0.000666	0.00297 mg/L	0.000666	22.42%

QC value within limits for Sn 189.927 Recovery = Not calculated

Ti 334.940†	-81.0	0.00312 mg/L	0.000085	0.00312 mg/L	0.000085	2.73%

QC value within limits for Ti 334.940 Recovery = Not calculated

Tl 190.801†	-6.4	-0.00318 mg/L	0.002580	-0.00318 mg/L	0.002580	81.24%

QC value within limits for Tl 190.801 Recovery = Not calculated

V 290.880†	284.8	0.00251 mg/L	0.000052	0.00251 mg/L	0.000052	2.06%

QC value within limits for V 290.880 Recovery = Not calculated

Zn 206.200†	21.3	0.00291 mg/L	0.000149	0.00291 mg/L	0.000149	5.13%

QC value within limits for Zn 206.200 Recovery = Not calculated

K 766.490†	133.6	0.0560 mg/L	0.03164	0.0560 mg/L	0.03164	56.52%

QC value within limits for K 766.490 Recovery = Not calculated

Na 589.592†	465.4	0.0134 mg/L	0.02394	0.0134 mg/L	0.02394	179.28%

QC value within limits for Na 589.592 Recovery = Not calculated

Sr 407.771†	78.6	0.00403 mg/L	0.000110	0.00403 mg/L	0.000110	2.74%

QC value within limits for Sr 407.771 Recovery = Not calculated

Li 670.784†	50.5	0.00322 mg/L	0.000872	0.00322 mg/L	0.000872	27.09%

QC value within limits for Li 670.784 Recovery = Not calculated

All analyte(s) passed QC.

==========

Sequence No.: 62 **Autosampler Location: 126**
Sample ID: PBW D1 WG432107-02 **Date Collected: 5/30/2013 5:45:56 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: PBW D1 WG432107-02

Analyte	Back Pressure	Flow
All	162.0 kPa	0.48 L/min

Mean Data: PBW D1 WG432107-02

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2511329.4						9569.35	0.38%
YRADIAL	177163.6						5766.54	3.25%
Ga 417.206	966577.0						10305.21	1.07%
GaRADIAL	48441.7						1485.84	3.07%
Ag 328.068†	210.2	0.00117	mg/L	0.000632	0.00117	mg/L	0.000632	53.91%
Al 396.153†	14.3	0.0529	mg/L	0.00193	0.0529	mg/L	0.00193	3.66%
As 188.979†	-2.2	-0.00352	mg/L	0.001536	-0.00352	mg/L	0.001536	43.64%
Ba 233.527†	-39.0	0.00164	mg/L	0.000075	0.00164	mg/L	0.000075	4.57%
Be 234.861†	-28.3	0.00011	mg/L	0.000017	0.00011	mg/L	0.000017	14.60%
B 249.677†	198.6	0.00669	mg/L	0.000280	0.00669	mg/L	0.000280	4.18%
Ca 227.546†	7.5	0.0727	mg/L	0.00512	0.0727	mg/L	0.00512	7.04%
Cd 228.802†	-5.6	0.00004	mg/L	0.000135	0.00004	mg/L	0.000135	359.38%
Co 228.616†	-8.8	-0.00027	mg/L	0.000352	-0.00027	mg/L	0.000352	131.48%
Cr 267.716†	26.9	0.00146	mg/L	0.000052	0.00146	mg/L	0.000052	3.58%
Cu 327.393†	4.4	0.00069	mg/L	0.000386	0.00069	mg/L	0.000386	56.09%
Fe 239.562†	20.7	0.0210	mg/L	0.00047	0.0210	mg/L	0.00047	2.23%
Mg 279.077†	5.7	0.0417	mg/L	0.00607	0.0417	mg/L	0.00607	14.57%
Mn 257.610†	221.2	0.00036	mg/L	0.000020	0.00036	mg/L	0.000020	5.65%
Mo 202.031†	-5.3	0.00168	mg/L	0.000231	0.00168	mg/L	0.000231	13.77%
Ni 231.604†	-29.1	0.00176	mg/L	0.000383	0.00176	mg/L	0.000383	21.83%
Pb 220.353†	-1.9	-0.00001	mg/L	0.001752	-0.00001	mg/L	0.001752	>999.9%
Sb 206.836†	2.8	0.00392	mg/L	0.000652	0.00392	mg/L	0.000652	16.63%
Se 196.026†	4.1	0.00243	mg/L	0.001859	0.00243	mg/L	0.001859	76.50%
Si 251.611†	89.5	0.00916	mg/L	0.000246	0.00916	mg/L	0.000246	2.69%
Sn 189.927†	-15.0	0.00043	mg/L	0.000605	0.00043	mg/L	0.000605	142.04%
Ti 334.940†	-15.5	0.00320	mg/L	0.000195	0.00320	mg/L	0.000195	6.07%
Tl 190.801†	-6.5	-0.00319	mg/L	0.007559	-0.00319	mg/L	0.007559	237.02%
V 290.880†	326.6	0.00272	mg/L	0.000614	0.00272	mg/L	0.000614	22.56%
Zn 206.200†	67.2	0.00422	mg/L	0.000313	0.00422	mg/L	0.000313	7.41%

Approved: May 31, 2013

Kym H. Rhoden

K 766.490†	29.3	-0.0193	mg/L	0.04046	-0.0193	mg/L	0.04046	209.53%
Na 589.592†	43.9	-0.0290	mg/L	0.00444	-0.0290	mg/L	0.00444	15.31%
Sr 407.771†	-82.5	0.00389	mg/L	0.000035	0.00389	mg/L	0.000035	0.89%
Li 670.784†	-28.8	0.00209	mg/L	0.000027	0.00209	mg/L	0.000027	1.30%

Sequence No.: 63 **Autosampler Location: 127**
Sample ID: LCSW D1 WG432107-03 **Date Collected: 5/30/2013 5:48:56 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: LCSW D1 WG432107-03

Analyte	Back Pressure	Flow
All	162.0 kPa	0.48 L/min

Mean Data: LCSW D1 WG432107-03

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2402574.2						75104.00	3.13%
YRADIAL	179892.5						4101.31	2.28%
Ga 417.206	935800.1						32019.07	3.42%
GaRADIAL	48897.6						783.55	1.60%
Ag 328.068†	44894.0	0.196	mg/L	0.0084	0.196	mg/L	0.0084	4.28%
Al 396.153†	14948.9	4.90	mg/L	0.046	4.90	mg/L	0.046	0.94%
As 188.979†	396.8	0.192	mg/L	0.0090	0.192	mg/L	0.0090	4.69%
Ba 233.527†	45063.6	0.505	mg/L	0.0181	0.505	mg/L	0.0181	3.58%
Be 234.861†	15869.0	0.0236	mg/L	0.00089	0.0236	mg/L	0.00089	3.76%
B 249.677†	65341.5	0.918	mg/L	0.0442	0.918	mg/L	0.0442	4.81%
Ca 227.546†	1000.7	5.00	mg/L	0.184	5.00	mg/L	0.184	3.68%
Cd 228.802†	768.2	0.0234	mg/L	0.00085	0.0234	mg/L	0.00085	3.65%
Co 228.616†	2493.6	0.102	mg/L	0.0040	0.102	mg/L	0.0040	3.88%
Cr 267.716†	23685.1	0.251	mg/L	0.0073	0.251	mg/L	0.0073	2.90%
Cu 327.393†	41840.2	0.241	mg/L	0.0102	0.241	mg/L	0.0102	4.22%
Fe 239.562†	8411.3	1.98	mg/L	0.014	1.98	mg/L	0.014	0.70%
Mg 279.077†	7103.8	5.02	mg/L	0.035	5.02	mg/L	0.035	0.70%
Mn 257.610†	136145.0	0.255	mg/L	0.0102	0.255	mg/L	0.0102	3.99%
Mo 202.031†	10226.5	0.517	mg/L	0.0179	0.517	mg/L	0.0179	3.47%
Ni 231.604†	10374.2	0.261	mg/L	0.0094	0.261	mg/L	0.0094	3.58%
Pb 220.353†	1995.0	0.259	mg/L	0.0089	0.259	mg/L	0.0089	3.43%
Sb 206.836†	1403.2	0.579	mg/L	0.0216	0.579	mg/L	0.0216	3.74%
Se 196.026†	201.0	0.193	mg/L	0.0072	0.193	mg/L	0.0072	3.70%
Si 251.611†	85298.6	2.38	mg/L	0.111	2.38	mg/L	0.111	4.68%
Sn 189.927†	3799.1	0.476	mg/L	0.0179	0.476	mg/L	0.0179	3.77%
Ti 334.940†	376204.2	0.501	mg/L	0.0190	0.501	mg/L	0.0190	3.79%
Tl 190.801†	526.8	0.265	mg/L	0.0113	0.265	mg/L	0.0113	4.25%
V 290.880†	99060.7	0.506	mg/L	0.0240	0.506	mg/L	0.0240	4.73%
Zn 206.200†	17708.5	0.508	mg/L	0.0178	0.508	mg/L	0.0178	3.51%
K 766.490†	37016.4	26.2	mg/L	0.10	26.2	mg/L	0.10	0.37%
Na 589.592†	269559.7	26.4	mg/L	0.08	26.4	mg/L	0.08	0.32%
Sr 407.771†	614450.9	0.514	mg/L	0.0039	0.514	mg/L	0.0039	0.76%
Li 670.784†	35185.2	0.501	mg/L	0.0041	0.501	mg/L	0.0041	0.82%

Sequence No.: 64 **Autosampler Location: 128**
Sample ID: L1305113201 **Date Collected: 5/30/2013 5:51:00 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1305113201

Analyte	Back Pressure	Flow
All	163.0 kPa	0.48 L/min

Mean Data: L1305113201

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2232629.4						11214.30	0.50%

Approved: May 31, 2013

Kym H. Rhoden

YRADIAL	176684.4					1200.57	0.68%
Ga 417.206	893789.5					13809.97	1.55%
GaRADIAL	49225.5					295.89	0.60%
Ag 328.068†	1641.0	0.0125	mg/L	0.00028	0.0125 mg/L	0.00028	2.23%
Al 396.153†	19463.5	6.41	mg/L	0.046	6.41 mg/L	0.046	0.71%
As 188.979†	10.5	0.0128	mg/L	0.00348	0.0128 mg/L	0.00348	27.12%
Ba 233.527†	53771.6	0.602	mg/L	0.0088	0.602 mg/L	0.0088	1.46%
Be 234.861†	2549.0	0.00084	mg/L	0.000140	0.00084 mg/L	0.000140	16.60%
B 249.677†	31828.8	0.444	mg/L	0.0171	0.444 mg/L	0.0171	3.85%
Ca 227.546†	72206.7	342	mg/L	12.8	342 mg/L	12.8	3.74%
Cd 228.802†	71.4	0.00242	mg/L	0.000146	0.00242 mg/L	0.000146	6.04%
Co 228.616†	220.0	0.00845	mg/L	0.000282	0.00845 mg/L	0.000282	3.34%
Cr 267.716†	1980.1	0.0213	mg/L	0.00026	0.0213 mg/L	0.00026	1.22%
Cu 327.393†	44219.8	0.255	mg/L	0.0093	0.255 mg/L	0.0093	3.65%
Fe 239.562†	59976.0	14.0	mg/L	0.07	14.0 mg/L	0.07	0.53%
Mg 279.077†	31668.6	22.2	mg/L	0.10	22.2 mg/L	0.10	0.43%
Mn 257.610†	1180793.1	2.21	mg/L	0.013	2.21 mg/L	0.013	0.58%
Mo 202.031†	307.6	0.0187	mg/L	0.00038	0.0187 mg/L	0.00038	2.03%
Ni 231.604†	778.7	0.0219	mg/L	0.00072	0.0219 mg/L	0.00072	3.28%
Pb 220.353†	2799.7	0.362	mg/L	0.0056	0.362 mg/L	0.0056	1.54%
Sb 206.836†	5.0	0.00522	mg/L	0.002185	0.00522 mg/L	0.002185	41.84%
Se 196.026†	35.0	0.0346	mg/L	0.00581	0.0346 mg/L	0.00581	16.81%
Si 251.611†	468572.7	13.1	mg/L	0.33	13.1 mg/L	0.33	2.53%
Sn 189.927†	-323.2	-0.0380	mg/L	0.00186	-0.0380 mg/L	0.00186	4.90%
Ti 334.940†	55127.7	0.127	mg/L	0.0045	0.127 mg/L	0.0045	3.56%
Tl 190.801†	-96.5	-0.0483	mg/L	0.00297	-0.0483 mg/L	0.00297	6.14%
V 290.880†	6441.8	0.0298	mg/L	0.00100	0.0298 mg/L	0.00100	3.36%
Zn 206.200†	22828.7	0.651	mg/L	0.0147	0.651 mg/L	0.0147	2.26%
K 766.490†	12505.7	8.94	mg/L	0.060	8.94 mg/L	0.060	0.67%
Na 589.592†	Saturated2						
Sr 407.771†	925056.1	0.777	mg/L	0.0165	0.777 mg/L	0.0165	2.12%
Li 670.784†	8874.8	0.128	mg/L	0.0028	0.128 mg/L	0.0028	2.18%

==========

Sequence No.: 65 **Autosampler Location: 129**
Sample ID: L1305115701 **Date Collected: 5/30/2013 5:53:05 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1305115701

Analyte	Back Pressure	Flow
All	163.0 kPa	0.48 L/min

Mean Data: L1305115701

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2228918.3						24622.73	1.10%
YRADIAL	166238.7						4054.84	2.44%
Ga 417.206	912812.6						13995.72	1.53%
GaRADIAL	47641.6						1058.20	2.22%
Ag 328.068†	595.9	0.00293	mg/L	0.000197	0.00293	mg/L	0.000197	6.75%
Al 396.153†	1327.3	0.478	mg/L	0.0088	0.478	mg/L	0.0088	1.84%
As 188.979†	2.8	0.00011	mg/L	0.000544	0.00011	mg/L	0.000544	503.30%
Ba 233.527†	3454.5	0.0407	mg/L	0.00066	0.0407	mg/L	0.00066	1.62%
Be 234.861†	-29.2	0.00009	mg/L	0.000051	0.00009	mg/L	0.000051	56.15%
B 249.677†	41545.7	0.586	mg/L	0.0104	0.586	mg/L	0.0104	1.77%
Ca 227.546†	13600.3	64.3	mg/L	1.15	64.3	mg/L	1.15	1.79%
Cd 228.802†	-2.5	0.00012	mg/L	0.000213	0.00012	mg/L	0.000213	178.24%
Co 228.616†	13.5	0.00073	mg/L	0.000412	0.00073	mg/L	0.000412	56.71%
Cr 267.716†	996.2	0.0117	mg/L	0.00028	0.0117	mg/L	0.00028	2.36%
Cu 327.393†	504.3	0.00358	mg/L	0.000224	0.00358	mg/L	0.000224	6.24%
Fe 239.562†	1254.2	0.306	mg/L	0.0065	0.306	mg/L	0.0065	2.12%
Mg 279.077†	193136.4	135	mg/L	0.4	135	mg/L	0.4	0.31%
Mn 257.610†	137962.8	0.258	mg/L	0.0027	0.258	mg/L	0.0027	1.05%
Mo 202.031†	1085.2	0.0566	mg/L	0.00105	0.0566	mg/L	0.00105	1.86%
Ni 231.604†	887.4	0.0246	mg/L	0.00020	0.0246	mg/L	0.00020	0.80%
Pb 220.353†	47.3	0.00628	mg/L	0.001009	0.00628	mg/L	0.001009	16.07%
Sb 206.836†	2.9	0.00398	mg/L	0.001207	0.00398	mg/L	0.001207	30.33%
Se 196.026†	11.2	0.00934	mg/L	0.012158	0.00934	mg/L	0.012158	130.19%

Approved: May 31, 2013
Kym H. Rhoden

Si 251.611†	131567.9	3.67	mg/L	0.050	3.67	mg/L	0.050	1.35%
Sn 189.927†	-277.3	-0.0323	mg/L	0.00058	-0.0323	mg/L	0.00058	1.78%
Ti 334.940†	-434.8	0.0123	mg/L	0.00057	0.0123	mg/L	0.00057	4.63%
Tl 190.801†	-40.8	-0.0202	mg/L	0.00233	-0.0202	mg/L	0.00233	11.57%
V 290.880†	6304.9	0.0296	mg/L	0.00063	0.0296	mg/L	0.00063	2.11%
Zn 206.200†	2162.6	0.0639	mg/L	0.00062	0.0639	mg/L	0.00062	0.97%
K 766.490†	138706.8	94.7	mg/L	0.54	94.7	mg/L	0.54	0.57%
Na 589.592†	Saturated2							
Sr 407.771†	355567.8	0.300	mg/L	0.0033	0.300	mg/L	0.0033	1.11%
Li 670.784†	2135.1	0.0328	mg/L	0.00044	0.0328	mg/L	0.00044	1.33%

==========

Sequence No.: 66 **Autosampler Location: 130**
Sample ID: L1305115702 **Date Collected: 5/30/2013 5:56:06 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1305115702

Analyte	Back Pressure	Flow
All	163.0 kPa	0.48 L/min

Mean Data: L1305115702

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2201557.5						18282.04	0.83%
YRADIAL	170530.2						1905.39	1.12%
Ga 417.206	897002.7						7637.39	0.85%
GaRADIAL	48479.0						196.05	0.40%
Ag 328.068†	488.2	0.00236	mg/L	0.000077	0.00236	mg/L	0.000077	3.24%
Al 396.153†	281.0	0.136	mg/L	0.0028	0.136	mg/L	0.0028	2.09%
As 188.979†	5.2	0.00125	mg/L	0.003310	0.00125	mg/L	0.003310	265.72%
Ba 233.527†	3382.0	0.0399	mg/L	0.00040	0.0399	mg/L	0.00040	1.01%
Be 234.861†	-111.1	0.00003	mg/L	0.000027	0.00003	mg/L	0.000027	97.81%
B 249.677†	41459.9	0.585	mg/L	0.0157	0.585	mg/L	0.0157	2.68%
Ca 227.546†	13357.4	63.2	mg/L	0.64	63.2	mg/L	0.64	1.02%
Cd 228.802†	-3.2	0.00009	mg/L	0.000162	0.00009	mg/L	0.000162	182.53%
Co 228.616†	0.4	0.00022	mg/L	0.000653	0.00022	mg/L	0.000653	303.41%
Cr 267.716†	396.0	0.00536	mg/L	0.000082	0.00536	mg/L	0.000082	1.54%
Cu 327.393†	14.3	0.00075	mg/L	0.000364	0.00075	mg/L	0.000364	48.64%
Fe 239.562†	145.3	0.0479	mg/L	0.00197	0.0479	mg/L	0.00197	4.11%
Mg 279.077†	155153.8	109	mg/L	0.5	109	mg/L	0.5	0.42%
Mn 257.610†	126424.4	0.237	mg/L	0.0049	0.237	mg/L	0.0049	2.08%
Mo 202.031†	1062.3	0.0554	mg/L	0.00057	0.0554	mg/L	0.00057	1.02%
Ni 231.604†	407.4	0.0127	mg/L	0.00032	0.0127	mg/L	0.00032	2.55%
Pb 220.353†	34.0	0.00454	mg/L	0.001896	0.00454	mg/L	0.001896	41.77%
Sb 206.836†	5.4	0.00504	mg/L	0.000370	0.00504	mg/L	0.000370	7.36%
Se 196.026†	9.0	0.00712	mg/L	0.003233	0.00712	mg/L	0.003233	45.43%
Si 251.611†	124411.0	3.47	mg/L	0.087	3.47	mg/L	0.087	2.49%
Sn 189.927†	-274.6	-0.0319	mg/L	0.00174	-0.0319	mg/L	0.00174	5.45%
Ti 334.940†	-7371.6	0.00294	mg/L	0.000139	0.00294	mg/L	0.000139	4.72%
Tl 190.801†	-44.8	-0.0222	mg/L	0.00443	-0.0222	mg/L	0.00443	19.92%
V 290.880†	6320.2	0.0305	mg/L	0.00107	0.0305	mg/L	0.00107	3.53%
Zn 206.200†	484.4	0.0161	mg/L	0.00052	0.0161	mg/L	0.00052	3.20%
K 766.490†	133835.3	91.5	mg/L	0.73	91.5	mg/L	0.73	0.80%
Na 589.592†	Saturated2							
Sr 407.771†	339482.6	0.287	mg/L	0.0017	0.287	mg/L	0.0017	0.61%
Li 670.784†	2064.0	0.0318	mg/L	0.00119	0.0318	mg/L	0.00119	3.73%

==========

Sequence No.: 67 **Autosampler Location: 131**
Sample ID: L1305115703 **Date Collected: 5/30/2013 5:59:08 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1305115703

Analyte	Back Pressure	Flow
All	163.0 kPa	0.48 L/min

Approved: May 31, 2013

Lynn H. Rhoden

Mean Data: L1305115703

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2272048.4						14114.58	0.62%
YRADIAL	169830.8						3611.33	2.13%
Ga 417.206	925024.8						5732.54	0.62%
GaRADIAL	49113.3						639.83	1.30%
Ag 328.068†	566.1	0.00282	mg/L	0.000102	0.00282	mg/L	0.000102	3.62%
Al 396.153†	606.4	0.243	mg/L	0.0044	0.243	mg/L	0.0044	1.82%
As 188.979†	27.6	0.0127	mg/L	0.00249	0.0127	mg/L	0.00249	19.62%
Ba 233.527†	4933.0	0.0571	mg/L	0.00045	0.0571	mg/L	0.00045	0.78%
Be 234.861†	-0.9	0.00011	mg/L	0.000037	0.00011	mg/L	0.000037	32.20%
B 249.677†	35494.4	0.501	mg/L	0.0086	0.501	mg/L	0.0086	1.72%
Ca 227.546†	14915.4	70.5	mg/L	0.72	70.5	mg/L	0.72	1.02%
Cd 228.802†	-5.5	-0.00004	mg/L	0.000202	-0.00004	mg/L	0.000202	526.86%
Co 228.616†	0.6	0.00019	mg/L	0.000364	0.00019	mg/L	0.000364	196.53%
Cr 267.716†	1998.8	0.0223	mg/L	0.00051	0.0223	mg/L	0.00051	2.28%
Cu 327.393†	818.3	0.00538	mg/L	0.000948	0.00538	mg/L	0.000948	17.62%
Fe 239.562†	1402.2	0.339	mg/L	0.0079	0.339	mg/L	0.0079	2.35%
Mg 279.077†	312170.8	219	mg/L	2.0	219	mg/L	2.0	0.91%
Mn 257.610†	109071.2	0.204	mg/L	0.0029	0.204	mg/L	0.0029	1.42%
Mo 202.031†	838.5	0.0442	mg/L	0.00010	0.0442	mg/L	0.00010	0.23%
Ni 231.604†	271.2	0.00925	mg/L	0.000180	0.00925	mg/L	0.000180	1.94%
Pb 220.353†	33.8	0.00453	mg/L	0.000360	0.00453	mg/L	0.000360	7.95%
Sb 206.836†	24.2	0.0126	mg/L	0.00043	0.0126	mg/L	0.00043	3.42%
Se 196.026†	9.6	0.00782	mg/L	0.002235	0.00782	mg/L	0.002235	28.58%
Si 251.611†	138452.1	3.87	mg/L	0.072	3.87	mg/L	0.072	1.86%
Sn 189.927†	-290.7	-0.0339	mg/L	0.00015	-0.0339	mg/L	0.00015	0.44%
Ti 334.940†	-4048.2	0.00844	mg/L	0.000345	0.00844	mg/L	0.000345	4.08%
Tl 190.801†	-39.1	-0.0193	mg/L	0.00101	-0.0193	mg/L	0.00101	5.22%
V 290.880†	6260.9	0.0272	mg/L	0.00105	0.0272	mg/L	0.00105	3.84%
Zn 206.200†	2126.7	0.0629	mg/L	0.00034	0.0629	mg/L	0.00034	0.54%
K 766.490†	131731.4	89.6	mg/L	1.37	89.6	mg/L	1.37	1.53%
Na 589.592†	8193977.3	534	mg/L	6.3	534	mg/L	6.3	1.19%
Sr 407.771†	344181.3	0.291	mg/L	0.0022	0.291	mg/L	0.0022	0.77%
Li 670.784†	1767.7	0.0276	mg/L	0.00023	0.0276	mg/L	0.00023	0.83%

Sequence No.: 68
Sample ID: L1305115704
Analyst: KHR
Initial Sample Wt:
Dilution:

Autosampler Location: 132
Date Collected: 5/30/2013 6:02:16 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: L1305115704

Analyte	Back Pressure	Flow
All	163.0 kPa	0.48 L/min

Mean Data: L1305115704

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2290088.9						34799.72	1.52%
YRADIAL	175781.9						4193.26	2.39%
Ga 417.206	942300.0						14995.21	1.59%
GaRADIAL	50656.6						486.59	0.96%
Ag 328.068†	582.0	0.00279	mg/L	0.000653	0.00279	mg/L	0.000653	23.42%
Al 396.153†	59.8	0.0649	mg/L	0.00399	0.0649	mg/L	0.00399	6.14%
As 188.979†	1.7	-0.00026	mg/L	0.001433	-0.00026	mg/L	0.001433	546.17%
Ba 233.527†	4866.7	0.0564	mg/L	0.00093	0.0564	mg/L	0.00093	1.65%
Be 234.861†	-36.1	0.00012	mg/L	0.000048	0.00012	mg/L	0.000048	40.89%
B 249.677†	35152.4	0.497	mg/L	0.0112	0.497	mg/L	0.0112	2.26%
Ca 227.546†	14905.9	70.5	mg/L	1.39	70.5	mg/L	1.39	1.97%
Cd 228.802†	-9.6	-0.00010	mg/L	0.000141	-0.00010	mg/L	0.000141	139.79%
Co 228.616†	-2.9	0.00006	mg/L	0.000319	0.00006	mg/L	0.000319	577.75%
Cr 267.716†	531.6	0.00679	mg/L	0.000247	0.00679	mg/L	0.000247	3.64%
Cu 327.393†	-45.1	0.00041	mg/L	0.000694	0.00041	mg/L	0.000694	171.08%
Fe 239.562†	63.2	0.0266	mg/L	0.00100	0.0266	mg/L	0.00100	3.75%
Mg 279.077†	305561.0	214	mg/L	2.7	214	mg/L	2.7	1.26%

Approved: May 31, 2013

Mn 257.610†	1963.0	0.00364 mg/L	0.000080	0.00364 mg/L	0.000080	2.19%
Mo 202.031†	814.2	0.0429 mg/L	0.00039	0.0429 mg/L	0.00039	0.90%
Ni 231.604†	182.4	0.00704 mg/L	0.000356	0.00704 mg/L	0.000356	5.07%
Pb 220.353†	37.1	0.00506 mg/L	0.000858	0.00506 mg/L	0.000858	16.94%
Sb 206.836†	19.2	0.0107 mg/L	0.00037	0.0107 mg/L	0.00037	3.46%
Se 196.026†	8.4	0.00664 mg/L	0.004362	0.00664 mg/L	0.004362	65.67%
Si 251.611†	134591.0	3.76 mg/L	0.084	3.76 mg/L	0.084	2.25%
Sn 189.927†	-282.8	-0.0329 mg/L	0.00048	-0.0329 mg/L	0.00048	1.47%
Ti 334.940†	-8138.7	0.00302 mg/L	0.000134	0.00302 mg/L	0.000134	4.42%
Tl 190.801†	-39.0	-0.0192 mg/L	0.00460	-0.0192 mg/L	0.00460	24.01%
V 290.880†	6236.1	0.0273 mg/L	0.00213	0.0273 mg/L	0.00213	7.79%
Zn 206.200†	406.3	0.0139 mg/L	0.00006	0.0139 mg/L	0.00006	0.45%
K 766.490†	129767.2	88.4 mg/L	1.82	88.4 mg/L	1.82	2.06%
Na 589.592†	7928866.2	521 mg/L	2.1	521 mg/L	2.1	0.41%
Sr 407.771†	336931.1	0.285 mg/L	0.0035	0.285 mg/L	0.0035	1.24%
Li 670.784†	1803.5	0.0281 mg/L	0.00025	0.0281 mg/L	0.00025	0.87%

Sequence No.: 69 **Autosampler Location: 133**
Sample ID: L1305115705 **Date Collected: 5/30/2013 6:05:24 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1305115705

Analyte	Back Pressure	Flow
All	162.0 kPa	0.48 L/min

Mean Data: L1305115705

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2257689.2						28241.18	1.25%
YRADIAL	173056.8						3870.13	2.24%
Ga 417.206	917520.7						5752.54	0.63%
GaRADIAL	49710.3						1394.74	2.81%
Ag 328.068†	551.7	0.00277	mg/L	0.000361	0.00277	mg/L	0.000361	13.02%
Al 396.153†	602.2	0.242	mg/L	0.0029	0.242	mg/L	0.0029	1.21%
As 188.979†	5.8	0.00183	mg/L	0.003857	0.00183	mg/L	0.003857	211.04%
Ba 233.527†	4471.7	0.0520	mg/L	0.00043	0.0520	mg/L	0.00043	0.83%
Be 234.861†	-2.9	0.00011	mg/L	0.000030	0.00011	mg/L	0.000030	28.23%
B 249.677†	36317.1	0.513	mg/L	0.0103	0.513	mg/L	0.0103	2.01%
Ca 227.546†	14997.3	70.9	mg/L	0.25	70.9	mg/L	0.25	0.36%
Cd 228.802†	-4.3	0.00005	mg/L	0.000174	0.00005	mg/L	0.000174	322.70%
Co 228.616†	-8.7	-0.00020	mg/L	0.000324	-0.00020	mg/L	0.000324	165.34%
Cr 267.716†	606.1	0.00756	mg/L	0.000141	0.00756	mg/L	0.000141	1.87%
Cu 327.393†	174.4	0.00170	mg/L	0.000572	0.00170	mg/L	0.000572	33.73%
Fe 239.562†	1461.6	0.353	mg/L	0.0130	0.353	mg/L	0.0130	3.69%
Mg 279.077†	307201.3	215	mg/L	0.5	215	mg/L	0.5	0.22%
Mn 257.610†	92978.1	0.174	mg/L	0.0033	0.174	mg/L	0.0033	1.87%
Mo 202.031†	887.9	0.0467	mg/L	0.00054	0.0467	mg/L	0.00054	1.17%
Ni 231.604†	256.4	0.00888	mg/L	0.000550	0.00888	mg/L	0.000550	6.19%
Pb 220.353†	39.5	0.00529	mg/L	0.000141	0.00529	mg/L	0.000141	2.67%
Sb 206.836†	21.7	0.0117	mg/L	0.00099	0.0117	mg/L	0.00099	8.45%
Se 196.026†	16.3	0.0143	mg/L	0.00029	0.0143	mg/L	0.00029	2.01%
Si 251.611†	140731.8	3.93	mg/L	0.070	3.93	mg/L	0.070	1.78%
Sn 189.927†	-282.1	-0.0329	mg/L	0.00070	-0.0329	mg/L	0.00070	2.14%
Ti 334.940†	-4009.0	0.00855	mg/L	0.000426	0.00855	mg/L	0.000426	4.99%
Tl 190.801†	-40.7	-0.0201	mg/L	0.00460	-0.0201	mg/L	0.00460	22.88%
V 290.880†	6574.4	0.0289	mg/L	0.00086	0.0289	mg/L	0.00086	2.98%
Zn 206.200†	1834.0	0.0545	mg/L	0.00072	0.0545	mg/L	0.00072	1.32%
K 766.490†	130440.3	88.8	mg/L	0.52	88.8	mg/L	0.52	0.59%
Na 589.592†	8146314.1	532	mg/L	8.8	532	mg/L	8.8	1.65%
Sr 407.771†	335378.6	0.283	mg/L	0.0022	0.283	mg/L	0.0022	0.77%
Li 670.784†	1714.5	0.0268	mg/L	0.00061	0.0268	mg/L	0.00061	2.27%

Sequence No.: 70 **Autosampler Location: 134**
Sample ID: L1305115705PS WG432149-03 **Date Collected: 5/30/2013 6:08:32 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**

Approved: May 31, 2013
Kym H. Rhoden

Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1305115705PS WG432149-03

Analyte	Back Pressure	Flow
All	163.0 kPa	0.48 L/min

Mean Data: L1305115705PS WG432149-03

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2282817.0						40116.07	1.76%
YRADIAL	175323.4						3062.80	1.75%
Ga 417.206	913842.7						13760.34	1.51%
GaRADIAL	48604.5						633.95	1.30%
Ag 328.068†	45038.8	0.197	mg/L	0.0053	0.197	mg/L	0.0053	2.71%
Al 396.153†	15596.2	5.11	mg/L	0.044	5.11	mg/L	0.044	0.85%
As 188.979†	417.1	0.204	mg/L	0.0043	0.204	mg/L	0.0043	2.11%
Ba 233.527†	48331.2	0.542	mg/L	0.0158	0.542	mg/L	0.0158	2.92%
Be 234.861†	16044.4	0.0239	mg/L	0.00079	0.0239	mg/L	0.00079	3.32%
B 249.677†	98156.6	1.38	mg/L	0.039	1.38	mg/L	0.039	2.86%
Ca 227.546†	14765.1	70.1	mg/L	0.83	70.1	mg/L	0.83	1.19%
Cd 228.802†	751.8	0.0228	mg/L	0.00026	0.0228	mg/L	0.00026	1.16%
Co 228.616†	2383.2	0.0978	mg/L	0.00112	0.0978	mg/L	0.00112	1.14%
Cr 267.716†	23921.4	0.254	mg/L	0.0080	0.254	mg/L	0.0080	3.17%
Cu 327.393†	41080.8	0.237	mg/L	0.0058	0.237	mg/L	0.0058	2.47%
Fe 239.562†	9473.6	2.22	mg/L	0.017	2.22	mg/L	0.017	0.75%
Mg 279.077†	277818.3	195	mg/L	5.4	195	mg/L	5.4	2.78%
Mn 257.610†	216693.5	0.406	mg/L	0.0122	0.406	mg/L	0.0122	3.01%
Mo 202.031†	11029.0	0.557	mg/L	0.0092	0.557	mg/L	0.0092	1.66%
Ni 231.604†	9966.8	0.251	mg/L	0.0039	0.251	mg/L	0.0039	1.55%
Pb 220.353†	1904.1	0.248	mg/L	0.0027	0.248	mg/L	0.0027	1.08%
Sb 206.836†	1436.8	0.593	mg/L	0.0104	0.593	mg/L	0.0104	1.76%
Se 196.026†	212.5	0.205	mg/L	0.0065	0.205	mg/L	0.0065	3.19%
Si 251.611†	214275.7	5.97	mg/L	0.187	5.97	mg/L	0.187	3.14%
Sn 189.927†	3640.2	0.456	mg/L	0.0077	0.456	mg/L	0.0077	1.69%
Ti 334.940†	374598.2	0.509	mg/L	0.0169	0.509	mg/L	0.0169	3.31%
Tl 190.801†	428.4	0.217	mg/L	0.0062	0.217	mg/L	0.0062	2.87%
V 290.880†	106441.8	0.539	mg/L	0.0164	0.539	mg/L	0.0164	3.05%
Zn 206.200†	18734.0	0.537	mg/L	0.0158	0.537	mg/L	0.0158	2.94%
K 766.490†	156560.2	106	mg/L	1.8	106	mg/L	1.8	1.69%
Na 589.592†	7732565.9	512	mg/L	5.2	512	mg/L	5.2	1.01%
Sr 407.771†	914180.2	0.764	mg/L	0.0223	0.764	mg/L	0.0223	2.91%
Li 670.784†	35310.6	0.503	mg/L	0.0021	0.503	mg/L	0.0021	0.42%

Sequence No.: 71 **Autosampler Location: 135**
Sample ID: L1305115705DL WG432149-04 **Date Collected: 5/30/2013 6:10:43 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1305115705DL WG432149-04

Analyte	Back Pressure	Flow
All	163.0 kPa	0.48 L/min

Mean Data: L1305115705DL WG432149-04

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2400717.5						14306.46	0.60%
YRADIAL	174920.4						1999.16	1.14%
Ga 417.206	951219.2						8588.16	0.90%
GaRADIAL	49683.9						193.30	0.39%
Ag 328.068†	164.0	0.00102	mg/L	0.000167	0.00102	mg/L	0.000167	16.37%
Al 396.153†	124.8	0.0883	mg/L	0.00214	0.0883	mg/L	0.00214	2.42%
As 188.979†	2.7	-0.00080	mg/L	0.002525	-0.00080	mg/L	0.002525	314.33%
Ba 233.527†	895.7	0.0121	mg/L	0.00008	0.0121	mg/L	0.00008	0.63%
Be 234.861†	-16.5	0.00012	mg/L	0.000012	0.00012	mg/L	0.000012	9.45%
B 249.677†	8678.2	0.126	mg/L	0.0031	0.126	mg/L	0.0031	2.45%
Ca 227.546†	2968.0	14.1	mg/L	0.08	14.1	mg/L	0.08	0.60%

Approved: May 31, 2013

Cd 228.802†	-9.0	-0.00008	mg/L	0.000043	-0.00008	mg/L	0.000043	51.40%
Co 228.616†	-12.2	-0.00039	mg/L	0.000284	-0.00039	mg/L	0.000284	72.80%
Cr 267.716†	195.6	0.00324	mg/L	0.000185	0.00324	mg/L	0.000185	5.70%
Cu 327.393†	39.3	0.00090	mg/L	0.000448	0.00090	mg/L	0.000448	49.85%
Fe 239.562†	315.6	0.0889	mg/L	0.00064	0.0889	mg/L	0.00064	0.72%
Mg 279.077†	63582.5	44.6	mg/L	0.29	44.6	mg/L	0.29	0.65%
Mn 257.610†	19257.2	0.0360	mg/L	0.00018	0.0360	mg/L	0.00018	0.51%
Mo 202.031†	191.5	0.0116	mg/L	0.00016	0.0116	mg/L	0.00016	1.35%
Ni 231.604†	33.9	0.00333	mg/L	0.000274	0.00333	mg/L	0.000274	8.24%
Pb 220.353†	20.9	0.00294	mg/L	0.000402	0.00294	mg/L	0.000402	13.69%
Sb 206.836†	4.9	0.00480	mg/L	0.001295	0.00480	mg/L	0.001295	27.00%
Se 196.026†	2.6	0.00100	mg/L	0.005284	0.00100	mg/L	0.005284	528.44%
Si 251.611†	28856.2	0.811	mg/L	0.0024	0.811	mg/L	0.0024	0.29%
Sn 189.927†	-102.3	-0.0105	mg/L	0.00106	-0.0105	mg/L	0.00106	10.16%
Ti 334.940†	-1059.7	0.00392	mg/L	0.000212	0.00392	mg/L	0.000212	5.41%
Tl 190.801†	-9.2	-0.00451	mg/L	0.003102	-0.00451	mg/L	0.003102	68.75%
V 290.880†	3747.2	0.0190	mg/L	0.00073	0.0190	mg/L	0.00073	3.83%
Zn 206.200†	418.7	0.0142	mg/L	0.00032	0.0142	mg/L	0.00032	2.27%
K 766.490†	26816.5	19.0	mg/L	0.26	19.0	mg/L	0.26	1.39%
Na 589.592†	1743095.6	152	mg/L	1.7	152	mg/L	1.7	1.15%
Sr 407.771†	69469.6	0.0618	mg/L	0.00037	0.0618	mg/L	0.00037	0.60%
Li 670.784†	314.8	0.00697	mg/L	0.001074	0.00697	mg/L	0.001074	15.42%

Sequence No.: 72 **Autosampler Location: 7**
Sample ID: CCV **Date Collected: 5/30/2013 6:13:48 PM**
Analyst: **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: CCV

Analyte	Back Pressure	Flow
All	163.0 kPa	0.48 L/min

Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2396294.1						8432.78	0.35%
YRADIAL	177083.4						3986.68	2.25%
Ga 417.206	927574.6						10377.14	1.12%
GaRADIAL	49642.3						1080.54	2.18%
Ag 328.068†	94701.7	0.414	mg/L	0.0051	0.414	mg/L	0.0051	1.24%
QC value within limits for Ag 328.068 Recovery = 103.38%								
Al 396.153†	30584.4	9.97	mg/L	0.051	9.97	mg/L	0.051	0.51%
QC value within limits for Al 396.153 Recovery = 99.68%								
As 188.979†	817.7	0.399	mg/L	0.0060	0.399	mg/L	0.0060	1.50%
QC value within limits for As 188.979 Recovery = 99.83%								
Ba 233.527†	95543.4	1.07	mg/L	0.011	1.07	mg/L	0.011	1.03%
QC value within limits for Ba 233.527 Recovery = 106.88%								
Be 234.861†	34003.6	0.0505	mg/L	0.00067	0.0505	mg/L	0.00067	1.33%
QC value within limits for Be 234.861 Recovery = 101.02%								
B 249.677†	36369.4	0.510	mg/L	0.0078	0.510	mg/L	0.0078	1.53%
QC value within limits for B 249.677 Recovery = 101.96%								
Ca 227.546†	2103.0	10.5	mg/L	0.08	10.5	mg/L	0.08	0.78%
QC value within limits for Ca 227.546 Recovery = 104.56%								
Cd 228.802†	1595.5	0.0484	mg/L	0.00089	0.0484	mg/L	0.00089	1.84%
QC value within limits for Cd 228.802 Recovery = 96.74%								
Co 228.616†	5166.2	0.212	mg/L	0.0005	0.212	mg/L	0.0005	0.24%
QC value within limits for Co 228.616 Recovery = 105.95%								
Cr 267.716†	50125.8	0.530	mg/L	0.0070	0.530	mg/L	0.0070	1.32%
QC value within limits for Cr 267.716 Recovery = 106.08%								
Cu 327.393†	87828.7	0.505	mg/L	0.0070	0.505	mg/L	0.0070	1.39%
QC value within limits for Cu 327.393 Recovery = 101.01%								
Fe 239.562†	17332.6	4.06	mg/L	0.013	4.06	mg/L	0.013	0.32%
QC value within limits for Fe 239.562 Recovery = 101.40%								
Mg 279.077†	14803.8	10.4	mg/L	0.08	10.4	mg/L	0.08	0.80%
QC value within limits for Mg 279.077 Recovery = 104.22%								
Mn 257.610†	290785.4	0.545	mg/L	0.0047	0.545	mg/L	0.0047	0.86%
QC value within limits for Mn 257.610 Recovery = 108.97%								
Mo 202.031†	20812.1	1.05	mg/L	0.003	1.05	mg/L	0.003	0.31%

Approved: May 31, 2013

```
   QC value within limits for Mo 202.031  Recovery = 104.96%
Ni 231.604†            21000.6       0.526 mg/L        0.0041       0.526 mg/L        0.0041   0.78%
   QC value within limits for Ni 231.604  Recovery = 105.20%
Pb 220.353†             4152.2       0.539 mg/L        0.0018       0.539 mg/L        0.0018   0.33%
   QC value within limits for Pb 220.353  Recovery = 107.90%
Sb 206.836†             2949.1        1.21 mg/L         0.011        1.21 mg/L         0.011   0.91%
   QC value within limits for Sb 206.836  Recovery = 101.13%
Se 196.026†              422.4       0.408 mg/L        0.0125       0.408 mg/L        0.0125   3.05%
   QC value within limits for Se 196.026  Recovery = 102.05%
Si 251.611†           183178.6        5.10 mg/L         0.068        5.10 mg/L         0.068   1.33%
   QC value within limits for Si 251.611  Recovery = 102.02%
Sn 189.927†             7987.9       0.998 mg/L        0.0019       0.998 mg/L        0.0019   0.19%
   QC value within limits for Sn 189.927  Recovery = 99.76%
Ti 334.940†           765661.4        1.02 mg/L         0.008        1.02 mg/L         0.008   0.78%
   QC value within limits for Ti 334.940  Recovery = 101.71%
Tl 190.801†             1081.4       0.544 mg/L        0.0040       0.544 mg/L        0.0040   0.73%
   QC value within limits for Tl 190.801  Recovery = 108.80%
V 290.880†            209947.1        1.07 mg/L         0.006        1.07 mg/L         0.006   0.55%
   QC value within limits for V 290.880  Recovery = 107.11%
Zn 206.200†            38103.0        1.09 mg/L         0.010        1.09 mg/L         0.010   0.94%
   QC value within limits for Zn 206.200  Recovery = 109.07%
K 766.490†             75676.2        52.9 mg/L          0.24        52.9 mg/L          0.24   0.46%
   QC value within limits for K 766.490  Recovery = 105.73%
Na 589.592†           540594.5        51.6 mg/L          0.90        51.6 mg/L          0.90   1.74%
   QC value within limits for Na 589.592  Recovery = 103.20%
Sr 407.771†          1274449.9        1.06 mg/L         0.015        1.06 mg/L         0.015   1.39%
   QC value within limits for Sr 407.771  Recovery = 106.19%
Li 670.784†            70840.1        1.01 mg/L         0.003        1.01 mg/L         0.003   0.26%
   QC value within limits for Li 670.784  Recovery = 100.71%
All analyte(s) passed QC.

==========================================================================================
Sequence No.: 73                                    Autosampler Location: 8
Sample ID: CCB                                      Date Collected: 5/30/2013 6:15:53 PM
Analyst:                                            Data Type: Original
Initial Sample Wt:                                  Initial Sample Vol:
Dilution:                                           Sample Prep Vol:

------------------------------------------------------------------------------------------
Nebulizer Parameters: CCB
Analyte                  Back Pressure    Flow
All                      162.0 kPa        0.48 L/min

------------------------------------------------------------------------------------------
Mean Data: CCB
                    Mean Corrected        Calib.                          Sample
Analyte                Intensity     Conc. Units     Std.Dev.     Conc. Units     Std.Dev.   RSD
Y 371.029            2464689.6                                                   20025.85   0.81%
YRADIAL               178011.1                                                    2162.33   1.21%
Ga 417.206            962355.9                                                    7423.00   0.77%
GaRADIAL               48552.2                                                     222.36   0.46%
Ag 328.068†               28.7     0.00039 mg/L      0.000324     0.00039 mg/L      0.000324  83.37%
   QC value within limits for Ag 328.068  Recovery = Not calculated
Al 396.153†               17.6      0.0539 mg/L       0.00082      0.0539 mg/L       0.00082   1.51%
   QC value within limits for Al 396.153  Recovery = Not calculated
As 188.979†                1.1    -0.00186 mg/L      0.003697    -0.00186 mg/L      0.003697 198.85%
   QC value within limits for As 188.979  Recovery = Not calculated
Ba 233.527†              -33.2     0.00170 mg/L      0.000123     0.00170 mg/L      0.000123   7.20%
   QC value within limits for Ba 233.527  Recovery = Not calculated
Be 234.861†              -23.2     0.00012 mg/L      0.000010     0.00012 mg/L      0.000010   8.29%
   QC value within limits for Be 234.861  Recovery = Not calculated
B 249.677†               992.4      0.0178 mg/L       0.00165      0.0178 mg/L       0.00165   9.24%
   QC value within limits for B 249.677  Recovery = Not calculated
Ca 227.546†                6.1      0.0660 mg/L       0.03950      0.0660 mg/L       0.03950  59.89%
   QC value within limits for Ca 227.546  Recovery = Not calculated
Cd 228.802†              -11.6    -0.00016 mg/L      0.000173    -0.00016 mg/L      0.000173 108.85%
   QC value within limits for Cd 228.802  Recovery = Not calculated
Co 228.616†               -2.8    -0.00002 mg/L      0.000305    -0.00002 mg/L      0.000305 >999.9%
   QC value within limits for Co 228.616  Recovery = Not calculated
Cr 267.716†               22.6     0.00142 mg/L      0.000122     0.00142 mg/L      0.000122   8.62%
   QC value within limits for Cr 267.716  Recovery = Not calculated
Cu 327.393†               34.0     0.00086 mg/L      0.000294     0.00086 mg/L      0.000294  34.27%
```

Approved: May 31, 2013

Lynn H. Rhoden

QC value within limits for Cu 327.393 Recovery = Not calculated

Fe 239.562†	17.7	0.0203 mg/L	0.00131	0.0203 mg/L	0.00131	6.45%
QC value within limits for Fe 239.562 Recovery = Not calculated						
Mg 279.077†	32.7	0.0606 mg/L	0.00637	0.0606 mg/L	0.00637	10.52%
QC value within limits for Mg 279.077 Recovery = Not calculated						
Mn 257.610†	207.2	0.00034 mg/L	0.000017	0.00034 mg/L	0.000017	5.13%
QC value within limits for Mn 257.610 Recovery = Not calculated						
Mo 202.031†	5.2	0.00221 mg/L	0.000252	0.00221 mg/L	0.000252	11.42%
QC value within limits for Mo 202.031 Recovery = Not calculated						
Ni 231.604†	-17.0	0.00206 mg/L	0.000204	0.00206 mg/L	0.000204	9.91%
QC value within limits for Ni 231.604 Recovery = Not calculated						
Pb 220.353†	5.3	0.00092 mg/L	0.000847	0.00092 mg/L	0.000847	91.83%
QC value within limits for Pb 220.353 Recovery = Not calculated						
Sb 206.836†	1.5	0.00338 mg/L	0.000928	0.00338 mg/L	0.000928	27.50%
QC value within limits for Sb 206.836 Recovery = Not calculated						
Se 196.026†	3.5	0.00186 mg/L	0.003872	0.00186 mg/L	0.003872	207.87%
QC value within limits for Se 196.026 Recovery = Not calculated						
Si 251.611†	147.6	0.0108 mg/L	0.00138	0.0108 mg/L	0.00138	12.77%
QC value within limits for Si 251.611 Recovery = Not calculated						
Sn 189.927†	18.0	0.00454 mg/L	0.000498	0.00454 mg/L	0.000498	10.97%
QC value within limits for Sn 189.927 Recovery = Not calculated						
Ti 334.940†	-64.5	0.00314 mg/L	0.000031	0.00314 mg/L	0.000031	1.00%
QC value within limits for Ti 334.940 Recovery = Not calculated						
Tl 190.801†	-3.3	-0.00165 mg/L	0.003000	-0.00165 mg/L	0.003000	182.13%
QC value within limits for Tl 190.801 Recovery = Not calculated						
V 290.880†	579.0	0.00401 mg/L	0.001337	0.00401 mg/L	0.001337	33.32%
QC value within limits for V 290.880 Recovery = Not calculated						
Zn 206.200†	22.6	0.00295 mg/L	0.000139	0.00295 mg/L	0.000139	4.72%
QC value within limits for Zn 206.200 Recovery = Not calculated						
K 766.490†	225.9	0.122 mg/L	0.0257	0.122 mg/L	0.0257	21.02%
QC value within limits for K 766.490 Recovery = Not calculated						
Na 589.592†	3151.6	0.283 mg/L	0.0423	0.283 mg/L	0.0423	14.93%
QC value within limits for Na 589.592 Recovery = Not calculated						
Sr 407.771†	198.0	0.00413 mg/L	0.000139	0.00413 mg/L	0.000139	3.38%
QC value within limits for Sr 407.771 Recovery = Not calculated						
Li 670.784†	81.7	0.00366 mg/L	0.000916	0.00366 mg/L	0.000916	25.04%
QC value within limits for Li 670.784 Recovery = Not calculated						

All analyte(s) passed QC.

==========

Sequence No.: 74 **Autosampler Location: 136**
Sample ID: L1305115706 **Date Collected: 5/30/2013 6:18:54 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1305115706

Analyte	Back Pressure	Flow
All	162.0 kPa	0.48 L/min

Mean Data: L1305115706

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	2245102.2						25345.26	1.13%
YRADIAL	170929.1						2078.45	1.22%
Ga 417.206	917872.7						16290.54	1.77%
GaRADIAL	49240.3						718.46	1.46%
Ag 328.068†	658.9	0.00312	mg/L	0.000482	0.00312	mg/L	0.000482	15.44%
Al 396.153†	62.0	0.0652	mg/L	0.00445	0.0652	mg/L	0.00445	6.83%
As 188.979†	2.6	0.00026	mg/L	0.002294	0.00026	mg/L	0.002294	881.04%
Ba 233.527†	4872.0	0.0565	mg/L	0.00074	0.0565	mg/L	0.00074	1.32%
Be 234.861†	-74.3	0.00006	mg/L	0.000042	0.00006	mg/L	0.000042	69.13%
B 249.677†	36360.4	0.514	mg/L	0.0121	0.514	mg/L	0.0121	2.35%
Ca 227.546†	15669.1	74.1	mg/L	1.64	74.1	mg/L	1.64	2.22%
Cd 228.802†	-5.0	0.00004	mg/L	0.000049	0.00004	mg/L	0.000049	123.62%
Co 228.616†	-9.1	-0.00019	mg/L	0.000283	-0.00019	mg/L	0.000283	149.17%
Cr 267.716†	467.7	0.00612	mg/L	0.000200	0.00612	mg/L	0.000200	3.27%
Cu 327.393†	0.5	0.00067	mg/L	0.000164	0.00067	mg/L	0.000164	24.67%
Fe 239.562†	67.7	0.0274	mg/L	0.00189	0.0274	mg/L	0.00189	6.90%
Mg 279.077†	321374.3	225	mg/L	1.5	225	mg/L	1.5	0.66%

Approved: May 31, 2013

Mn 257.610†	2116.6	0.00393 mg/L	0.000090	0.00393 mg/L	0.000090	2.30%
Mo 202.031†	929.0	0.0487 mg/L	0.00084	0.0487 mg/L	0.00084	1.73%
Ni 231.604†	225.0	0.00810 mg/L	0.000224	0.00810 mg/L	0.000224	2.76%
Pb 220.353†	30.7	0.00424 mg/L	0.001069	0.00424 mg/L	0.001069	25.21%
Sb 206.836†	22.2	0.0119 mg/L	0.00220	0.0119 mg/L	0.00220	18.48%
Se 196.026†	16.8	0.0148 mg/L	0.00337	0.0148 mg/L	0.00337	22.77%
Si 251.611†	138949.2	3.88 mg/L	0.103	3.88 mg/L	0.103	2.66%
Sn 189.927†	-285.6	-0.0333 mg/L	0.00087	-0.0333 mg/L	0.00087	2.60%
Ti 334.940†	-8508.3	0.00308 mg/L	0.000058	0.00308 mg/L	0.000058	1.90%
Tl 190.801†	-39.7	-0.0195 mg/L	0.00102	-0.0195 mg/L	0.00102	5.21%
V 290.880†	6345.0	0.0276 mg/L	0.00194	0.0276 mg/L	0.00194	7.04%
Zn 206.200†	763.4	0.0241 mg/L	0.00030	0.0241 mg/L	0.00030	1.26%
K 766.490†	137561.3	94.0 mg/L	0.96	94.0 mg/L	0.96	1.02%
Na 589.592†	Saturated2					
Sr 407.771†	353605.5	0.299 mg/L	0.0019	0.299 mg/L	0.0019	0.62%
Li 670.784†	1868.7	0.0290 mg/L	0.00114	0.0290 mg/L	0.00114	3.95%

==========

Sequence No.: 75 **Autosampler Location: 137**
Sample ID: L1305115707 **Date Collected: 5/30/2013 6:21:55 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1305115707

Analyte	Back Pressure	Flow
All	162.0 kPa	0.48 L/min

Mean Data: L1305115707

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2289743.6						45473.16	1.99%
YRADIAL	172055.7						2570.18	1.49%
Ga 417.206	945578.5						21690.75	2.29%
GaRADIAL	49531.4						1187.46	2.40%
Ag 328.068†	477.4	0.00236	mg/L	0.000133	0.00236	mg/L	0.000133	5.64%
Al 396.153†	529.1	0.218	mg/L	0.0060	0.218	mg/L	0.0060	2.76%
As 188.979†	7.1	0.00218	mg/L	0.002126	0.00218	mg/L	0.002126	97.66%
Ba 233.527†	4183.3	0.0488	mg/L	0.00117	0.0488	mg/L	0.00117	2.39%
Be 234.861†	5.2	0.00018	mg/L	0.000052	0.00018	mg/L	0.000052	29.39%
B 249.677†	31344.7	0.443	mg/L	0.0094	0.443	mg/L	0.0094	2.12%
Ca 227.546†	12572.9	59.5	mg/L	1.66	59.5	mg/L	1.66	2.80%
Cd 228.802†	-11.7	-0.00018	mg/L	0.000030	-0.00018	mg/L	0.000030	16.65%
Co 228.616†	-1.9	0.00009	mg/L	0.000417	0.00009	mg/L	0.000417	448.06%
Cr 267.716†	561.5	0.00710	mg/L	0.000320	0.00710	mg/L	0.000320	4.51%
Cu 327.393†	2130.2	0.0129	mg/L	0.00017	0.0129	mg/L	0.00017	1.35%
Fe 239.562†	909.1	0.225	mg/L	0.0046	0.225	mg/L	0.0046	2.06%
Mg 279.077†	232763.0	163	mg/L	4.7	163	mg/L	4.7	2.87%
Mn 257.610†	233549.4	0.437	mg/L	0.0067	0.437	mg/L	0.0067	1.53%
Mo 202.031†	954.4	0.0501	mg/L	0.00204	0.0501	mg/L	0.00204	4.07%
Ni 231.604†	340.4	0.0110	mg/L	0.00048	0.0110	mg/L	0.00048	4.35%
Pb 220.353†	50.3	0.00653	mg/L	0.001578	0.00653	mg/L	0.001578	24.16%
Sb 206.836†	26.3	0.0136	mg/L	0.00279	0.0136	mg/L	0.00279	20.42%
Se 196.026†	8.0	0.00615	mg/L	0.006207	0.00615	mg/L	0.006207	100.95%
Si 251.611†	118681.4	3.31	mg/L	0.073	3.31	mg/L	0.073	2.19%
Sn 189.927†	-268.7	-0.0312	mg/L	0.00021	-0.0312	mg/L	0.00021	0.68%
Ti 334.940†	-3988.8	0.00686	mg/L	0.000240	0.00686	mg/L	0.000240	3.49%
Tl 190.801†	-31.1	-0.0157	mg/L	0.00312	-0.0157	mg/L	0.00312	19.93%
V 290.880†	6209.4	0.0285	mg/L	0.00105	0.0285	mg/L	0.00105	3.69%
Zn 206.200†	2318.4	0.0683	mg/L	0.00201	0.0683	mg/L	0.00201	2.95%
K 766.490†	183687.5	123	mg/L	4.0	123	mg/L	4.0	3.23%
Na 589.592†	Saturated2							
Sr 407.771†	313427.6	0.265	mg/L	0.0075	0.265	mg/L	0.0075	2.81%
Li 670.784†	1539.1	0.0243	mg/L	0.00028	0.0243	mg/L	0.00028	1.15%

==========

Sequence No.: 76 **Autosampler Location: 138**
Sample ID: L1305115708 **Date Collected: 5/30/2013 6:24:56 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**

Approved: May 31, 2013

Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1305115708

Analyte	Back Pressure	Flow
All	162.0 kPa	0.48 L/min

Mean Data: L1305115708

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2203487.0						4965.51	0.23%
YRADIAL	171392.0						4800.90	2.80%
Ga 417.206	912856.0						6495.19	0.71%
GaRADIAL	49424.7						907.29	1.84%
Ag 328.068†	446.1	0.00219	mg/L	0.000675	0.00219	mg/L	0.000675	30.86%
Al 396.153†	329.9	0.153	mg/L	0.0029	0.153	mg/L	0.0029	1.90%
As 188.979†	3.4	0.00037	mg/L	0.002434	0.00037	mg/L	0.002434	663.73%
Ba 233.527†	4300.0	0.0501	mg/L	0.00017	0.0501	mg/L	0.00017	0.33%
Be 234.861†	-70.7	0.00009	mg/L	0.000020	0.00009	mg/L	0.000020	22.16%
B 249.677†	32007.1	0.453	mg/L	0.0039	0.453	mg/L	0.0039	0.87%
Ca 227.546†	12832.6	60.7	mg/L	0.39	60.7	mg/L	0.39	0.64%
Cd 228.802†	-6.3	0.00000	mg/L	0.000074	0.00000	mg/L	0.000074	>999.9%
Co 228.616†	-3.7	0.00003	mg/L	0.000298	0.00003	mg/L	0.000298	919.10%
Cr 267.716†	533.4	0.00681	mg/L	0.000146	0.00681	mg/L	0.000146	2.15%
Cu 327.393†	148.8	0.00153	mg/L	0.000432	0.00153	mg/L	0.000432	28.30%
Fe 239.562†	397.5	0.106	mg/L	0.0028	0.106	mg/L	0.0028	2.64%
Mg 279.077†	224729.1	157	mg/L	0.8	157	mg/L	0.8	0.52%
Mn 257.610†	233744.8	0.437	mg/L	0.0051	0.437	mg/L	0.0051	1.17%
Mo 202.031†	986.3	0.0517	mg/L	0.00040	0.0517	mg/L	0.00040	0.78%
Ni 231.604†	228.4	0.00818	mg/L	0.000334	0.00818	mg/L	0.000334	4.08%
Pb 220.353†	39.7	0.00516	mg/L	0.001126	0.00516	mg/L	0.001126	21.82%
Sb 206.836†	28.1	0.0144	mg/L	0.00113	0.0144	mg/L	0.00113	7.89%
Se 196.026†	5.9	0.00410	mg/L	0.002900	0.00410	mg/L	0.002900	70.72%
Si 251.611†	119216.3	3.33	mg/L	0.052	3.33	mg/L	0.052	1.55%
Sn 189.927†	-282.3	-0.0329	mg/L	0.00078	-0.0329	mg/L	0.00078	2.36%
Ti 334.940†	-5802.0	0.00464	mg/L	0.000265	0.00464	mg/L	0.000265	5.70%
Tl 190.801†	-36.3	-0.0182	mg/L	0.00299	-0.0182	mg/L	0.00299	16.40%
V 290.880†	6785.4	0.0316	mg/L	0.00182	0.0316	mg/L	0.00182	5.78%
Zn 206.200†	779.7	0.0245	mg/L	0.00026	0.0245	mg/L	0.00026	1.07%
K 766.490†	178679.0	120	mg/L	1.8	120	mg/L	1.8	1.46%
Na 589.592†	Saturated2							
Sr 407.771†	303639.0	0.257	mg/L	0.0041	0.257	mg/L	0.0041	1.59%
Li 670.784†	1566.2	0.0247	mg/L	0.00041	0.0247	mg/L	0.00041	1.67%

Sequence No.: 77 **Autosampler Location: 139**
Sample ID: L1305124601 **Date Collected: 5/30/2013 6:27:57 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1305124601

Analyte	Back Pressure	Flow
All	163.0 kPa	0.48 L/min

Mean Data: L1305124601

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2452708.9						30676.49	1.25%
YRADIAL	181332.8						4114.76	2.27%
Ga 417.206	1006862.9						6533.89	0.65%
GaRADIAL	50865.0						946.43	1.86%
Ag 328.068†	839.7	0.00577	mg/L	0.000471	0.00577	mg/L	0.000471	8.15%
Al 396.153†	7451.1	2.48	mg/L	0.045	2.48	mg/L	0.045	1.81%
As 188.979†	3.4	0.00365	mg/L	0.001091	0.00365	mg/L	0.001091	29.88%
Ba 233.527†	13171.2	0.149	mg/L	0.0014	0.149	mg/L	0.0014	0.97%
Be 234.861†	1118.5	0.00060	mg/L	0.000051	0.00060	mg/L	0.000051	8.50%
B 249.677†	6471.1	0.0922	mg/L	0.00229	0.0922	mg/L	0.00229	2.48%
Ca 227.546†	32253.8	153	mg/L	0.8	153	mg/L	0.8	0.51%

Approved: May 31, 2013

Cd 228.802†	-6.9	-0.00001	mg/L	0.000106	-0.00001	mg/L	0.000106	847.34%
Co 228.616†	77.8	0.00306	mg/L	0.000332	0.00306	mg/L	0.000332	10.84%
Cr 267.716†	523.7	0.00639	mg/L	0.000161	0.00639	mg/L	0.000161	2.52%
Cu 327.393†	858.9	0.00605	mg/L	0.000066	0.00605	mg/L	0.000066	1.09%
Fe 239.562†	24151.5	5.65	mg/L	0.076	5.65	mg/L	0.076	1.34%
Mg 279.077†	50724.9	35.6	mg/L	0.41	35.6	mg/L	0.41	1.14%
Mn 257.610†	639396.1	1.20	mg/L	0.010	1.20	mg/L	0.010	0.82%
Mo 202.031†	58.8	0.00547	mg/L	0.000105	0.00547	mg/L	0.000105	1.92%
Ni 231.604†	249.7	0.00871	mg/L	0.000317	0.00871	mg/L	0.000317	3.64%
Pb 220.353†	99.9	0.0126	mg/L	0.00120	0.0126	mg/L	0.00120	9.58%
Sb 206.836†	-4.3	0.00116	mg/L	0.002181	0.00116	mg/L	0.002181	187.25%
Se 196.026†	5.8	0.00488	mg/L	0.002391	0.00488	mg/L	0.002391	49.01%
Si 251.611†	242642.6	6.77	mg/L	0.049	6.77	mg/L	0.049	0.72%
Sn 189.927†	-353.3	-0.0417	mg/L	0.00092	-0.0417	mg/L	0.00092	2.21%
Ti 334.940†	16119.2	0.0474	mg/L	0.00036	0.0474	mg/L	0.00036	0.76%
Tl 190.801†	-38.9	-0.0199	mg/L	0.00372	-0.0199	mg/L	0.00372	18.69%
V 290.880†	3808.0	0.0181	mg/L	0.00188	0.0181	mg/L	0.00188	10.38%
Zn 206.200†	1643.6	0.0490	mg/L	0.00062	0.0490	mg/L	0.00062	1.27%
K 766.490†	7644.3	5.39	mg/L	0.098	5.39	mg/L	0.098	1.81%
Na 589.592†	754761.0	70.7	mg/L	1.99	70.7	mg/L	1.99	2.82%
Sr 407.771†	1490216.1	1.24	mg/L	0.047	1.24	mg/L	0.047	3.76%
Li 670.784†	1544.0	0.0244	mg/L	0.00056	0.0244	mg/L	0.00056	2.31%

Sequence No.: 78 **Autosampler Location: 140**
Sample ID: L1305124602 **Date Collected: 5/30/2013 6:30:02 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1305124602

Analyte	Back Pressure	Flow
All	163.0 kPa	0.48 L/min

Mean Data: L1305124602

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2225243.8						18975.41	0.85%
YRADIAL	167892.7						3766.32	2.24%
Ga 417.206	884275.4						9888.05	1.12%
GaRADIAL	47239.8						797.51	1.69%
Ag 328.068†	-3346.8	0.00721	mg/L	0.000849	0.00721	mg/L	0.000849	11.77%
Al 396.153†	62020.1	20.3	mg/L	0.13	20.3	mg/L	0.13	0.66%
As 188.979†	19.6	0.0273	mg/L	0.00196	0.0273	mg/L	0.00196	7.18%
Ba 233.527†	47012.8	0.525	mg/L	0.0019	0.525	mg/L	0.0019	0.37%
Be 234.861†	10336.6	0.00281	mg/L	0.000367	0.00281	mg/L	0.000367	13.09%
B 249.677†	5992.9	0.0617	mg/L	0.00155	0.0617	mg/L	0.00155	2.52%
Ca 227.546†	77529.6	368	mg/L	5.9	368	mg/L	5.9	1.61%
Cd 228.802†	15.5	0.00068	mg/L	0.000274	0.00068	mg/L	0.000274	40.07%
Co 228.616†	699.0	0.0266	mg/L	0.00056	0.0266	mg/L	0.00056	2.11%
Cr 267.716†	2872.2	0.0279	mg/L	0.00032	0.0279	mg/L	0.00032	1.15%
Cu 327.393†	4761.5	0.0330	mg/L	0.00058	0.0330	mg/L	0.00058	1.77%
Fe 239.562†	259129.6	60.4	mg/L	0.48	60.4	mg/L	0.48	0.79%
Mg 279.077†	61813.3	43.3	mg/L	0.28	43.3	mg/L	0.28	0.64%
Mn 257.610†	8992861.8	16.8	mg/L	0.12	16.8	mg/L	0.12	0.69%
Mo 202.031†	160.9	0.0169	mg/L	0.00062	0.0169	mg/L	0.00062	3.63%
Ni 231.604†	1671.0	0.0441	mg/L	0.00078	0.0441	mg/L	0.00078	1.77%
Pb 220.353†	278.0	0.0266	mg/L	0.00088	0.0266	mg/L	0.00088	3.28%
Sb 206.836†	-9.7	0.00080	mg/L	0.001283	0.00080	mg/L	0.001283	160.36%
Se 196.026†	9.4	0.0151	mg/L	0.00421	0.0151	mg/L	0.00421	27.89%
Si 251.611†	1072408.6	29.9	mg/L	0.15	29.9	mg/L	0.15	0.51%
Sn 189.927†	-465.3	-0.0557	mg/L	0.00095	-0.0557	mg/L	0.00095	1.71%
Ti 334.940†	176963.6	0.292	mg/L	0.0028	0.292	mg/L	0.0028	0.97%
Tl 190.801†	-37.5	-0.0317	mg/L	0.00377	-0.0317	mg/L	0.00377	11.88%
V 290.880†	12366.3	0.0476	mg/L	0.00203	0.0476	mg/L	0.00203	4.26%
Zn 206.200†	5755.8	0.165	mg/L	0.0022	0.165	mg/L	0.0022	1.32%
K 766.490†	66291.7	46.1	mg/L	0.42	46.1	mg/L	0.42	0.90%
Na 589.592†	5271653.5	382	mg/L	6.9	382	mg/L	6.9	1.81%
Sr 407.771†	3671833.1	3.06	mg/L	0.094	3.06	mg/L	0.094	3.08%
Li 670.784†	3717.0	0.0552	mg/L	0.00047	0.0552	mg/L	0.00047	0.86%

Approved: May 31, 2013

==========

Sequence No.: 79 **Autosampler Location: 141**
Sample ID: L1305088605 **Date Collected: 5/30/2013 6:32:09 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1305088605

Analyte	Back Pressure	Flow
All	162.0 kPa	0.48 L/min

Mean Data: L1305088605

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2473574.1						29647.64	1.20%
YRADIAL	178908.6						3408.72	1.91%
Ga 417.206	1013702.1						11573.72	1.14%
GaRADIAL	52204.0						1343.11	2.57%
Ag 328.068†	790.8	0.00373	mg/L	0.000838	0.00373	mg/L	0.000838	22.46%
Al 396.153†	355.7	0.164	mg/L	0.0018	0.164	mg/L	0.0018	1.08%
As 188.979†	2.7	0.00057	mg/L	0.001091	0.00057	mg/L	0.001091	191.77%
Ba 233.527†	2611.1	0.0312	mg/L	0.00033	0.0312	mg/L	0.00033	1.06%
Be 234.861†	94.3	0.00023	mg/L	0.000012	0.00023	mg/L	0.000012	5.37%
B 249.677†	2481.3	0.0385	mg/L	0.00062	0.0385	mg/L	0.00062	1.60%
Ca 227.546†	15119.2	71.5	mg/L	0.57	71.5	mg/L	0.57	0.79%
Cd 228.802†	-2.9	0.00011	mg/L	0.000125	0.00011	mg/L	0.000125	113.98%
Co 228.616†	5.3	0.00032	mg/L	0.000492	0.00032	mg/L	0.000492	154.16%
Cr 267.716†	117.4	0.00240	mg/L	0.000155	0.00240	mg/L	0.000155	6.45%
Cu 327.393†	30.8	0.00086	mg/L	0.000129	0.00086	mg/L	0.000129	15.02%
Fe 239.562†	1561.6	0.380	mg/L	0.0082	0.380	mg/L	0.0082	2.16%
Mg 279.077†	29408.2	20.6	mg/L	0.33	20.6	mg/L	0.33	1.58%
Mn 257.610†	93900.4	0.176	mg/L	0.0023	0.176	mg/L	0.0023	1.33%
Mo 202.031†	41.6	0.00410	mg/L	0.000031	0.00410	mg/L	0.000031	0.76%
Ni 231.604†	112.8	0.00530	mg/L	0.000426	0.00530	mg/L	0.000426	8.04%
Pb 220.353†	48.3	0.00640	mg/L	0.001726	0.00640	mg/L	0.001726	26.97%
Sb 206.836†	-1.7	0.00209	mg/L	0.001570	0.00209	mg/L	0.001570	75.00%
Se 196.026†	5.3	0.00364	mg/L	0.001666	0.00364	mg/L	0.001666	45.78%
Si 251.611†	96298.1	2.69	mg/L	0.033	2.69	mg/L	0.033	1.24%
Sn 189.927†	-293.4	-0.0343	mg/L	0.00050	-0.0343	mg/L	0.00050	1.45%
Ti 334.940†	-7777.2	0.00365	mg/L	0.000192	0.00365	mg/L	0.000192	5.26%
Tl 190.801†	-29.6	-0.0148	mg/L	0.00316	-0.0148	mg/L	0.00316	21.38%
V 290.880†	2166.7	0.0115	mg/L	0.00052	0.0115	mg/L	0.00052	4.49%
Zn 206.200†	1755.6	0.0522	mg/L	0.00068	0.0522	mg/L	0.00068	1.30%
K 766.490†	3122.8	2.19	mg/L	0.051	2.19	mg/L	0.051	2.33%
Na 589.592†	246540.7	24.2	mg/L	0.71	24.2	mg/L	0.71	2.94%
Sr 407.771†	569612.1	0.478	mg/L	0.0055	0.478	mg/L	0.0055	1.15%
Li 670.784†	683.2	0.0122	mg/L	0.00019	0.0122	mg/L	0.00019	1.59%

==========

Sequence No.: 80 **Autosampler Location: 142**
Sample ID: L1305088606 **Date Collected: 5/30/2013 6:35:10 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1305088606

Analyte	Back Pressure	Flow
All	163.0 kPa	0.48 L/min

Mean Data: L1305088606

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2475067.9						57581.25	2.33%
YRADIAL	181205.9						2511.15	1.39%
Ga 417.206	1009617.0						28402.43	2.81%
GaRADIAL	52121.2						192.39	0.37%
Ag 328.068†	723.2	0.00331	mg/L	0.000620	0.00331	mg/L	0.000620	18.72%

Approved: May 31, 2013

Lynn H. Rhoden

Al 396.153†	101.3	0.0812 mg/L	0.00366	0.0812 mg/L	0.00366	4.51%
As 188.979†	5.0	0.00166 mg/L	0.003314	0.00166 mg/L	0.003314	199.54%
Ba 233.527†	2553.0	0.0306 mg/L	0.00068	0.0306 mg/L	0.00068	2.22%
Be 234.861†	44.4	0.00023 mg/L	0.000052	0.00023 mg/L	0.000052	22.51%
B 249.677†	2368.1	0.0371 mg/L	0.00103	0.0371 mg/L	0.00103	2.79%
Ca 227.546†	15182.7	71.8 mg/L	2.01	71.8 mg/L	2.01	2.80%
Cd 228.802†	-12.2	-0.00019 mg/L	0.000110	-0.00019 mg/L	0.000110	59.04%
Co 228.616†	6.1	0.00036 mg/L	0.000163	0.00036 mg/L	0.000163	44.80%
Cr 267.716†	102.1	0.00226 mg/L	0.000147	0.00226 mg/L	0.000147	6.51%
Cu 327.393†	-35.7	0.00045 mg/L	0.000428	0.00045 mg/L	0.000428	94.64%
Fe 239.562†	167.6	0.0548 mg/L	0.00111	0.0548 mg/L	0.00111	2.03%
Mg 279.077†	28965.1	20.3 mg/L	0.15	20.3 mg/L	0.15	0.72%
Mn 257.610†	88998.0	0.167 mg/L	0.0048	0.167 mg/L	0.0048	2.89%
Mo 202.031†	37.0	0.00384 mg/L	0.000204	0.00384 mg/L	0.000204	5.31%
Ni 231.604†	95.2	0.00486 mg/L	0.000124	0.00486 mg/L	0.000124	2.55%
Pb 220.353†	39.0	0.00520 mg/L	0.001048	0.00520 mg/L	0.001048	20.16%
Sb 206.836†	1.9	0.00355 mg/L	0.001560	0.00355 mg/L	0.001560	43.97%
Se 196.026†	6.1	0.00431 mg/L	0.005389	0.00431 mg/L	0.005389	125.06%
Si 251.611†	93220.2	2.60 mg/L	0.084	2.60 mg/L	0.084	3.24%
Sn 189.927†	-298.5	-0.0349 mg/L	0.00057	-0.0349 mg/L	0.00057	1.63%
Ti 334.940†	-8484.3	0.00276 mg/L	0.000233	0.00276 mg/L	0.000233	8.43%
Tl 190.801†	-25.9	-0.0130 mg/L	0.00565	-0.0130 mg/L	0.00565	43.55%
V 290.880†	2293.2	0.0122 mg/L	0.00137	0.0122 mg/L	0.00137	11.19%
Zn 206.200†	708.7	0.0225 mg/L	0.00041	0.0225 mg/L	0.00041	1.83%
K 766.490†	3036.6	2.13 mg/L	0.040	2.13 mg/L	0.040	1.90%
Na 589.592†	246358.9	24.1 mg/L	0.31	24.1 mg/L	0.31	1.30%
Sr 407.771†	568117.9	0.477 mg/L	0.0038	0.477 mg/L	0.0038	0.79%
Li 670.784†	614.0	0.0112 mg/L	0.00018	0.0112 mg/L	0.00018	1.63%

Sequence No.: 81 **Autosampler Location: 143**
Sample ID: L1305088607 **Date Collected: 5/30/2013 6:38:15 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1305088607

Analyte	Back Pressure	Flow
All	162.0 kPa	0.48 L/min

Mean Data: L1305088607

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2428117.9						11768.84	0.48%
YRADIAL	176010.0						3182.77	1.81%
Ga 417.206	996213.4						9797.49	0.98%
GaRADIAL	51700.1						1048.84	2.03%
Ag 328.068†	651.9	0.00313	mg/L	0.000476	0.00313	mg/L	0.000476	15.22%
Al 396.153†	382.3	0.173	mg/L	0.0033	0.173	mg/L	0.0033	1.89%
As 188.979†	-1.0	-0.00126	mg/L	0.003406	-0.00126	mg/L	0.003406	270.08%
Ba 233.527†	2692.2	0.0321	mg/L	0.00024	0.0321	mg/L	0.00024	0.74%
Be 234.861†	71.2	0.00019	mg/L	0.000029	0.00019	mg/L	0.000029	14.71%
B 249.677†	2360.1	0.0368	mg/L	0.00066	0.0368	mg/L	0.00066	1.78%
Ca 227.546†	15552.1	73.6	mg/L	1.14	73.6	mg/L	1.14	1.55%
Cd 228.802†	-6.0	0.00002	mg/L	0.000128	0.00002	mg/L	0.000128	599.90%
Co 228.616†	7.3	0.00040	mg/L	0.000025	0.00040	mg/L	0.000025	6.33%
Cr 267.716†	123.1	0.00246	mg/L	0.000006	0.00246	mg/L	0.000006	0.26%
Cu 327.393†	-52.7	0.00038	mg/L	0.000383	0.00038	mg/L	0.000383	100.15%
Fe 239.562†	1571.5	0.382	mg/L	0.0092	0.382	mg/L	0.0092	2.40%
Mg 279.077†	29875.4	21.0	mg/L	0.49	21.0	mg/L	0.49	2.33%
Mn 257.610†	95445.5	0.179	mg/L	0.0024	0.179	mg/L	0.0024	1.36%
Mo 202.031†	31.1	0.00357	mg/L	0.000085	0.00357	mg/L	0.000085	2.37%
Ni 231.604†	118.1	0.00543	mg/L	0.000152	0.00543	mg/L	0.000152	2.81%
Pb 220.353†	40.1	0.00533	mg/L	0.001458	0.00533	mg/L	0.001458	27.37%
Sb 206.836†	-4.7	0.00086	mg/L	0.002263	0.00086	mg/L	0.002263	263.70%
Se 196.026†	9.7	0.00788	mg/L	0.005093	0.00788	mg/L	0.005093	64.60%
Si 251.611†	97965.1	2.74	mg/L	0.049	2.74	mg/L	0.049	1.79%
Sn 189.927†	-285.3	-0.0333	mg/L	0.00088	-0.0333	mg/L	0.00088	2.64%
Ti 334.940†	-8142.1	0.00348	mg/L	0.000159	0.00348	mg/L	0.000159	4.57%
Tl 190.801†	-25.6	-0.0128	mg/L	0.00155	-0.0128	mg/L	0.00155	12.07%

Approved: May 31, 2013

V 290.880†	2162.4	0.0115	mg/L	0.00018	0.0115	mg/L	0.00018	1.56%
Zn 206.200†	1893.5	0.0561	mg/L	0.00071	0.0561	mg/L	0.00071	1.27%
K 766.490†	3056.8	2.14	mg/L	0.048	2.14	mg/L	0.048	2.23%
Na 589.592†	244751.4	24.0	mg/L	0.18	24.0	mg/L	0.18	0.75%
Sr 407.771†	583440.6	0.489	mg/L	0.0046	0.489	mg/L	0.0046	0.95%
Li 670.784†	673.1	0.0120	mg/L	0.00029	0.0120	mg/L	0.00029	2.37%

Sequence No.: 82 **Autosampler Location: 144**
Sample ID: L1305088608 **Date Collected: 5/30/2013 6:41:17 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1305088608

Analyte	Back Pressure	Flow
All	163.0 kPa	0.48 L/min

Mean Data: L1305088608

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2459973.0						9545.52	0.39%
YRADIAL	174224.5						3118.89	1.79%
Ga 417.206	1006487.3						10101.73	1.00%
GaRADIAL	51266.4						1278.38	2.49%
Ag 328.068†	615.4	0.00299	mg/L	0.000366	0.00299	mg/L	0.000366	12.28%
Al 396.153†	391.5	0.176	mg/L	0.0033	0.176	mg/L	0.0033	1.86%
As 188.979†	4.2	0.00132	mg/L	0.001132	0.00132	mg/L	0.001132	85.59%
Ba 233.527†	2618.4	0.0313	mg/L	0.00015	0.0313	mg/L	0.00015	0.48%
Be 234.861†	93.5	0.00022	mg/L	0.000026	0.00022	mg/L	0.000026	11.79%
B 249.677†	2309.1	0.0361	mg/L	0.00014	0.0361	mg/L	0.00014	0.38%
Ca 227.546†	15095.5	71.4	mg/L	0.73	71.4	mg/L	0.73	1.02%
Cd 228.802†	-1.8	0.00014	mg/L	0.000130	0.00014	mg/L	0.000130	93.86%
Co 228.616†	8.7	0.00046	mg/L	0.000207	0.00046	mg/L	0.000207	45.40%
Cr 267.716†	111.8	0.00234	mg/L	0.000093	0.00234	mg/L	0.000093	3.98%
Cu 327.393†	23.6	0.00083	mg/L	0.000686	0.00083	mg/L	0.000686	82.57%
Fe 239.562†	1725.8	0.418	mg/L	0.0095	0.418	mg/L	0.0095	2.27%
Mg 279.077†	29487.9	20.7	mg/L	0.45	20.7	mg/L	0.45	2.16%
Mn 257.610†	97400.9	0.182	mg/L	0.0018	0.182	mg/L	0.0018	0.97%
Mo 202.031†	41.2	0.00408	mg/L	0.000202	0.00408	mg/L	0.000202	4.95%
Ni 231.604†	122.9	0.00555	mg/L	0.000282	0.00555	mg/L	0.000282	5.09%
Pb 220.353†	41.9	0.00556	mg/L	0.002961	0.00556	mg/L	0.002961	53.23%
Sb 206.836†	1.7	0.00347	mg/L	0.000463	0.00347	mg/L	0.000463	13.35%
Se 196.026†	7.1	0.00541	mg/L	0.004429	0.00541	mg/L	0.004429	81.90%
Si 251.611†	99454.9	2.78	mg/L	0.031	2.78	mg/L	0.031	1.12%
Sn 189.927†	-289.0	-0.0337	mg/L	0.00079	-0.0337	mg/L	0.00079	2.35%
Ti 334.940†	-7718.1	0.00372	mg/L	0.000329	0.00372	mg/L	0.000329	8.85%
Tl 190.801†	-32.9	-0.0164	mg/L	0.00181	-0.0164	mg/L	0.00181	11.03%
V 290.880†	2317.5	0.0122	mg/L	0.00059	0.0122	mg/L	0.00059	4.82%
Zn 206.200†	6487.8	0.187	mg/L	0.0010	0.187	mg/L	0.0010	0.52%
K 766.490†	3098.0	2.17	mg/L	0.056	2.17	mg/L	0.056	2.59%
Na 589.592†	242778.6	23.8	mg/L	0.41	23.8	mg/L	0.41	1.73%
Sr 407.771†	573796.5	0.481	mg/L	0.0029	0.481	mg/L	0.0029	0.59%
Li 670.784†	681.1	0.0122	mg/L	0.00026	0.0122	mg/L	0.00026	2.11%

Sequence No.: 83 **Autosampler Location: 7**
Sample ID: CCV **Date Collected: 5/30/2013 6:44:20 PM**
Analyst: **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: CCV

Analyte	Back Pressure	Flow
All	162.0 kPa	0.48 L/min

Mean Data: CCV

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

Approved: May 31, 2013

Kym H. Rhoden

Analyte	Intensity	Conc. Units	Std.Dev.	Conc. Units	Std.Dev.	RSD
Y 371.029	2528823.8				13979.77	0.55%
YRADIAL	187664.4				3281.88	1.75%
Ga 417.206	987013.5				9871.66	1.00%
GaRADIAL	50940.1				1046.41	2.05%
Ag 328.068†	88777.4	0.388 mg/L	0.0094	0.388 mg/L	0.0094	2.43%
QC value within limits for Ag 328.068 Recovery = 96.91%						
Al 396.153†	29761.0	9.70 mg/L	0.146	9.70 mg/L	0.146	1.50%
QC value within limits for Al 396.153 Recovery = 97.03%						
As 188.979†	758.1	0.370 mg/L	0.0058	0.370 mg/L	0.0058	1.56%
QC value within limits for As 188.979 Recovery = 92.47%						
Ba 233.527†	90007.2	1.01 mg/L	0.025	1.01 mg/L	0.025	2.45%
QC value within limits for Ba 233.527 Recovery = 100.70%						
Be 234.861†	31895.7	0.0474 mg/L	0.00131	0.0474 mg/L	0.00131	2.77%
QC value within limits for Be 234.861 Recovery = 94.79%						
B 249.677†	33127.5	0.465 mg/L	0.0118	0.465 mg/L	0.0118	2.53%
QC value within limits for B 249.677 Recovery = 92.92%						
Ca 227.546†	1977.7	9.84 mg/L	0.187	9.84 mg/L	0.187	1.91%
QC value within limits for Ca 227.546 Recovery = 98.37%						
Cd 228.802†	1495.6	0.0454 mg/L	0.00077	0.0454 mg/L	0.00077	1.69%
QC value within limits for Cd 228.802 Recovery = 90.76%						
Co 228.616†	4876.9	0.200 mg/L	0.0012	0.200 mg/L	0.0012	0.62%
QC value within limits for Co 228.616 Recovery = 99.99%						
Cr 267.716†	47265.2	0.500 mg/L	0.0118	0.500 mg/L	0.0118	2.36%
QC value within limits for Cr 267.716 Recovery = 100.04%						
Cu 327.393†	82288.0	0.473 mg/L	0.0119	0.473 mg/L	0.0119	2.52%
QC value within limits for Cu 327.393 Recovery = 94.65%						
Fe 239.562†	16169.1	3.78 mg/L	0.061	3.78 mg/L	0.061	1.60%
QC value within limits for Fe 239.562 Recovery = 94.62%						
Mg 279.077†	13922.6	9.80 mg/L	0.136	9.80 mg/L	0.136	1.38%
QC value within limits for Mg 279.077 Recovery = 98.03%						
Mn 257.610†	273664.8	0.513 mg/L	0.0119	0.513 mg/L	0.0119	2.32%
QC value within limits for Mn 257.610 Recovery = 102.55%						
Mo 202.031†	19609.3	0.989 mg/L	0.0183	0.989 mg/L	0.0183	1.85%
QC value within limits for Mo 202.031 Recovery = 98.90%						
Ni 231.604†	19881.2	0.498 mg/L	0.0142	0.498 mg/L	0.0142	2.86%
QC value within limits for Ni 231.604 Recovery = 99.62%						
Pb 220.353†	3917.3	0.509 mg/L	0.0025	0.509 mg/L	0.0025	0.49%
QC value within limits for Pb 220.353 Recovery = 101.80%						
Sb 206.836†	2758.7	1.14 mg/L	0.016	1.14 mg/L	0.016	1.38%
QC value within limits for Sb 206.836 Recovery = 94.61%						
Se 196.026†	392.0	0.379 mg/L	0.0033	0.379 mg/L	0.0033	0.86%
QC value within limits for Se 196.026 Recovery = 94.69%						
Si 251.611†	171055.3	4.76 mg/L	0.143	4.76 mg/L	0.143	3.00%
QC value within limits for Si 251.611 Recovery = 95.27%						
Sn 189.927†	7492.3	0.936 mg/L	0.0065	0.936 mg/L	0.0065	0.70%
QC value within limits for Sn 189.927 Recovery = 93.58%						
Ti 334.940†	743152.6	0.987 mg/L	0.0049	0.987 mg/L	0.0049	0.50%
QC value within limits for Ti 334.940 Recovery = 98.73%						
Tl 190.801†	1020.7	0.514 mg/L	0.0036	0.514 mg/L	0.0036	0.71%
QC value within limits for Tl 190.801 Recovery = 102.77%						
V 290.880†	197451.5	1.01 mg/L	0.021	1.01 mg/L	0.021	2.10%
QC value within limits for V 290.880 Recovery = 100.74%						
Zn 206.200†	35713.3	1.02 mg/L	0.021	1.02 mg/L	0.021	2.06%
QC value within limits for Zn 206.200 Recovery = 102.25%						
K 766.490†	73300.1	51.2 mg/L	0.82	51.2 mg/L	0.82	1.59%
QC value within limits for K 766.490 Recovery = 102.50%						
Na 589.592†	532431.9	50.9 mg/L	0.65	50.9 mg/L	0.65	1.28%
QC value within limits for Na 589.592 Recovery = 101.71%						
Sr 407.771†	1215604.4	1.01 mg/L	0.010	1.01 mg/L	0.010	0.95%
QC value within limits for Sr 407.771 Recovery = 101.31%						
Li 670.784†	69069.6	0.982 mg/L	0.0162	0.982 mg/L	0.0162	1.65%
QC value within limits for Li 670.784 Recovery = 98.20%						

All analyte(s) passed QC.

==========

Sequence No.: 84
Sample ID: CCB
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 8
Date Collected: 5/30/2013 6:46:25 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Approved: May 31, 2013

Nebulizer Parameters: CCB

Analyte	Back Pressure	Flow
All	162.0 kPa	0.48 L/min

Mean Data: CCB

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2605378.6						14779.64	0.57%
YRADIAL	185397.7						2724.68	1.47%
Ga 417.206	1020098.1						18540.24	1.82%
GaRADIAL	51695.9						355.44	0.69%
Ag 328.068†	169.0	0.00099	mg/L	0.000312	0.00099	mg/L	0.000312	31.48%
QC value within limits for Ag 328.068 Recovery = Not calculated								
Al 396.153†	10.0	0.0515	mg/L	0.00144	0.0515	mg/L	0.00144	2.79%
QC value within limits for Al 396.153 Recovery = Not calculated								
As 188.979†	5.1	0.00011	mg/L	0.002577	0.00011	mg/L	0.002577	>999.9%
QC value within limits for As 188.979 Recovery = Not calculated								
Ba 233.527†	-24.2	0.00181	mg/L	0.000089	0.00181	mg/L	0.000089	4.94%
QC value within limits for Ba 233.527 Recovery = Not calculated								
Be 234.861†	50.7	0.00023	mg/L	0.000035	0.00023	mg/L	0.000035	15.21%
QC value within limits for Be 234.861 Recovery = Not calculated								
B 249.677†	428.7	0.00992	mg/L	0.000663	0.00992	mg/L	0.000663	6.69%
QC value within limits for B 249.677 Recovery = Not calculated								
Ca 227.546†	19.7	0.130	mg/L	0.0298	0.130	mg/L	0.0298	22.86%
QC value within limits for Ca 227.546 Recovery = Not calculated								
Cd 228.802†	-10.3	-0.00013	mg/L	0.000022	-0.00013	mg/L	0.000022	17.22%
QC value within limits for Cd 228.802 Recovery = Not calculated								
Co 228.616†	-5.6	-0.00013	mg/L	0.000180	-0.00013	mg/L	0.000180	134.29%
QC value within limits for Co 228.616 Recovery = Not calculated								
Cr 267.716†	3.6	0.00121	mg/L	0.000137	0.00121	mg/L	0.000137	11.30%
QC value within limits for Cr 267.716 Recovery = Not calculated								
Cu 327.393†	64.0	0.00103	mg/L	0.000143	0.00103	mg/L	0.000143	13.96%
QC value within limits for Cu 327.393 Recovery = Not calculated								
Fe 239.562†	10.3	0.0186	mg/L	0.00101	0.0186	mg/L	0.00101	5.46%
QC value within limits for Fe 239.562 Recovery = Not calculated								
Mg 279.077†	22.9	0.0537	mg/L	0.00275	0.0537	mg/L	0.00275	5.11%
QC value within limits for Mg 279.077 Recovery = Not calculated								
Mn 257.610†	436.4	0.00076	mg/L	0.000015	0.00076	mg/L	0.000015	1.98%
QC value within limits for Mn 257.610 Recovery = Not calculated								
Mo 202.031†	0.2	0.00195	mg/L	0.000247	0.00195	mg/L	0.000247	12.64%
QC value within limits for Mo 202.031 Recovery = Not calculated								
Ni 231.604†	-16.1	0.00208	mg/L	0.000321	0.00208	mg/L	0.000321	15.46%
QC value within limits for Ni 231.604 Recovery = Not calculated								
Pb 220.353†	4.4	0.00080	mg/L	0.003170	0.00080	mg/L	0.003170	394.72%
QC value within limits for Pb 220.353 Recovery = Not calculated								
Sb 206.836†	0.5	0.00298	mg/L	0.001899	0.00298	mg/L	0.001899	63.78%
QC value within limits for Sb 206.836 Recovery = Not calculated								
Se 196.026†	2.5	0.00091	mg/L	0.003780	0.00091	mg/L	0.003780	416.56%
QC value within limits for Se 196.026 Recovery = Not calculated								
Si 251.611†	84.2	0.00901	mg/L	0.000397	0.00901	mg/L	0.000397	4.40%
QC value within limits for Si 251.611 Recovery = Not calculated								
Sn 189.927†	4.9	0.00291	mg/L	0.000481	0.00291	mg/L	0.000481	16.56%
QC value within limits for Sn 189.927 Recovery = Not calculated								
Ti 334.940†	-104.1	0.00309	mg/L	0.000141	0.00309	mg/L	0.000141	4.57%
QC value within limits for Ti 334.940 Recovery = Not calculated								
Tl 190.801†	-1.8	-0.00092	mg/L	0.001064	-0.00092	mg/L	0.001064	115.66%
QC value within limits for Tl 190.801 Recovery = Not calculated								
V 290.880†	158.8	0.00187	mg/L	0.000394	0.00187	mg/L	0.000394	21.08%
QC value within limits for V 290.880 Recovery = Not calculated								
Zn 206.200†	17.2	0.00279	mg/L	0.000049	0.00279	mg/L	0.000049	1.76%
QC value within limits for Zn 206.200 Recovery = Not calculated								
K 766.490†	149.3	0.0672	mg/L	0.00644	0.0672	mg/L	0.00644	9.58%
QC value within limits for K 766.490 Recovery = Not calculated								
Na 589.592†	1541.4	0.121	mg/L	0.0275	0.121	mg/L	0.0275	22.60%
QC value within limits for Na 589.592 Recovery = Not calculated								
Sr 407.771†	159.4	0.00409	mg/L	0.000086	0.00409	mg/L	0.000086	2.11%
QC value within limits for Sr 407.771 Recovery = Not calculated								
Li 670.784†	37.1	0.00303	mg/L	0.000744	0.00303	mg/L	0.000744	24.58%
QC value within limits for Li 670.784 Recovery = Not calculated								

All analyte(s) passed QC.

Approved: May 31, 2013

Lynn H. Rhoden

Sequence No.: 85 **Autosampler Location: 145**
Sample ID: L1305088609 **Date Collected: 5/30/2013 6:49:26 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1305088609

Analyte	Back Pressure	Flow
All	162.0 kPa	0.48 L/min

Mean Data: L1305088609

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2434999.7						32491.35	1.33%
YRADIAL	177835.1						5469.26	3.08%
Ga 417.206	980656.8						10797.03	1.10%
GaRADIAL	51922.0						1173.06	2.26%
Ag 328.068†	718.4	0.00329	mg/L	0.000112	0.00329	mg/L	0.000112	3.42%
Al 396.153†	86.1	0.0762	mg/L	0.00091	0.0762	mg/L	0.00091	1.19%
As 188.979†	10.1	0.00415	mg/L	0.001746	0.00415	mg/L	0.001746	42.06%
Ba 233.527†	2497.6	0.0299	mg/L	0.00022	0.0299	mg/L	0.00022	0.72%
Be 234.861†	14.5	0.00019	mg/L	0.000016	0.00019	mg/L	0.000016	8.48%
B 249.677†	2341.1	0.0367	mg/L	0.00005	0.0367	mg/L	0.00005	0.13%
Ca 227.546†	15042.0	71.2	mg/L	0.69	71.2	mg/L	0.69	0.97%
Cd 228.802†	-3.8	0.00006	mg/L	0.000046	0.00006	mg/L	0.000046	73.78%
Co 228.616†	-0.8	0.00008	mg/L	0.000239	0.00008	mg/L	0.000239	291.62%
Cr 267.716†	106.8	0.00231	mg/L	0.000312	0.00231	mg/L	0.000312	13.51%
Cu 327.393†	14.9	0.00075	mg/L	0.000468	0.00075	mg/L	0.000468	62.45%
Fe 239.562†	152.5	0.0513	mg/L	0.00111	0.0513	mg/L	0.00111	2.17%
Mg 279.077†	27736.7	19.5	mg/L	0.12	19.5	mg/L	0.12	0.61%
Mn 257.610†	90269.4	0.169	mg/L	0.0049	0.169	mg/L	0.0049	2.92%
Mo 202.031†	40.4	0.00402	mg/L	0.000485	0.00402	mg/L	0.000485	12.07%
Ni 231.604†	120.1	0.00548	mg/L	0.000260	0.00548	mg/L	0.000260	4.74%
Pb 220.353†	33.9	0.00453	mg/L	0.001229	0.00453	mg/L	0.001229	27.11%
Sb 206.836†	-5.4	0.00055	mg/L	0.000627	0.00055	mg/L	0.000627	113.04%
Se 196.026†	3.2	0.00159	mg/L	0.004980	0.00159	mg/L	0.004980	312.55%
Si 251.611†	98019.9	2.74	mg/L	0.072	2.74	mg/L	0.072	2.65%
Sn 189.927†	-289.3	-0.0338	mg/L	0.00055	-0.0338	mg/L	0.00055	1.64%
Ti 334.940†	-8707.5	0.00237	mg/L	0.000026	0.00237	mg/L	0.000026	1.09%
Tl 190.801†	-31.7	-0.0158	mg/L	0.00062	-0.0158	mg/L	0.00062	3.90%
V 290.880†	2223.4	0.0119	mg/L	0.00098	0.0119	mg/L	0.00098	8.22%
Zn 206.200†	5389.1	0.156	mg/L	0.0015	0.156	mg/L	0.0015	0.95%
K 766.490†	3170.8	2.22	mg/L	0.023	2.22	mg/L	0.023	1.03%
Na 589.592†	234319.9	23.0	mg/L	0.34	23.0	mg/L	0.34	1.46%
Sr 407.771†	549354.4	0.461	mg/L	0.0022	0.461	mg/L	0.0022	0.47%
Li 670.784†	730.2	0.0129	mg/L	0.00051	0.0129	mg/L	0.00051	3.95%

Sequence No.: 86 **Autosampler Location: 146**
Sample ID: L1305088610 **Date Collected: 5/30/2013 6:52:27 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1305088610

Analyte	Back Pressure	Flow
All	163.0 kPa	0.48 L/min

Mean Data: L1305088610

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2510928.1						38092.47	1.52%
YRADIAL	185674.1						3748.67	2.02%
Ga 417.206	965261.4						17459.11	1.81%
GaRADIAL	50676.2						890.20	1.76%
Ag 328.068†	-24.9	0.00015	mg/L	0.000163	0.00015	mg/L	0.000163	105.43%

Approved: May 31, 2013

Kym H. Rhoden

Al 396.153†	29.4	0.0578	mg/L	0.00190	0.0578	mg/L	0.00190	3.29%
As 188.979†	2.8	-0.00104	mg/L	0.000570	-0.00104	mg/L	0.000570	54.83%
Ba 233.527†	-13.5	0.00193	mg/L	0.000108	0.00193	mg/L	0.000108	5.62%
Be 234.861†	-57.9	0.00007	mg/L	0.000012	0.00007	mg/L	0.000012	17.98%
B 249.677†	276.7	0.00779	mg/L	0.000261	0.00779	mg/L	0.000261	3.35%
Ca 227.546†	14.1	0.104	mg/L	0.0488	0.104	mg/L	0.0488	46.92%
Cd 228.802†	-8.2	-0.00005	mg/L	0.000094	-0.00005	mg/L	0.000094	170.99%
Co 228.616†	-7.9	-0.00023	mg/L	0.000097	-0.00023	mg/L	0.000097	42.68%
Cr 267.716†	18.3	0.00137	mg/L	0.000071	0.00137	mg/L	0.000071	5.16%
Cu 327.393†	226.8	0.00196	mg/L	0.000517	0.00196	mg/L	0.000517	26.36%
Fe 239.562†	39.5	0.0254	mg/L	0.00111	0.0254	mg/L	0.00111	4.36%
Mg 279.077†	25.4	0.0555	mg/L	0.00334	0.0555	mg/L	0.00334	6.02%
Mn 257.610†	630.0	0.00113	mg/L	0.000021	0.00113	mg/L	0.000021	1.88%
Mo 202.031†	2.4	0.00206	mg/L	0.000199	0.00206	mg/L	0.000199	9.67%
Ni 231.604†	-19.9	0.00198	mg/L	0.000285	0.00198	mg/L	0.000285	14.35%
Pb 220.353†	5.0	0.00088	mg/L	0.000339	0.00088	mg/L	0.000339	38.44%
Sb 206.836†	-2.3	0.00180	mg/L	0.000651	0.00180	mg/L	0.000651	36.12%
Se 196.026†	5.9	0.00423	mg/L	0.002335	0.00423	mg/L	0.002335	55.23%
Si 251.611†	651.3	0.0248	mg/L	0.00013	0.0248	mg/L	0.00013	0.54%
Sn 189.927†	-15.6	0.00036	mg/L	0.000948	0.00036	mg/L	0.000948	263.98%
Ti 334.940†	-66.9	0.00314	mg/L	0.000124	0.00314	mg/L	0.000124	3.97%
Tl 190.801†	-6.4	-0.00317	mg/L	0.003894	-0.00317	mg/L	0.003894	122.73%
V 290.880†	184.8	0.00200	mg/L	0.001045	0.00200	mg/L	0.001045	52.27%
Zn 206.200†	123.2	0.00581	mg/L	0.000382	0.00581	mg/L	0.000382	6.58%
K 766.490†	43.7	-0.00911	mg/L	0.015198	-0.00911	mg/L	0.015198	166.79%
Na 589.592†	2288.8	0.197	mg/L	0.0118	0.197	mg/L	0.0118	6.01%
Sr 407.771†	90.7	0.00404	mg/L	0.000034	0.00404	mg/L	0.000034	0.85%
Li 670.784†	-10.6	0.00235	mg/L	0.000388	0.00235	mg/L	0.000388	16.48%

==========

Sequence No.: 87 **Autosampler Location: 6**
Sample ID: CCV **Date Collected: 5/30/2013 6:55:28 PM**
Analyst: **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: CCV

Analyte	Back Pressure	Flow
All	162.0 kPa	0.48 L/min

Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2478428.0						17789.63	0.72%
YRADIAL	184807.0						2397.98	1.30%
Ga 417.206	962924.7						9415.38	0.98%
GaRADIAL	51282.2						310.18	0.60%
Ag 328.068†	90257.4	0.394	mg/L	0.0042	0.394	mg/L	0.0042	1.07%
QC value within limits for Ag 328.068 Recovery = 98.53%								
Al 396.153†	30265.3	9.87	mg/L	0.059	9.87	mg/L	0.059	0.60%
QC value within limits for Al 396.153 Recovery = 98.67%								
As 188.979†	788.8	0.385	mg/L	0.0018	0.385	mg/L	0.0018	0.47%
QC value within limits for As 188.979 Recovery = 96.29%								
Ba 233.527†	91226.9	1.02	mg/L	0.004	1.02	mg/L	0.004	0.44%
QC value within limits for Ba 233.527 Recovery = 102.06%								
Be 234.861†	32386.4	0.0481	mg/L	0.00023	0.0481	mg/L	0.00023	0.47%
QC value within limits for Be 234.861 Recovery = 96.18%								
B 249.677†	33450.3	0.469	mg/L	0.0027	0.469	mg/L	0.0027	0.58%
QC value within limits for B 249.677 Recovery = 93.80%								
Ca 227.546†	2029.2	10.1	mg/L	0.11	10.1	mg/L	0.11	1.14%
QC value within limits for Ca 227.546 Recovery = 100.88%								
Cd 228.802†	1541.8	0.0468	mg/L	0.00101	0.0468	mg/L	0.00101	2.17%
QC value within limits for Cd 228.802 Recovery = 93.51%								
Co 228.616†	4986.8	0.204	mg/L	0.0010	0.204	mg/L	0.0010	0.51%
QC value within limits for Co 228.616 Recovery = 102.24%								
Cr 267.716†	47490.8	0.503	mg/L	0.0025	0.503	mg/L	0.0025	0.50%
QC value within limits for Cr 267.716 Recovery = 100.51%								
Cu 327.393†	83589.5	0.481	mg/L	0.0046	0.481	mg/L	0.0046	0.96%
QC value within limits for Cu 327.393 Recovery = 96.14%								
Fe 239.562†	16943.6	3.97	mg/L	0.054	3.97	mg/L	0.054	1.37%

Approved: May 31, 2013

```
   QC value within limits for Fe 239.562  Recovery = 99.13%
Mg 279.077†            14487.1        10.2 mg/L          0.08        10.2 mg/L          0.08   0.80%
   QC value within limits for Mg 279.077  Recovery = 101.99%
Mn 257.610†           277167.1       0.519 mg/L        0.0019       0.519 mg/L        0.0019   0.36%
   QC value within limits for Mn 257.610  Recovery = 103.87%
Mo 202.031†            19795.2       0.998 mg/L        0.0038       0.998 mg/L        0.0038   0.38%
   QC value within limits for Mo 202.031  Recovery = 99.84%
Ni 231.604†            20049.7       0.502 mg/L        0.0024       0.502 mg/L        0.0024   0.47%
   QC value within limits for Ni 231.604  Recovery = 100.46%
Pb 220.353†             4000.4       0.520 mg/L        0.0040       0.520 mg/L        0.0040   0.77%
   QC value within limits for Pb 220.353  Recovery = 103.96%
Sb 206.836†             2849.1        1.17 mg/L         0.019        1.17 mg/L         0.019   1.64%
   QC value within limits for Sb 206.836  Recovery = 97.71%
Se 196.026†              402.4       0.389 mg/L        0.0082       0.389 mg/L        0.0082   2.11%
   QC value within limits for Se 196.026  Recovery = 97.21%
Si 251.611†           173859.9        4.84 mg/L         0.036        4.84 mg/L         0.036   0.75%
   QC value within limits for Si 251.611  Recovery = 96.83%
Sn 189.927†             7641.8       0.954 mg/L        0.0057       0.954 mg/L        0.0057   0.60%
   QC value within limits for Sn 189.927  Recovery = 95.45%
Ti 334.940†           755817.3        1.00 mg/L         0.010        1.00 mg/L         0.010   0.97%
   QC value within limits for Ti 334.940  Recovery = 100.40%
Tl 190.801†             1035.8       0.521 mg/L        0.0051       0.521 mg/L        0.0051   0.98%
   QC value within limits for Tl 190.801  Recovery = 104.29%
V 290.880†            200158.4        1.02 mg/L         0.006        1.02 mg/L         0.006   0.63%
   QC value within limits for V 290.880  Recovery = 102.12%
Zn 206.200†            36063.0        1.03 mg/L         0.005        1.03 mg/L         0.005   0.52%
   QC value within limits for Zn 206.200  Recovery = 103.24%
K 766.490†             75153.4        52.5 mg/L          0.04        52.5 mg/L          0.04   0.08%
   QC value within limits for K 766.490  Recovery = 105.02%
Na 589.592†           537599.9        51.3 mg/L          0.52        51.3 mg/L          0.52   1.01%
   QC value within limits for Na 589.592  Recovery = 102.65%
Sr 407.771†          1263659.1        1.05 mg/L         0.005        1.05 mg/L         0.005   0.45%
   QC value within limits for Sr 407.771  Recovery = 105.30%
Li 670.784†            71223.3        1.01 mg/L         0.004        1.01 mg/L         0.004   0.38%
   QC value within limits for Li 670.784  Recovery = 101.25%
All analyte(s) passed QC.

==========================================================================================
Sequence No.: 88                                    Autosampler Location: 1
Sample ID: CCB                                      Date Collected: 5/30/2013 6:57:33 PM
Analyst:                                            Data Type: Original
Initial Sample Wt:                                  Initial Sample Vol:
Dilution:                                           Sample Prep Vol:

------------------------------------------------------------------------------------------
Nebulizer Parameters: CCB
Analyte                 Back Pressure    Flow
All                     162.0 kPa        0.48 L/min

------------------------------------------------------------------------------------------
Mean Data: CCB
                   Mean Corrected        Calib.                          Sample
Analyte               Intensity     Conc. Units     Std.Dev.     Conc. Units      Std.Dev.   RSD
Y 371.029            2492693.8                                                   36005.31   1.44%
YRADIAL               181703.8                                                    3469.37   1.91%
Ga 417.206            964757.5                                                   26412.38   2.74%
GaRADIAL               49697.2                                                     267.67   0.54%
Ag 328.068†               60.0     0.00052 mg/L      0.000507     0.00052 mg/L    0.000507  97.41%
   QC value within limits for Ag 328.068  Recovery = Not calculated
Al 396.153†               11.8      0.0521 mg/L       0.00403      0.0521 mg/L     0.00403   7.75%
   QC value within limits for Al 396.153  Recovery = Not calculated
As 188.979†                0.8    -0.00203 mg/L      0.001929    -0.00203 mg/L    0.001929  94.96%
   QC value within limits for As 188.979  Recovery = Not calculated
Ba 233.527†              -27.5     0.00177 mg/L      0.000015     0.00177 mg/L    0.000015   0.86%
   QC value within limits for Ba 233.527  Recovery = Not calculated
Be 234.861†              -28.0     0.00012 mg/L      0.000069     0.00012 mg/L    0.000069  60.12%
   QC value within limits for Be 234.861  Recovery = Not calculated
B 249.677†               408.6     0.00964 mg/L      0.000600     0.00964 mg/L    0.000600   6.23%
   QC value within limits for B 249.677  Recovery = Not calculated
Ca 227.546†                5.4      0.0624 mg/L       0.03162      0.0624 mg/L     0.03162  50.69%
   QC value within limits for Ca 227.546  Recovery = Not calculated
Cd 228.802†              -11.1    -0.00014 mg/L      0.000084    -0.00014 mg/L    0.000084  59.93%
```

Approved: May 31, 2013

Lynn H. Rhoden

```
   QC value within limits for Cd 228.802  Recovery = Not calculated
Co 228.616†                -3.1    -0.00003 mg/L      0.000230    -0.00003 mg/L      0.000230 702.08%
   QC value within limits for Co 228.616  Recovery = Not calculated
Cr 267.716†                21.0     0.00140 mg/L      0.000095     0.00140 mg/L      0.000095   6.83%
   QC value within limits for Cr 267.716  Recovery = Not calculated
Cu 327.393†                65.7     0.00104 mg/L      0.000397     0.00104 mg/L      0.000397  38.23%
   QC value within limits for Cu 327.393  Recovery = Not calculated
Fe 239.562†                16.1      0.0199 mg/L       0.00084      0.0199 mg/L       0.00084   4.24%
   QC value within limits for Fe 239.562  Recovery = Not calculated
Mg 279.077†                 6.8      0.0424 mg/L       0.00403      0.0424 mg/L       0.00403   9.50%
   QC value within limits for Mg 279.077  Recovery = Not calculated
Mn 257.610†               353.6     0.00061 mg/L      0.000010     0.00061 mg/L      0.000010   1.59%
   QC value within limits for Mn 257.610  Recovery = Not calculated
Mo 202.031†                 2.1     0.00205 mg/L      0.000331     0.00205 mg/L      0.000331  16.15%
   QC value within limits for Mo 202.031  Recovery = Not calculated
Ni 231.604†               -23.6     0.00189 mg/L      0.000129     0.00189 mg/L      0.000129   6.80%
   QC value within limits for Ni 231.604  Recovery = Not calculated
Pb 220.353†                -0.6     0.00016 mg/L      0.001195     0.00016 mg/L      0.001195 753.90%
   QC value within limits for Pb 220.353  Recovery = Not calculated
Sb 206.836†                 0.3     0.00287 mg/L      0.001403     0.00287 mg/L      0.001403  48.92%
   QC value within limits for Sb 206.836  Recovery = Not calculated
Se 196.026†                 4.0     0.00238 mg/L      0.006757     0.00238 mg/L      0.006757 284.33%
   QC value within limits for Se 196.026  Recovery = Not calculated
Si 251.611†               110.1     0.00973 mg/L      0.000963     0.00973 mg/L      0.000963   9.89%
   QC value within limits for Si 251.611  Recovery = Not calculated
Sn 189.927†                 1.5     0.00248 mg/L      0.000226     0.00248 mg/L      0.000226   9.12%
   QC value within limits for Sn 189.927  Recovery = Not calculated
Ti 334.940†                -5.1     0.00321 mg/L      0.000195     0.00321 mg/L      0.000195   6.08%
   QC value within limits for Ti 334.940  Recovery = Not calculated
Tl 190.801†                -7.6    -0.00375 mg/L      0.002775    -0.00375 mg/L      0.002775  74.10%
   QC value within limits for Tl 190.801  Recovery = Not calculated
V 290.880†                285.1     0.00251 mg/L      0.000657     0.00251 mg/L      0.000657  26.15%
   QC value within limits for V 290.880  Recovery = Not calculated
Zn 206.200†                 3.4     0.00240 mg/L      0.000216     0.00240 mg/L      0.000216   9.01%
   QC value within limits for Zn 206.200  Recovery = Not calculated
K 766.490†                117.7      0.0444 mg/L       0.06977      0.0444 mg/L       0.06977 157.10%
   QC value within limits for K 766.490  Recovery = Not calculated
Na 589.592†              1050.2      0.0721 mg/L       0.03271      0.0721 mg/L       0.03271  45.35%
   QC value within limits for Na 589.592  Recovery = Not calculated
Sr 407.771†               130.7     0.00407 mg/L      0.000090     0.00407 mg/L      0.000090   2.21%
   QC value within limits for Sr 407.771  Recovery = Not calculated
Li 670.784†                22.9     0.00283 mg/L      0.000296     0.00283 mg/L      0.000296  10.46%
   QC value within limits for Li 670.784  Recovery = Not calculated
All analyte(s) passed QC.
```

Approved: May 31, 2013

Lynn H. Rhoden

==========

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

Results Data Set (original): 053113H
Results Library (original): C:\pe\peicp2\Results\Results.mdb
Results Data Set (reprocessed): 053113HR
Results Library (reprocessed): C:\pe\peicp2\Results\Results.mdb

==========

Sequence No.: 1 **Autosampler Location: 1**
Sample ID: S0 **Date Collected: 5/31/2013 7:37:48 AM**
Analyst: **Data Type: Reprocessed on 5/31/2013 8:13:57 AM**
Logged In Analyst (Original) : peicp2
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: S0

Analyte	Back Pressure	Flow
All	163.0 kPa	0.48 L/min

Mean Data: S0

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Calib Units
Y 371.029	2543664.8	9211.03	0.36%		
YRADIAL	188429.1	6156.84	3.27%		
Ga 417.206	992153.5	5289.99	0.53%		
GaRADIAL	50231.0	793.31	1.58%		
Ag 328.068†	-315.1	81.43	25.84%	[0.00]	mg/L
Al 396.153†	-43.8	3.40	7.77%	[0.00]	mg/L
As 188.979†	-14.8	3.45	23.28%	[0.00]	mg/L
Ba 233.527†	-150.3	5.27	3.51%	[0.00]	mg/L
Be 234.861†	-1385.8	20.26	1.46%	[0.00]	mg/L
B 249.677†	49.5	13.23	26.73%	[0.00]	mg/L
Ca 227.546†	-90.7	3.49	3.84%	[0.00]	mg/L
Cd 228.802†	42.3	2.13	5.04%	[0.00]	mg/L
Co 228.616†	-18.1	2.02	11.13%	[0.00]	mg/L
Cr 267.716†	143.3	20.17	14.07%	[0.00]	mg/L
Cu 327.393†	-391.5	135.30	34.56%	[0.00]	mg/L
Fe 239.562†	-3.9	6.20	159.80%	[0.00]	mg/L
Mg 279.077†	31.1	4.35	13.99%	[0.00]	mg/L
Mn 257.610†	514.3	6.14	1.19%	[0.00]	mg/L
Mo 202.031†	59.8	7.32	12.24%	[0.00]	mg/L
Ni 231.604†	-169.0	5.95	3.52%	[0.00]	mg/L
Pb 220.353†	-56.9	14.83	26.08%	[0.00]	mg/L
Sb 206.836†	8.9	1.62	18.24%	[0.00]	mg/L
Se 196.026†	24.1	2.90	12.06%	[0.00]	mg/L
Si 251.611†	711.9	36.85	5.18%	[0.00]	mg/L
Sn 189.927†	26.8	1.91	7.14%	[0.00]	mg/L
Ti 334.940†	849.6	14.93	1.76%	[0.00]	mg/L
Tl 190.801†	-61.6	9.16	14.87%	[0.00]	mg/L
V 290.880†	5652.7	182.31	3.23%	[0.00]	mg/L
Zn 206.200†	-5.0	4.38	88.55%	[0.00]	mg/L
K 766.490†	141.7	21.77	15.37%	[0.00]	mg/L
Na 589.592†	932.3	95.50	10.24%	[0.00]	mg/L
Sr 407.771†	-429.8	23.22	5.40%	[0.00]	mg/L
Li 670.784†	-97.6	82.00	84.00%	[0.00]	mg/L

==========

Sequence No.: 2 **Autosampler Location: 2**
Sample ID: S1 **Date Collected: 5/31/2013 7:40:47 AM**
Analyst: **Data Type: Reprocessed on 5/31/2013 8:13:59 AM**
Logged In Analyst (Original) : peicp2
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: S1

Analyte	Back Pressure	Flow

Approved: June 03, 2013

Lynn H. Rhoden

All	163.0 kPa	0.48 L/min

Mean Data: S1

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Calib Units
Y 371.029	2513222.1	39258.42	1.56%		
YRADIAL	184789.9	407.10	0.22%		
Ga 417.206	970875.0	19484.95	2.01%		
GaRADIAL	49605.9	762.50	1.54%		
Ag 328.068†	766.4	34.22	4.47%	[0.0032]	mg/L
Al 396.153†	247.2	10.11	4.09%	[0.08]	mg/L
Ba 233.527†	729.1	2.38	0.33%	[0.008]	mg/L
Be 234.861†	233.3	15.54	6.66%	[0.0004]	mg/L
Cd 228.802†	14.0	4.28	30.61%	[0.0004]	mg/L
Co 228.616†	39.9	6.83	17.13%	[0.0016]	mg/L
Cr 267.716†	406.1	15.07	3.71%	[0.004]	mg/L
Cu 327.393†	705.7	143.81	20.38%	[0.004]	mg/L
Fe 239.562†	126.6	5.79	4.57%	[0.032]	mg/L
Mg 279.077†	113.5	6.51	5.74%	[0.08]	mg/L
Mn 257.610†	2292.4	44.29	1.93%	[0.004]	mg/L
Mo 202.031†	162.6	9.80	6.03%	[0.008]	mg/L
Ni 231.604†	160.5	18.74	11.68%	[0.004]	mg/L
Pb 220.353†	28.5	1.66	5.83%	[0.004]	mg/L
Sb 206.836†	21.6	4.37	20.27%	[0.0096]	mg/L
Si 251.611†	1538.5	45.07	2.93%	[0.04]	mg/L
Sn 189.927†	62.6	5.59	8.92%	[0.008]	mg/L
Ti 334.940†	6010.1	93.85	1.56%	[0.008]	mg/L
V 290.880†	1869.0	140.27	7.51%	[0.008]	mg/L
Zn 206.200†	290.4	7.62	2.63%	[0.008]	mg/L
K 766.490†	578.2	67.70	11.71%	[0.4]	mg/L
Na 589.592†	4419.2	14.43	0.33%	[0.4]	mg/L
Sr 407.771†	9806.9	163.91	1.67%	[0.008]	mg/L
Li 670.784†	614.9	1.42	0.23%	[0.008]	mg/L

Sequence No.: 3 **Autosampler Location: 3**
Sample ID: S2 **Date Collected: 5/31/2013 7:43:47 AM**
Analyst: **Data Type: Reprocessed on 5/31/2013 8:14:00 AM**
Logged In Analyst (Original) : peicp2
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: S2

Analyte	Back Pressure	Flow
All	163.0 kPa	0.48 L/min

Mean Data: S2

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Calib Units
Y 371.029	2541302.5	26523.05	1.04%		
YRADIAL	182808.8	5277.37	2.89%		
Ga 417.206	991891.7	17712.13	1.79%		
GaRADIAL	49227.4	1325.50	2.69%		
Ag 328.068†	1566.7	149.62	9.55%	[0.0064]	mg/L
Al 396.153†	504.9	12.67	2.51%	[0.16]	mg/L
As 188.979†	11.3	3.51	31.03%	[0.0064]	mg/L
Ba 233.527†	1466.8	11.20	0.76%	[0.016]	mg/L
Be 234.861†	515.0	24.62	4.78%	[0.0008]	mg/L
B 249.677†	572.1	19.87	3.47%	[0.008]	mg/L
Ca 227.546†	38.8	3.91	10.08%	[0.16]	mg/L
Cd 228.802†	25.0	7.40	29.65%	[0.0008]	mg/L
Co 228.616†	76.5	4.44	5.81%	[0.0032]	mg/L
Cr 267.716†	781.3	9.89	1.27%	[0.008]	mg/L
Cu 327.393†	1347.9	113.57	8.43%	[0.008]	mg/L
Fe 239.562†	267.0	9.20	3.45%	[0.064]	mg/L
Mg 279.077†	223.4	7.72	3.46%	[0.16]	mg/L
Mn 257.610†	4577.6	52.92	1.16%	[0.008]	mg/L
Mo 202.031†	320.6	4.53	1.41%	[0.016]	mg/L
Ni 231.604†	324.5	3.32	1.02%	[0.008]	mg/L

Approved: June 03, 2013

Pb 220.353†	59.8	5.35	8.95%	[0.008]	mg/L
Sb 206.836†	45.6	2.76	6.05%	[0.0192]	mg/L
Se 196.026†	7.4	3.45	46.30%	[0.0062]	mg/L
Si 251.611†	3010.9	76.17	2.53%	[0.08]	mg/L
Sn 189.927†	125.4	2.98	2.38%	[0.016]	mg/L
Ti 334.940†	11921.7	282.55	2.37%	[0.016]	mg/L
Tl 190.801†	13.0	7.36	56.50%	[0.008]	mg/L
V 290.880†	3157.6	152.02	4.81%	[0.016]	mg/L
Zn 206.200†	579.8	1.01	0.18%	[0.016]	mg/L
K 766.490†	1256.7	65.96	5.25%	[0.8]	mg/L
Na 589.592†	9200.8	502.44	5.46%	[0.8]	mg/L
Sr 407.771†	20336.7	706.93	3.48%	[0.016]	mg/L
Li 670.784†	1230.6	65.66	5.34%	[0.016]	mg/L

==========

Sequence No.: 4 **Autosampler Location: 4**
Sample ID: S3 **Date Collected: 5/31/2013 7:46:47 AM**
Analyst: **Data Type: Reprocessed on 5/31/2013 8:14:01 AM**
Logged In Analyst (Original) : peicp2
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: S3

Analyte	Back Pressure	Flow
All	163.0 kPa	0.48 L/min

Mean Data: S3

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Calib Units
Y 371.029	2440787.8	41769.86	1.71%		
YRADIAL	182151.2	1242.26	0.68%		
Ga 417.206	955510.6	26675.40	2.79%		
GaRADIAL	50499.8	359.10	0.71%		
Ag 328.068†	93823.2	2278.97	2.43%	[0.40]	mg/L
Al 396.153†	30679.8	217.31	0.71%	[10.00]	mg/L
As 188.979†	812.6	21.65	2.66%	[0.40]	mg/L
Ba 233.527†	90268.3	1735.29	1.92%	[1.00]	mg/L
Be 234.861†	33638.5	754.26	2.24%	[0.05]	mg/L
B 249.677†	34756.7	850.18	2.45%	[0.50]	mg/L
Ca 227.546†	2116.0	54.12	2.56%	[10.00]	mg/L
Cd 228.802†	1607.9	57.37	3.57%	[0.05]	mg/L
Co 228.616†	4917.1	92.28	1.88%	[0.20]	mg/L
Cr 267.716†	47260.7	1115.78	2.36%	[0.50]	mg/L
Cu 327.393†	87893.5	2248.89	2.56%	[0.50]	mg/L
Fe 239.562†	16632.1	136.36	0.82%	[4.00]	mg/L
Mg 279.077†	14101.8	123.70	0.88%	[10.00]	mg/L
Mn 257.610†	272669.2	5193.02	1.90%	[0.50]	mg/L
Mo 202.031†	19847.0	416.08	2.10%	[1.00]	mg/L
Ni 231.604†	19922.7	445.70	2.24%	[0.50]	mg/L
Pb 220.353†	3916.7	84.88	2.17%	[0.50]	mg/L
Sb 206.836†	2927.4	87.27	2.98%	[1.20]	mg/L
Se 196.026†	418.9	12.64	3.02%	[0.40]	mg/L
Si 251.611†	181393.4	3385.63	1.87%	[5.00]	mg/L
Sn 189.927†	8121.3	152.94	1.88%	[1.00]	mg/L
Ti 334.940†	741264.5	8500.08	1.15%	[1.00]	mg/L
Tl 190.801†	1039.6	5.64	0.54%	[0.50]	mg/L
V 290.880†	197408.5	4359.38	2.21%	[1.00]	mg/L
Zn 206.200†	35138.5	754.09	2.15%	[1.00]	mg/L
K 766.490†	74347.2	425.26	0.57%	[50.00]	mg/L
Na 589.592†	551841.3	3721.61	0.67%	[50.00]	mg/L
Sr 407.771†	1231649.8	18703.44	1.52%	[1.00]	mg/L
Li 670.784†	71846.7	482.48	0.67%	[1.00]	mg/L

==========

Sequence No.: 5 **Autosampler Location: 5**
Sample ID: S4 **Date Collected: 5/31/2013 7:48:51 AM**
Analyst: **Data Type: Reprocessed on 5/31/2013 8:14:02 AM**
Logged In Analyst (Original) : peicp2
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Approved: June 03, 2013

Nebulizer Parameters: S4

Analyte	Back Pressure	Flow
All	163.0 kPa	0.48 L/min

Mean Data: S4

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Calib Units
Y 371.029	2484317.1	11594.10	0.47%		
YRADIAL	186408.8	3241.69	1.74%		
Ga 417.206	965461.5	7159.65	0.74%		
GaRADIAL	51101.9	876.53	1.72%		
Ag 328.068†	186998.0	1583.36	0.85%	[0.80]	mg/L
Al 396.153†	60937.1	752.55	1.23%	[20.00]	mg/L
As 188.979†	1608.6	6.27	0.39%	[0.80]	mg/L
Ba 233.527†	178193.9	3474.14	1.95%	[2.00]	mg/L
Be 234.861†	67251.9	625.42	0.93%	[0.10]	mg/L
B 249.677†	70632.9	1016.49	1.44%	[1.00]	mg/L
Ca 227.546†	4180.7	24.95	0.60%	[20.00]	mg/L
Cd 228.802†	3168.3	40.88	1.29%	[0.10]	mg/L
Co 228.616†	9500.9	88.27	0.93%	[0.40]	mg/L
Cr 267.716†	93061.7	1604.45	1.72%	[1.00]	mg/L
Cu 327.393†	174856.7	1472.11	0.84%	[1.00]	mg/L
Fe 239.562†	32468.6	346.30	1.07%	[8.00]	mg/L
Mg 279.077†	27865.9	309.92	1.11%	[20.00]	mg/L
Mn 257.610†	526526.3	6469.59	1.23%	[1.00]	mg/L
Mo 202.031†	39118.4	615.99	1.57%	[2.00]	mg/L
Ni 231.604†	38836.2	811.78	2.09%	[1.00]	mg/L
Pb 220.353†	7605.1	97.80	1.29%	[1.00]	mg/L
Sb 206.836†	5752.9	23.70	0.41%	[2.40]	mg/L
Se 196.026†	820.2	11.23	1.37%	[0.80]	mg/L
Si 251.611†	362568.4	4044.92	1.12%	[10.00]	mg/L
Sn 189.927†	15901.0	167.36	1.05%	[2.00]	mg/L
Ti 334.940†	1479645.9	13974.43	0.94%	[2.00]	mg/L
Tl 190.801†	1977.3	27.51	1.39%	[1.00]	mg/L
V 290.880†	392238.9	9553.18	2.44%	[2.00]	mg/L
Zn 206.200†	69372.2	1170.26	1.69%	[2.00]	mg/L
K 766.490†	146083.1	810.78	0.56%	[100.00]	mg/L
Na 589.592†	1075242.9	11257.76	1.05%	[100.00]	mg/L
Sr 407.771†	2400988.5	18259.39	0.76%	[2.00]	mg/L
Li 670.784†	140296.2	1209.14	0.86%	[2.00]	mg/L

Calibration Summary

Analyte	Stds.	Equation	Intercept	Slope	Curvature	Corr. Coef.	Reslope
Ag 328.068	4	Lin, Calc Int	68.3	233800	0.00000	0.999999	
Al 396.153	4	Lin, Calc Int	32.9	3049	0.00000	0.999994	
As 188.979	3	Wt. Lin	-1.6	2024	0.00000	0.999984	
Ba 233.527	4	Lin, Calc Int	164.0	89230	0.00000	0.999980	
Be 234.861	4	Lin, Calc Int	-16.8	672800	0.00000	1.000000	
B 249.677	3	Lin, Calc Int	-98.7	70530	0.00000	0.999966	
Ca 227.546	3	Lin, Calc Int	7.1	209.1	0.00000	0.999981	
Cd 228.802	4	Lin, Calc Int	3.3	31740	0.00000	0.999974	
Co 228.616	4	Lin, Calc Int	21.5	23850	0.00000	0.999856	
Cr 267.716	4	Lin, Calc Int	113.1	93220	0.00000	0.999972	
Cu 327.393	4	Lin, Calc Int	44.0	175000	0.00000	0.999997	
Fe 239.562	4	Lin, Calc Int	50.8	4071	0.00000	0.999930	
Mg 279.077	4	Lin, Calc Int	21.8	1395	0.00000	0.999983	
Mn 257.610	4	Lin, Calc Int	1344.9	528700	0.00000	0.999853	
Mo 202.031	4	Lin, Calc Int	40.2	19590	0.00000	0.999975	
Ni 231.604	4	Lin, Calc Int	68.8	38950	0.00000	0.999922	
Pb 220.353	4	Lin, Calc Int	13.3	7635	0.00000	0.999893	
Sb 206.836	4	Lin, Calc Int	5.8	2403	0.00000	0.999962	
Se 196.026	3	Wt. Lin	1.0	1034	0.00000	0.999950	
Si 251.611	4	Lin, Calc Int	75.8	36250	0.00000	1.000000	
Sn 189.927	4	Lin, Calc Int	20.4	7972	0.00000	0.999945	
Ti 334.940	4	Lin, Calc Int	234.8	740000	0.00000	1.000000	
Tl 190.801	3	Lin, Calc Int	8.0	1988	0.00000	0.999639	
V 290.880	4	Lin, Calc Int	261.0	196200	0.00000	0.999995	

Approved: June 03, 2013

Lynn H. Rhoden

Zn 206.200	4	Lin, Calc Int	68.2	34740	0.00000	0.999980
K 766.490	4	Non Lin, Calc Int	6.4	1513	-0.52133	1.000000
Na 589.592	4	Non Lin, Calc Int	12.6	11320	-5.68650	1.000000
Sr 407.771	4	Lin, Calc Int	4299.2	1204000	0.00000	0.999922
Li 670.784	4	Lin, Calc Int	262.3	70330	0.00000	0.999933

Sequence No.: 6 **Autosampler Location: 11**
Sample ID: ICV 2nd Vendor **Date Collected: 5/31/2013 7:50:57 AM**
Analyst: **Data Type: Reprocessed on 5/31/2013 8:14:03 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	164.0 kPa	0.48 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	2501508.6						32880.61	1.31%
YRADIAL	187458.0						3496.10	1.87%
Ga 417.206	973776.4						15738.08	1.62%
GaRADIAL	50771.6						832.02	1.64%
Ag 328.068†	93404.7	0.402	mg/L	0.0107	0.402	mg/L	0.0107	2.66%
QC value within limits for Ag 328.068 Recovery = 100.62%								
Al 396.153†	30414.8	9.90	mg/L	0.046	9.90	mg/L	0.046	0.47%
QC value within limits for Al 396.153 Recovery = 98.97%								
As 188.979†	819.6	0.401	mg/L	0.0087	0.401	mg/L	0.0087	2.18%
QC value within limits for As 188.979 Recovery = 100.17%								
Ba 233.527†	89036.5	0.996	mg/L	0.0294	0.996	mg/L	0.0294	2.95%
QC value within limits for Ba 233.527 Recovery = 99.63%								
Be 234.861†	33470.8	0.0493	mg/L	0.00159	0.0493	mg/L	0.00159	3.22%
QC value within limits for Be 234.861 Recovery = 98.58%								
B 249.677†	35409.2	0.500	mg/L	0.0141	0.500	mg/L	0.0141	2.83%
QC value within limits for B 249.677 Recovery = 99.92%								
Ca 227.546†	2099.4	10.5	mg/L	0.18	10.5	mg/L	0.18	1.68%
QC value within limits for Ca 227.546 Recovery = 104.62%								
Cd 228.802†	1598.2	0.0489	mg/L	0.00055	0.0489	mg/L	0.00055	1.13%
QC value within limits for Cd 228.802 Recovery = 97.77%								
Co 228.616†	4883.5	0.203	mg/L	0.0045	0.203	mg/L	0.0045	2.23%
QC value within limits for Co 228.616 Recovery = 101.47%								
Cr 267.716†	46216.9	0.495	mg/L	0.0115	0.495	mg/L	0.0115	2.32%
QC value within limits for Cr 267.716 Recovery = 99.00%								
Cu 327.393†	87253.6	0.500	mg/L	0.0142	0.500	mg/L	0.0142	2.84%
QC value within limits for Cu 327.393 Recovery = 100.00%								
Fe 239.562†	15941.6	3.90	mg/L	0.006	3.90	mg/L	0.006	0.15%
QC value within limits for Fe 239.562 Recovery = 97.57%								
Mg 279.077†	13734.8	9.84	mg/L	0.086	9.84	mg/L	0.086	0.88%
QC value within limits for Mg 279.077 Recovery = 98.43%								
Mn 257.610†	267844.8	0.505	mg/L	0.0152	0.505	mg/L	0.0152	3.00%
QC value within limits for Mn 257.610 Recovery = 100.95%								
Mo 202.031†	19159.0	0.977	mg/L	0.0278	0.977	mg/L	0.0278	2.85%
QC value within limits for Mo 202.031 Recovery = 97.66%								
Ni 231.604†	19568.6	0.500	mg/L	0.0145	0.500	mg/L	0.0145	2.89%
QC value within limits for Ni 231.604 Recovery = 100.04%								
Pb 220.353†	3887.5	0.508	mg/L	0.0113	0.508	mg/L	0.0113	2.23%
QC value within limits for Pb 220.353 Recovery = 101.68%								
Sb 206.836†	2940.5	1.22	mg/L	0.020	1.22	mg/L	0.020	1.65%
QC value within limits for Sb 206.836 Recovery = 101.69%								
Se 196.026†	420.8	0.407	mg/L	0.0097	0.407	mg/L	0.0097	2.38%
QC value within limits for Se 196.026 Recovery = 101.80%								
Si 251.611†	177015.7	4.87	mg/L	0.158	4.87	mg/L	0.158	3.25%
QC value within limits for Si 251.611 Recovery = 97.40%								
Sn 189.927†	7587.5	0.949	mg/L	0.0215	0.949	mg/L	0.0215	2.27%
QC value less than the lower limit for Sn 189.927 Recovery = 94.92%								
Ti 334.940†	746503.4	1.01	mg/L	0.005	1.01	mg/L	0.005	0.51%
QC value within limits for Ti 334.940 Recovery = 100.99%								
Tl 190.801†	1039.9	0.534	mg/L	0.0115	0.534	mg/L	0.0115	2.16%

Approved: June 03, 2013

Lynn H. Rhoden

```
   QC value greater than the upper limit for Tl 190.801  Recovery = 106.70%
V 290.880†            191962.3       0.975 mg/L        0.0326       0.975 mg/L        0.0326   3.35%
   QC value within limits for V 290.880  Recovery = 97.54%
Zn 206.200†            34847.6        1.01 mg/L         0.026        1.01 mg/L         0.026   2.54%
   QC value within limits for Zn 206.200  Recovery = 100.59%
K 766.490†             73587.2        49.4 mg/L          0.10        49.4 mg/L          0.10   0.20%
   QC value within limits for K 766.490  Recovery = 98.86%
Na 589.592†           560725.0        50.8 mg/L          0.76        50.8 mg/L          0.76   1.49%
   QC value within limits for Na 589.592  Recovery = 101.65%
Sr 407.771†          1219888.8        1.01 mg/L         0.018        1.01 mg/L         0.018   1.81%
   QC value within limits for Sr 407.771  Recovery = 100.97%
Li 670.784†            71205.3        1.01 mg/L         0.005        1.01 mg/L         0.005   0.50%
   QC value within limits for Li 670.784  Recovery = 100.87%
QC Failed.  Continue with analysis.

==========================================================================================
Sequence No.: 7                                    Autosampler Location: 1
Sample ID: ICB                                     Date Collected: 5/31/2013 7:53:00 AM
Analyst:                                           Data Type: Reprocessed on 5/31/2013 8:14:05 AM
Logged In Analyst (Original) : peicp2
Initial Sample Wt:                                 Initial Sample Vol:
Dilution:                                          Sample Prep Vol:

------------------------------------------------------------------------------------------
Nebulizer Parameters: ICB
Analyte                 Back Pressure    Flow
All                     163.0 kPa        0.48 L/min

------------------------------------------------------------------------------------------
Mean Data: ICB
                   Mean Corrected        Calib.                          Sample
Analyte               Intensity     Conc. Units      Std.Dev.     Conc. Units      Std.Dev.   RSD
Y 371.029            2566612.8                                                    16990.07   0.66%
YRADIAL               188731.3                                                      820.06   0.43%
Ga 417.206           1007295.2                                                    15441.75   1.53%
GaRADIAL               50922.9                                                      605.26   1.19%
Ag 328.068†              -16.0    -0.00036 mg/L      0.000565    -0.00036 mg/L      0.000565 155.48%
   QC value within limits for Ag 328.068  Recovery = Not calculated
Al 396.153†                5.0    -0.00900 mg/L      0.003917    -0.00900 mg/L      0.003917  43.54%
   QC value within limits for Al 396.153  Recovery = Not calculated
As 188.979†                4.4     0.00300 mg/L      0.004320     0.00300 mg/L      0.004320 144.03%
   QC value within limits for As 188.979  Recovery = Not calculated
Ba 233.527†               -7.5    -0.00192 mg/L      0.000071    -0.00192 mg/L      0.000071   3.68%
   QC value within limits for Ba 233.527  Recovery = Not calculated
Be 234.861†               19.0     0.00005 mg/L      0.000046     0.00005 mg/L      0.000046  85.48%
   QC value within limits for Be 234.861  Recovery = Not calculated
B 249.677†               670.4      0.0109 mg/L       0.00160      0.0109 mg/L       0.00160  14.63%
   QC value within limits for B 249.677  Recovery = Not calculated
Ca 227.546†                3.3     -0.0197 mg/L       0.03849     -0.0197 mg/L       0.03849 194.97%
   QC value within limits for Ca 227.546  Recovery = Not calculated
Cd 228.802†               -6.4    -0.00032 mg/L      0.000061    -0.00032 mg/L      0.000061  19.05%
   QC value within limits for Cd 228.802  Recovery = Not calculated
Co 228.616†               -5.7    -0.00114 mg/L      0.000083    -0.00114 mg/L      0.000083   7.24%
   QC value within limits for Co 228.616  Recovery = Not calculated
Cr 267.716†                6.5    -0.00114 mg/L      0.000075    -0.00114 mg/L      0.000075   6.60%
   QC value within limits for Cr 267.716  Recovery = Not calculated
Cu 327.393†               97.1     0.00030 mg/L      0.000321     0.00030 mg/L      0.000321 106.01%
   QC value within limits for Cu 327.393  Recovery = Not calculated
Fe 239.562†               21.0    -0.00733 mg/L      0.000777    -0.00733 mg/L      0.000777  10.60%
   QC value within limits for Fe 239.562  Recovery = Not calculated
Mg 279.077†                5.5     -0.0117 mg/L       0.00469     -0.0117 mg/L       0.00469  40.06%
   QC value within limits for Mg 279.077  Recovery = Not calculated
Mn 257.610†              127.4    -0.00230 mg/L      0.000019    -0.00230 mg/L      0.000019   0.83%
   QC value within limits for Mn 257.610  Recovery = Not calculated
Mo 202.031†                2.3    -0.00193 mg/L      0.000355    -0.00193 mg/L      0.000355  18.36%
   QC value within limits for Mo 202.031  Recovery = Not calculated
Ni 231.604†               -3.5    -0.00185 mg/L      0.000208    -0.00185 mg/L      0.000208  11.24%
   QC value within limits for Ni 231.604  Recovery = Not calculated
Pb 220.353†               -2.7    -0.00209 mg/L      0.001252    -0.00209 mg/L      0.001252  59.82%
   QC value within limits for Pb 220.353  Recovery = Not calculated
Sb 206.836†                3.3    -0.00101 mg/L      0.000529    -0.00101 mg/L      0.000529  52.30%
   QC value within limits for Sb 206.836  Recovery = Not calculated
```

Approved: June 03, 2013

Lynn H. Rhoden

```
Se 196.026†              -6.2    -0.00696 mg/L      0.005083    -0.00696 mg/L      0.005083  73.02%
   QC value within limits for Se 196.026  Recovery = Not calculated
Si 251.611†              96.3     0.00059 mg/L      0.000858     0.00059 mg/L      0.000858 146.08%
   QC value within limits for Si 251.611  Recovery = Not calculated
Sn 189.927†              38.9     0.00232 mg/L      0.001362     0.00232 mg/L      0.001362  58.73%
   QC value within limits for Sn 189.927  Recovery = Not calculated
Ti 334.940†               7.2    -0.00031 mg/L      0.000038    -0.00031 mg/L      0.000038  12.17%
   QC value within limits for Ti 334.940  Recovery = Not calculated
Tl 190.801†              -5.5    -0.00679 mg/L      0.000928    -0.00679 mg/L      0.000928  13.68%
   QC value within limits for Tl 190.801  Recovery = Not calculated
V 290.880†              179.4    -0.00041 mg/L      0.000919    -0.00041 mg/L      0.000919 222.34%
   QC value within limits for V 290.880  Recovery = Not calculated
Zn 206.200†               3.2    -0.00188 mg/L      0.000106    -0.00188 mg/L      0.000106   5.65%
   QC value within limits for Zn 206.200  Recovery = Not calculated
K 766.490†               66.1     0.0394 mg/L       0.05591      0.0394 mg/L       0.05591 141.85%
   QC value within limits for K 766.490  Recovery = Not calculated
Na 589.592†             476.8     0.0410 mg/L       0.03147      0.0410 mg/L       0.03147  76.74%
   QC value within limits for Na 589.592  Recovery = Not calculated
Sr 407.771†             243.8    -0.00337 mg/L      0.000132    -0.00337 mg/L      0.000132   3.91%
   QC value within limits for Sr 407.771  Recovery = Not calculated
Li 670.784†             274.3     0.00017 mg/L      0.001142     0.00017 mg/L      0.001142 669.91%
   QC value within limits for Li 670.784  Recovery = Not calculated
All analyte(s) passed QC.

==========================================================================================
Sequence No.: 8                                    Autosampler Location: 12
Sample ID: ICSA                                    Date Collected: 5/31/2013 7:55:59 AM
Analyst:                                           Data Type: Reprocessed on 5/31/2013 8:14:06 AM
Logged In Analyst (Original) : peicp2
Initial Sample Wt:                                 Initial Sample Vol:
Dilution:                                          Sample Prep Vol:

------------------------------------------------------------------------------------------
Nebulizer Parameters: ICSA
Analyte                 Back Pressure    Flow
All                     163.0 kPa        0.48 L/min

------------------------------------------------------------------------------------------
Mean Data: ICSA
                   Mean Corrected        Calib.                          Sample
Analyte               Intensity     Conc. Units     Std.Dev.     Conc. Units     Std.Dev.   RSD
Y 371.029            2333531.9                                                  31008.73   1.33%
YRADIAL               176176.0                                                   2430.10   1.38%
Ga 417.206            936947.0                                                   3724.42   0.40%
GaRADIAL               50112.5                                                    788.55   1.57%
Ag 328.068†            -9332.6     0.00024 mg/L      0.000351     0.00024 mg/L      0.000351 148.48%
   QC value within limits for Ag 328.068  Recovery = Not calculated
Al 396.153†           789860.3         259 mg/L          6.9         259 mg/L           6.9   2.66%
   QC value within limits for Al 396.153  Recovery = 103.62%
As 188.979†               -5.1     0.00011 mg/L      0.002011     0.00011 mg/L      0.002011 >999.9%
   QC value within limits for As 188.979  Recovery = Not calculated
Ba 233.527†              390.8    -0.00086 mg/L      0.000327    -0.00086 mg/L      0.000327  37.82%
   QC value within limits for Ba 233.527  Recovery = Not calculated
Be 234.861†            15977.3    -0.00001 mg/L      0.000279    -0.00001 mg/L      0.000279 >999.9%
   QC value within limits for Be 234.861  Recovery = Not calculated
B 249.677†              3582.7     0.00869 mg/L      0.002438     0.00869 mg/L      0.002438  28.04%
   QC value within limits for B 249.677  Recovery = Not calculated
Ca 227.546†            58148.0         280 mg/L          1.3         280 mg/L           1.3   0.48%
   QC value within limits for Ca 227.546  Recovery = 112.19%
Cd 228.802†               -9.3     0.00000 mg/L      0.000349     0.00000 mg/L      0.000349 >999.9%
   QC value within limits for Cd 228.802  Recovery = Not calculated
Co 228.616†               21.0    -0.00260 mg/L      0.000682    -0.00260 mg/L      0.000682  26.26%
   QC value within limits for Co 228.616  Recovery = Not calculated
Cr 267.716†              113.8    -0.00059 mg/L      0.000376    -0.00059 mg/L      0.000376  64.16%
   QC value within limits for Cr 267.716  Recovery = Not calculated
Cu 327.393†            -1300.5     0.00033 mg/L      0.000708     0.00033 mg/L      0.000708 215.35%
   QC value within limits for Cu 327.393  Recovery = Not calculated
Fe 239.562†           411945.5         101 mg/L          0.3         101 mg/L           0.3   0.28%
   QC value within limits for Fe 239.562  Recovery = 101.18%
Mg 279.077†           367021.0         263 mg/L          0.5         263 mg/L           0.5   0.19%
   QC value within limits for Mg 279.077  Recovery = 105.18%
Mn 257.610†            -1062.5    -0.00004 mg/L      0.000216    -0.00004 mg/L      0.000216 485.64%
```

Approved: June 03, 2013

Lynn H. Rhoden

```
   QC value within limits for Mn 257.610  Recovery = Not calculated
Mo 202.031†              -35.7     0.00178 mg/L      0.000458     0.00178 mg/L      0.000458  25.76%
   QC value within limits for Mo 202.031  Recovery = Not calculated
Ni 231.604†                1.3    -0.00172 mg/L      0.000488    -0.00172 mg/L      0.000488  28.33%
   QC value within limits for Ni 231.604  Recovery = Not calculated
Pb 220.353†             -221.2    -0.00241 mg/L      0.003437    -0.00241 mg/L      0.003437 142.45%
   QC value within limits for Pb 220.353  Recovery = Not calculated
Sb 206.836†              -18.6    -0.00642 mg/L      0.000711    -0.00642 mg/L      0.000711  11.06%
   QC value within limits for Sb 206.836  Recovery = Not calculated
Se 196.026†              -28.9    -0.00405 mg/L      0.006043    -0.00405 mg/L      0.006043 149.16%
   QC value within limits for Se 196.026  Recovery = Not calculated
Si 251.611†              512.9      0.0121 mg/L       0.00046      0.0121 mg/L       0.00046   3.80%
   QC value within limits for Si 251.611  Recovery = Not calculated
Sn 189.927†             -269.4     -0.0364 mg/L       0.00159     -0.0364 mg/L       0.00159   4.36%
   QC value within limits for Sn 189.927  Recovery = Not calculated
Ti 334.940†           -27573.9     0.00412 mg/L      0.001585     0.00412 mg/L      0.001585  38.44%
   QC value within limits for Ti 334.940  Recovery = Not calculated
Tl 190.801†              -54.1     -0.0246 mg/L       0.00333     -0.0246 mg/L       0.00333  13.53%
   QC value within limits for Tl 190.801  Recovery = Not calculated
V 290.880†              7031.7     0.00177 mg/L      0.002090     0.00177 mg/L      0.002090 118.34%
   QC value within limits for V 290.880  Recovery = Not calculated
Zn 206.200†              349.3     0.00585 mg/L      0.000623     0.00585 mg/L      0.000623  10.64%
   QC value within limits for Zn 206.200  Recovery = Not calculated
K 766.490†              -109.5     -0.0766 mg/L       0.02284     -0.0766 mg/L       0.02284  29.80%
   QC value within limits for K 766.490  Recovery = Not calculated
Na 589.592†              152.7      0.0124 mg/L       0.00582      0.0124 mg/L       0.00582  46.99%
   QC value within limits for Na 589.592  Recovery = Not calculated
Sr 407.771†             1371.8     0.00196 mg/L      0.000036     0.00196 mg/L      0.000036   1.86%
   QC value within limits for Sr 407.771  Recovery = Not calculated
Li 670.784†              143.1    -0.00170 mg/L      0.000372    -0.00170 mg/L      0.000372  21.93%
   QC value within limits for Li 670.784  Recovery = Not calculated
All analyte(s) passed QC.

==========================================================================================
Sequence No.: 9                                    Autosampler Location: 13
Sample ID: ICSAB                                   Date Collected: 5/31/2013 7:58:02 AM
Analyst:                                           Data Type: Reprocessed on 5/31/2013 8:14:07 AM
Logged In Analyst (Original) : peicp2
Initial Sample Wt:                                 Initial Sample Vol:
Dilution:                                          Sample Prep Vol:

------------------------------------------------------------------------------------------
Nebulizer Parameters: ICSAB
Analyte                 Back Pressure    Flow
All                    163.0 kPa         0.48 L/min

------------------------------------------------------------------------------------------
Mean Data: ICSAB
                   Mean Corrected         Calib.                          Sample
Analyte               Intensity      Conc. Units      Std.Dev.      Conc. Units      Std.Dev.   RSD
Y 371.029            2333649.2                                                     11732.55   0.50%
YRADIAL               176419.1                                                      2942.43   1.67%
Ga 417.206            935823.5                                                     21306.15   2.28%
GaRADIAL               49563.3                                                       971.31   1.96%
Ag 328.068†           110486.6       0.513 mg/L        0.0088       0.513 mg/L        0.0088   1.72%
   QC value within limits for Ag 328.068  Recovery = 102.60%
Al 396.153†           782652.5         257 mg/L           8.5         257 mg/L           8.5   3.31%
   QC value within limits for Al 396.153  Recovery = 102.67%
As 188.979†              500.6       0.250 mg/L        0.0067       0.250 mg/L        0.0067   2.68%
   QC value within limits for As 188.979  Recovery = 100.00%
Ba 233.527†            23083.9       0.253 mg/L        0.0011       0.253 mg/L        0.0011   0.44%
   QC value within limits for Ba 233.527  Recovery = 101.37%
Be 234.861†           188536.7       0.257 mg/L        0.0049       0.257 mg/L        0.0049   1.89%
   QC value within limits for Be 234.861  Recovery = 102.64%
B 249.677†              3361.0    -0.00802 mg/L      0.001179    -0.00802 mg/L      0.001179  14.70%
   QC value within limits for B 249.677  Recovery = Not calculated
Ca 227.546†            56125.8         271 mg/L           6.0         271 mg/L           6.0   2.23%
   QC value within limits for Ca 227.546  Recovery = 108.46%
Cd 228.802†            15689.1       0.494 mg/L        0.0098       0.494 mg/L        0.0098   1.98%
   QC value within limits for Cd 228.802  Recovery = 98.85%
Co 228.616†             5745.2       0.237 mg/L        0.0019       0.237 mg/L        0.0019   0.82%
   QC value within limits for Co 228.616  Recovery = 94.91%
```

Approved: June 03, 2013

Lynn H. Rhoden

```
Cr 267.716†            24129.6       0.257 mg/L        0.0010       0.257 mg/L        0.0010   0.40%
   QC value within limits for Cr 267.716  Recovery = 102.87%
Cu 327.393†            42079.1       0.248 mg/L        0.0054       0.248 mg/L        0.0054   2.16%
   QC value within limits for Cu 327.393  Recovery = 99.28%
Fe 239.562†           410513.6         101 mg/L           0.3         101 mg/L           0.3   0.34%
   QC value within limits for Fe 239.562  Recovery = 100.83%
Mg 279.077†           364183.7         261 mg/L           1.2         261 mg/L           1.2   0.45%
   QC value within limits for Mg 279.077  Recovery = 104.37%
Mn 257.610†           131413.0       0.251 mg/L        0.0005       0.251 mg/L        0.0005   0.21%
   QC value within limits for Mn 257.610  Recovery = 100.25%
Mo 202.031†              -48.2     0.00129 mg/L      0.000878     0.00129 mg/L      0.000878  67.93%
   QC value within limits for Mo 202.031  Recovery = Not calculated
Ni 231.604†            18880.0       0.482 mg/L        0.0032       0.482 mg/L        0.0032   0.66%
   QC value within limits for Ni 231.604  Recovery = 96.50%
Pb 220.353†             3575.0       0.494 mg/L        0.0061       0.494 mg/L        0.0061   1.24%
   QC value within limits for Pb 220.353  Recovery = 98.84%
Sb 206.836†             1200.0       0.499 mg/L        0.0086       0.499 mg/L        0.0086   1.73%
   QC value within limits for Sb 206.836  Recovery = 99.84%
Se 196.026†              226.2       0.243 mg/L        0.0010       0.243 mg/L        0.0010   0.39%
   QC value within limits for Se 196.026  Recovery = 97.08%
Si 251.611†               50.7    -0.00064 mg/L      0.002406    -0.00064 mg/L      0.002406 374.86%
   QC value within limits for Si 251.611  Recovery = Not calculated
Sn 189.927†             -391.6     -0.0517 mg/L       0.00096     -0.0517 mg/L       0.00096   1.86%
   QC value within limits for Sn 189.927  Recovery = Not calculated
Ti 334.940†            -26607.3     0.00390 mg/L      0.001466     0.00390 mg/L      0.001466  37.57%
   QC value within limits for Ti 334.940  Recovery = Not calculated
Tl 190.801†              967.5       0.489 mg/L        0.0003       0.489 mg/L        0.0003   0.05%
   QC value within limits for Tl 190.801  Recovery = 97.89%
V 290.880†             54990.5       0.246 mg/L        0.0029       0.246 mg/L        0.0029   1.19%
   QC value within limits for V 290.880  Recovery = 98.50%
Zn 206.200†            16913.1       0.485 mg/L        0.0026       0.485 mg/L        0.0026   0.53%
   QC value within limits for Zn 206.200  Recovery = 97.04%
K 766.490†              7519.9        4.97 mg/L         0.094        4.97 mg/L         0.094   1.88%
   QC value within limits for K 766.490  Recovery = 99.39%
Na 589.592†            57181.1        5.06 mg/L         0.032        5.06 mg/L         0.032   0.62%
   QC value within limits for Na 589.592  Recovery = 101.25%
Sr 407.771†             1355.4     0.00180 mg/L      0.000107     0.00180 mg/L      0.000107   5.96%
   QC value within limits for Sr 407.771  Recovery = Not calculated
Li 670.784†              192.9    -0.00099 mg/L      0.001029    -0.00099 mg/L      0.001029 104.27%
   QC value within limits for Li 670.784  Recovery = Not calculated
All analyte(s) passed QC.

==========================================================================================
Sequence No.: 10                                    Autosampler Location: 6
Sample ID: CCV                                      Date Collected: 5/31/2013 8:00:03 AM
Analyst:                                            Data Type: Reprocessed on 5/31/2013 8:14:08 AM
Logged In Analyst (Original) : peicp2
Initial Sample Wt:                                  Initial Sample Vol:
Dilution:                                           Sample Prep Vol:

------------------------------------------------------------------------------------------
Nebulizer Parameters: CCV
Analyte                 Back Pressure    Flow
All                     163.0 kPa        0.48 L/min

------------------------------------------------------------------------------------------
Mean Data: CCV
                   Mean Corrected         Calib.                          Sample
Analyte               Intensity     Conc. Units      Std.Dev.      Conc. Units      Std.Dev.   RSD
Y 371.029            2458232.6                                                    31169.94   1.27%
YRADIAL               182819.0                                                     2829.40   1.55%
Ga 417.206            968141.0                                                    11801.07   1.22%
GaRADIAL               50634.3                                                      535.02   1.06%
Ag 328.068†            95806.1       0.413 mg/L        0.0084       0.413 mg/L        0.0084   2.03%
   QC value within limits for Ag 328.068  Recovery = 103.24%
Al 396.153†            31487.3        10.2 mg/L          0.03        10.2 mg/L          0.03   0.29%
   QC value within limits for Al 396.153  Recovery = 102.45%
As 188.979†              844.1       0.412 mg/L        0.0038       0.412 mg/L        0.0038   0.93%
   QC value within limits for As 188.979  Recovery = 103.12%
Ba 233.527†            93227.1        1.04 mg/L         0.014        1.04 mg/L         0.014   1.36%
   QC value within limits for Ba 233.527  Recovery = 104.32%
Be 234.861†            34721.5      0.0511 mg/L       0.00098      0.0511 mg/L       0.00098   1.92%
```

Approved: June 03, 2013

Lynn H. Rhoden

```
   QC value within limits for Be 234.861  Recovery = 102.23%
B 249.677†            35636.7       0.503 mg/L        0.0087       0.503 mg/L        0.0087   1.74%
   QC value within limits for B 249.677  Recovery = 100.53%
Ca 227.546†            2143.7        10.7 mg/L          0.05        10.7 mg/L          0.05   0.51%
   QC value within limits for Ca 227.546  Recovery = 107.00%
Cd 228.802†            1654.3      0.0506 mg/L       0.00060      0.0506 mg/L       0.00060   1.18%
   QC value within limits for Cd 228.802  Recovery = 101.23%
Co 228.616†            5068.3       0.211 mg/L        0.0031       0.211 mg/L        0.0031   1.47%
   QC value within limits for Co 228.616  Recovery = 105.37%
Cr 267.716†           48636.4       0.521 mg/L        0.0072       0.521 mg/L        0.0072   1.38%
   QC value within limits for Cr 267.716  Recovery = 104.19%
Cu 327.393†           89791.2       0.515 mg/L        0.0129       0.515 mg/L        0.0129   2.50%
   QC value within limits for Cu 327.393  Recovery = 102.92%
Fe 239.562†           17067.1        4.18 mg/L         0.035        4.18 mg/L         0.035   0.83%
   QC value within limits for Fe 239.562  Recovery = 104.48%
Mg 279.077†           14573.6        10.4 mg/L          0.07        10.4 mg/L          0.07   0.71%
   QC value within limits for Mg 279.077  Recovery = 104.45%
Mn 257.610†          281920.1       0.531 mg/L        0.0088       0.531 mg/L        0.0088   1.65%
   QC value within limits for Mn 257.610  Recovery = 106.29%
Mo 202.031†           20433.8        1.04 mg/L         0.017        1.04 mg/L         0.017   1.61%
   QC value within limits for Mo 202.031  Recovery = 104.17%
Ni 231.604†           20591.3       0.526 mg/L        0.0088       0.526 mg/L        0.0088   1.67%
   QC value within limits for Ni 231.604  Recovery = 105.29%
Pb 220.353†            4052.8       0.530 mg/L        0.0078       0.530 mg/L        0.0078   1.48%
   QC value within limits for Pb 220.353  Recovery = 106.03%
Sb 206.836†            2970.3        1.23 mg/L         0.012        1.23 mg/L         0.012   0.95%
   QC value within limits for Sb 206.836  Recovery = 102.72%
Se 196.026†             427.4       0.414 mg/L        0.0037       0.414 mg/L        0.0037   0.89%
   QC value within limits for Se 196.026  Recovery = 103.43%
Si 251.611†          185605.2        5.11 mg/L         0.105        5.11 mg/L         0.105   2.06%
   QC value within limits for Si 251.611  Recovery = 102.12%
Sn 189.927†            7595.6       0.950 mg/L        0.0161       0.950 mg/L        0.0161   1.70%
   QC value within limits for Sn 189.927  Recovery = 95.02%
Ti 334.940†          760938.4        1.03 mg/L         0.008        1.03 mg/L         0.008   0.79%
   QC value within limits for Ti 334.940  Recovery = 102.94%
Tl 190.801†            1074.8       0.551 mg/L        0.0081       0.551 mg/L        0.0081   1.46%
   QC value greater than the upper limit for Tl 190.801  Recovery = 110.29%
V 290.880†           203867.1        1.04 mg/L         0.017        1.04 mg/L         0.017   1.67%
   QC value within limits for V 290.880  Recovery = 103.60%
Zn 206.200†           36601.3        1.06 mg/L         0.010        1.06 mg/L         0.010   0.98%
   QC value within limits for Zn 206.200  Recovery = 105.66%
K 766.490†            76292.9        51.3 mg/L          0.37        51.3 mg/L          0.37   0.72%
   QC value within limits for K 766.490  Recovery = 102.56%
Na 589.592†          566707.1        51.4 mg/L          1.67        51.4 mg/L          1.67   3.24%
   QC value within limits for Na 589.592  Recovery = 102.77%
Sr 407.771†         1267487.8        1.05 mg/L         0.048        1.05 mg/L         0.048   4.60%
   QC value within limits for Sr 407.771  Recovery = 104.92%
Li 670.784†           73573.4        1.04 mg/L         0.007        1.04 mg/L         0.007   0.68%
   QC value within limits for Li 670.784  Recovery = 104.24%
QC Failed.  Continue with analysis.

==========================================================================================
Sequence No.: 11                                    Autosampler Location: 1
Sample ID: CCB                                      Date Collected: 5/31/2013 8:02:08 AM
Analyst:                                            Data Type: Reprocessed on 5/31/2013 8:14:09 AM
Logged In Analyst (Original) : peicp2
Initial Sample Wt:                                  Initial Sample Vol:
Dilution:                                           Sample Prep Vol:

------------------------------------------------------------------------------------------
Nebulizer Parameters: CCB
Analyte                  Back Pressure    Flow
All                      164.0 kPa        0.48 L/min

------------------------------------------------------------------------------------------
Mean Data: CCB
                   Mean Corrected        Calib.                          Sample
Analyte               Intensity     Conc. Units     Std.Dev.     Conc. Units     Std.Dev.   RSD
Y 371.029            2613442.1                                                   13659.39   0.52%
YRADIAL               188996.4                                                    5438.42   2.88%
Ga 417.206           1020827.4                                                    6681.09   0.65%
GaRADIAL               50933.1                                                    1019.68   2.00%
```

Approved: June 03, 2013

Lynn H. Rhoden

```
Ag 328.068†              78.5     0.00004 mg/L      0.000393     0.00004 mg/L      0.000393 941.31%
   QC value within limits for Ag 328.068  Recovery = Not calculated
Al 396.153†              20.6    -0.00389 mg/L      0.002595    -0.00389 mg/L      0.002595  66.72%
   QC value within limits for Al 396.153  Recovery = Not calculated
As 188.979†               1.5     0.00156 mg/L      0.001068     0.00156 mg/L      0.001068  68.47%
   QC value within limits for As 188.979  Recovery = Not calculated
Ba 233.527†              -3.2    -0.00188 mg/L      0.000087    -0.00188 mg/L      0.000087   4.66%
   QC value within limits for Ba 233.527  Recovery = Not calculated
Be 234.861†              19.4     0.00005 mg/L      0.000007     0.00005 mg/L      0.000007  12.91%
   QC value within limits for Be 234.861  Recovery = Not calculated
B 249.677†              372.1     0.00669 mg/L      0.000804     0.00669 mg/L      0.000804  12.02%
   QC value within limits for B 249.677  Recovery = Not calculated
Ca 227.546†               3.3     -0.0196 mg/L       0.01889     -0.0196 mg/L       0.01889  96.39%
   QC value within limits for Ca 227.546  Recovery = Not calculated
Cd 228.802†              -2.6    -0.00019 mg/L      0.000083    -0.00019 mg/L      0.000083  42.52%
   QC value within limits for Cd 228.802  Recovery = Not calculated
Co 228.616†               1.1    -0.00086 mg/L      0.000253    -0.00086 mg/L      0.000253  29.51%
   QC value within limits for Co 228.616  Recovery = Not calculated
Cr 267.716†              -9.5    -0.00131 mg/L      0.000068    -0.00131 mg/L      0.000068   5.18%
   QC value within limits for Cr 267.716  Recovery = Not calculated
Cu 327.393†              52.9     0.00005 mg/L      0.000139     0.00005 mg/L      0.000139 277.96%
   QC value within limits for Cu 327.393  Recovery = Not calculated
Fe 239.562†              30.5    -0.00498 mg/L      0.001632    -0.00498 mg/L      0.001632  32.77%
   QC value within limits for Fe 239.562  Recovery = Not calculated
Mg 279.077†               9.3    -0.00900 mg/L      0.006789    -0.00900 mg/L      0.006789  75.40%
   QC value within limits for Mg 279.077  Recovery = Not calculated
Mn 257.610†              92.1    -0.00237 mg/L      0.000025    -0.00237 mg/L      0.000025   1.04%
   QC value within limits for Mn 257.610  Recovery = Not calculated
Mo 202.031†              -1.2    -0.00211 mg/L      0.000158    -0.00211 mg/L      0.000158   7.47%
   QC value within limits for Mo 202.031  Recovery = Not calculated
Ni 231.604†              -6.5    -0.00193 mg/L      0.000230    -0.00193 mg/L      0.000230  11.90%
   QC value within limits for Ni 231.604  Recovery = Not calculated
Pb 220.353†              -0.0    -0.00175 mg/L      0.000763    -0.00175 mg/L      0.000763  43.70%
   QC value within limits for Pb 220.353  Recovery = Not calculated
Sb 206.836†               3.8    -0.00083 mg/L      0.000602    -0.00083 mg/L      0.000602  72.54%
   QC value within limits for Sb 206.836  Recovery = Not calculated
Se 196.026†              -3.2    -0.00409 mg/L      0.003326    -0.00409 mg/L      0.003326  81.32%
   QC value within limits for Se 196.026  Recovery = Not calculated
Si 251.611†              75.2     0.00001 mg/L      0.000599     0.00001 mg/L      0.000599 >999.9%
   QC value within limits for Si 251.611  Recovery = Not calculated
Sn 189.927†              23.2     0.00035 mg/L      0.000233     0.00035 mg/L      0.000233  66.32%
   QC value within limits for Sn 189.927  Recovery = Not calculated
Ti 334.940†             -33.2    -0.00036 mg/L      0.000029    -0.00036 mg/L      0.000029   7.86%
   QC value within limits for Ti 334.940  Recovery = Not calculated
Tl 190.801†              -2.4    -0.00525 mg/L      0.003240    -0.00525 mg/L      0.003240  61.69%
   QC value within limits for Tl 190.801  Recovery = Not calculated
V 290.880†              156.6    -0.00053 mg/L      0.000282    -0.00053 mg/L      0.000282  53.19%
   QC value within limits for V 290.880  Recovery = Not calculated
Zn 206.200†               7.2    -0.00177 mg/L      0.000147    -0.00177 mg/L      0.000147   8.34%
   QC value within limits for Zn 206.200  Recovery = Not calculated
K 766.490†               84.4      0.0515 mg/L       0.02901      0.0515 mg/L       0.02901  56.30%
   QC value within limits for K 766.490  Recovery = Not calculated
Na 589.592†             320.4      0.0272 mg/L       0.03573      0.0272 mg/L       0.03573 131.40%
   QC value within limits for Na 589.592  Recovery = Not calculated
Sr 407.771†             192.1    -0.00341 mg/L      0.000100    -0.00341 mg/L      0.000100   2.94%
   QC value within limits for Sr 407.771  Recovery = Not calculated
Li 670.784†             190.8    -0.00102 mg/L      0.000451    -0.00102 mg/L      0.000451  44.27%
   QC value within limits for Li 670.784  Recovery = Not calculated
All analyte(s) passed QC.
```

Approved: June 03, 2013

Lynn H. Rhoden

```
Be 234.861†              19.4     0.00005 mg/L      0.000007     0.00005 mg/L      0.000007  12.90%
   QC value within limits for Be 234.861  Recovery = Not calculated
B 249.677†              372.1     0.00669 mg/L      0.000804     0.00669 mg/L      0.000804  12.02%
   QC value within limits for B 249.677  Recovery = Not calculated
Ca 227.546†               3.3     -0.0196 mg/L       0.01889     -0.0196 mg/L       0.01889  96.39%
   QC value within limits for Ca 227.546  Recovery = Not calculated
Cd 228.802†              -2.6    -0.00019 mg/L      0.000083    -0.00019 mg/L      0.000083  42.53%
   QC value within limits for Cd 228.802  Recovery = Not calculated
Co 228.616†               1.1    -0.00086 mg/L      0.000253    -0.00086 mg/L      0.000253  29.51%
   QC value within limits for Co 228.616  Recovery = Not calculated
Cr 267.716†              -9.5    -0.00131 mg/L      0.000068    -0.00131 mg/L      0.000068   5.18%
   QC value within limits for Cr 267.716  Recovery = Not calculated
Cu 327.393†              52.9     0.00005 mg/L      0.000139     0.00005 mg/L      0.000139 277.96%
   QC value within limits for Cu 327.393  Recovery = Not calculated
Fe 239.562†              30.5    -0.00498 mg/L      0.001632    -0.00498 mg/L      0.001632  32.77%
   QC value within limits for Fe 239.562  Recovery = Not calculated
Mg 279.077†               9.3    -0.00900 mg/L      0.006789    -0.00900 mg/L      0.006789  75.40%
   QC value within limits for Mg 279.077  Recovery = Not calculated
Mn 257.610†              92.1    -0.00237 mg/L      0.000025    -0.00237 mg/L      0.000025   1.04%
   QC value within limits for Mn 257.610  Recovery = Not calculated
Mo 202.031†              -1.2    -0.00211 mg/L      0.000158    -0.00211 mg/L      0.000158   7.47%
   QC value within limits for Mo 202.031  Recovery = Not calculated
Ni 231.604†              -6.5    -0.00193 mg/L      0.000230    -0.00193 mg/L      0.000230  11.90%
   QC value within limits for Ni 231.604  Recovery = Not calculated
Pb 220.353†              -0.0    -0.00175 mg/L      0.000763    -0.00175 mg/L      0.000763  43.70%
   QC value within limits for Pb 220.353  Recovery = Not calculated
Sb 206.836†               3.8    -0.00083 mg/L      0.000602    -0.00083 mg/L      0.000602  72.54%
   QC value within limits for Sb 206.836  Recovery = Not calculated
Se 196.026†              -3.2    -0.00409 mg/L      0.003326    -0.00409 mg/L      0.003326  81.32%
   QC value within limits for Se 196.026  Recovery = Not calculated
Si 251.611†              75.2     0.00001 mg/L      0.000599     0.00001 mg/L      0.000599 >999.9%
   QC value within limits for Si 251.611  Recovery = Not calculated
Sn 189.927†              23.2     0.00035 mg/L      0.000233     0.00035 mg/L      0.000233  66.32%
   QC value within limits for Sn 189.927  Recovery = Not calculated
Ti 334.940†             -33.2    -0.00036 mg/L      0.000029    -0.00036 mg/L      0.000029   7.86%
   QC value within limits for Ti 334.940  Recovery = Not calculated
Tl 190.801†              -2.4    -0.00525 mg/L      0.003240    -0.00525 mg/L      0.003240  61.69%
   QC value within limits for Tl 190.801  Recovery = Not calculated
V 290.880†              156.6    -0.00053 mg/L      0.000282    -0.00053 mg/L      0.000282  53.19%
   QC value within limits for V 290.880  Recovery = Not calculated
Zn 206.200†               7.2    -0.00177 mg/L      0.000147    -0.00177 mg/L      0.000147   8.34%
   QC value within limits for Zn 206.200  Recovery = Not calculated
K 766.490†               84.4      0.0515 mg/L       0.02901      0.0515 mg/L       0.02901  56.30%
   QC value within limits for K 766.490  Recovery = Not calculated
Na 589.592†             320.4      0.0272 mg/L       0.03573      0.0272 mg/L       0.03573 131.40%
   QC value within limits for Na 589.592  Recovery = Not calculated
Sr 407.771†             192.1    -0.00341 mg/L      0.000100    -0.00341 mg/L      0.000100   2.94%
   QC value within limits for Sr 407.771  Recovery = Not calculated
Li 670.784†             190.8    -0.00102 mg/L      0.000451    -0.00102 mg/L      0.000451  44.27%
   QC value within limits for Li 670.784  Recovery = Not calculated
All analyte(s) passed QC.
User canceled analysis.
```

Approved: June 03, 2013

Lynn H. Rhoden

==========

Analysis Begun

Start Time: 5/31/2013 8:15:19 AM **Plasma On Time: 5/31/2013 6:21:19 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\FRIDAY1.sif
Batch ID:
Results Data Set: 053113HR
Results Library: C:\pe\peicp2\Results\Results.mdb

==========

Sequence No.: 1 **Autosampler Location: 14**
Sample ID: L1305129609 0.5 **Date Collected: 5/31/2013 8:15:21 AM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1305129609 0.5

Analyte	Back Pressure	Flow
All	164.0 kPa	0.48 L/min

Mean Data: L1305129609 0.5

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2543673.8						31525.91	1.24%
YRADIAL	189627.5						1723.63	0.91%
Ga 417.206	1024787.1						36389.58	3.55%
GaRADIAL	49730.3						341.16	0.69%
Ag 328.068†	-4162.3	-0.00129	mg/L	0.000453	-0.00129	mg/L	0.000453	35.20%
Al 396.153†	-3.0	-0.00656	mg/L	0.012317	-0.00656	mg/L	0.012317	187.87%
As 188.979†	0.9	0.0122	mg/L	0.00464	0.0122	mg/L	0.00464	38.03%
Ba 233.527†	18762.9	0.207	mg/L	0.0046	0.207	mg/L	0.0046	2.21%
Be 234.861†	6632.3	-0.00002	mg/L	0.000265	-0.00002	mg/L	0.000265	>999.9%
B 249.677†	10685.4	0.135	mg/L	0.0061	0.135	mg/L	0.0061	4.52%
Ca 227.546†	9475.4	46.3	mg/L	1.52	46.3	mg/L	1.52	3.29%
Cd 228.802†	3.5	0.00016	mg/L	0.000171	0.00016	mg/L	0.000171	104.03%
Co 228.616†	16.2	-0.00140	mg/L	0.000515	-0.00140	mg/L	0.000515	36.89%
Cr 267.716†	-106.2	-0.00520	mg/L	0.000137	-0.00520	mg/L	0.000137	2.64%
Cu 327.393†	-491.1	0.00031	mg/L	0.000373	0.00031	mg/L	0.000373	118.75%
Fe 239.562†	173181.0	42.5	mg/L	0.32	42.5	mg/L	0.32	0.75%
Mg 279.077†	14629.3	10.4	mg/L	0.16	10.4	mg/L	0.16	1.55%
Mn 257.610†	492168.4	0.930	mg/L	0.0181	0.930	mg/L	0.0181	1.94%
Mo 202.031†	-3.9	0.00032	mg/L	0.000461	0.00032	mg/L	0.000461	146.16%
Ni 231.604†	42.7	-0.00066	mg/L	0.000263	-0.00066	mg/L	0.000263	39.57%
Pb 220.353†	52.5	0.00319	mg/L	0.001561	0.00319	mg/L	0.001561	48.92%
Sb 206.836†	-8.0	-0.00414	mg/L	0.002624	-0.00414	mg/L	0.002624	63.39%
Se 196.026†	-13.0	-0.00534	mg/L	0.004031	-0.00534	mg/L	0.004031	75.41%
Si 251.611†	151142.8	4.17	mg/L	0.175	4.17	mg/L	0.175	4.21%
Sn 189.927†	-229.5	-0.0314	mg/L	0.00097	-0.0314	mg/L	0.00097	3.08%
Ti 334.940†	-4267.3	0.00071	mg/L	0.000268	0.00071	mg/L	0.000268	37.88%
Tl 190.801†	-22.3	-0.0162	mg/L	0.00118	-0.0162	mg/L	0.00118	7.24%
V 290.880†	1408.8	-0.00532	mg/L	0.001635	-0.00532	mg/L	0.001635	30.74%
Zn 206.200†	125.9	0.00070	mg/L	0.000554	0.00070	mg/L	0.000554	79.00%
K 766.490†	3380.6	2.22	mg/L	0.114	2.22	mg/L	0.114	5.12%
Na 589.592†	104060.2	9.23	mg/L	0.108	9.23	mg/L	0.108	1.17%
Sr 407.771†	337041.0	0.277	mg/L	0.0036	0.277	mg/L	0.0036	1.30%
Li 670.784†	1136.0	0.0124	mg/L	0.00065	0.0124	mg/L	0.00065	5.23%

==========

Sequence No.: 2 **Autosampler Location: 15**
Sample ID: L1305129609 0.2 **Date Collected: 5/31/2013 8:17:27 AM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1305129609 0.2

Approved: June 03, 2013

Kym H. Rhoden

Analyte	Back Pressure	Flow
All	164.0 kPa	0.48 L/min

Mean Data: L1305129609 0.2

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	2461359.2						34936.37	1.42%
YRADIAL	187254.6						4547.98	2.43%
Ga 417.206	973897.8						15163.70	1.56%
GaRADIAL	50972.0						844.26	1.66%
Ag 328.068†	-1742.1	-0.00066	mg/L	0.000029	-0.00066	mg/L	0.000029	4.39%
Al 396.153†	0.6	-0.00831	mg/L	0.003346	-0.00831	mg/L	0.003346	40.29%
As 188.979†	-0.6	0.00510	mg/L	0.003031	0.00510	mg/L	0.003031	59.38%
Ba 233.527†	7835.9	0.0854	mg/L	0.00166	0.0854	mg/L	0.00166	1.94%
Be 234.861†	2805.2	0.00002	mg/L	0.000048	0.00002	mg/L	0.000048	224.65%
B 249.677†	4720.4	0.0606	mg/L	0.00209	0.0606	mg/L	0.00209	3.45%
Ca 227.546†	3895.1	19.0	mg/L	0.29	19.0	mg/L	0.29	1.52%
Cd 228.802†	0.3	-0.00003	mg/L	0.000178	-0.00003	mg/L	0.000178	571.82%
Co 228.616†	-3.8	-0.00156	mg/L	0.000442	-0.00156	mg/L	0.000442	28.39%
Cr 267.716†	-41.5	-0.00286	mg/L	0.000253	-0.00286	mg/L	0.000253	8.86%
Cu 327.393†	-210.4	-0.00003	mg/L	0.000261	-0.00003	mg/L	0.000261	790.38%
Fe 239.562†	72988.6	17.9	mg/L	0.30	17.9	mg/L	0.30	1.69%
Mg 279.077†	6054.7	4.31	mg/L	0.073	4.31	mg/L	0.073	1.69%
Mn 257.610†	201922.5	0.380	mg/L	0.0044	0.380	mg/L	0.0044	1.15%
Mo 202.031†	2.7	-0.00084	mg/L	0.000452	-0.00084	mg/L	0.000452	54.06%
Ni 231.604†	-2.6	-0.00183	mg/L	0.000423	-0.00183	mg/L	0.000423	23.15%
Pb 220.353†	22.8	0.00043	mg/L	0.001005	0.00043	mg/L	0.001005	231.56%
Sb 206.836†	-4.0	-0.00341	mg/L	0.000545	-0.00341	mg/L	0.000545	16.00%
Se 196.026†	-4.3	-0.00169	mg/L	0.001236	-0.00169	mg/L	0.001236	73.26%
Si 251.611†	63524.9	1.75	mg/L	0.039	1.75	mg/L	0.039	2.23%
Sn 189.927†	-131.3	-0.0190	mg/L	0.00047	-0.0190	mg/L	0.00047	2.49%
Ti 334.940†	-2049.2	-0.00030	mg/L	0.000203	-0.00030	mg/L	0.000203	68.13%
Tl 190.801†	-15.0	-0.0120	mg/L	0.00206	-0.0120	mg/L	0.00206	17.14%
V 290.880†	940.2	-0.00124	mg/L	0.000353	-0.00124	mg/L	0.000353	28.45%
Zn 206.200†	56.3	-0.00075	mg/L	0.000383	-0.00075	mg/L	0.000383	50.87%
K 766.490†	1470.4	0.964	mg/L	0.0251	0.964	mg/L	0.0251	2.61%
Na 589.592†	42536.2	3.76	mg/L	0.017	3.76	mg/L	0.017	0.44%
Sr 407.771†	150523.7	0.122	mg/L	0.0011	0.122	mg/L	0.0011	0.94%
Li 670.784†	465.5	0.00289	mg/L	0.000395	0.00289	mg/L	0.000395	13.68%

Sequence No.: 3
Sample ID: L1305114203 0.1
Analyst: KHR
Initial Sample Wt:
Dilution:

Autosampler Location: 16
Date Collected: 5/31/2013 8:19:31 AM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: L1305114203 0.1

Analyte	Back Pressure	Flow
All	164.0 kPa	0.48 L/min

Mean Data: L1305114203 0.1

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	2480070.1						11136.10	0.45%
YRADIAL	187326.7						953.06	0.51%
Ga 417.206	1002193.4						21507.56	2.15%
GaRADIAL	51736.9						420.99	0.81%
Ag 328.068†	131.1	0.00092	mg/L	0.000483	0.00092	mg/L	0.000483	52.48%
Al 396.153†	-22.8	-0.0179	mg/L	0.00374	-0.0179	mg/L	0.00374	20.83%
As 188.979†	4.9	0.00415	mg/L	0.002660	0.00415	mg/L	0.002660	64.17%
Ba 233.527†	6351.8	0.0693	mg/L	0.00278	0.0693	mg/L	0.00278	4.02%
Be 234.861†	311.2	0.00011	mg/L	0.000117	0.00011	mg/L	0.000117	104.09%
B 249.677†	6306.5	0.0900	mg/L	0.00462	0.0900	mg/L	0.00462	5.14%
Ca 227.546†	4322.8	20.7	mg/L	0.98	20.7	mg/L	0.98	4.76%
Cd 228.802†	4.3	0.00002	mg/L	0.000344	0.00002	mg/L	0.000344	>999.9%
Co 228.616†	-0.7	-0.00100	mg/L	0.000291	-0.00100	mg/L	0.000291	29.23%
Cr 267.716†	66.5	-0.00062	mg/L	0.000150	-0.00062	mg/L	0.000150	24.17%
Cu 327.393†	-86.2	-0.00059	mg/L	0.000347	-0.00059	mg/L	0.000347	58.57%

Approved: June 03, 2013

Kym H. Rhoden

Fe 239.562†	7705.8	1.88	mg/L	0.033	1.88	mg/L	0.033	1.77%
Mg 279.077†	33173.3	23.8	mg/L	0.46	23.8	mg/L	0.46	1.93%
Mn 257.610†	355192.1	0.669	mg/L	0.0146	0.669	mg/L	0.0146	2.18%
Mo 202.031†	16.1	-0.00098	mg/L	0.000112	-0.00098	mg/L	0.000112	11.41%
Ni 231.604†	25.1	-0.00112	mg/L	0.000100	-0.00112	mg/L	0.000100	8.95%
Pb 220.353†	29.0	0.00160	mg/L	0.000840	0.00160	mg/L	0.000840	52.63%
Sb 206.836†	1.6	-0.00165	mg/L	0.001445	-0.00165	mg/L	0.001445	87.60%
Se 196.026†	-3.9	-0.00458	mg/L	0.006299	-0.00458	mg/L	0.006299	137.39%
Si 251.611†	49707.2	1.37	mg/L	0.078	1.37	mg/L	0.078	5.70%
Sn 189.927†	-134.1	-0.0194	mg/L	0.00099	-0.0194	mg/L	0.00099	5.11%
Ti 334.940†	-2507.5	-0.00061	mg/L	0.000102	-0.00061	mg/L	0.000102	16.69%
Tl 190.801†	-13.4	-0.0114	mg/L	0.00236	-0.0114	mg/L	0.00236	20.68%
V 290.880†	2216.2	0.00886	mg/L	0.000811	0.00886	mg/L	0.000811	9.15%
Zn 206.200†	78.6	0.00026	mg/L	0.000211	0.00026	mg/L	0.000211	82.52%
K 766.490†	389.2	0.0576	mg/L	0.02522	0.0576	mg/L	0.02522	43.81%
Na 589.592†	1995639.5	195	mg/L	0.4	195	mg/L	0.4	0.21%
Sr 407.771†	194955.8	0.159	mg/L	0.0027	0.159	mg/L	0.0027	1.73%
Li 670.784†	90.2	-0.00245	mg/L	0.000321	-0.00245	mg/L	0.000321	13.13%

Sequence No.: 4 **Autosampler Location: 17**
Sample ID: L1305114203PS WG432274-01 **Date Collected: 5/31/2013 8:21:36 AM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1305114203PS WG432274-01

Analyte	Back Pressure	Flow
All	164.0 kPa	0.48 L/min

Mean Data: L1305114203PS WG432274-01

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	2457487.2						12367.47	0.50%
YRADIAL	191325.8						1653.59	0.86%
Ga 417.206	993324.7						19975.52	2.01%
GaRADIAL	52166.3						375.24	0.72%
Ag 328.068†	45399.0	0.196	mg/L	0.0013	0.196	mg/L	0.0013	0.69%
Al 396.153†	15230.2	4.95	mg/L	0.014	4.95	mg/L	0.014	0.28%
As 188.979†	409.8	0.201	mg/L	0.0013	0.201	mg/L	0.0013	0.66%
Ba 233.527†	50258.7	0.561	mg/L	0.0081	0.561	mg/L	0.0081	1.45%
Be 234.861†	16710.6	0.0243	mg/L	0.00012	0.0243	mg/L	0.00012	0.50%
B 249.677†	74134.1	1.05	mg/L	0.003	1.05	mg/L	0.003	0.25%
Ca 227.546†	5449.2	26.3	mg/L	0.43	26.3	mg/L	0.43	1.63%
Cd 228.802†	783.3	0.0239	mg/L	0.00067	0.0239	mg/L	0.00067	2.81%
Co 228.616†	2396.5	0.0991	mg/L	0.00038	0.0991	mg/L	0.00038	0.38%
Cr 267.716†	23313.4	0.249	mg/L	0.0013	0.249	mg/L	0.0013	0.52%
Cu 327.393†	42148.4	0.242	mg/L	0.0018	0.242	mg/L	0.0018	0.74%
Fe 239.562†	15406.9	3.77	mg/L	0.015	3.77	mg/L	0.015	0.40%
Mg 279.077†	38473.1	27.6	mg/L	0.18	27.6	mg/L	0.18	0.67%
Mn 257.610†	489427.9	0.924	mg/L	0.0093	0.924	mg/L	0.0093	1.01%
Mo 202.031†	10187.6	0.519	mg/L	0.0019	0.519	mg/L	0.0019	0.37%
Ni 231.604†	9949.4	0.253	mg/L	0.0009	0.253	mg/L	0.0009	0.34%
Pb 220.353†	1962.6	0.255	mg/L	0.0002	0.255	mg/L	0.0002	0.07%
Sb 206.836†	1439.8	0.596	mg/L	0.0100	0.596	mg/L	0.0100	1.67%
Se 196.026†	204.5	0.198	mg/L	0.0036	0.198	mg/L	0.0036	1.80%
Si 251.611†	136760.7	3.76	mg/L	0.018	3.76	mg/L	0.018	0.48%
Sn 189.927†	-153.4	-0.0218	mg/L	0.00122	-0.0218	mg/L	0.00122	5.62%
Ti 334.940†	371814.7	0.506	mg/L	0.0057	0.506	mg/L	0.0057	1.13%
Tl 190.801†	493.7	0.251	mg/L	0.0011	0.251	mg/L	0.0011	0.42%
V 290.880†	99644.7	0.505	mg/L	0.0124	0.505	mg/L	0.0124	2.45%
Zn 206.200†	17067.2	0.492	mg/L	0.0062	0.492	mg/L	0.0062	1.25%
K 766.490†	37475.7	24.8	mg/L	0.06	24.8	mg/L	0.06	0.26%
Na 589.592†	2142796.9	212	mg/L	1.0	212	mg/L	1.0	0.46%
Sr 407.771†	780648.6	0.645	mg/L	0.0043	0.645	mg/L	0.0043	0.66%
Li 670.784†	35962.2	0.508	mg/L	0.0003	0.508	mg/L	0.0003	0.07%

Sequence No.: 5 **Autosampler Location: 18**
Sample ID: L1305114203SDL WG432274-0 **Date Collected: 5/31/2013 8:23:41 AM**

Approved: June 03, 2013

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

Nebulizer Parameters: L1305114203SDL WG432274-0

Analyte	Back Pressure	Flow
All	164.0 kPa	0.48 L/min

Mean Data: L1305114203SDL WG432274-0

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2479667.7						28714.46	1.16%
YRADIAL	180102.8						2968.73	1.65%
Ga 417.206	994197.1						15838.12	1.59%
GaRADIAL	50688.4						582.80	1.15%
Ag 328.068†	77.7	0.00018	mg/L	0.000307	0.00018	mg/L	0.000307	171.34%
Al 396.153†	-7.5	-0.0131	mg/L	0.00362	-0.0131	mg/L	0.00362	27.65%
As 188.979†	1.8	0.00192	mg/L	0.003481	0.00192	mg/L	0.003481	181.64%
Ba 233.527†	1409.2	0.0139	mg/L	0.00017	0.0139	mg/L	0.00017	1.20%
Be 234.861†	64.1	0.00004	mg/L	0.000085	0.00004	mg/L	0.000085	201.72%
B 249.677†	2039.4	0.0302	mg/L	0.00226	0.0302	mg/L	0.00226	7.50%
Ca 227.546†	921.1	4.38	mg/L	0.051	4.38	mg/L	0.051	1.17%
Cd 228.802†	-0.2	-0.00012	mg/L	0.000145	-0.00012	mg/L	0.000145	122.11%
Co 228.616†	-2.4	-0.00102	mg/L	0.000416	-0.00102	mg/L	0.000416	40.91%
Cr 267.716†	16.5	-0.00106	mg/L	0.000009	-0.00106	mg/L	0.000009	0.86%
Cu 327.393†	-9.7	-0.00027	mg/L	0.000544	-0.00027	mg/L	0.000544	198.38%
Fe 239.562†	1648.6	0.392	mg/L	0.0063	0.392	mg/L	0.0063	1.60%
Mg 279.077†	7082.3	5.06	mg/L	0.089	5.06	mg/L	0.089	1.76%
Mn 257.610†	79740.1	0.148	mg/L	0.0040	0.148	mg/L	0.0040	2.69%
Mo 202.031†	6.8	-0.00165	mg/L	0.000138	-0.00165	mg/L	0.000138	8.35%
Ni 231.604†	-5.9	-0.00191	mg/L	0.000387	-0.00191	mg/L	0.000387	20.23%
Pb 220.353†	5.7	-0.00110	mg/L	0.001158	-0.00110	mg/L	0.001158	104.89%
Sb 206.836†	6.1	0.00017	mg/L	0.001919	0.00017	mg/L	0.001919	>999.9%
Se 196.026†	-4.0	-0.00482	mg/L	0.004503	-0.00482	mg/L	0.004503	93.41%
Si 251.611†	10656.3	0.292	mg/L	0.0105	0.292	mg/L	0.0105	3.59%
Sn 189.927†	-38.9	-0.00744	mg/L	0.001043	-0.00744	mg/L	0.001043	14.03%
Ti 334.940†	-514.9	-0.00036	mg/L	0.000125	-0.00036	mg/L	0.000125	35.09%
Tl 190.801†	-5.5	-0.00693	mg/L	0.005769	-0.00693	mg/L	0.005769	83.28%
V 290.880†	1011.7	0.00359	mg/L	0.001435	0.00359	mg/L	0.001435	39.94%
Zn 206.200†	67.1	-0.00005	mg/L	0.000222	-0.00005	mg/L	0.000222	464.47%
K 766.490†	204.2	0.0936	mg/L	0.01368	0.0936	mg/L	0.01368	14.61%
Na 589.592†	411961.3	37.1	mg/L	0.23	37.1	mg/L	0.23	0.63%
Sr 407.771†	41125.3	0.0307	mg/L	0.00059	0.0307	mg/L	0.00059	1.92%
Li 670.784†	99.1	-0.00232	mg/L	0.000179	-0.00232	mg/L	0.000179	7.69%

Sequence No.: 6 **Autosampler Location: 19**
Sample ID: L1305114204 0.1 **Date Collected: 5/31/2013 8:26:42 AM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1305114204 0.1

Analyte	Back Pressure	Flow
All	164.0 kPa	0.48 L/min

Mean Data: L1305114204 0.1

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2450665.9						38067.73	1.55%
YRADIAL	180212.5						9199.57	5.10%
Ga 417.206	972624.8						21761.97	2.24%
GaRADIAL	50020.5						2752.74	5.50%
Ag 328.068†	36.7	0.00021	mg/L	0.000517	0.00021	mg/L	0.000517	246.84%
Al 396.153†	-14.1	-0.0152	mg/L	0.00358	-0.0152	mg/L	0.00358	23.59%
As 188.979†	6.2	0.00429	mg/L	0.002282	0.00429	mg/L	0.002282	53.20%
Ba 233.527†	646.9	0.00538	mg/L	0.000078	0.00538	mg/L	0.000078	1.45%
Be 234.861†	190.4	0.00011	mg/L	0.000048	0.00011	mg/L	0.000048	44.35%

Approved: June 03, 2013

B 249.677†	905.0	0.0138	mg/L	0.00127	0.0138	mg/L	0.00127	9.18%
Ca 227.546†	1838.7	8.78	mg/L	0.149	8.78	mg/L	0.149	1.70%
Cd 228.802†	-3.1	-0.00022	mg/L	0.000118	-0.00022	mg/L	0.000118	54.33%
Co 228.616†	8.5	-0.00057	mg/L	0.000215	-0.00057	mg/L	0.000215	37.67%
Cr 267.716†	20.0	-0.00106	mg/L	0.000118	-0.00106	mg/L	0.000118	11.16%
Cu 327.393†	-56.2	-0.00050	mg/L	0.000174	-0.00050	mg/L	0.000174	35.11%
Fe 239.562†	3932.8	0.954	mg/L	0.0270	0.954	mg/L	0.0270	2.83%
Mg 279.077†	6679.9	4.77	mg/L	0.155	4.77	mg/L	0.155	3.25%
Mn 257.610†	134462.8	0.252	mg/L	0.0025	0.252	mg/L	0.0025	0.98%
Mo 202.031†	13.7	-0.00124	mg/L	0.000589	-0.00124	mg/L	0.000589	47.31%
Ni 231.604†	6.8	-0.00159	mg/L	0.000502	-0.00159	mg/L	0.000502	31.61%
Pb 220.353†	8.7	-0.00079	mg/L	0.000235	-0.00079	mg/L	0.000235	29.81%
Sb 206.836†	4.0	-0.00071	mg/L	0.001175	-0.00071	mg/L	0.001175	165.76%
Se 196.026†	-3.2	-0.00400	mg/L	0.003226	-0.00400	mg/L	0.003226	80.62%
Si 251.611†	28023.3	0.771	mg/L	0.0136	0.771	mg/L	0.0136	1.76%
Sn 189.927†	-71.5	-0.0115	mg/L	0.00029	-0.0115	mg/L	0.00029	2.50%
Ti 334.940†	-967.9	-0.00031	mg/L	0.000092	-0.00031	mg/L	0.000092	29.40%
Tl 190.801†	-11.5	-0.0101	mg/L	0.00250	-0.0101	mg/L	0.00250	24.76%
V 290.880†	953.7	0.00316	mg/L	0.000810	0.00316	mg/L	0.000810	25.63%
Zn 206.200†	81.1	0.00034	mg/L	0.000183	0.00034	mg/L	0.000183	53.50%
K 766.490†	495.5	0.280	mg/L	0.0668	0.280	mg/L	0.0668	23.85%
Na 589.592†	477228.2	43.1	mg/L	1.40	43.1	mg/L	1.40	3.24%
Sr 407.771†	66324.6	0.0516	mg/L	0.00152	0.0516	mg/L	0.00152	2.94%
Li 670.784†	93.3	-0.00240	mg/L	0.001214	-0.00240	mg/L	0.001214	50.50%

Sequence No.: 7
Sample ID: L1305123704
Analyst: KHR
Initial Sample Wt:
Dilution:

Autosampler Location: 20
Date Collected: 5/31/2013 8:28:46 AM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: L1305123704

Analyte	Back Pressure	Flow
All	164.0 kPa	0.48 L/min

Mean Data: L1305123704

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2520414.0						32300.62	1.28%
YRADIAL	183343.2						1821.99	0.99%
Ga 417.206	1023289.7						21113.07	2.06%
GaRADIAL	51248.2						746.17	1.46%
Ag 328.068†	276.7	0.00082	mg/L	0.000756	0.00082	mg/L	0.000756	91.68%
Al 396.153†	7.5	-0.00823	mg/L	0.002216	-0.00823	mg/L	0.002216	26.93%
As 188.979†	-1.8	0.00041	mg/L	0.002525	0.00041	mg/L	0.002525	616.89%
Ba 233.527†	3300.7	0.0351	mg/L	0.00074	0.0351	mg/L	0.00074	2.11%
Be 234.861†	14.9	0.00005	mg/L	0.000041	0.00005	mg/L	0.000041	86.63%
B 249.677†	787.9	0.0126	mg/L	0.00090	0.0126	mg/L	0.00090	7.16%
Ca 227.546†	4730.5	22.6	mg/L	0.62	22.6	mg/L	0.62	2.75%
Cd 228.802†	-5.1	-0.00027	mg/L	0.000050	-0.00027	mg/L	0.000050	18.85%
Co 228.616†	-6.6	-0.00118	mg/L	0.000222	-0.00118	mg/L	0.000222	18.76%
Cr 267.716†	54.3	-0.00063	mg/L	0.000114	-0.00063	mg/L	0.000114	18.14%
Cu 327.393†	10.4	-0.00019	mg/L	0.000261	-0.00019	mg/L	0.000261	134.40%
Fe 239.562†	39.1	-0.00312	mg/L	0.000840	-0.00312	mg/L	0.000840	26.90%
Mg 279.077†	17282.5	12.4	mg/L	0.08	12.4	mg/L	0.08	0.68%
Mn 257.610†	1158.7	-0.00035	mg/L	0.000069	-0.00035	mg/L	0.000069	19.63%
Mo 202.031†	16.2	-0.00122	mg/L	0.000173	-0.00122	mg/L	0.000173	14.23%
Ni 231.604†	39.7	-0.00074	mg/L	0.000136	-0.00074	mg/L	0.000136	18.42%
Pb 220.353†	12.7	-0.00007	mg/L	0.000859	-0.00007	mg/L	0.000859	>999.9%
Sb 206.836†	-0.8	-0.00274	mg/L	0.001765	-0.00274	mg/L	0.001765	64.41%
Se 196.026†	1.1	0.00009	mg/L	0.002735	0.00009	mg/L	0.002735	>999.9%
Si 251.611†	100234.6	2.76	mg/L	0.058	2.76	mg/L	0.058	2.11%
Sn 189.927†	-158.5	-0.0224	mg/L	0.00098	-0.0224	mg/L	0.00098	4.37%
Ti 334.940†	-2765.0	-0.00067	mg/L	0.000106	-0.00067	mg/L	0.000106	15.99%
Tl 190.801†	-22.7	-0.0155	mg/L	0.00545	-0.0155	mg/L	0.00545	35.22%
V 290.880†	1511.3	0.00605	mg/L	0.001316	0.00605	mg/L	0.001316	21.76%
Zn 206.200†	328.4	0.00749	mg/L	0.000267	0.00749	mg/L	0.000267	3.56%
K 766.490†	2834.0	1.87	mg/L	0.056	1.87	mg/L	0.056	3.02%
Na 589.592†	40015.5	3.54	mg/L	0.045	3.54	mg/L	0.045	1.28%

Approved: June 03, 2013

Sr 407.771†	480826.4	0.396 mg/L	0.0079	0.396 mg/L	0.0079	1.99%
Li 670.784†	765.2	0.00715 mg/L	0.000958	0.00715 mg/L	0.000958	13.40%

Sequence No.: 8 **Autosampler Location: 6**
Sample ID: CCV **Date Collected: 5/31/2013 8:31:50 AM**
Analyst: **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: CCV

Analyte	Back Pressure	Flow
All	164.0 kPa	0.48 L/min

Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2435554.2						22378.07	0.92%
YRADIAL	184031.6						1287.27	0.70%
Ga 417.206	956281.6						13507.88	1.41%
GaRADIAL	50682.2						276.60	0.55%
Ag 328.068†	97109.7	0.419	mg/L	0.0092	0.419	mg/L	0.0092	2.19%
QC value within limits for Ag 328.068 Recovery = 104.63%								
Al 396.153†	31396.0	10.2	mg/L	0.04	10.2	mg/L	0.04	0.36%
QC value within limits for Al 396.153 Recovery = 102.14%								
As 188.979†	841.4	0.411	mg/L	0.0029	0.411	mg/L	0.0029	0.71%
QC value within limits for As 188.979 Recovery = 102.78%								
Ba 233.527†	94222.6	1.05	mg/L	0.034	1.05	mg/L	0.034	3.19%
QC value within limits for Ba 233.527 Recovery = 105.44%								
Be 234.861†	35027.1	0.0516	mg/L	0.00138	0.0516	mg/L	0.00138	2.67%
QC value within limits for Be 234.861 Recovery = 103.16%								
B 249.677†	36197.2	0.511	mg/L	0.0133	0.511	mg/L	0.0133	2.60%
QC value within limits for B 249.677 Recovery = 102.12%								
Ca 227.546†	2179.8	10.9	mg/L	0.20	10.9	mg/L	0.20	1.80%
QC value within limits for Ca 227.546 Recovery = 108.74%								
Cd 228.802†	1660.3	0.0508	mg/L	0.00087	0.0508	mg/L	0.00087	1.71%
QC value within limits for Cd 228.802 Recovery = 101.62%								
Co 228.616†	5079.6	0.211	mg/L	0.0043	0.211	mg/L	0.0043	2.04%
QC value within limits for Co 228.616 Recovery = 105.61%								
Cr 267.716†	48997.5	0.525	mg/L	0.0162	0.525	mg/L	0.0162	3.08%
QC value within limits for Cr 267.716 Recovery = 104.97%								
Cu 327.393†	91448.9	0.524	mg/L	0.0121	0.524	mg/L	0.0121	2.31%
QC value within limits for Cu 327.393 Recovery = 104.81%								
Fe 239.562†	16934.1	4.15	mg/L	0.021	4.15	mg/L	0.021	0.50%
QC value within limits for Fe 239.562 Recovery = 103.67%								
Mg 279.077†	14448.9	10.4	mg/L	0.09	10.4	mg/L	0.09	0.90%
QC value within limits for Mg 279.077 Recovery = 103.56%								
Mn 257.610†	283845.6	0.535	mg/L	0.0178	0.535	mg/L	0.0178	3.33%
QC value within limits for Mn 257.610 Recovery = 107.02%								
Mo 202.031†	20545.7	1.05	mg/L	0.034	1.05	mg/L	0.034	3.24%
QC value within limits for Mo 202.031 Recovery = 104.74%								
Ni 231.604†	20727.5	0.530	mg/L	0.0173	0.530	mg/L	0.0173	3.27%
QC value within limits for Ni 231.604 Recovery = 105.99%								
Pb 220.353†	4066.3	0.532	mg/L	0.0106	0.532	mg/L	0.0106	2.00%
QC value within limits for Pb 220.353 Recovery = 106.38%								
Sb 206.836†	3007.6	1.25	mg/L	0.019	1.25	mg/L	0.019	1.56%
QC value within limits for Sb 206.836 Recovery = 104.01%								
Se 196.026†	432.4	0.419	mg/L	0.0038	0.419	mg/L	0.0038	0.92%
QC value within limits for Se 196.026 Recovery = 104.63%								
Si 251.611†	188253.5	5.18	mg/L	0.136	5.18	mg/L	0.136	2.62%
QC value within limits for Si 251.611 Recovery = 103.58%								
Sn 189.927†	7586.7	0.949	mg/L	0.0193	0.949	mg/L	0.0193	2.04%
QC value within limits for Sn 189.927 Recovery = 94.91%								
Ti 334.940†	765312.2	1.04	mg/L	0.016	1.04	mg/L	0.016	1.52%
QC value within limits for Ti 334.940 Recovery = 103.53%								
Tl 190.801†	1079.8	0.554	mg/L	0.0088	0.554	mg/L	0.0088	1.58%
QC value greater than the upper limit for Tl 190.801 Recovery = 110.82%								
V 290.880†	205225.3	1.04	mg/L	0.038	1.04	mg/L	0.038	3.67%
QC value within limits for V 290.880 Recovery = 104.29%								
Zn 206.200†	36438.4	1.05	mg/L	0.032	1.05	mg/L	0.032	3.04%

Approved: June 03, 2013

QC value within limits for Zn 206.200 Recovery = 105.20%
K 766.490† 76433.3 51.4 mg/L 0.06 51.4 mg/L 0.06 0.12%
QC value within limits for K 766.490 Recovery = 102.75%
Na 589.592† 560478.3 50.8 mg/L 0.53 50.8 mg/L 0.53 1.05%
QC value within limits for Na 589.592 Recovery = 101.61%
Sr 407.771† 1243031.7 1.03 mg/L 0.020 1.03 mg/L 0.020 1.95%
QC value within limits for Sr 407.771 Recovery = 102.89%
Li 670.784† 74131.0 1.05 mg/L 0.003 1.05 mg/L 0.003 0.31%
QC value within limits for Li 670.784 Recovery = 105.03%
QC Failed. Continue with analysis.

==========

Sequence No.: 9 **Autosampler Location: 1**
Sample ID: CCB **Date Collected: 5/31/2013 8:33:55 AM**
Analyst: **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: CCB

Analyte	Back Pressure	Flow
All	164.0 kPa	0.48 L/min

Mean Data: CCB

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2522197.0						57109.70	2.26%
YRADIAL	186248.6						6754.24	3.63%
Ga 417.206	983014.4						29905.40	3.04%
GaRADIAL	51280.5						1189.47	2.32%
Ag 328.068†	-18.2	-0.00037	mg/L	0.000564	-0.00037	mg/L	0.000564	151.60%
QC value within limits for Ag 328.068 Recovery = Not calculated								
Al 396.153†	8.8	-0.00779	mg/L	0.001563	-0.00779	mg/L	0.001563	20.08%
QC value within limits for Al 396.153 Recovery = Not calculated								
As 188.979†	0.6	0.00113	mg/L	0.001182	0.00113	mg/L	0.001182	104.52%
QC value within limits for As 188.979 Recovery = Not calculated								
Ba 233.527†	-3.2	-0.00188	mg/L	0.000115	-0.00188	mg/L	0.000115	6.12%
QC value within limits for Ba 233.527 Recovery = Not calculated								
Be 234.861†	-21.6	-0.00001	mg/L	0.000078	-0.00001	mg/L	0.000078	>999.9%
QC value within limits for Be 234.861 Recovery = Not calculated								
B 249.677†	366.7	0.00661	mg/L	0.000234	0.00661	mg/L	0.000234	3.55%
QC value within limits for B 249.677 Recovery = Not calculated								
Ca 227.546†	1.7	-0.0278	mg/L	0.01321	-0.0278	mg/L	0.01321	47.60%
QC value within limits for Ca 227.546 Recovery = Not calculated								
Cd 228.802†	-2.8	-0.00020	mg/L	0.000112	-0.00020	mg/L	0.000112	56.23%
QC value within limits for Cd 228.802 Recovery = Not calculated								
Co 228.616†	-2.5	-0.00101	mg/L	0.000148	-0.00101	mg/L	0.000148	14.68%
QC value within limits for Co 228.616 Recovery = Not calculated								
Cr 267.716†	-2.4	-0.00124	mg/L	0.000076	-0.00124	mg/L	0.000076	6.13%
QC value within limits for Cr 267.716 Recovery = Not calculated								
Cu 327.393†	-67.1	-0.00064	mg/L	0.000337	-0.00064	mg/L	0.000337	53.00%
QC value within limits for Cu 327.393 Recovery = Not calculated								
Fe 239.562†	10.7	-0.00986	mg/L	0.001271	-0.00986	mg/L	0.001271	12.88%
QC value within limits for Fe 239.562 Recovery = Not calculated								
Mg 279.077†	4.3	-0.0126	mg/L	0.00050	-0.0126	mg/L	0.00050	3.94%
QC value within limits for Mg 279.077 Recovery = Not calculated								
Mn 257.610†	68.9	-0.00241	mg/L	0.000011	-0.00241	mg/L	0.000011	0.46%
QC value within limits for Mn 257.610 Recovery = Not calculated								
Mo 202.031†	7.3	-0.00168	mg/L	0.000275	-0.00168	mg/L	0.000275	16.38%
QC value within limits for Mo 202.031 Recovery = Not calculated								
Ni 231.604†	-14.9	-0.00215	mg/L	0.000253	-0.00215	mg/L	0.000253	11.78%
QC value within limits for Ni 231.604 Recovery = Not calculated								
Pb 220.353†	4.3	-0.00118	mg/L	0.000237	-0.00118	mg/L	0.000237	20.19%
QC value within limits for Pb 220.353 Recovery = Not calculated								
Sb 206.836†	0.0	-0.00238	mg/L	0.002168	-0.00238	mg/L	0.002168	91.18%
QC value within limits for Sb 206.836 Recovery = Not calculated								
Se 196.026†	-1.5	-0.00249	mg/L	0.006609	-0.00249	mg/L	0.006609	265.96%
QC value within limits for Se 196.026 Recovery = Not calculated								
Si 251.611†	31.6	-0.00120	mg/L	0.000549	-0.00120	mg/L	0.000549	45.75%
QC value within limits for Si 251.611 Recovery = Not calculated								
Sn 189.927†	19.1	-0.00016	mg/L	0.000444	-0.00016	mg/L	0.000444	277.01%

Approved: June 03, 2013
Lynn H. Rhoden

```
   QC value within limits for Sn 189.927  Recovery = Not calculated
Ti 334.940†                7.8    -0.00031 mg/L      0.000183    -0.00031 mg/L      0.000183  58.87%
   QC value within limits for Ti 334.940  Recovery = Not calculated
Tl 190.801†               -9.1    -0.00862 mg/L      0.002485    -0.00862 mg/L      0.002485  28.84%
   QC value within limits for Tl 190.801  Recovery = Not calculated
V 290.880†               335.3     0.00038 mg/L      0.001109     0.00038 mg/L      0.001109 290.58%
   QC value within limits for V 290.880  Recovery = Not calculated
Zn 206.200†               11.8    -0.00163 mg/L      0.000169    -0.00163 mg/L      0.000169  10.34%
   QC value within limits for Zn 206.200  Recovery = Not calculated
K 766.490†                41.5      0.0231 mg/L       0.03008      0.0231 mg/L       0.03008 130.07%
   QC value within limits for K 766.490  Recovery = Not calculated
Na 589.592†              570.1      0.0493 mg/L       0.03817      0.0493 mg/L       0.03817  77.49%
   QC value within limits for Na 589.592  Recovery = Not calculated
Sr 407.771†              198.5    -0.00341 mg/L      0.000236    -0.00341 mg/L      0.000236   6.94%
   QC value within limits for Sr 407.771  Recovery = Not calculated
Li 670.784†              108.9    -0.00218 mg/L      0.001565    -0.00218 mg/L      0.001565  71.73%
   QC value within limits for Li 670.784  Recovery = Not calculated
All analyte(s) passed QC.

==========================================================================================
Sequence No.: 10                                    Autosampler Location: 12
Sample ID: ICSA                                     Date Collected: 5/31/2013 8:36:55 AM
Analyst:                                            Data Type: Original
Initial Sample Wt:                                  Initial Sample Vol:
Dilution:                                           Sample Prep Vol:

------------------------------------------------------------------------------------------
Nebulizer Parameters: ICSA
Analyte                  Back Pressure    Flow
All                    164.0 kPa         0.48 L/min

------------------------------------------------------------------------------------------
Mean Data: ICSA
                   Mean Corrected         Calib.                          Sample
Analyte               Intensity     Conc. Units      Std.Dev.      Conc. Units      Std.Dev.   RSD
Y 371.029            2333606.2                                                    25171.64   1.08%
YRADIAL               176771.7                                                     3972.17   2.25%
Ga 417.206            932680.1                                                    21757.93   2.33%
GaRADIAL               49992.9                                                      887.46   1.78%
Ag 328.068†            -9552.4    -0.00041 mg/L      0.001134    -0.00041 mg/L      0.001134 279.74%
   QC value within limits for Ag 328.068  Recovery = Not calculated
Al 396.153†           807424.8         265 mg/L           5.7         265 mg/L           5.7   2.17%
   QC value within limits for Al 396.153  Recovery = 105.92%
As 188.979†                0.7     0.00271 mg/L      0.004824     0.00271 mg/L      0.004824 177.91%
   QC value within limits for As 188.979  Recovery = Not calculated
Ba 233.527†              403.9    -0.00074 mg/L      0.000089    -0.00074 mg/L      0.000089  11.97%
   QC value within limits for Ba 233.527  Recovery = Not calculated
Be 234.861†            16344.7     0.00036 mg/L      0.000512     0.00036 mg/L      0.000512 141.04%
   QC value within limits for Be 234.861  Recovery = Not calculated
B 249.677†              3545.7     0.00785 mg/L      0.001557     0.00785 mg/L      0.001557  19.83%
   QC value within limits for B 249.677  Recovery = Not calculated
Ca 227.546†            59715.9         288 mg/L           7.2         288 mg/L           7.2   2.49%
   QC value within limits for Ca 227.546  Recovery = 115.19%
Cd 228.802†              -10.5    -0.00005 mg/L      0.000123    -0.00005 mg/L      0.000123 225.00%
   QC value within limits for Cd 228.802  Recovery = Not calculated
Co 228.616†               13.6    -0.00293 mg/L      0.000301    -0.00293 mg/L      0.000301  10.29%
   QC value within limits for Co 228.616  Recovery = Not calculated
Cr 267.716†               88.9    -0.00077 mg/L      0.000226    -0.00077 mg/L      0.000226  29.48%
   QC value within limits for Cr 267.716  Recovery = Not calculated
Cu 327.393†            -1403.5    -0.00020 mg/L      0.000148    -0.00020 mg/L      0.000148  72.96%
   QC value within limits for Cu 327.393  Recovery = Not calculated
Fe 239.562†           414999.4         102 mg/L           0.2         102 mg/L           0.2   0.20%
   QC value within limits for Fe 239.562  Recovery = 101.93%
Mg 279.077†           368869.3         264 mg/L           0.8         264 mg/L           0.8   0.29%
   QC value within limits for Mg 279.077  Recovery = 105.71%
Mn 257.610†            -1199.6    -0.00027 mg/L      0.000275    -0.00027 mg/L      0.000275 101.48%
   QC value within limits for Mn 257.610  Recovery = Not calculated
Mo 202.031†              -58.3     0.00067 mg/L      0.000122     0.00067 mg/L      0.000122  18.28%
   QC value within limits for Mo 202.031  Recovery = Not calculated
Ni 231.604†               11.0    -0.00147 mg/L      0.000744    -0.00147 mg/L      0.000744  50.55%
   QC value within limits for Ni 231.604  Recovery = Not calculated
Pb 220.353†             -211.2    -0.00042 mg/L      0.001257    -0.00042 mg/L      0.001257 295.94%
```

Approved: June 03, 2013

Lynn H. Rhoden

```
   QC value within limits for Pb 220.353  Recovery = Not calculated
Sb 206.836†              -27.1    -0.00994 mg/L      0.003556    -0.00994 mg/L      0.003556  35.77%
   QC value within limits for Sb 206.836  Recovery = Not calculated
Se 196.026†              -14.3      0.0103 mg/L       0.00423      0.0103 mg/L       0.00423  41.13%
   QC value within limits for Se 196.026  Recovery = Not calculated
Si 251.611†              495.8      0.0116 mg/L       0.00049      0.0116 mg/L       0.00049   4.24%
   QC value within limits for Si 251.611  Recovery = Not calculated
Sn 189.927†             -268.4     -0.0362 mg/L       0.00124     -0.0362 mg/L       0.00124   3.43%
   QC value within limits for Sn 189.927  Recovery = Not calculated
Ti 334.940†           -28406.8     0.00412 mg/L      0.002191     0.00412 mg/L      0.002191  53.16%
   QC value within limits for Ti 334.940  Recovery = Not calculated
Tl 190.801†              -56.8     -0.0258 mg/L       0.00584     -0.0258 mg/L       0.00584  22.64%
   QC value within limits for Tl 190.801  Recovery = Not calculated
V 290.880†              6930.1     0.00102 mg/L      0.001754     0.00102 mg/L      0.001754 171.86%
   QC value within limits for V 290.880  Recovery = Not calculated
Zn 206.200†              216.6     0.00201 mg/L      0.000349     0.00201 mg/L      0.000349  17.36%
   QC value within limits for Zn 206.200  Recovery = Not calculated
K 766.490†              -100.7     -0.0708 mg/L       0.03321     -0.0708 mg/L       0.03321  46.92%
   QC value within limits for K 766.490  Recovery = Not calculated
Na 589.592†              141.4      0.0114 mg/L       0.00188      0.0114 mg/L       0.00188  16.48%
   QC value within limits for Na 589.592  Recovery = Not calculated
Sr 407.771†             1394.1     0.00210 mg/L      0.000142     0.00210 mg/L      0.000142   6.77%
   QC value within limits for Sr 407.771  Recovery = Not calculated
Li 670.784†              177.6    -0.00121 mg/L      0.001625    -0.00121 mg/L      0.001625 134.80%
   QC value within limits for Li 670.784  Recovery = Not calculated
All analyte(s) passed QC.

==========================================================================================
Sequence No.: 11                                    Autosampler Location: 13
Sample ID: ICSAB                                    Date Collected: 5/31/2013 8:38:58 AM
Analyst:                                            Data Type: Original
Initial Sample Wt:                                  Initial Sample Vol:
Dilution:                                           Sample Prep Vol:

------------------------------------------------------------------------------------------
Nebulizer Parameters: ICSAB
Analyte                 Back Pressure    Flow
All                    164.0 kPa         0.48 L/min

------------------------------------------------------------------------------------------
Mean Data: ICSAB
                   Mean Corrected         Calib.                          Sample
Analyte               Intensity     Conc. Units      Std.Dev.      Conc. Units      Std.Dev.   RSD
Y 371.029            2342080.1                                                    15246.99   0.65%
YRADIAL               178574.5                                                     1658.81   0.93%
Ga 417.206            941535.4                                                    18709.44   1.99%
GaRADIAL               50193.1                                                      772.94   1.54%
Ag 328.068†           111541.5       0.517 mg/L        0.0059       0.517 mg/L        0.0059   1.14%
   QC value within limits for Ag 328.068  Recovery = 103.36%
Al 396.153†           768349.4         252 mg/L           2.8         252 mg/L           2.8   1.11%
   QC value within limits for Al 396.153  Recovery = 100.80%
As 188.979†              498.5       0.249 mg/L        0.0065       0.249 mg/L        0.0065   2.59%
   QC value within limits for As 188.979  Recovery = 99.66%
Ba 233.527†            23454.7       0.258 mg/L        0.0025       0.258 mg/L        0.0025   0.99%
   QC value within limits for Ba 233.527  Recovery = 103.06%
Be 234.861†           189772.7       0.259 mg/L        0.0033       0.259 mg/L        0.0033   1.26%
   QC value within limits for Be 234.861  Recovery = 103.55%
B 249.677†              3351.8    -0.00752 mg/L      0.001427    -0.00752 mg/L      0.001427  18.98%
   QC value within limits for B 249.677  Recovery = Not calculated
Ca 227.546†            57157.0         276 mg/L           4.5         276 mg/L           4.5   1.62%
   QC value within limits for Ca 227.546  Recovery = 110.41%
Cd 228.802†            15881.4       0.500 mg/L        0.0086       0.500 mg/L        0.0086   1.71%
   QC value within limits for Cd 228.802  Recovery = 100.06%
Co 228.616†             5817.8       0.240 mg/L        0.0019       0.240 mg/L        0.0019   0.79%
   QC value within limits for Co 228.616  Recovery = 96.15%
Cr 267.716†            24451.8       0.261 mg/L        0.0021       0.261 mg/L        0.0021   0.82%
   QC value within limits for Cr 267.716  Recovery = 104.26%
Cu 327.393†            42451.4       0.250 mg/L        0.0027       0.250 mg/L        0.0027   1.07%
   QC value within limits for Cu 327.393  Recovery = 100.07%
Fe 239.562†           402934.3        99.0 mg/L          0.37        99.0 mg/L          0.37   0.37%
   QC value within limits for Fe 239.562  Recovery = 98.96%
Mg 279.077†           358176.4         257 mg/L           1.0         257 mg/L           1.0   0.40%
```

Approved: June 03, 2013

Lynn H. Rhoden

```
   QC value within limits for Mg 279.077  Recovery = 102.65%
Mn 257.610†          132464.6       0.253 mg/L        0.0013       0.253 mg/L        0.0013   0.51%
   QC value within limits for Mn 257.610  Recovery = 101.01%
Mo 202.031†             -46.6     0.00127 mg/L      0.000408     0.00127 mg/L      0.000408  32.14%
   QC value within limits for Mo 202.031  Recovery = Not calculated
Ni 231.604†           19154.8       0.490 mg/L        0.0041       0.490 mg/L        0.0041   0.83%
   QC value within limits for Ni 231.604  Recovery = 97.90%
Pb 220.353†            3624.9       0.500 mg/L        0.0056       0.500 mg/L        0.0056   1.13%
   QC value within limits for Pb 220.353  Recovery = 100.04%
Sb 206.836†            1209.9       0.503 mg/L        0.0112       0.503 mg/L        0.0112   2.23%
   QC value within limits for Sb 206.836  Recovery = 100.64%
Se 196.026†             243.3       0.259 mg/L        0.0081       0.259 mg/L        0.0081   3.12%
   QC value within limits for Se 196.026  Recovery = 103.49%
Si 251.611†            -110.2    -0.00508 mg/L      0.000824    -0.00508 mg/L      0.000824  16.22%
   QC value within limits for Si 251.611  Recovery = Not calculated
Sn 189.927†            -416.5     -0.0548 mg/L       0.00143     -0.0548 mg/L       0.00143   2.61%
   QC value within limits for Sn 189.927  Recovery = Not calculated
Ti 334.940†          -27343.0     0.00365 mg/L      0.001435     0.00365 mg/L      0.001435  39.34%
   QC value within limits for Ti 334.940  Recovery = Not calculated
Tl 190.801†             994.7       0.503 mg/L        0.0073       0.503 mg/L        0.0073   1.45%
   QC value within limits for Tl 190.801  Recovery = 100.59%
V 290.880†           55563.0       0.250 mg/L        0.0012       0.250 mg/L        0.0012   0.47%
   QC value within limits for V 290.880  Recovery = 99.91%
Zn 206.200†          17107.9       0.491 mg/L        0.0045       0.491 mg/L        0.0045   0.91%
   QC value within limits for Zn 206.200  Recovery = 98.17%
K 766.490†            7373.5        4.87 mg/L         0.032        4.87 mg/L         0.032   0.66%
   QC value within limits for K 766.490  Recovery = 97.45%
Na 589.592†          56655.3        5.02 mg/L         0.037        5.02 mg/L         0.037   0.74%
   QC value within limits for Na 589.592  Recovery = 100.32%
Sr 407.771†           1245.8     0.00178 mg/L      0.000098     0.00178 mg/L      0.000098   5.52%
   QC value within limits for Sr 407.771  Recovery = Not calculated
Li 670.784†            168.9    -0.00133 mg/L      0.000542    -0.00133 mg/L      0.000542  40.79%
   QC value within limits for Li 670.784  Recovery = Not calculated
All analyte(s) passed QC.
```

==========

Sequence No.: 12 **Autosampler Location: 6**
Sample ID: CCV **Date Collected: 5/31/2013 8:40:59 AM**
Analyst: **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: CCV

Analyte	Back Pressure	Flow
All	165.0 kPa	0.48 L/min

Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2506336.9						23330.06	0.93%
YRADIAL	189452.1						1834.00	0.97%
Ga 417.206	986367.4						13643.59	1.38%
GaRADIAL	51111.1						359.78	0.70%
Ag 328.068†	93833.5	0.404	mg/L	0.0051	0.404	mg/L	0.0051	1.26%
QC value within limits for Ag 328.068 Recovery = 101.11%								
Al 396.153†	30911.7	10.1	mg/L	0.03	10.1	mg/L	0.03	0.33%
QC value within limits for Al 396.153 Recovery = 100.58%								
As 188.979†	820.8	0.401	mg/L	0.0005	0.401	mg/L	0.0005	0.11%
QC value within limits for As 188.979 Recovery = 100.28%								
Ba 233.527†	91135.2	1.02	mg/L	0.005	1.02	mg/L	0.005	0.53%
QC value within limits for Ba 233.527 Recovery = 101.98%								
Be 234.861†	33996.4	0.0501	mg/L	0.00069	0.0501	mg/L	0.00069	1.38%
QC value within limits for Be 234.861 Recovery = 100.12%								
B 249.677†	34952.0	0.493	mg/L	0.0072	0.493	mg/L	0.0072	1.47%
QC value within limits for B 249.677 Recovery = 98.61%								
Ca 227.546†	2116.8	10.6	mg/L	0.06	10.6	mg/L	0.06	0.59%
QC value within limits for Ca 227.546 Recovery = 105.60%								
Cd 228.802†	1620.2	0.0496	mg/L	0.00079	0.0496	mg/L	0.00079	1.59%
QC value within limits for Cd 228.802 Recovery = 99.17%								
Co 228.616†	4991.1	0.208	mg/L	0.0021	0.208	mg/L	0.0021	1.00%

Approved: June 03, 2013

```
   QC value within limits for Co 228.616  Recovery = 103.75%
Cr 267.716†          47530.4       0.509 mg/L        0.0030       0.509 mg/L        0.0030   0.58%
   QC value within limits for Cr 267.716  Recovery = 101.82%
Cu 327.393†          88246.6       0.506 mg/L        0.0079       0.506 mg/L        0.0079   1.55%
   QC value within limits for Cu 327.393  Recovery = 101.14%
Fe 239.562†          16467.4        4.03 mg/L         0.018        4.03 mg/L         0.018   0.45%
   QC value within limits for Fe 239.562  Recovery = 100.80%
Mg 279.077†          14124.7        10.1 mg/L          0.06        10.1 mg/L          0.06   0.56%
   QC value within limits for Mg 279.077  Recovery = 101.23%
Mn 257.610†         275543.8       0.519 mg/L        0.0033       0.519 mg/L        0.0033   0.64%
   QC value within limits for Mn 257.610  Recovery = 103.87%
Mo 202.031†          19912.7        1.02 mg/L         0.004        1.02 mg/L         0.004   0.39%
   QC value within limits for Mo 202.031  Recovery = 101.51%
Ni 231.604†          20189.7       0.516 mg/L        0.0035       0.516 mg/L        0.0035   0.67%
   QC value within limits for Ni 231.604  Recovery = 103.23%
Pb 220.353†           4005.5       0.524 mg/L        0.0067       0.524 mg/L        0.0067   1.27%
   QC value within limits for Pb 220.353  Recovery = 104.78%
Sb 206.836†           2931.6        1.22 mg/L         0.005        1.22 mg/L         0.005   0.43%
   QC value within limits for Sb 206.836  Recovery = 101.38%
Se 196.026†            424.1       0.410 mg/L        0.0026       0.410 mg/L        0.0026   0.63%
   QC value within limits for Se 196.026  Recovery = 102.62%
Si 251.611†         182247.2        5.01 mg/L         0.069        5.01 mg/L         0.069   1.37%
   QC value within limits for Si 251.611  Recovery = 100.28%
Sn 189.927†           7454.8       0.933 mg/L        0.0145       0.933 mg/L        0.0145   1.56%
   QC value within limits for Sn 189.927  Recovery = 93.25%
Ti 334.940†         749246.9        1.01 mg/L         0.015        1.01 mg/L         0.015   1.48%
   QC value within limits for Ti 334.940  Recovery = 101.36%
Tl 190.801†           1050.5       0.539 mg/L        0.0047       0.539 mg/L        0.0047   0.88%
   QC value within limits for Tl 190.801  Recovery = 107.80%
V 290.880†           199168.5        1.01 mg/L         0.011        1.01 mg/L         0.011   1.07%
   QC value within limits for V 290.880  Recovery = 101.21%
Zn 206.200†          35697.2        1.03 mg/L         0.004        1.03 mg/L         0.004   0.40%
   QC value within limits for Zn 206.200  Recovery = 103.05%
K 766.490†           75156.6        50.5 mg/L          0.55        50.5 mg/L          0.55   1.08%
   QC value within limits for K 766.490  Recovery = 101.01%
Na 589.592†         556909.9        50.5 mg/L          0.09        50.5 mg/L          0.09   0.17%
   QC value within limits for Na 589.592  Recovery = 100.94%
Sr 407.771†        1205699.1       0.998 mg/L        0.0127       0.998 mg/L        0.0127   1.28%
   QC value within limits for Sr 407.771  Recovery = 99.79%
Li 670.784†          72230.5        1.02 mg/L         0.005        1.02 mg/L         0.005   0.49%
   QC value within limits for Li 670.784  Recovery = 102.33%
All analyte(s) passed QC.
```

==========

Sequence No.: 13 **Autosampler Location: 1**
Sample ID: CCB **Date Collected: 5/31/2013 8:43:04 AM**
Analyst: **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: CCB

Analyte	Back Pressure	Flow
All	164.0 kPa	0.48 L/min

Mean Data: CCB

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2590304.0						15880.32	0.61%
YRADIAL	189423.4						4560.34	2.41%
Ga 417.206	1023158.7						7234.15	0.71%
GaRADIAL	52047.1						495.53	0.95%
Ag 328.068†	-70.1	-0.00059	mg/L	0.000253	-0.00059	mg/L	0.000253	42.64%
QC value within limits for Ag 328.068 Recovery = Not calculated								
Al 396.153†	24.4	-0.00263	mg/L	0.002299	-0.00263	mg/L	0.002299	87.51%
QC value within limits for Al 396.153 Recovery = Not calculated								
As 188.979†	1.7	0.00167	mg/L	0.001109	0.00167	mg/L	0.001109	66.47%
QC value within limits for As 188.979 Recovery = Not calculated								
Ba 233.527†	-3.8	-0.00188	mg/L	0.000029	-0.00188	mg/L	0.000029	1.55%
QC value within limits for Ba 233.527 Recovery = Not calculated								
Be 234.861†	34.5	0.00008	mg/L	0.000007	0.00008	mg/L	0.000007	8.74%

Approved: June 03, 2013

Lynn H. Rhoden

```
   QC value within limits for Be 234.861  Recovery = Not calculated
B 249.677†              319.4     0.00594 mg/L      0.000507     0.00594 mg/L      0.000507   8.54%
   QC value within limits for B 249.677  Recovery = Not calculated
Ca 227.546†               0.9     -0.0312 mg/L       0.02576     -0.0312 mg/L       0.02576  82.64%
   QC value within limits for Ca 227.546  Recovery = Not calculated
Cd 228.802†              -3.6    -0.00023 mg/L      0.000201    -0.00023 mg/L      0.000201  88.42%
   QC value within limits for Cd 228.802  Recovery = Not calculated
Co 228.616†              -0.4    -0.00092 mg/L      0.000214    -0.00092 mg/L      0.000214  23.27%
   QC value within limits for Co 228.616  Recovery = Not calculated
Cr 267.716†               2.5    -0.00119 mg/L      0.000074    -0.00119 mg/L      0.000074   6.23%
   QC value within limits for Cr 267.716  Recovery = Not calculated
Cu 327.393†              32.4    -0.00007 mg/L      0.001085    -0.00007 mg/L      0.001085 >999.9%
   QC value within limits for Cu 327.393  Recovery = Not calculated
Fe 239.562†              33.3    -0.00430 mg/L      0.000504    -0.00430 mg/L      0.000504  11.73%
   QC value within limits for Fe 239.562  Recovery = Not calculated
Mg 279.077†               5.2     -0.0120 mg/L       0.00118     -0.0120 mg/L       0.00118   9.86%
   QC value within limits for Mg 279.077  Recovery = Not calculated
Mn 257.610†              81.0    -0.00239 mg/L      0.000032    -0.00239 mg/L      0.000032   1.35%
   QC value within limits for Mn 257.610  Recovery = Not calculated
Mo 202.031†              -3.2    -0.00222 mg/L      0.000435    -0.00222 mg/L      0.000435  19.62%
   QC value within limits for Mo 202.031  Recovery = Not calculated
Ni 231.604†             -11.6    -0.00206 mg/L      0.000175    -0.00206 mg/L      0.000175   8.49%
   QC value within limits for Ni 231.604  Recovery = Not calculated
Pb 220.353†               5.6    -0.00101 mg/L      0.000305    -0.00101 mg/L      0.000305  30.05%
   QC value within limits for Pb 220.353  Recovery = Not calculated
Sb 206.836†               2.6    -0.00132 mg/L      0.001388    -0.00132 mg/L      0.001388 105.50%
   QC value within limits for Sb 206.836  Recovery = Not calculated
Se 196.026†              -5.0    -0.00583 mg/L      0.003719    -0.00583 mg/L      0.003719  63.81%
   QC value within limits for Se 196.026  Recovery = Not calculated
Si 251.611†             -28.9    -0.00286 mg/L      0.000253    -0.00286 mg/L      0.000253   8.83%
   QC value within limits for Si 251.611  Recovery = Not calculated
Sn 189.927†              17.3    -0.00039 mg/L      0.000852    -0.00039 mg/L      0.000852 219.05%
   QC value within limits for Sn 189.927  Recovery = Not calculated
Ti 334.940†             -33.7    -0.00037 mg/L      0.000028    -0.00037 mg/L      0.000028   7.74%
   QC value within limits for Ti 334.940  Recovery = Not calculated
Tl 190.801†              -4.1    -0.00611 mg/L      0.001270    -0.00611 mg/L      0.001270  20.80%
   QC value within limits for Tl 190.801  Recovery = Not calculated
V 290.880†              206.3    -0.00028 mg/L      0.000279    -0.00028 mg/L      0.000279 100.74%
   QC value within limits for V 290.880  Recovery = Not calculated
Zn 206.200†               7.8    -0.00175 mg/L      0.000254    -0.00175 mg/L      0.000254  14.51%
   QC value within limits for Zn 206.200  Recovery = Not calculated
K 766.490†              100.8      0.0623 mg/L       0.05986      0.0623 mg/L       0.05986  96.06%
   QC value within limits for K 766.490  Recovery = Not calculated
Na 589.592†             474.4      0.0408 mg/L       0.02160      0.0408 mg/L       0.02160  52.94%
   QC value within limits for Na 589.592  Recovery = Not calculated
Sr 407.771†             259.2    -0.00336 mg/L      0.000164    -0.00336 mg/L      0.000164   4.90%
   QC value within limits for Sr 407.771  Recovery = Not calculated
Li 670.784†             132.9    -0.00184 mg/L      0.001434    -0.00184 mg/L      0.001434  77.93%
   QC value within limits for Li 670.784  Recovery = Not calculated
All analyte(s) passed QC.
User canceled analysis.
```

Approved: June 03, 2013

Lynn H. Rhoden

==========

Analysis Begun

Start Time: 5/31/2013 8:46:57 AM **Plasma On Time: 5/31/2013 6:21:19 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\FRIDAY1.sif
Batch ID:
Results Data Set: 053113HR
Results Library: C:\pe\peicp2\Results\Results.mdb

==========

Method Loaded
Method Name: 200.7-6010-3015 ASX **Method Last Saved: 5/31/2013 8:17:26 AM**
IEC File: CA227_LiBeMOD.iec **SMF File:**
Method Description: STANDARD

==========

Sequence No.: 1 **Autosampler Location: 21**
Sample ID: PBW 1B WG432372-02 **Date Collected: 5/31/2013 8:46:59 AM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: PBW 1B WG432372-02

Analyte	Back Pressure	Flow
All	165.0 kPa	0.48 L/min

Mean Data: PBW 1B WG432372-02

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2619728.1						62866.47	2.40%
YRADIAL	194193.8						442.24	0.23%
Ga 417.206	1007239.6						25162.04	2.50%
GaRADIAL	51748.9						1250.03	2.42%
Ag 328.068†	18.6	-0.00022	mg/L	0.000184	-0.00022	mg/L	0.000184	85.44%
Al 396.153†	17.5	-0.00491	mg/L	0.005888	-0.00491	mg/L	0.005888	120.01%
As 188.979†	2.8	0.00221	mg/L	0.003531	0.00221	mg/L	0.003531	159.85%
Ba 233.527†	-15.3	-0.00201	mg/L	0.000194	-0.00201	mg/L	0.000194	9.64%
Be 234.861†	-103.7	-0.00013	mg/L	0.000057	-0.00013	mg/L	0.000057	44.50%
B 249.677†	85.7	0.00263	mg/L	0.000046	0.00263	mg/L	0.000046	1.74%
Ca 227.546†	-1.4	-0.0425	mg/L	0.05302	-0.0425	mg/L	0.05302	124.74%
Cd 228.802†	0.1	-0.00011	mg/L	0.000041	-0.00011	mg/L	0.000041	35.99%
Co 228.616†	1.6	-0.00084	mg/L	0.000053	-0.00084	mg/L	0.000053	6.34%
Cr 267.716†	1.6	-0.00119	mg/L	0.000071	-0.00119	mg/L	0.000071	5.91%
Cu 327.393†	132.0	0.00050	mg/L	0.000523	0.00050	mg/L	0.000523	104.09%
Fe 239.562†	14.9	-0.00881	mg/L	0.002321	-0.00881	mg/L	0.002321	26.33%
Mg 279.077†	9.2	-0.00910	mg/L	0.004178	-0.00910	mg/L	0.004178	45.90%
Mn 257.610†	-81.3	-0.00270	mg/L	0.000024	-0.00270	mg/L	0.000024	0.88%
Mo 202.031†	3.6	-0.00187	mg/L	0.000132	-0.00187	mg/L	0.000132	7.05%
Ni 231.604†	-9.4	-0.00200	mg/L	0.000511	-0.00200	mg/L	0.000511	25.51%
Pb 220.353†	-4.7	-0.00235	mg/L	0.000829	-0.00235	mg/L	0.000829	35.23%
Sb 206.836†	5.6	-0.00005	mg/L	0.001754	-0.00005	mg/L	0.001754	>999.9%
Se 196.026†	-4.9	-0.00571	mg/L	0.005056	-0.00571	mg/L	0.005056	88.52%
Si 251.611†	-14.8	-0.00248	mg/L	0.000475	-0.00248	mg/L	0.000475	19.17%
Sn 189.927†	-1.1	-0.00271	mg/L	0.000554	-0.00271	mg/L	0.000554	20.46%
Ti 334.940†	202.9	-0.00005	mg/L	0.000360	-0.00005	mg/L	0.000360	737.86%
Tl 190.801†	-10.0	-0.00905	mg/L	0.002397	-0.00905	mg/L	0.002397	26.48%
V 290.880†	161.5	-0.00050	mg/L	0.000888	-0.00050	mg/L	0.000888	176.00%
Zn 206.200†	68.4	0.00000	mg/L	0.000056	0.00000	mg/L	0.000056	>999.9%
K 766.490†	-18.3	-0.0163	mg/L	0.03096	-0.0163	mg/L	0.03096	189.95%
Na 589.592†	-149.3	-0.0143	mg/L	0.00681	-0.0143	mg/L	0.00681	47.65%
Sr 407.771†	18.7	-0.00356	mg/L	0.000043	-0.00356	mg/L	0.000043	1.20%
Li 670.784†	15.1	-0.00352	mg/L	0.001051	-0.00352	mg/L	0.001051	29.89%

==========

Sequence No.: 2 **Autosampler Location: 22**
Sample ID: LCSW 1B WG432372-03 **Date Collected: 5/31/2013 8:50:00 AM**

Approved: June 03, 2013
Kym H. Rhoden

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

Nebulizer Parameters: LCSW 1B WG432372-03

Analyte	Back Pressure	Flow
All	164.0 kPa	0.48 L/min

Mean Data: LCSW 1B WG432372-03

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2493250.1						16488.54	0.66%
YRADIAL	194496.2						7794.94	4.01%
Ga 417.206	981349.5						15240.82	1.55%
GaRADIAL	52219.1						1713.19	3.28%
Ag 328.068†	46685.2	0.201	mg/L	0.0031	0.201	mg/L	0.0031	1.56%
Al 396.153†	15521.4	5.04	mg/L	0.037	5.04	mg/L	0.037	0.74%
As 188.979†	400.3	0.196	mg/L	0.0002	0.196	mg/L	0.0002	0.11%
Ba 233.527†	45636.8	0.510	mg/L	0.0042	0.510	mg/L	0.0042	0.83%
Be 234.861†	16293.2	0.0240	mg/L	0.00040	0.0240	mg/L	0.00040	1.66%
B 249.677†	67447.4	0.956	mg/L	0.0116	0.956	mg/L	0.0116	1.21%
Ca 227.546†	1040.7	5.18	mg/L	0.082	5.18	mg/L	0.082	1.58%
Cd 228.802†	786.2	0.0240	mg/L	0.00058	0.0240	mg/L	0.00058	2.40%
Co 228.616†	2461.3	0.102	mg/L	0.0017	0.102	mg/L	0.0017	1.68%
Cr 267.716†	24072.2	0.257	mg/L	0.0049	0.257	mg/L	0.0049	1.92%
Cu 327.393†	44635.2	0.256	mg/L	0.0043	0.256	mg/L	0.0043	1.69%
Fe 239.562†	8225.3	2.01	mg/L	0.003	2.01	mg/L	0.003	0.17%
Mg 279.077†	7019.2	5.02	mg/L	0.019	5.02	mg/L	0.019	0.38%
Mn 257.610†	138108.9	0.259	mg/L	0.0025	0.259	mg/L	0.0025	0.98%
Mo 202.031†	10279.8	0.523	mg/L	0.0068	0.523	mg/L	0.0068	1.30%
Ni 231.604†	10264.1	0.262	mg/L	0.0028	0.262	mg/L	0.0028	1.06%
Pb 220.353†	1953.2	0.255	mg/L	0.0033	0.255	mg/L	0.0033	1.30%
Sb 206.836†	1449.5	0.600	mg/L	0.0095	0.600	mg/L	0.0095	1.58%
Se 196.026†	196.8	0.190	mg/L	0.0024	0.190	mg/L	0.0024	1.29%
Si 251.611†	88653.6	2.44	mg/L	0.037	2.44	mg/L	0.037	1.52%
Sn 189.927†	-3.5	-0.00300	mg/L	0.001260	-0.00300	mg/L	0.001260	41.98%
Ti 334.940†	385920.6	0.522	mg/L	0.0070	0.522	mg/L	0.0070	1.34%
Tl 190.801†	506.4	0.258	mg/L	0.0051	0.258	mg/L	0.0051	1.98%
V 290.880†	100661.2	0.511	mg/L	0.0049	0.511	mg/L	0.0049	0.96%
Zn 206.200†	17226.7	0.496	mg/L	0.0073	0.496	mg/L	0.0073	1.48%
K 766.490†	37938.7	25.3	mg/L	0.46	25.3	mg/L	0.46	1.80%
Na 589.592†	274931.0	24.6	mg/L	0.80	24.6	mg/L	0.80	3.25%
Sr 407.771†	600495.9	0.495	mg/L	0.0186	0.495	mg/L	0.0186	3.75%
Li 670.784†	37432.8	0.529	mg/L	0.0078	0.529	mg/L	0.0078	1.47%

Sequence No.: 3 **Autosampler Location: 23**
Sample ID: FBLK1 WG432147-01 **Date Collected: 5/31/2013 8:52:05 AM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: FBLK1 WG432147-01

Analyte	Back Pressure	Flow
All	165.0 kPa	0.48 L/min

Mean Data: FBLK1 WG432147-01

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2496385.7						30277.38	1.21%
YRADIAL	194916.1						1612.85	0.83%
Ga 417.206	979195.3						10885.85	1.11%
GaRADIAL	51748.1						1214.62	2.35%
Ag 328.068†	81.0	0.00006	mg/L	0.000506	0.00006	mg/L	0.000506	904.92%
Al 396.153†	4.1	-0.00936	mg/L	0.001720	-0.00936	mg/L	0.001720	18.37%
As 188.979†	-3.4	-0.00086	mg/L	0.002104	-0.00086	mg/L	0.002104	244.18%
Ba 233.527†	-21.1	-0.00208	mg/L	0.000066	-0.00208	mg/L	0.000066	3.18%
Be 234.861†	-149.8	-0.00020	mg/L	0.000017	-0.00020	mg/L	0.000017	8.59%

Approved: June 03, 2013

Lynn H. Rhoden

B 249.677†	466.1	0.00802	mg/L	0.001045	0.00802	mg/L	0.001045	13.03%
Ca 227.546†	1.0	-0.0313	mg/L	0.04145	-0.0313	mg/L	0.04145	132.45%
Cd 228.802†	0.4	-0.00009	mg/L	0.000180	-0.00009	mg/L	0.000180	199.56%
Co 228.616†	-7.4	-0.00121	mg/L	0.000340	-0.00121	mg/L	0.000340	28.06%
Cr 267.716†	17.4	-0.00102	mg/L	0.000066	-0.00102	mg/L	0.000066	6.46%
Cu 327.393†	-43.8	-0.00050	mg/L	0.000597	-0.00050	mg/L	0.000597	119.16%
Fe 239.562†	15.7	-0.00862	mg/L	0.001819	-0.00862	mg/L	0.001819	21.10%
Mg 279.077†	13.6	-0.00591	mg/L	0.002753	-0.00591	mg/L	0.002753	46.58%
Mn 257.610†	162.4	-0.00224	mg/L	0.000018	-0.00224	mg/L	0.000018	0.79%
Mo 202.031†	20.3	-0.00101	mg/L	0.000080	-0.00101	mg/L	0.000080	7.95%
Ni 231.604†	-29.6	-0.00252	mg/L	0.000154	-0.00252	mg/L	0.000154	6.10%
Pb 220.353†	-4.3	-0.00231	mg/L	0.000403	-0.00231	mg/L	0.000403	17.48%
Sb 206.836†	5.3	-0.00018	mg/L	0.000884	-0.00018	mg/L	0.000884	504.84%
Se 196.026†	2.2	0.00109	mg/L	0.003215	0.00109	mg/L	0.003215	294.32%
Si 251.611†	21.1	-0.00150	mg/L	0.001036	-0.00150	mg/L	0.001036	69.27%
Sn 189.927†	-7.2	-0.00347	mg/L	0.000816	-0.00347	mg/L	0.000816	23.53%
Ti 334.940†	30.2	-0.00028	mg/L	0.000233	-0.00028	mg/L	0.000233	83.00%
Tl 190.801†	-15.9	-0.0120	mg/L	0.00149	-0.0120	mg/L	0.00149	12.37%
V 290.880†	651.4	0.00199	mg/L	0.000700	0.00199	mg/L	0.000700	35.15%
Zn 206.200†	148.2	0.00229	mg/L	0.000268	0.00229	mg/L	0.000268	11.70%
K 766.490†	76.8	-0.107	mg/L	0.0271	-0.107	mg/L	0.0271	25.36%
Na 589.592†	1601140.2	153	mg/L	5.2	153	mg/L	5.2	3.39%
Sr 407.771†	324.3	-0.00330	mg/L	0.000077	-0.00330	mg/L	0.000077	2.34%
Li 670.784†	44.5	-0.00310	mg/L	0.001049	-0.00310	mg/L	0.001049	33.88%

Sequence No.: 4
Sample ID: FBLK2 WG432147-02
Analyst: KHR
Initial Sample Wt:
Dilution:

Autosampler Location: 24
Date Collected: 5/31/2013 8:55:08 AM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: FBLK2 WG432147-02

Analyte	Back Pressure	Flow
All	165.0 kPa	0.48 L/min

Mean Data: FBLK2 WG432147-02

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	2600823.7						32686.02	1.26%
YRADIAL	189994.9						5620.72	2.96%
Ga 417.206	1010957.2						12457.74	1.23%
GaRADIAL	52911.4						527.08	1.00%
Ag 328.068†	-117.6	-0.00080	mg/L	0.000531	-0.00080	mg/L	0.000531	66.56%
Al 396.153†	2.5	-0.00986	mg/L	0.002178	-0.00986	mg/L	0.002178	22.09%
As 188.979†	-3.1	-0.00072	mg/L	0.002159	-0.00072	mg/L	0.002159	300.10%
Ba 233.527†	-21.3	-0.00208	mg/L	0.000044	-0.00208	mg/L	0.000044	2.14%
Be 234.861†	-113.4	-0.00014	mg/L	0.000011	-0.00014	mg/L	0.000011	7.42%
B 249.677†	132.5	0.00329	mg/L	0.000260	0.00329	mg/L	0.000260	7.90%
Ca 227.546†	2.4	-0.0246	mg/L	0.03442	-0.0246	mg/L	0.03442	139.88%
Cd 228.802†	0.9	-0.00007	mg/L	0.000073	-0.00007	mg/L	0.000073	99.24%
Co 228.616†	2.1	-0.00081	mg/L	0.000168	-0.00081	mg/L	0.000168	20.73%
Cr 267.716†	7.9	-0.00113	mg/L	0.000196	-0.00113	mg/L	0.000196	17.41%
Cu 327.393†	8.8	-0.00020	mg/L	0.000290	-0.00020	mg/L	0.000290	144.18%
Fe 239.562†	5.5	-0.0111	mg/L	0.00075	-0.0111	mg/L	0.00075	6.73%
Mg 279.077†	1.1	-0.0148	mg/L	0.00294	-0.0148	mg/L	0.00294	19.81%
Mn 257.610†	5.7	-0.00253	mg/L	0.000034	-0.00253	mg/L	0.000034	1.36%
Mo 202.031†	16.8	-0.00119	mg/L	0.000020	-0.00119	mg/L	0.000020	1.68%
Ni 231.604†	-24.1	-0.00238	mg/L	0.000418	-0.00238	mg/L	0.000418	17.57%
Pb 220.353†	-0.8	-0.00185	mg/L	0.001294	-0.00185	mg/L	0.001294	69.86%
Sb 206.836†	6.4	0.00025	mg/L	0.000490	0.00025	mg/L	0.000490	193.02%
Se 196.026†	-1.4	-0.00232	mg/L	0.002199	-0.00232	mg/L	0.002199	94.71%
Si 251.611†	-42.1	-0.00324	mg/L	0.000791	-0.00324	mg/L	0.000791	24.43%
Sn 189.927†	-1.3	-0.00273	mg/L	0.000977	-0.00273	mg/L	0.000977	35.86%
Ti 334.940†	-117.6	-0.00048	mg/L	0.000068	-0.00048	mg/L	0.000068	14.28%
Tl 190.801†	-14.2	-0.0112	mg/L	0.00499	-0.0112	mg/L	0.00499	44.64%
V 290.880†	281.9	0.00011	mg/L	0.000590	0.00011	mg/L	0.000590	533.43%
Zn 206.200†	208.4	0.00403	mg/L	0.000257	0.00403	mg/L	0.000257	6.39%
K 766.490†	-98.5	-0.0694	mg/L	0.01872	-0.0694	mg/L	0.01872	26.95%
Na 589.592†	1471.2	0.129	mg/L	0.0610	0.129	mg/L	0.0610	47.31%

Approved: June 03, 2013

Sr 407.771†	-41.2	-0.00360	mg/L	0.000019	-0.00360	mg/L	0.000019	0.51%
Li 670.784†	-18.9	-0.00400	mg/L	0.001094	-0.00400	mg/L	0.001094	27.36%

==========

Sequence No.: 5 **Autosampler Location: 25**
Sample ID: L1305141001 **Date Collected: 5/31/2013 8:58:07 AM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1305141001

Analyte	Back Pressure	Flow
All	165.0 kPa	0.48 L/min

Mean Data: L1305141001

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2358929.7						22500.27	0.95%
YRADIAL	184724.0						3782.07	2.05%
Ga 417.206	955277.9						13109.12	1.37%
GaRADIAL	52178.3						220.00	0.42%
Ag 328.068†	3850.0	0.0161	mg/L	0.00055	0.0161	mg/L	0.00055	3.38%
Al 396.153†	248.2	0.0512	mg/L	0.00150	0.0512	mg/L	0.00150	2.94%
As 188.979†	-1.1	0.00943	mg/L	0.001818	0.00943	mg/L	0.001818	19.27%
Ba 233.527†	6727.8	0.0738	mg/L	0.00059	0.0738	mg/L	0.00059	0.80%
Be 234.861†	84.5	0.00025	mg/L	0.000037	0.00025	mg/L	0.000037	15.02%
B 249.677†	16015.1	0.229	mg/L	0.0048	0.229	mg/L	0.0048	2.09%
Ca 227.546†	101458.8	485	mg/L	7.2	485	mg/L	7.2	1.48%
Cd 228.802†	-2.1	-0.00019	mg/L	0.000137	-0.00019	mg/L	0.000137	73.45%
Co 228.616†	-0.4	-0.00030	mg/L	0.000348	-0.00030	mg/L	0.000348	115.51%
Cr 267.716†	203.3	0.00093	mg/L	0.000061	0.00093	mg/L	0.000061	6.52%
Cu 327.393†	-543.7	-0.00342	mg/L	0.000714	-0.00342	mg/L	0.000714	20.86%
Fe 239.562†	180.1	0.0318	mg/L	0.00172	0.0318	mg/L	0.00172	5.42%
Mg 279.077†	86.9	0.0517	mg/L	0.00467	0.0517	mg/L	0.00467	9.03%
Mn 257.610†	356.4	-0.00180	mg/L	0.000008	-0.00180	mg/L	0.000008	0.46%
Mo 202.031†	5566.3	0.282	mg/L	0.0022	0.282	mg/L	0.0022	0.78%
Ni 231.604†	8.0	-0.00155	mg/L	0.000204	-0.00155	mg/L	0.000204	13.21%
Pb 220.353†	1730.9	0.225	mg/L	0.0038	0.225	mg/L	0.0038	1.67%
Sb 206.836†	-8.2	-0.00542	mg/L	0.000280	-0.00542	mg/L	0.000280	5.16%
Se 196.026†	126.3	0.121	mg/L	0.0032	0.121	mg/L	0.0032	2.62%
Si 251.611†	11871.3	0.322	mg/L	0.0184	0.322	mg/L	0.0184	5.70%
Sn 189.927†	-485.8	-0.0635	mg/L	0.00211	-0.0635	mg/L	0.00211	3.32%
Ti 334.940†	-45387.8	0.0111	mg/L	0.00243	0.0111	mg/L	0.00243	21.82%
Tl 190.801†	-72.6	-0.0412	mg/L	0.00587	-0.0412	mg/L	0.00587	14.24%
V 290.880†	1348.7	0.00548	mg/L	0.000272	0.00548	mg/L	0.000272	4.95%
Zn 206.200†	4783.7	0.136	mg/L	0.0013	0.136	mg/L	0.0013	0.95%
K 766.490†	7658.7	5.06	mg/L	0.068	5.06	mg/L	0.068	1.34%
Na 589.592†	67054.3	5.94	mg/L	0.054	5.94	mg/L	0.054	0.91%
Sr 407.771†	426648.3	0.358	mg/L	0.0062	0.358	mg/L	0.0062	1.74%
Li 670.784†	12733.5	0.177	mg/L	0.0030	0.177	mg/L	0.0030	1.70%

==========

Sequence No.: 6 **Autosampler Location: 26**
Sample ID: L1305141201 **Date Collected: 5/31/2013 9:01:07 AM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1305141201

Analyte	Back Pressure	Flow
All	165.0 kPa	0.48 L/min

Mean Data: L1305141201

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2517450.3						18390.20	0.73%
YRADIAL	186593.5						6243.91	3.35%
Ga 417.206	1004250.7						11449.63	1.14%

Approved: June 03, 2013

Kym H. Rhoden

GaRADIAL	52848.4					1572.33	2.98%
Ag 328.068†	-12.4	-0.00028	mg/L	0.000320	-0.00028 mg/L	0.000320	114.90%
Al 396.153†	4037.3	1.31	mg/L	0.046	1.31 mg/L	0.046	3.51%
As 188.979†	6.2	0.00387	mg/L	0.000771	0.00387 mg/L	0.000771	19.91%
Ba 233.527†	1772.8	0.0180	mg/L	0.00026	0.0180 mg/L	0.00026	1.43%
Be 234.861†	2742.8	0.00404	mg/L	0.000014	0.00404 mg/L	0.000014	0.34%
B 249.677†	12944.2	0.184	mg/L	0.0025	0.184 mg/L	0.0025	1.37%
Ca 227.546†	1017.4	4.91	mg/L	0.056	4.91 mg/L	0.056	1.13%
Cd 228.802†	62.8	0.00224	mg/L	0.000056	0.00224 mg/L	0.000056	2.51%
Co 228.616†	2476.1	0.103	mg/L	0.0012	0.103 mg/L	0.0012	1.13%
Cr 267.716†	1775.6	0.0179	mg/L	0.00020	0.0179 mg/L	0.00020	1.12%
Cu 327.393†	18629.8	0.106	mg/L	0.0010	0.106 mg/L	0.0010	0.96%
Fe 239.562†	1162.3	0.273	mg/L	0.0125	0.273 mg/L	0.0125	4.57%
Mg 279.077†	653.3	0.452	mg/L	0.0219	0.452 mg/L	0.0219	4.83%
Mn 257.610†	14000.5	0.0240	mg/L	0.00039	0.0240 mg/L	0.00039	1.64%
Mo 202.031†	91.0	0.00262	mg/L	0.000298	0.00262 mg/L	0.000298	11.40%
Ni 231.604†	4467.6	0.113	mg/L	0.0015	0.113 mg/L	0.0015	1.31%
Pb 220.353†	241.6	0.0299	mg/L	0.00011	0.0299 mg/L	0.00011	0.36%
Sb 206.836†	3.3	-0.00115	mg/L	0.000799	-0.00115 mg/L	0.000799	69.52%
Se 196.026†	0.2	-0.00068	mg/L	0.001280	-0.00068 mg/L	0.001280	188.96%
Si 251.611†	25990.7	0.715	mg/L	0.0089	0.715 mg/L	0.0089	1.25%
Sn 189.927†	-42.6	-0.00790	mg/L	0.000322	-0.00790 mg/L	0.000322	4.08%
Ti 334.940†	3511.9	0.00515	mg/L	0.000186	0.00515 mg/L	0.000186	3.61%
Tl 190.801†	-8.8	-0.00846	mg/L	0.004669	-0.00846 mg/L	0.004669	55.19%
V 290.880†	871.8	0.00303	mg/L	0.000309	0.00303 mg/L	0.000309	10.20%
Zn 206.200†	12494.5	0.358	mg/L	0.0033	0.358 mg/L	0.0033	0.93%
K 766.490†	3378.5	2.08	mg/L	0.060	2.08 mg/L	0.060	2.88%
Na 589.592†	1597038.7	153	mg/L	1.3	153 mg/L	1.3	0.82%
Sr 407.771†	233069.5	0.190	mg/L	0.0057	0.190 mg/L	0.0057	2.99%
Li 670.784†	5460.0	0.0739	mg/L	0.00264	0.0739 mg/L	0.00264	3.58%

Sequence No.: 7 **Autosampler Location: 27**
Sample ID: L1305141201PS WG432389-01 **Date Collected: 5/31/2013 9:04:08 AM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1305141201PS WG432389-01

Analyte	Back Pressure	Flow
All	165.0 kPa	0.48 L/min

Mean Data: L1305141201PS WG432389-01

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2463936.5						14811.19	0.60%
YRADIAL	190203.7						3949.71	2.08%
Ga 417.206	981874.0						11764.48	1.20%
GaRADIAL	50611.4						880.95	1.74%
Ag 328.068†	45846.9	0.198	mg/L	0.0041	0.198	mg/L	0.0041	2.08%
Al 396.153†	19065.3	6.21	mg/L	0.035	6.21	mg/L	0.035	0.57%
As 188.979†	408.2	0.200	mg/L	0.0016	0.200	mg/L	0.0016	0.82%
Ba 233.527†	46659.3	0.521	mg/L	0.0079	0.521	mg/L	0.0079	1.52%
Be 234.861†	18820.5	0.0277	mg/L	0.00065	0.0277	mg/L	0.00065	2.34%
B 249.677†	78293.3	1.11	mg/L	0.030	1.11	mg/L	0.030	2.70%
Ca 227.546†	1950.2	9.60	mg/L	0.093	9.60	mg/L	0.093	0.97%
Cd 228.802†	837.5	0.0259	mg/L	0.00053	0.0259	mg/L	0.00053	2.05%
Co 228.616†	4625.5	0.193	mg/L	0.0024	0.193	mg/L	0.0024	1.27%
Cr 267.716†	24981.9	0.267	mg/L	0.0045	0.267	mg/L	0.0045	1.67%
Cu 327.393†	61053.2	0.349	mg/L	0.0099	0.349	mg/L	0.0099	2.83%
Fe 239.562†	9115.1	2.23	mg/L	0.045	2.23	mg/L	0.045	2.04%
Mg 279.077†	7430.5	5.32	mg/L	0.102	5.32	mg/L	0.102	1.92%
Mn 257.610†	148800.0	0.279	mg/L	0.0045	0.279	mg/L	0.0045	1.61%
Mo 202.031†	10256.0	0.522	mg/L	0.0049	0.522	mg/L	0.0049	0.94%
Ni 231.604†	14121.8	0.360	mg/L	0.0036	0.360	mg/L	0.0036	1.00%
Pb 220.353†	2107.8	0.275	mg/L	0.0033	0.275	mg/L	0.0033	1.20%
Sb 206.836†	1439.9	0.596	mg/L	0.0073	0.596	mg/L	0.0073	1.23%
Se 196.026†	209.7	0.203	mg/L	0.0072	0.203	mg/L	0.0072	3.55%
Si 251.611†	113426.1	3.12	mg/L	0.131	3.12	mg/L	0.131	4.20%
Sn 189.927†	-47.4	-0.00850	mg/L	0.000378	-0.00850	mg/L	0.000378	4.44%

Approved: June 03, 2013

Ti 334.940†	386689.3	0.524 mg/L	0.0095	0.524 mg/L	0.0095	1.81%
Tl 190.801†	496.3	0.253 mg/L	0.0045	0.253 mg/L	0.0045	1.76%
V 290.880†	100040.7	0.508 mg/L	0.0077	0.508 mg/L	0.0077	1.51%
Zn 206.200†	28142.9	0.811 mg/L	0.0136	0.811 mg/L	0.0136	1.68%
K 766.490†	40508.6	26.8 mg/L	0.17	26.8 mg/L	0.17	0.63%
Na 589.592†	1816558.2	176 mg/L	4.3	176 mg/L	4.3	2.43%
Sr 407.771†	835379.2	0.690 mg/L	0.0020	0.690 mg/L	0.0020	0.29%
Li 670.784†	41595.0	0.588 mg/L	0.0021	0.588 mg/L	0.0021	0.37%

Sequence No.: 8 **Autosampler Location: 28**
Sample ID: L1305141201DL WG432389-02 **Date Collected: 5/31/2013 9:06:12 AM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1305141201DL WG432389-02

Analyte	Back Pressure	Flow
All	166.0 kPa	0.48 L/min

Mean Data: L1305141201DL WG432389-02

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2548389.0						19528.52	0.77%
YRADIAL	191013.8						2099.07	1.10%
Ga 417.206	1028523.1						14011.24	1.36%
GaRADIAL	52513.8						727.47	1.39%
Ag 328.068†	-25.7	-0.00039	mg/L	0.000515	-0.00039	mg/L	0.000515	131.83%
Al 396.153†	819.4	0.258	mg/L	0.0042	0.258	mg/L	0.0042	1.61%
As 188.979†	4.2	0.00290	mg/L	0.000784	0.00290	mg/L	0.000784	27.06%
Ba 233.527†	338.6	0.00196	mg/L	0.000032	0.00196	mg/L	0.000032	1.64%
Be 234.861†	575.8	0.00087	mg/L	0.000012	0.00087	mg/L	0.000012	1.40%
B 249.677†	3119.8	0.0455	mg/L	0.00256	0.0455	mg/L	0.00256	5.64%
Ca 227.546†	200.8	0.942	mg/L	0.0264	0.942	mg/L	0.0264	2.80%
Cd 228.802†	9.7	0.00026	mg/L	0.000106	0.00026	mg/L	0.000106	40.60%
Co 228.616†	494.0	0.0198	mg/L	0.00026	0.0198	mg/L	0.00026	1.33%
Cr 267.716†	347.2	0.00252	mg/L	0.000175	0.00252	mg/L	0.000175	6.97%
Cu 327.393†	3597.7	0.0203	mg/L	0.00052	0.0203	mg/L	0.00052	2.55%
Fe 239.562†	239.1	0.0462	mg/L	0.00090	0.0462	mg/L	0.00090	1.94%
Mg 279.077†	124.7	0.0737	mg/L	0.00330	0.0737	mg/L	0.00330	4.48%
Mn 257.610†	2938.0	0.00302	mg/L	0.000075	0.00302	mg/L	0.000075	2.47%
Mo 202.031†	13.8	-0.00134	mg/L	0.000179	-0.00134	mg/L	0.000179	13.34%
Ni 231.604†	885.3	0.0209	mg/L	0.00056	0.0209	mg/L	0.00056	2.67%
Pb 220.353†	57.8	0.00583	mg/L	0.001306	0.00583	mg/L	0.001306	22.42%
Sb 206.836†	3.4	-0.00102	mg/L	0.000516	-0.00102	mg/L	0.000516	50.66%
Se 196.026†	2.2	0.00118	mg/L	0.005126	0.00118	mg/L	0.005126	433.49%
Si 251.611†	5052.3	0.137	mg/L	0.0057	0.137	mg/L	0.0057	4.16%
Sn 189.927†	-11.1	-0.00395	mg/L	0.001319	-0.00395	mg/L	0.001319	33.41%
Ti 334.940†	843.1	0.00096	mg/L	0.000703	0.00096	mg/L	0.000703	73.16%
Tl 190.801†	-4.5	-0.00631	mg/L	0.004067	-0.00631	mg/L	0.004067	64.44%
V 290.880†	383.2	0.00061	mg/L	0.001787	0.00061	mg/L	0.001787	293.55%
Zn 206.200†	2558.0	0.0717	mg/L	0.00115	0.0717	mg/L	0.00115	1.60%
K 766.490†	656.1	0.399	mg/L	0.0553	0.399	mg/L	0.0553	13.84%
Na 589.592†	337815.1	30.3	mg/L	0.65	30.3	mg/L	0.65	2.14%
Sr 407.771†	46239.2	0.0348	mg/L	0.00010	0.0348	mg/L	0.00010	0.29%
Li 670.784†	1268.1	0.0143	mg/L	0.00056	0.0143	mg/L	0.00056	3.89%

Sequence No.: 9 **Autosampler Location: 6**
Sample ID: CCV **Date Collected: 5/31/2013 9:09:15 AM**
Analyst: **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: CCV

Analyte	Back Pressure	Flow
All	165.0 kPa	0.48 L/min

Approved: June 03, 2013

Kym H. Rhoden

Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2451709.8						17018.40	0.69%
YRADIAL	193007.7						3574.61	1.85%
Ga 417.206	978694.4						23203.37	2.37%
GaRADIAL	51536.5						595.96	1.16%
Ag 328.068†	96070.8	0.414	mg/L	0.0047	0.414	mg/L	0.0047	1.15%
QC value within limits for Ag 328.068 Recovery = 103.51%								
Al 396.153†	30968.4	10.1	mg/L	0.06	10.1	mg/L	0.06	0.59%
QC value within limits for Al 396.153 Recovery = 100.74%								
As 188.979†	825.2	0.403	mg/L	0.0095	0.403	mg/L	0.0095	2.35%
QC value within limits for As 188.979 Recovery = 100.78%								
Ba 233.527†	93986.9	1.05	mg/L	0.025	1.05	mg/L	0.025	2.35%
QC value within limits for Ba 233.527 Recovery = 105.18%								
Be 234.861†	34505.4	0.0508	mg/L	0.00050	0.0508	mg/L	0.00050	0.98%
QC value within limits for Be 234.861 Recovery = 101.69%								
B 249.677†	35997.5	0.508	mg/L	0.0071	0.508	mg/L	0.0071	1.41%
QC value within limits for B 249.677 Recovery = 101.58%								
Ca 227.546†	2158.4	10.8	mg/L	0.19	10.8	mg/L	0.19	1.73%
QC value within limits for Ca 227.546 Recovery = 107.64%								
Cd 228.802†	1623.1	0.0497	mg/L	0.00138	0.0497	mg/L	0.00138	2.78%
QC value within limits for Cd 228.802 Recovery = 99.34%								
Co 228.616†	5053.0	0.210	mg/L	0.0018	0.210	mg/L	0.0018	0.86%
QC value within limits for Co 228.616 Recovery = 105.06%								
Cr 267.716†	48792.0	0.523	mg/L	0.0055	0.523	mg/L	0.0055	1.05%
QC value within limits for Cr 267.716 Recovery = 104.53%								
Cu 327.393†	90534.9	0.519	mg/L	0.0054	0.519	mg/L	0.0054	1.04%
QC value within limits for Cu 327.393 Recovery = 103.76%								
Fe 239.562†	16204.7	3.97	mg/L	0.041	3.97	mg/L	0.041	1.05%
QC value within limits for Fe 239.562 Recovery = 99.19%								
Mg 279.077†	13815.6	9.90	mg/L	0.083	9.90	mg/L	0.083	0.84%
QC value within limits for Mg 279.077 Recovery = 99.02%								
Mn 257.610†	283775.9	0.535	mg/L	0.0109	0.535	mg/L	0.0109	2.03%
QC value within limits for Mn 257.610 Recovery = 106.99%								
Mo 202.031†	20551.5	1.05	mg/L	0.021	1.05	mg/L	0.021	2.05%
QC value within limits for Mo 202.031 Recovery = 104.77%								
Ni 231.604†	20585.4	0.526	mg/L	0.0103	0.526	mg/L	0.0103	1.95%
QC value within limits for Ni 231.604 Recovery = 105.26%								
Pb 220.353†	4054.1	0.530	mg/L	0.0039	0.530	mg/L	0.0039	0.74%
QC value within limits for Pb 220.353 Recovery = 106.06%								
Sb 206.836†	2954.8	1.23	mg/L	0.028	1.23	mg/L	0.028	2.26%
QC value within limits for Sb 206.836 Recovery = 102.18%								
Se 196.026†	423.3	0.410	mg/L	0.0108	0.410	mg/L	0.0108	2.63%
QC value within limits for Se 196.026 Recovery = 102.41%								
Si 251.611†	185829.0	5.11	mg/L	0.071	5.11	mg/L	0.071	1.39%
QC value within limits for Si 251.611 Recovery = 102.25%								
Sn 189.927†	7561.6	0.946	mg/L	0.0063	0.946	mg/L	0.0063	0.67%
QC value within limits for Sn 189.927 Recovery = 94.59%								
Ti 334.940†	763174.0	1.03	mg/L	0.005	1.03	mg/L	0.005	0.45%
QC value within limits for Ti 334.940 Recovery = 103.24%								
Tl 190.801†	1076.3	0.552	mg/L	0.0045	0.552	mg/L	0.0045	0.81%
QC value greater than the upper limit for Tl 190.801 Recovery = 110.46%								
V 290.880†	205794.8	1.05	mg/L	0.025	1.05	mg/L	0.025	2.38%
QC value within limits for V 290.880 Recovery = 104.59%								
Zn 206.200†	36180.3	1.04	mg/L	0.016	1.04	mg/L	0.016	1.54%
QC value within limits for Zn 206.200 Recovery = 104.45%								
K 766.490†	75507.8	50.7	mg/L	0.12	50.7	mg/L	0.12	0.23%
QC value within limits for K 766.490 Recovery = 101.49%								
Na 589.592†	559271.1	50.7	mg/L	1.30	50.7	mg/L	1.30	2.56%
QC value within limits for Na 589.592 Recovery = 101.38%								
Sr 407.771†	1194654.4	0.989	mg/L	0.0298	0.989	mg/L	0.0298	3.01%
QC value within limits for Sr 407.771 Recovery = 98.87%								
Li 670.784†	73804.4	1.05	mg/L	0.002	1.05	mg/L	0.002	0.21%
QC value within limits for Li 670.784 Recovery = 104.57%								

QC Failed. Continue with analysis.

==========

Sequence No.: 10 **Autosampler Location: 1**
Sample ID: CCB **Date Collected: 5/31/2013 9:11:20 AM**
Analyst: **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**

Approved: June 03, 2013

Lynn H. Rhoden

Dilution: Sample Prep Vol:

Nebulizer Parameters: CCB

Analyte	Back Pressure	Flow
All	165.0 kPa	0.48 L/min

Mean Data: CCB

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2590026.3						16751.05	0.65%
YRADIAL	192801.2						3965.97	2.06%
Ga 417.206	1029929.4						9333.85	0.91%
GaRADIAL	52079.1						504.27	0.97%
Ag 328.068†	-17.8	-0.00037	mg/L	0.000317	-0.00037	mg/L	0.000317	85.39%
QC value within limits for Ag 328.068 Recovery = Not calculated								
Al 396.153†	-1.7	-0.0112	mg/L	0.00330	-0.0112	mg/L	0.00330	29.56%
QC value within limits for Al 396.153 Recovery = Not calculated								
As 188.979†	-1.6	0.00003	mg/L	0.001369	0.00003	mg/L	0.001369	>999.9%
QC value within limits for As 188.979 Recovery = Not calculated								
Ba 233.527†	-8.9	-0.00194	mg/L	0.000073	-0.00194	mg/L	0.000073	3.77%
QC value within limits for Ba 233.527 Recovery = Not calculated								
Be 234.861†	45.3	0.00009	mg/L	0.000028	0.00009	mg/L	0.000028	29.77%
QC value within limits for Be 234.861 Recovery = Not calculated								
B 249.677†	377.3	0.00677	mg/L	0.001114	0.00677	mg/L	0.001114	16.46%
QC value within limits for B 249.677 Recovery = Not calculated								
Ca 227.546†	7.6	0.00116	mg/L	0.008284	0.00116	mg/L	0.008284	716.55%
QC value within limits for Ca 227.546 Recovery = Not calculated								
Cd 228.802†	-6.6	-0.00032	mg/L	0.000248	-0.00032	mg/L	0.000248	78.55%
QC value within limits for Cd 228.802 Recovery = Not calculated								
Co 228.616†	-6.5	-0.00117	mg/L	0.000128	-0.00117	mg/L	0.000128	10.92%
QC value within limits for Co 228.616 Recovery = Not calculated								
Cr 267.716†	-8.1	-0.00130	mg/L	0.000020	-0.00130	mg/L	0.000020	1.53%
QC value within limits for Cr 267.716 Recovery = Not calculated								
Cu 327.393†	28.0	-0.00009	mg/L	0.000151	-0.00009	mg/L	0.000151	164.65%
QC value within limits for Cu 327.393 Recovery = Not calculated								
Fe 239.562†	14.9	-0.00882	mg/L	0.000473	-0.00882	mg/L	0.000473	5.36%
QC value within limits for Fe 239.562 Recovery = Not calculated								
Mg 279.077†	1.3	-0.0148	mg/L	0.00298	-0.0148	mg/L	0.00298	20.21%
QC value within limits for Mg 279.077 Recovery = Not calculated								
Mn 257.610†	18.0	-0.00251	mg/L	0.000029	-0.00251	mg/L	0.000029	1.16%
QC value within limits for Mn 257.610 Recovery = Not calculated								
Mo 202.031†	-3.6	-0.00224	mg/L	0.000171	-0.00224	mg/L	0.000171	7.64%
QC value within limits for Mo 202.031 Recovery = Not calculated								
Ni 231.604†	0.2	-0.00176	mg/L	0.000162	-0.00176	mg/L	0.000162	9.24%
QC value within limits for Ni 231.604 Recovery = Not calculated								
Pb 220.353†	4.8	-0.00112	mg/L	0.000787	-0.00112	mg/L	0.000787	70.44%
QC value within limits for Pb 220.353 Recovery = Not calculated								
Sb 206.836†	2.0	-0.00157	mg/L	0.000823	-0.00157	mg/L	0.000823	52.41%
QC value within limits for Sb 206.836 Recovery = Not calculated								
Se 196.026†	-3.6	-0.00452	mg/L	0.003153	-0.00452	mg/L	0.003153	69.76%
QC value within limits for Se 196.026 Recovery = Not calculated								
Si 251.611†	-139.0	-0.00590	mg/L	0.000463	-0.00590	mg/L	0.000463	7.85%
QC value within limits for Si 251.611 Recovery = Not calculated								
Sn 189.927†	12.9	-0.00095	mg/L	0.000813	-0.00095	mg/L	0.000813	85.66%
QC value within limits for Sn 189.927 Recovery = Not calculated								
Ti 334.940†	-44.7	-0.00038	mg/L	0.000043	-0.00038	mg/L	0.000043	11.42%
QC value within limits for Ti 334.940 Recovery = Not calculated								
Tl 190.801†	-7.7	-0.00791	mg/L	0.002890	-0.00791	mg/L	0.002890	36.52%
QC value within limits for Tl 190.801 Recovery = Not calculated								
V 290.880†	235.5	-0.00013	mg/L	0.000403	-0.00013	mg/L	0.000403	318.26%
QC value within limits for V 290.880 Recovery = Not calculated								
Zn 206.200†	6.8	-0.00178	mg/L	0.000129	-0.00178	mg/L	0.000129	7.24%
QC value within limits for Zn 206.200 Recovery = Not calculated								
K 766.490†	22.2	0.0104	mg/L	0.07356	0.0104	mg/L	0.07356	706.11%
QC value within limits for K 766.490 Recovery = Not calculated								
Na 589.592†	492.3	0.0424	mg/L	0.02867	0.0424	mg/L	0.02867	67.65%
QC value within limits for Na 589.592 Recovery = Not calculated								
Sr 407.771†	200.6	-0.00340	mg/L	0.000129	-0.00340	mg/L	0.000129	3.80%
QC value within limits for Sr 407.771 Recovery = Not calculated								
Li 670.784†	206.1	-0.00080	mg/L	0.000909	-0.00080	mg/L	0.000909	113.76%

Approved: June 03, 2013

Lynn H. Rhoden

QC value within limits for Li 670.784 Recovery = Not calculated
All analyte(s) passed QC.

Sequence No.: 11 **Autosampler Location: 29**
Sample ID: L1305141203 WG432372-01 **Date Collected: 5/31/2013 9:14:19 AM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1305141203 WG432372-01

Analyte	Back Pressure	Flow
All	165.0 kPa	0.48 L/min

Mean Data: L1305141203 WG432372-01

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	2513257.2						35069.75	1.40%
YRADIAL	188700.4						3896.02	2.06%
Ga 417.206	993035.7						12653.86	1.27%
GaRADIAL	51645.6						1893.02	3.67%
Ag 328.068†	-65.3	-0.00041	mg/L	0.000449	-0.00041	mg/L	0.000449	108.87%
Al 396.153†	1001.3	0.318	mg/L	0.0158	0.318	mg/L	0.0158	4.97%
As 188.979†	-0.1	0.00087	mg/L	0.001971	0.00087	mg/L	0.001971	227.53%
Ba 233.527†	4710.6	0.0509	mg/L	0.00072	0.0509	mg/L	0.00072	1.42%
Be 234.861†	60.1	0.00002	mg/L	0.000015	0.00002	mg/L	0.000015	63.49%
B 249.677†	5363.7	0.0773	mg/L	0.00145	0.0773	mg/L	0.00145	1.87%
Ca 227.546†	646.7	3.07	mg/L	0.039	3.07	mg/L	0.039	1.27%
Cd 228.802†	-0.3	-0.00011	mg/L	0.000089	-0.00011	mg/L	0.000089	78.55%
Co 228.616†	25.3	0.00009	mg/L	0.000099	0.00009	mg/L	0.000099	103.88%
Cr 267.716†	89.0	-0.00027	mg/L	0.000108	-0.00027	mg/L	0.000108	39.32%
Cu 327.393†	444.5	0.00234	mg/L	0.000771	0.00234	mg/L	0.000771	32.99%
Fe 239.562†	1622.0	0.386	mg/L	0.0086	0.386	mg/L	0.0086	2.24%
Mg 279.077†	565.4	0.389	mg/L	0.0134	0.389	mg/L	0.0134	3.43%
Mn 257.610†	4021.0	0.00508	mg/L	0.000127	0.00508	mg/L	0.000127	2.50%
Mo 202.031†	23.0	-0.00085	mg/L	0.000330	-0.00085	mg/L	0.000330	38.68%
Ni 231.604†	59.5	-0.00023	mg/L	0.000437	-0.00023	mg/L	0.000437	187.74%
Pb 220.353†	7.5	-0.00073	mg/L	0.000530	-0.00073	mg/L	0.000530	72.23%
Sb 206.836†	3.7	-0.00085	mg/L	0.000708	-0.00085	mg/L	0.000708	82.88%
Se 196.026†	1.0	0.00007	mg/L	0.005337	0.00007	mg/L	0.005337	>999.9%
Si 251.611†	24334.6	0.669	mg/L	0.0511	0.669	mg/L	0.0511	7.64%
Sn 189.927†	-32.9	-0.00668	mg/L	0.000267	-0.00668	mg/L	0.000267	3.99%
Ti 334.940†	11898.2	0.0162	mg/L	0.00077	0.0162	mg/L	0.00077	4.78%
Tl 190.801†	-19.4	-0.0136	mg/L	0.00389	-0.0136	mg/L	0.00389	28.64%
V 290.880†	1038.7	0.00385	mg/L	0.000302	0.00385	mg/L	0.000302	7.84%
Zn 206.200†	376.6	0.00887	mg/L	0.000394	0.00887	mg/L	0.000394	4.44%
K 766.490†	860.2	0.404	mg/L	0.0140	0.404	mg/L	0.0140	3.47%
Na 589.592†	1673407.6	161	mg/L	8.0	161	mg/L	8.0	4.95%
Sr 407.771†	18201.2	0.0116	mg/L	0.00015	0.0116	mg/L	0.00015	1.26%
Li 670.784†	897.1	0.00903	mg/L	0.000540	0.00903	mg/L	0.000540	5.98%

Sequence No.: 12 **Autosampler Location: 30**
Sample ID: L1305141203MS WG432372-04 **Date Collected: 5/31/2013 9:17:23 AM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1305141203MS WG432372-04

Analyte	Back Pressure	Flow
All	165.0 kPa	0.48 L/min

Mean Data: L1305141203MS WG432372-04

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	2523315.6						34340.67	1.36%
YRADIAL	182476.0						2421.01	1.33%
Ga 417.206	1006564.0						19258.83	1.91%

Approved: June 03, 2013

Kym H. Rhoden

GaRADIAL	49679.1					1842.96	3.71%
Ag 328.068†	44448.9	0.192	mg/L	0.0046	0.192 mg/L	0.0046	2.38%
Al 396.153†	17441.4	5.67	mg/L	0.315	5.67 mg/L	0.315	5.55%
As 188.979†	385.8	0.189	mg/L	0.0045	0.189 mg/L	0.0045	2.40%
Ba 233.527†	48119.1	0.538	mg/L	0.0080	0.538 mg/L	0.0080	1.49%
Be 234.861†	15785.2	0.0231	mg/L	0.00043	0.0231 mg/L	0.00043	1.84%
B 249.677†	69572.9	0.986	mg/L	0.0202	0.986 mg/L	0.0202	2.05%
Ca 227.546†	1664.7	8.17	mg/L	0.192	8.17 mg/L	0.192	2.34%
Cd 228.802†	756.1	0.0231	mg/L	0.00054	0.0231 mg/L	0.00054	2.32%
Co 228.616†	2378.8	0.0983	mg/L	0.00088	0.0983 mg/L	0.00088	0.89%
Cr 267.716†	23044.6	0.246	mg/L	0.0054	0.246 mg/L	0.0054	2.18%
Cu 327.393†	43372.4	0.248	mg/L	0.0050	0.248 mg/L	0.0050	2.02%
Fe 239.562†	10620.2	2.60	mg/L	0.088	2.60 mg/L	0.088	3.40%
Mg 279.077†	7912.0	5.66	mg/L	0.094	5.66 mg/L	0.094	1.66%
Mn 257.610†	134936.9	0.253	mg/L	0.0031	0.253 mg/L	0.0031	1.22%
Mo 202.031†	9951.6	0.506	mg/L	0.0063	0.506 mg/L	0.0063	1.24%
Ni 231.604†	9906.4	0.252	mg/L	0.0032	0.252 mg/L	0.0032	1.28%
Pb 220.353†	1862.5	0.243	mg/L	0.0020	0.243 mg/L	0.0020	0.81%
Sb 206.836†	1389.0	0.575	mg/L	0.0129	0.575 mg/L	0.0129	2.24%
Se 196.026†	198.5	0.192	mg/L	0.0048	0.192 mg/L	0.0048	2.51%
Si 251.611†	115876.8	3.19	mg/L	0.062	3.19 mg/L	0.062	1.95%
Sn 189.927†	-25.5	-0.00576	mg/L	0.000656	-0.00576 mg/L	0.000656	11.39%
Ti 334.940†	388767.7	0.526	mg/L	0.0124	0.526 mg/L	0.0124	2.35%
Tl 190.801†	467.6	0.239	mg/L	0.0032	0.239 mg/L	0.0032	1.36%
V 290.880†	96961.8	0.492	mg/L	0.0035	0.492 mg/L	0.0035	0.70%
Zn 206.200†	16964.8	0.489	mg/L	0.0113	0.489 mg/L	0.0113	2.31%
K 766.490†	40102.2	26.6	mg/L	1.50	26.6 mg/L	1.50	5.65%
Na 589.592†	1964952.5	192	mg/L	7.1	192 mg/L	7.1	3.69%
Sr 407.771†	644771.5	0.532	mg/L	0.0210	0.532 mg/L	0.0210	3.94%
Li 670.784†	39248.1	0.554	mg/L	0.0267	0.554 mg/L	0.0267	4.82%

Sequence No.: 13 **Autosampler Location: 31**
Sample ID: L1305141203SD WG432372-05 **Date Collected: 5/31/2013 9:19:28 AM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1305141203SD WG432372-05

Analyte	Back Pressure	Flow
All	166.0 kPa	0.48 L/min

Mean Data: L1305141203SD WG432372-05

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2424324.7						50414.00	2.08%
YRADIAL	189944.2						3358.05	1.77%
Ga 417.206	952980.0						22801.43	2.39%
GaRADIAL	49568.9						553.75	1.12%
Ag 328.068†	47556.6	0.205	mg/L	0.0035	0.205	mg/L	0.0035	1.73%
Al 396.153†	16987.2	5.52	mg/L	0.078	5.52	mg/L	0.078	1.40%
As 188.979†	415.8	0.204	mg/L	0.0026	0.204	mg/L	0.0026	1.29%
Ba 233.527†	50902.8	0.569	mg/L	0.0067	0.569	mg/L	0.0067	1.19%
Be 234.861†	16879.8	0.0248	mg/L	0.00039	0.0248	mg/L	0.00039	1.58%
B 249.677†	75697.7	1.07	mg/L	0.019	1.07	mg/L	0.019	1.75%
Ca 227.546†	1740.4	8.54	mg/L	0.176	8.54	mg/L	0.176	2.06%
Cd 228.802†	815.8	0.0249	mg/L	0.00110	0.0249	mg/L	0.00110	4.40%
Co 228.616†	2490.3	0.103	mg/L	0.0025	0.103	mg/L	0.0025	2.45%
Cr 267.716†	24451.6	0.261	mg/L	0.0028	0.261	mg/L	0.0028	1.07%
Cu 327.393†	46459.5	0.266	mg/L	0.0048	0.266	mg/L	0.0048	1.79%
Fe 239.562†	9681.7	2.37	mg/L	0.014	2.37	mg/L	0.014	0.59%
Mg 279.077†	7462.1	5.34	mg/L	0.051	5.34	mg/L	0.051	0.95%
Mn 257.610†	141629.7	0.266	mg/L	0.0027	0.266	mg/L	0.0027	1.01%
Mo 202.031†	10423.3	0.530	mg/L	0.0106	0.530	mg/L	0.0106	2.01%
Ni 231.604†	10358.7	0.264	mg/L	0.0046	0.264	mg/L	0.0046	1.74%
Pb 220.353†	1937.9	0.253	mg/L	0.0044	0.253	mg/L	0.0044	1.75%
Sb 206.836†	1475.7	0.611	mg/L	0.0160	0.611	mg/L	0.0160	2.61%
Se 196.026†	210.7	0.204	mg/L	0.0065	0.204	mg/L	0.0065	3.20%
Si 251.611†	120096.9	3.30	mg/L	0.156	3.30	mg/L	0.156	4.71%
Sn 189.927†	-29.3	-0.00624	mg/L	0.000834	-0.00624	mg/L	0.000834	13.37%

Approved: June 03, 2013

Ti 334.940†	405710.8	0.549 mg/L	0.0052	0.549 mg/L	0.0052	0.95%
Tl 190.801†	487.9	0.249 mg/L	0.0041	0.249 mg/L	0.0041	1.63%
V 290.880†	101703.6	0.516 mg/L	0.0071	0.516 mg/L	0.0071	1.37%
Zn 206.200†	17874.9	0.515 mg/L	0.0048	0.515 mg/L	0.0048	0.94%
K 766.490†	38871.9	25.7 mg/L	0.11	25.7 mg/L	0.11	0.44%
Na 589.592†	2048922.8	201 mg/L	4.0	201 mg/L	4.0	1.98%
Sr 407.771†	635748.9	0.525 mg/L	0.0094	0.525 mg/L	0.0094	1.80%
Li 670.784†	38661.0	0.546 mg/L	0.0040	0.546 mg/L	0.0040	0.73%

Sequence No.: 14 **Autosampler Location: 32**
Sample ID: L1305146501 **Date Collected: 5/31/2013 9:21:59 AM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1305146501

Analyte	Back Pressure	Flow
All	165.0 kPa	0.48 L/min

Mean Data: L1305146501

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2485267.1						43790.11	1.76%
YRADIAL	188286.5						1322.80	0.70%
Ga 417.206	1009001.4						23957.75	2.37%
GaRADIAL	51684.3						859.85	1.66%
Ag 328.068†	-72.2	-0.00059	mg/L	0.000685	-0.00059	mg/L	0.000685	115.78%
Al 396.153†	296.0	0.0863	mg/L	0.00408	0.0863	mg/L	0.00408	4.73%
As 188.979†	-2.7	-0.00047	mg/L	0.002354	-0.00047	mg/L	0.002354	495.55%
Ba 233.527†	462.4	0.00334	mg/L	0.000189	0.00334	mg/L	0.000189	5.65%
Be 234.861†	-108.7	-0.00014	mg/L	0.000055	-0.00014	mg/L	0.000055	39.62%
B 249.677†	7328.0	0.105	mg/L	0.0036	0.105	mg/L	0.0036	3.40%
Ca 227.546†	290.2	1.35	mg/L	0.024	1.35	mg/L	0.024	1.79%
Cd 228.802†	2.2	-0.00004	mg/L	0.000231	-0.00004	mg/L	0.000231	633.44%
Co 228.616†	-4.3	-0.00109	mg/L	0.000232	-0.00109	mg/L	0.000232	21.19%
Cr 267.716†	63.5	-0.00053	mg/L	0.000096	-0.00053	mg/L	0.000096	18.12%
Cu 327.393†	526.6	0.00277	mg/L	0.000737	0.00277	mg/L	0.000737	26.65%
Fe 239.562†	91.0	0.00988	mg/L	0.001513	0.00988	mg/L	0.001513	15.30%
Mg 279.077†	259.7	0.170	mg/L	0.0072	0.170	mg/L	0.0072	4.25%
Mn 257.610†	2053.9	0.00134	mg/L	0.000057	0.00134	mg/L	0.000057	4.24%
Mo 202.031†	29.1	-0.00056	mg/L	0.000284	-0.00056	mg/L	0.000284	50.33%
Ni 231.604†	-7.3	-0.00195	mg/L	0.000281	-0.00195	mg/L	0.000281	14.43%
Pb 220.353†	6.2	-0.00093	mg/L	0.002726	-0.00093	mg/L	0.002726	293.73%
Sb 206.836†	7.0	0.00053	mg/L	0.001511	0.00053	mg/L	0.001511	282.50%
Se 196.026†	2.6	0.00153	mg/L	0.001783	0.00153	mg/L	0.001783	116.26%
Si 251.611†	11591.2	0.318	mg/L	0.0075	0.318	mg/L	0.0075	2.36%
Sn 189.927†	-13.9	-0.00431	mg/L	0.000796	-0.00431	mg/L	0.000796	18.49%
Ti 334.940†	2473.3	0.00323	mg/L	0.000133	0.00323	mg/L	0.000133	4.11%
Tl 190.801†	-14.7	-0.0114	mg/L	0.00177	-0.0114	mg/L	0.00177	15.52%
V 290.880†	809.1	0.00279	mg/L	0.000330	0.00279	mg/L	0.000330	11.84%
Zn 206.200†	793.3	0.0209	mg/L	0.00035	0.0209	mg/L	0.00035	1.66%
K 766.490†	205.6	-0.0228	mg/L	0.03088	-0.0228	mg/L	0.03088	135.50%
Na 589.592†	1612697.7	154	mg/L	5.6	154	mg/L	5.6	3.60%
Sr 407.771†	7450.1	0.00264	mg/L	0.000147	0.00264	mg/L	0.000147	5.57%
Li 670.784†	65.2	-0.00280	mg/L	0.001026	-0.00280	mg/L	0.001026	36.62%

Sequence No.: 15 **Autosampler Location: 6**
Sample ID: CCV **Date Collected: 5/31/2013 9:25:03 AM**
Analyst: **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: CCV

Analyte	Back Pressure	Flow
All	165.0 kPa	0.48 L/min

Approved: June 03, 2013

Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2498178.5						69806.23	2.79%
YRADIAL	189833.3						4820.32	2.54%
Ga 417.206	1009458.5						46630.56	4.62%
GaRADIAL	52096.1						1142.77	2.19%
Ag 328.068†	93545.7	0.403	mg/L	0.0239	0.403	mg/L	0.0239	5.93%
QC value within limits for Ag 328.068 Recovery = 100.80%								
Al 396.153†	30690.0	9.98	mg/L	0.007	9.98	mg/L	0.007	0.07%
QC value within limits for Al 396.153 Recovery = 99.84%								
As 188.979†	801.8	0.392	mg/L	0.0174	0.392	mg/L	0.0174	4.44%
QC value within limits for As 188.979 Recovery = 97.90%								
Ba 233.527†	91766.2	1.03	mg/L	0.039	1.03	mg/L	0.039	3.83%
QC value within limits for Ba 233.527 Recovery = 102.69%								
Be 234.861†	33556.9	0.0494	mg/L	0.00261	0.0494	mg/L	0.00261	5.29%
QC value within limits for Be 234.861 Recovery = 98.84%								
B 249.677†	35171.6	0.496	mg/L	0.0305	0.496	mg/L	0.0305	6.14%
QC value within limits for B 249.677 Recovery = 99.24%								
Ca 227.546†	2103.9	10.5	mg/L	0.49	10.5	mg/L	0.49	4.64%
QC value within limits for Ca 227.546 Recovery = 104.98%								
Cd 228.802†	1581.4	0.0484	mg/L	0.00241	0.0484	mg/L	0.00241	4.99%
QC value within limits for Cd 228.802 Recovery = 96.81%								
Co 228.616†	4965.0	0.206	mg/L	0.0057	0.206	mg/L	0.0057	2.75%
QC value within limits for Co 228.616 Recovery = 103.21%								
Cr 267.716†	47628.5	0.510	mg/L	0.0248	0.510	mg/L	0.0248	4.85%
QC value within limits for Cr 267.716 Recovery = 102.03%								
Cu 327.393†	88540.3	0.507	mg/L	0.0315	0.507	mg/L	0.0315	6.21%
QC value within limits for Cu 327.393 Recovery = 101.48%								
Fe 239.562†	16314.0	3.99	mg/L	0.012	3.99	mg/L	0.012	0.31%
QC value within limits for Fe 239.562 Recovery = 99.86%								
Mg 279.077†	14011.9	10.0	mg/L	0.05	10.0	mg/L	0.05	0.50%
QC value within limits for Mg 279.077 Recovery = 100.43%								
Mn 257.610†	277850.7	0.524	mg/L	0.0194	0.524	mg/L	0.0194	3.70%
QC value within limits for Mn 257.610 Recovery = 104.75%								
Mo 202.031†	20286.0	1.03	mg/L	0.044	1.03	mg/L	0.044	4.30%
QC value within limits for Mo 202.031 Recovery = 103.42%								
Ni 231.604†	20208.1	0.517	mg/L	0.0194	0.517	mg/L	0.0194	3.75%
QC value within limits for Ni 231.604 Recovery = 103.32%								
Pb 220.353†	3978.4	0.520	mg/L	0.0148	0.520	mg/L	0.0148	2.85%
QC value within limits for Pb 220.353 Recovery = 104.07%								
Sb 206.836†	2891.2	1.20	mg/L	0.053	1.20	mg/L	0.053	4.41%
QC value within limits for Sb 206.836 Recovery = 99.98%								
Se 196.026†	417.6	0.404	mg/L	0.0192	0.404	mg/L	0.0192	4.76%
QC value within limits for Se 196.026 Recovery = 101.05%								
Si 251.611†	180816.1	4.97	mg/L	0.281	4.97	mg/L	0.281	5.64%
QC value within limits for Si 251.611 Recovery = 99.48%								
Sn 189.927†	7454.4	0.932	mg/L	0.0278	0.932	mg/L	0.0278	2.98%
QC value within limits for Sn 189.927 Recovery = 93.25%								
Ti 334.940†	756668.1	1.02	mg/L	0.015	1.02	mg/L	0.015	1.47%
QC value within limits for Ti 334.940 Recovery = 102.36%								
Tl 190.801†	1052.1	0.540	mg/L	0.0156	0.540	mg/L	0.0156	2.89%
QC value within limits for Tl 190.801 Recovery = 108.00%								
V 290.880†	201704.5	1.03	mg/L	0.041	1.03	mg/L	0.041	3.99%
QC value within limits for V 290.880 Recovery = 102.50%								
Zn 206.200†	35229.4	1.02	mg/L	0.041	1.02	mg/L	0.041	4.05%
QC value within limits for Zn 206.200 Recovery = 101.70%								
K 766.490†	75567.5	50.8	mg/L	0.22	50.8	mg/L	0.22	0.43%
QC value within limits for K 766.490 Recovery = 101.57%								
Na 589.592†	567485.2	51.5	mg/L	0.75	51.5	mg/L	0.75	1.46%
QC value within limits for Na 589.592 Recovery = 102.91%								
Sr 407.771†	1241680.0	1.03	mg/L	0.023	1.03	mg/L	0.023	2.24%
QC value within limits for Sr 407.771 Recovery = 102.78%								
Li 670.784†	74168.5	1.05	mg/L	0.002	1.05	mg/L	0.002	0.20%
QC value within limits for Li 670.784 Recovery = 105.09%								

All analyte(s) passed QC.

==========

Sequence No.: 16 **Autosampler Location: 1**
Sample ID: CCB **Date Collected: 5/31/2013 9:27:09 AM**
Analyst: **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**

Approved: June 03, 2013

Dilution: Sample Prep Vol:

Nebulizer Parameters: CCB

Analyte	Back Pressure	Flow
All	165.0 kPa	0.48 L/min

Mean Data: CCB

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2544687.7						19394.13	0.76%
YRADIAL	192309.3						4902.35	2.55%
Ga 417.206	1016633.1						11775.38	1.16%
GaRADIAL	51943.1						2277.44	4.38%
Ag 328.068†	100.6	0.00014	mg/L	0.000055	0.00014	mg/L	0.000055	40.17%
QC value within limits for Ag 328.068 Recovery = Not calculated								
Al 396.153†	17.3	-0.00496	mg/L	0.000552	-0.00496	mg/L	0.000552	11.13%
QC value within limits for Al 396.153 Recovery = Not calculated								
As 188.979†	5.3	0.00345	mg/L	0.002884	0.00345	mg/L	0.002884	83.67%
QC value within limits for As 188.979 Recovery = Not calculated								
Ba 233.527†	-10.0	-0.00195	mg/L	0.000087	-0.00195	mg/L	0.000087	4.44%
QC value within limits for Ba 233.527 Recovery = Not calculated								
Be 234.861†	28.3	0.00007	mg/L	0.000048	0.00007	mg/L	0.000048	70.66%
QC value within limits for Be 234.861 Recovery = Not calculated								
B 249.677†	438.1	0.00763	mg/L	0.000851	0.00763	mg/L	0.000851	11.16%
QC value within limits for B 249.677 Recovery = Not calculated								
Ca 227.546†	2.5	-0.0235	mg/L	0.01393	-0.0235	mg/L	0.01393	59.17%
QC value within limits for Ca 227.546 Recovery = Not calculated								
Cd 228.802†	-4.1	-0.00025	mg/L	0.000107	-0.00025	mg/L	0.000107	42.52%
QC value within limits for Cd 228.802 Recovery = Not calculated								
Co 228.616†	-1.9	-0.00099	mg/L	0.000291	-0.00099	mg/L	0.000291	29.57%
QC value within limits for Co 228.616 Recovery = Not calculated								
Cr 267.716†	3.4	-0.00118	mg/L	0.000212	-0.00118	mg/L	0.000212	18.07%
QC value within limits for Cr 267.716 Recovery = Not calculated								
Cu 327.393†	107.3	0.00036	mg/L	0.000186	0.00036	mg/L	0.000186	51.41%
QC value within limits for Cu 327.393 Recovery = Not calculated								
Fe 239.562†	16.9	-0.00834	mg/L	0.001240	-0.00834	mg/L	0.001240	14.88%
QC value within limits for Fe 239.562 Recovery = Not calculated								
Mg 279.077†	3.0	-0.0135	mg/L	0.00430	-0.0135	mg/L	0.00430	31.85%
QC value within limits for Mg 279.077 Recovery = Not calculated								
Mn 257.610†	20.4	-0.00251	mg/L	0.000029	-0.00251	mg/L	0.000029	1.14%
QC value within limits for Mn 257.610 Recovery = Not calculated								
Mo 202.031†	3.0	-0.00190	mg/L	0.000133	-0.00190	mg/L	0.000133	6.98%
QC value within limits for Mo 202.031 Recovery = Not calculated								
Ni 231.604†	-10.9	-0.00204	mg/L	0.000252	-0.00204	mg/L	0.000252	12.36%
QC value within limits for Ni 231.604 Recovery = Not calculated								
Pb 220.353†	6.4	-0.00091	mg/L	0.000777	-0.00091	mg/L	0.000777	85.34%
QC value within limits for Pb 220.353 Recovery = Not calculated								
Sb 206.836†	2.8	-0.00123	mg/L	0.002735	-0.00123	mg/L	0.002735	221.55%
QC value within limits for Sb 206.836 Recovery = Not calculated								
Se 196.026†	-4.4	-0.00522	mg/L	0.003189	-0.00522	mg/L	0.003189	61.07%
QC value within limits for Se 196.026 Recovery = Not calculated								
Si 251.611†	-93.8	-0.00466	mg/L	0.000779	-0.00466	mg/L	0.000779	16.72%
QC value within limits for Si 251.611 Recovery = Not calculated								
Sn 189.927†	15.1	-0.00066	mg/L	0.000300	-0.00066	mg/L	0.000300	45.14%
QC value within limits for Sn 189.927 Recovery = Not calculated								
Ti 334.940†	65.6	-0.00023	mg/L	0.000020	-0.00023	mg/L	0.000020	8.64%
QC value within limits for Ti 334.940 Recovery = Not calculated								
Tl 190.801†	-11.8	-0.00995	mg/L	0.006452	-0.00995	mg/L	0.006452	64.84%
QC value within limits for Tl 190.801 Recovery = Not calculated								
V 290.880†	399.0	0.00071	mg/L	0.000199	0.00071	mg/L	0.000199	28.13%
QC value within limits for V 290.880 Recovery = Not calculated								
Zn 206.200†	-1.7	-0.00202	mg/L	0.000306	-0.00202	mg/L	0.000306	15.12%
QC value within limits for Zn 206.200 Recovery = Not calculated								
K 766.490†	80.1	0.0486	mg/L	0.01693	0.0486	mg/L	0.01693	34.81%
QC value within limits for K 766.490 Recovery = Not calculated								
Na 589.592†	940.1	0.0819	mg/L	0.04108	0.0819	mg/L	0.04108	50.14%
QC value within limits for Na 589.592 Recovery = Not calculated								
Sr 407.771†	210.3	-0.00340	mg/L	0.000153	-0.00340	mg/L	0.000153	4.50%
QC value within limits for Sr 407.771 Recovery = Not calculated								
Li 670.784†	172.0	-0.00128	mg/L	0.000841	-0.00128	mg/L	0.000841	65.47%

Approved: June 03, 2013

Lynn H. Rhoden

QC value within limits for Li 670.784 Recovery = Not calculated
All analyte(s) passed QC.

Approved: June 03, 2013

==========

Analysis Begun

Start Time: 5/31/2013 9:45:20 AM **Plasma On Time: 5/31/2013 6:21:19 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\FRIDAY1.sif
Batch ID:
Results Data Set: 053113HR
Results Library: C:\pe\peicp2\Results\Results.mdb

==========

Sequence No.: 1 **Autosampler Location: 33**
Sample ID: PBW 47 WG432321-03 **Date Collected: 5/31/2013 9:45:22 AM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: PBW 47 WG432321-03

Analyte	Back Pressure	Flow
All	166.0 kPa	0.48 L/min

Mean Data: PBW 47 WG432321-03

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2529917.9						49402.62	1.95%
YRADIAL	187899.2						4186.60	2.23%
Ga 417.206	940667.8						14329.95	1.52%
GaRADIAL	49038.6						1263.09	2.58%
Ag 328.068†	77.0	0.00004	mg/L	0.000090	0.00004	mg/L	0.000090	252.79%
Al 396.153†	-5.2	-0.0124	mg/L	0.00295	-0.0124	mg/L	0.00295	23.84%
As 188.979†	0.4	0.00103	mg/L	0.002362	0.00103	mg/L	0.002362	230.07%
Ba 233.527†	0.4	-0.00183	mg/L	0.000130	-0.00183	mg/L	0.000130	7.10%
Be 234.861†	-114.5	-0.00014	mg/L	0.000043	-0.00014	mg/L	0.000043	29.67%
B 249.677†	3769.2	0.0549	mg/L	0.00153	0.0549	mg/L	0.00153	2.79%
Ca 227.546†	-13.0	-0.0975	mg/L	0.01197	-0.0975	mg/L	0.01197	12.27%
Cd 228.802†	0.4	-0.00010	mg/L	0.000183	-0.00010	mg/L	0.000183	186.93%
Co 228.616†	2.2	-0.00081	mg/L	0.000343	-0.00081	mg/L	0.000343	42.39%
Cr 267.716†	-10.4	-0.00132	mg/L	0.000038	-0.00132	mg/L	0.000038	2.84%
Cu 327.393†	-30.8	-0.00043	mg/L	0.000375	-0.00043	mg/L	0.000375	87.68%
Fe 239.562†	18.9	-0.00784	mg/L	0.000630	-0.00784	mg/L	0.000630	8.04%
Mg 279.077†	3.3	-0.0133	mg/L	0.00357	-0.0133	mg/L	0.00357	26.84%
Mn 257.610†	107.7	-0.00234	mg/L	0.000016	-0.00234	mg/L	0.000016	0.69%
Mo 202.031†	8.7	-0.00161	mg/L	0.000200	-0.00161	mg/L	0.000200	12.40%
Ni 231.604†	-10.2	-0.00202	mg/L	0.000247	-0.00202	mg/L	0.000247	12.21%
Pb 220.353†	-3.6	-0.00222	mg/L	0.001037	-0.00222	mg/L	0.001037	46.80%
Sb 206.836†	2.9	-0.00120	mg/L	0.002127	-0.00120	mg/L	0.002127	176.94%
Se 196.026†	1.6	0.00053	mg/L	0.006181	0.00053	mg/L	0.006181	>999.9%
Si 251.611†	16.3	-0.00162	mg/L	0.000381	-0.00162	mg/L	0.000381	23.49%
Sn 189.927†	73.6	0.00667	mg/L	0.000498	0.00667	mg/L	0.000498	7.46%
Ti 334.940†	51.3	-0.00026	mg/L	0.000211	-0.00026	mg/L	0.000211	80.55%
Tl 190.801†	-7.1	-0.00760	mg/L	0.003143	-0.00760	mg/L	0.003143	41.35%
V 290.880†	281.6	0.00011	mg/L	0.001530	0.00011	mg/L	0.001530	>999.9%
Zn 206.200†	89.0	0.00059	mg/L	0.000207	0.00059	mg/L	0.000207	35.12%
K 766.490†	-56.8	-0.0418	mg/L	0.01379	-0.0418	mg/L	0.01379	33.01%
Na 589.592†	96.3	0.00740	mg/L	0.003209	0.00740	mg/L	0.003209	43.40%
Sr 407.771†	-3.5	-0.00357	mg/L	0.000024	-0.00357	mg/L	0.000024	0.67%
Li 670.784†	-39.4	-0.00429	mg/L	0.001147	-0.00429	mg/L	0.001147	26.74%

==========

Sequence No.: 2 **Autosampler Location: 34**
Sample ID: LCSW 47 WG432321-04 **Date Collected: 5/31/2013 9:48:24 AM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: LCSW 47 WG432321-04

Approved: June 03, 2013
Lynn H. Rhoden

Analyte	Back Pressure	Flow
All	165.0 kPa	0.48 L/min

Mean Data: LCSW 47 WG432321-04

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2474985.4						35230.75	1.42%
YRADIAL	191886.9						2639.48	1.38%
Ga 417.206	954356.0						24715.91	2.59%
GaRADIAL	51109.9						647.59	1.27%
Ag 328.068†	46890.1	0.202	mg/L	0.0037	0.202	mg/L	0.0037	1.85%
Al 396.153†	15064.4	4.89	mg/L	0.029	4.89	mg/L	0.029	0.60%
As 188.979†	413.6	0.203	mg/L	0.0066	0.203	mg/L	0.0066	3.26%
Ba 233.527†	44841.5	0.501	mg/L	0.0072	0.501	mg/L	0.0072	1.43%
Be 234.861†	16772.8	0.0247	mg/L	0.00049	0.0247	mg/L	0.00049	2.00%
B 249.677†	72320.4	1.02	mg/L	0.016	1.02	mg/L	0.016	1.53%
Ca 227.546†	1030.8	5.13	mg/L	0.168	5.13	mg/L	0.168	3.27%
Cd 228.802†	806.7	0.0246	mg/L	0.00088	0.0246	mg/L	0.00088	3.58%
Co 228.616†	2436.6	0.101	mg/L	0.0012	0.101	mg/L	0.0012	1.15%
Cr 267.716†	23462.7	0.251	mg/L	0.0040	0.251	mg/L	0.0040	1.59%
Cu 327.393†	44007.1	0.252	mg/L	0.0048	0.252	mg/L	0.0048	1.90%
Fe 239.562†	8120.4	1.98	mg/L	0.006	1.98	mg/L	0.006	0.33%
Mg 279.077†	6896.7	4.94	mg/L	0.022	4.94	mg/L	0.022	0.45%
Mn 257.610†	135287.6	0.254	mg/L	0.0022	0.254	mg/L	0.0022	0.86%
Mo 202.031†	10064.7	0.512	mg/L	0.0069	0.512	mg/L	0.0069	1.35%
Ni 231.604†	10256.0	0.261	mg/L	0.0032	0.261	mg/L	0.0032	1.23%
Pb 220.353†	1958.5	0.255	mg/L	0.0031	0.255	mg/L	0.0031	1.23%
Sb 206.836†	1481.2	0.614	mg/L	0.0195	0.614	mg/L	0.0195	3.18%
Se 196.026†	212.1	0.205	mg/L	0.0045	0.205	mg/L	0.0045	2.22%
Si 251.611†	89607.5	2.46	mg/L	0.031	2.46	mg/L	0.031	1.25%
Sn 189.927†	47.3	0.00338	mg/L	0.000814	0.00338	mg/L	0.000814	24.12%
Ti 334.940†	374509.7	0.506	mg/L	0.0057	0.506	mg/L	0.0057	1.12%
Tl 190.801†	518.4	0.264	mg/L	0.0045	0.264	mg/L	0.0045	1.72%
V 290.880†	97653.5	0.496	mg/L	0.0060	0.496	mg/L	0.0060	1.21%
Zn 206.200†	17636.9	0.508	mg/L	0.0070	0.508	mg/L	0.0070	1.38%
K 766.490†	37050.5	24.7	mg/L	0.10	24.7	mg/L	0.10	0.41%
Na 589.592†	280514.1	25.1	mg/L	0.67	25.1	mg/L	0.67	2.68%
Sr 407.771†	597536.1	0.493	mg/L	0.0141	0.493	mg/L	0.0141	2.86%
Li 670.784†	36505.8	0.515	mg/L	0.0033	0.515	mg/L	0.0033	0.63%

Sequence No.: 3
Sample ID: L1305136301 WG432321-01
Analyst: KHR
Initial Sample Wt:
Dilution:

Autosampler Location: 35
Date Collected: 5/31/2013 9:50:29 AM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: L1305136301 WG432321-01

Analyte	Back Pressure	Flow
All	165.0 kPa	0.48 L/min

Mean Data: L1305136301 WG432321-01

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2455998.1						36793.45	1.50%
YRADIAL	185179.4						4725.40	2.55%
Ga 417.206	972698.5						20606.14	2.12%
GaRADIAL	51343.2						2140.21	4.17%
Ag 328.068†	294.2	0.00094	mg/L	0.000439	0.00094	mg/L	0.000439	46.88%
Al 396.153†	51.5	0.00617	mg/L	0.000549	0.00617	mg/L	0.000549	8.90%
As 188.979†	-4.3	-0.00067	mg/L	0.002051	-0.00067	mg/L	0.002051	306.33%
Ba 233.527†	1661.1	0.0168	mg/L	0.00035	0.0168	mg/L	0.00035	2.09%
Be 234.861†	15.9	0.00005	mg/L	0.000057	0.00005	mg/L	0.000057	112.91%
B 249.677†	3620.7	0.0527	mg/L	0.00189	0.0527	mg/L	0.00189	3.59%
Ca 227.546†	6303.8	30.1	mg/L	0.62	30.1	mg/L	0.62	2.06%
Cd 228.802†	24.2	0.00066	mg/L	0.000091	0.00066	mg/L	0.000091	13.74%
Co 228.616†	-0.2	-0.00091	mg/L	0.000062	-0.00091	mg/L	0.000062	6.78%
Cr 267.716†	83.4	-0.00031	mg/L	0.000112	-0.00031	mg/L	0.000112	36.05%
Cu 327.393†	91.6	0.00027	mg/L	0.000277	0.00027	mg/L	0.000277	102.10%

Approved: June 03, 2013

Lynn H. Rhoden

Fe 239.562†	99.7	0.0115	mg/L	0.00069	0.0115	mg/L	0.00069	5.95%
Mg 279.077†	33688.7	24.1	mg/L	0.12	24.1	mg/L	0.12	0.48%
Mn 257.610†	29081.9	0.0525	mg/L	0.00113	0.0525	mg/L	0.00113	2.16%
Mo 202.031†	29.8	-0.00051	mg/L	0.000311	-0.00051	mg/L	0.000311	60.76%
Ni 231.604†	332.6	0.00678	mg/L	0.000129	0.00678	mg/L	0.000129	1.90%
Pb 220.353†	25.4	0.00156	mg/L	0.002029	0.00156	mg/L	0.002029	130.51%
Sb 206.836†	4.8	-0.00040	mg/L	0.001858	-0.00040	mg/L	0.001858	467.91%
Se 196.026†	1.2	0.00017	mg/L	0.006287	0.00017	mg/L	0.006287	>999.9%
Si 251.611†	86555.4	2.39	mg/L	0.057	2.39	mg/L	0.057	2.41%
Sn 189.927†	-137.6	-0.0198	mg/L	0.00152	-0.0198	mg/L	0.00152	7.65%
Ti 334.940†	-3307.1	-0.00027	mg/L	0.000283	-0.00027	mg/L	0.000283	104.85%
Tl 190.801†	-25.4	-0.0169	mg/L	0.00418	-0.0169	mg/L	0.00418	24.76%
V 290.880†	2412.4	0.0103	mg/L	0.00083	0.0103	mg/L	0.00083	8.07%
Zn 206.200†	740.9	0.0194	mg/L	0.00059	0.0194	mg/L	0.00059	3.04%
K 766.490†	3304.0	2.18	mg/L	0.032	2.18	mg/L	0.032	1.46%
Na 589.592†	7600.3	0.670	mg/L	0.0194	0.670	mg/L	0.0194	2.90%
Sr 407.771†	312396.1	0.256	mg/L	0.0120	0.256	mg/L	0.0120	4.68%
Li 670.784†	1026.3	0.0109	mg/L	0.00165	0.0109	mg/L	0.00165	15.17%

==========

Sequence No.: 4 **Autosampler Location: 36**
Sample ID: L1305136301DU WG432321-05 **Date Collected: 5/31/2013 9:53:35 AM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1305136301DU WG432321-05

Analyte	Back Pressure	Flow
All	166.0 kPa	0.48 L/min

Mean Data: L1305136301DU WG432321-05

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2489425.5						23650.47	0.95%
YRADIAL	178882.1						5183.37	2.90%
Ga 417.206	989466.3						9383.87	0.95%
GaRADIAL	52613.5						390.75	0.74%
Ag 328.068†	143.4	0.00029	mg/L	0.000460	0.00029	mg/L	0.000460	159.61%
Al 396.153†	62.9	0.00992	mg/L	0.000717	0.00992	mg/L	0.000717	7.22%
As 188.979†	2.2	0.00256	mg/L	0.003421	0.00256	mg/L	0.003421	133.50%
Ba 233.527†	1678.7	0.0170	mg/L	0.00004	0.0170	mg/L	0.00004	0.23%
Be 234.861†	37.5	0.00008	mg/L	0.000025	0.00008	mg/L	0.000025	30.08%
B 249.677†	2634.2	0.0388	mg/L	0.00286	0.0388	mg/L	0.00286	7.38%
Ca 227.546†	6374.6	30.5	mg/L	0.35	30.5	mg/L	0.35	1.15%
Cd 228.802†	-0.8	-0.00014	mg/L	0.000089	-0.00014	mg/L	0.000089	63.45%
Co 228.616†	2.3	-0.00080	mg/L	0.000346	-0.00080	mg/L	0.000346	43.05%
Cr 267.716†	85.8	-0.00029	mg/L	0.000067	-0.00029	mg/L	0.000067	23.58%
Cu 327.393†	-104.0	-0.00085	mg/L	0.000914	-0.00085	mg/L	0.000914	107.92%
Fe 239.562†	101.5	0.0119	mg/L	0.00164	0.0119	mg/L	0.00164	13.78%
Mg 279.077†	36769.2	26.3	mg/L	0.60	26.3	mg/L	0.60	2.26%
Mn 257.610†	29047.4	0.0524	mg/L	0.00149	0.0524	mg/L	0.00149	2.84%
Mo 202.031†	23.6	-0.00083	mg/L	0.000583	-0.00083	mg/L	0.000583	70.24%
Ni 231.604†	341.7	0.00701	mg/L	0.000228	0.00701	mg/L	0.000228	3.26%
Pb 220.353†	26.3	0.00168	mg/L	0.000865	0.00168	mg/L	0.000865	51.56%
Sb 206.836†	1.8	-0.00163	mg/L	0.001462	-0.00163	mg/L	0.001462	89.79%
Se 196.026†	3.6	0.00245	mg/L	0.002634	0.00245	mg/L	0.002634	107.39%
Si 251.611†	86792.2	2.39	mg/L	0.067	2.39	mg/L	0.067	2.81%
Sn 189.927†	-152.6	-0.0217	mg/L	0.00071	-0.0217	mg/L	0.00071	3.27%
Ti 334.940†	-3423.8	-0.00038	mg/L	0.000135	-0.00038	mg/L	0.000135	35.81%
Tl 190.801†	-18.9	-0.0136	mg/L	0.00245	-0.0136	mg/L	0.00245	17.99%
V 290.880†	2409.8	0.0103	mg/L	0.00044	0.0103	mg/L	0.00044	4.30%
Zn 206.200†	655.8	0.0169	mg/L	0.00021	0.0169	mg/L	0.00021	1.22%
K 766.490†	3348.7	2.21	mg/L	0.023	2.21	mg/L	0.023	1.02%
Na 589.592†	7524.7	0.664	mg/L	0.0093	0.664	mg/L	0.0093	1.41%
Sr 407.771†	329063.5	0.270	mg/L	0.0058	0.270	mg/L	0.0058	2.15%
Li 670.784†	1025.7	0.0109	mg/L	0.00073	0.0109	mg/L	0.00073	6.76%

==========

Sequence No.: 5 **Autosampler Location: 37**
Sample ID: L1305136301MS WG432321-06 **Date Collected: 5/31/2013 9:56:38 AM**

Approved: June 03, 2013

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

Nebulizer Parameters: L1305136301MS WG432321-06

Analyte	Back Pressure	Flow
All	166.0 kPa	0.48 L/min

Mean Data: L1305136301MS WG432321-06

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2473761.3						39748.08	1.61%
YRADIAL	190035.7						595.08	0.31%
Ga 417.206	973587.8						33321.24	3.42%
GaRADIAL	51243.7						105.22	0.21%
Ag 328.068†	46631.9	0.201	mg/L	0.0085	0.201	mg/L	0.0085	4.21%
Al 396.153†	15325.3	4.98	mg/L	0.035	4.98	mg/L	0.035	0.71%
As 188.979†	421.6	0.207	mg/L	0.0083	0.207	mg/L	0.0083	4.02%
Ba 233.527†	46200.5	0.516	mg/L	0.0135	0.516	mg/L	0.0135	2.62%
Be 234.861†	16846.9	0.0248	mg/L	0.00100	0.0248	mg/L	0.00100	4.04%
B 249.677†	72130.8	1.02	mg/L	0.044	1.02	mg/L	0.044	4.34%
Ca 227.546†	7463.0	35.9	mg/L	1.11	35.9	mg/L	1.11	3.11%
Cd 228.802†	780.5	0.0238	mg/L	0.00081	0.0238	mg/L	0.00081	3.39%
Co 228.616†	2376.1	0.0983	mg/L	0.00190	0.0983	mg/L	0.00190	1.93%
Cr 267.716†	23446.2	0.251	mg/L	0.0060	0.251	mg/L	0.0060	2.40%
Cu 327.393†	42806.6	0.245	mg/L	0.0114	0.245	mg/L	0.0114	4.65%
Fe 239.562†	8185.6	2.00	mg/L	0.025	2.00	mg/L	0.025	1.24%
Mg 279.077†	40206.1	28.8	mg/L	0.14	28.8	mg/L	0.14	0.49%
Mn 257.610†	164207.4	0.308	mg/L	0.0070	0.308	mg/L	0.0070	2.27%
Mo 202.031†	10177.4	0.518	mg/L	0.0075	0.518	mg/L	0.0075	1.45%
Ni 231.604†	10246.7	0.261	mg/L	0.0041	0.261	mg/L	0.0041	1.57%
Pb 220.353†	1951.7	0.254	mg/L	0.0039	0.254	mg/L	0.0039	1.55%
Sb 206.836†	1485.5	0.615	mg/L	0.0230	0.615	mg/L	0.0230	3.73%
Se 196.026†	202.2	0.195	mg/L	0.0062	0.195	mg/L	0.0062	3.17%
Si 251.611†	175875.1	4.84	mg/L	0.196	4.84	mg/L	0.196	4.04%
Sn 189.927†	-127.3	-0.0185	mg/L	0.00051	-0.0185	mg/L	0.00051	2.74%
Ti 334.940†	375337.8	0.512	mg/L	0.0136	0.512	mg/L	0.0136	2.66%
Tl 190.801†	496.7	0.253	mg/L	0.0058	0.253	mg/L	0.0058	2.28%
V 290.880†	100657.8	0.510	mg/L	0.0119	0.510	mg/L	0.0119	2.32%
Zn 206.200†	17718.7	0.511	mg/L	0.0140	0.511	mg/L	0.0140	2.74%
K 766.490†	40912.9	27.3	mg/L	0.06	27.3	mg/L	0.06	0.20%
Na 589.592†	290302.9	26.0	mg/L	0.52	26.0	mg/L	0.52	1.99%
Sr 407.771†	907939.4	0.751	mg/L	0.0094	0.751	mg/L	0.0094	1.26%
Li 670.784†	38016.7	0.537	mg/L	0.0042	0.537	mg/L	0.0042	0.78%

==========

Sequence No.: 6 **Autosampler Location: 38**
Sample ID: L1305136302 **Date Collected: 5/31/2013 9:58:41 AM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1305136302

Analyte	Back Pressure	Flow
All	166.0 kPa	0.48 L/min

Mean Data: L1305136302

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2486171.5						8533.42	0.34%
YRADIAL	188826.1						4511.39	2.39%
Ga 417.206	993286.5						4974.65	0.50%
GaRADIAL	52263.3						118.13	0.23%
Ag 328.068†	236.0	0.00068	mg/L	0.000556	0.00068	mg/L	0.000556	82.14%
Al 396.153†	9.3	-0.00765	mg/L	0.002973	-0.00765	mg/L	0.002973	38.88%
As 188.979†	3.1	0.00303	mg/L	0.001333	0.00303	mg/L	0.001333	44.05%
Ba 233.527†	2037.9	0.0210	mg/L	0.00015	0.0210	mg/L	0.00015	0.73%
Be 234.861†	48.8	0.00010	mg/L	0.000018	0.00010	mg/L	0.000018	17.62%

Approved: June 03, 2013

Lynn H. Rhoden

B 249.677†	2548.1	0.0375	mg/L	0.00204	0.0375	mg/L	0.00204	5.44%
Ca 227.546†	6551.2	31.3	mg/L	0.05	31.3	mg/L	0.05	0.17%
Cd 228.802†	-0.5	-0.00013	mg/L	0.000147	-0.00013	mg/L	0.000147	108.91%
Co 228.616†	2.1	-0.00081	mg/L	0.000166	-0.00081	mg/L	0.000166	20.42%
Cr 267.716†	90.3	-0.00024	mg/L	0.000091	-0.00024	mg/L	0.000091	38.46%
Cu 327.393†	-16.0	-0.00035	mg/L	0.000499	-0.00035	mg/L	0.000499	144.15%
Fe 239.562†	37.4	-0.00380	mg/L	0.000893	-0.00380	mg/L	0.000893	23.51%
Mg 279.077†	34891.4	25.0	mg/L	0.36	25.0	mg/L	0.36	1.46%
Mn 257.610†	29912.5	0.0540	mg/L	0.00044	0.0540	mg/L	0.00044	0.82%
Mo 202.031†	13.9	-0.00133	mg/L	0.000211	-0.00133	mg/L	0.000211	15.93%
Ni 231.604†	360.0	0.00748	mg/L	0.000341	0.00748	mg/L	0.000341	4.56%
Pb 220.353†	17.7	0.00054	mg/L	0.001897	0.00054	mg/L	0.001897	348.49%
Sb 206.836†	1.9	-0.00161	mg/L	0.001065	-0.00161	mg/L	0.001065	66.05%
Se 196.026†	-0.3	-0.00128	mg/L	0.006370	-0.00128	mg/L	0.006370	498.04%
Si 251.611†	90037.6	2.48	mg/L	0.019	2.48	mg/L	0.019	0.78%
Sn 189.927†	-160.1	-0.0226	mg/L	0.00053	-0.0226	mg/L	0.00053	2.34%
Ti 334.940†	-3671.9	-0.00059	mg/L	0.000285	-0.00059	mg/L	0.000285	48.67%
Tl 190.801†	-21.6	-0.0150	mg/L	0.00108	-0.0150	mg/L	0.00108	7.22%
V 290.880†	2334.1	0.00992	mg/L	0.000274	0.00992	mg/L	0.000274	2.76%
Zn 206.200†	780.3	0.0205	mg/L	0.00025	0.0205	mg/L	0.00025	1.22%
K 766.490†	3361.8	2.22	mg/L	0.043	2.22	mg/L	0.043	1.95%
Na 589.592†	8689.9	0.767	mg/L	0.0140	0.767	mg/L	0.0140	1.82%
Sr 407.771†	323659.4	0.266	mg/L	0.0159	0.266	mg/L	0.0159	5.99%
Li 670.784†	1031.5	0.0109	mg/L	0.00029	0.0109	mg/L	0.00029	2.65%

Sequence No.: 7
Sample ID: L1305136304
Analyst: KHR
Initial Sample Wt:
Dilution:

Autosampler Location: 39
Date Collected: 5/31/2013 10:01:44 AM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: L1305136304

Analyte	Back Pressure	Flow
All	166.0 kPa	0.48 L/min

Mean Data: L1305136304

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2454518.0						5347.83	0.22%
YRADIAL	186276.3						490.75	0.26%
Ga 417.206	978122.6						9237.74	0.94%
GaRADIAL	53454.9						662.67	1.24%
Ag 328.068†	217.4	0.00063	mg/L	0.000312	0.00063	mg/L	0.000312	49.58%
Al 396.153†	92.4	0.0196	mg/L	0.00109	0.0196	mg/L	0.00109	5.53%
As 188.979†	6.5	0.00460	mg/L	0.002954	0.00460	mg/L	0.002954	64.22%
Ba 233.527†	2434.8	0.0254	mg/L	0.00012	0.0254	mg/L	0.00012	0.47%
Be 234.861†	165.5	0.00027	mg/L	0.000046	0.00027	mg/L	0.000046	17.02%
B 249.677†	1826.7	0.0273	mg/L	0.00116	0.0273	mg/L	0.00116	4.26%
Ca 227.546†	5538.5	26.5	mg/L	0.32	26.5	mg/L	0.32	1.20%
Cd 228.802†	-2.9	-0.00022	mg/L	0.000132	-0.00022	mg/L	0.000132	60.90%
Co 228.616†	8.0	-0.00057	mg/L	0.000446	-0.00057	mg/L	0.000446	78.22%
Cr 267.716†	99.9	-0.00014	mg/L	0.000199	-0.00014	mg/L	0.000199	146.34%
Cu 327.393†	5.8	-0.00022	mg/L	0.000326	-0.00022	mg/L	0.000326	148.39%
Fe 239.562†	177.0	0.0306	mg/L	0.00037	0.0306	mg/L	0.00037	1.22%
Mg 279.077†	30254.7	21.7	mg/L	0.37	21.7	mg/L	0.37	1.69%
Mn 257.610†	28711.0	0.0518	mg/L	0.00103	0.0518	mg/L	0.00103	1.99%
Mo 202.031†	16.8	-0.00118	mg/L	0.000447	-0.00118	mg/L	0.000447	38.05%
Ni 231.604†	856.9	0.0202	mg/L	0.00036	0.0202	mg/L	0.00036	1.77%
Pb 220.353†	22.0	0.00112	mg/L	0.001281	0.00112	mg/L	0.001281	114.65%
Sb 206.836†	-1.5	-0.00298	mg/L	0.001021	-0.00298	mg/L	0.001021	34.23%
Se 196.026†	-0.8	-0.00181	mg/L	0.006990	-0.00181	mg/L	0.006990	385.59%
Si 251.611†	122524.0	3.38	mg/L	0.088	3.38	mg/L	0.088	2.60%
Sn 189.927†	-143.0	-0.0205	mg/L	0.00060	-0.0205	mg/L	0.00060	2.94%
Ti 334.940†	-3092.3	-0.00053	mg/L	0.000060	-0.00053	mg/L	0.000060	11.29%
Tl 190.801†	-19.2	-0.0138	mg/L	0.00418	-0.0138	mg/L	0.00418	30.40%
V 290.880†	2112.2	0.00886	mg/L	0.001286	0.00886	mg/L	0.001286	14.51%
Zn 206.200†	1747.7	0.0484	mg/L	0.00044	0.0484	mg/L	0.00044	0.91%
K 766.490†	4050.5	2.67	mg/L	0.037	2.67	mg/L	0.037	1.39%
Na 589.592†	8706.0	0.768	mg/L	0.0082	0.768	mg/L	0.0082	1.07%

Approved: June 03, 2013

Sr 407.771†	206237.1	0.168	mg/L	0.0063	0.168	mg/L	0.0063	3.76%
Li 670.784†	1693.5	0.0203	mg/L	0.00098	0.0203	mg/L	0.00098	4.81%

Sequence No.: 8 **Autosampler Location: 40**
Sample ID: L1305136305 **Date Collected: 5/31/2013 10:04:44 AM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1305136305

Analyte	Back Pressure	Flow
All	165.0 kPa	0.48 L/min

Mean Data: L1305136305

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2480735.3						37453.68	1.51%
YRADIAL	181930.2						4310.79	2.37%
Ga 417.206	991076.0						17125.35	1.73%
GaRADIAL	52205.7						1912.20	3.66%
Ag 328.068†	294.0	0.00095	mg/L	0.000108	0.00095	mg/L	0.000108	11.37%
Al 396.153†	59.4	0.00881	mg/L	0.002061	0.00881	mg/L	0.002061	23.40%
As 188.979†	5.0	0.00388	mg/L	0.003018	0.00388	mg/L	0.003018	77.70%
Ba 233.527†	1455.1	0.0145	mg/L	0.00031	0.0145	mg/L	0.00031	2.11%
Be 234.861†	166.6	0.00027	mg/L	0.000042	0.00027	mg/L	0.000042	15.45%
B 249.677†	1475.1	0.0223	mg/L	0.00162	0.0223	mg/L	0.00162	7.27%
Ca 227.546†	5701.1	27.2	mg/L	0.57	27.2	mg/L	0.57	2.08%
Cd 228.802†	0.1	-0.00012	mg/L	0.000133	-0.00012	mg/L	0.000133	110.71%
Co 228.616†	-3.3	-0.00104	mg/L	0.000097	-0.00104	mg/L	0.000097	9.31%
Cr 267.716†	68.9	-0.00047	mg/L	0.000122	-0.00047	mg/L	0.000122	26.20%
Cu 327.393†	-42.9	-0.00050	mg/L	0.000294	-0.00050	mg/L	0.000294	58.96%
Fe 239.562†	135.3	0.0203	mg/L	0.00117	0.0203	mg/L	0.00117	5.77%
Mg 279.077†	31380.8	22.5	mg/L	0.11	22.5	mg/L	0.11	0.47%
Mn 257.610†	29793.3	0.0538	mg/L	0.00074	0.0538	mg/L	0.00074	1.38%
Mo 202.031†	9.0	-0.00157	mg/L	0.000218	-0.00157	mg/L	0.000218	13.87%
Ni 231.604†	839.9	0.0198	mg/L	0.00035	0.0198	mg/L	0.00035	1.78%
Pb 220.353†	28.7	0.00199	mg/L	0.002044	0.00199	mg/L	0.002044	102.55%
Sb 206.836†	5.0	-0.00031	mg/L	0.000390	-0.00031	mg/L	0.000390	124.90%
Se 196.026†	1.5	0.00049	mg/L	0.003143	0.00049	mg/L	0.003143	644.16%
Si 251.611†	124020.0	3.42	mg/L	0.031	3.42	mg/L	0.031	0.92%
Sn 189.927†	-156.7	-0.0222	mg/L	0.00036	-0.0222	mg/L	0.00036	1.62%
Ti 334.940†	-3222.8	-0.00059	mg/L	0.000128	-0.00059	mg/L	0.000128	21.71%
Tl 190.801†	-21.9	-0.0151	mg/L	0.00224	-0.0151	mg/L	0.00224	14.82%
V 290.880†	2185.2	0.00922	mg/L	0.000820	0.00922	mg/L	0.000820	8.90%
Zn 206.200†	1660.7	0.0458	mg/L	0.00078	0.0458	mg/L	0.00078	1.70%
K 766.490†	4046.5	2.67	mg/L	0.030	2.67	mg/L	0.030	1.11%
Na 589.592†	9688.6	0.855	mg/L	0.0162	0.855	mg/L	0.0162	1.89%
Sr 407.771†	222762.7	0.182	mg/L	0.0029	0.182	mg/L	0.0029	1.59%
Li 670.784†	1666.7	0.0200	mg/L	0.00073	0.0200	mg/L	0.00073	3.65%

Sequence No.: 9 **Autosampler Location: 41**
Sample ID: L1305136305PS WG432418-01 **Date Collected: 5/31/2013 10:07:44 AM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1305136305PS WG432418-01

Analyte	Back Pressure	Flow
All	166.0 kPa	0.48 L/min

Mean Data: L1305136305PS WG432418-01

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2452712.5						25627.54	1.04%
YRADIAL	187605.5						1770.89	0.94%
Ga 417.206	962918.0						8721.63	0.91%

Approved: June 03, 2013

Kym H. Rhoden

GaRADIAL	51202.8					267.45	0.52%
Ag 328.068†	47158.9	0.203	mg/L	0.0030	0.203 mg/L	0.0030	1.46%
Al 396.153†	15595.9	5.07	mg/L	0.047	5.07 mg/L	0.047	0.93%
As 188.979†	424.5	0.208	mg/L	0.0036	0.208 mg/L	0.0036	1.72%
Ba 233.527†	46617.1	0.521	mg/L	0.0042	0.521 mg/L	0.0042	0.81%
Be 234.861†	17164.5	0.0253	mg/L	0.00029	0.0253 mg/L	0.00029	1.14%
B 249.677†	71834.1	1.02	mg/L	0.011	1.02 mg/L	0.011	1.04%
Ca 227.546†	6330.9	30.5	mg/L	0.12	30.5 mg/L	0.12	0.39%
Cd 228.802†	800.8	0.0244	mg/L	0.00047	0.0244 mg/L	0.00047	1.91%
Co 228.616†	2410.4	0.0997	mg/L	0.00099	0.0997 mg/L	0.00099	0.99%
Cr 267.716†	23728.2	0.254	mg/L	0.0042	0.254 mg/L	0.0042	1.64%
Cu 327.393†	43409.3	0.249	mg/L	0.0038	0.249 mg/L	0.0038	1.52%
Fe 239.562†	8494.8	2.07	mg/L	0.023	2.07 mg/L	0.023	1.09%
Mg 279.077†	35008.1	25.1	mg/L	0.35	25.1 mg/L	0.35	1.41%
Mn 257.610†	164468.6	0.309	mg/L	0.0025	0.309 mg/L	0.0025	0.82%
Mo 202.031†	10256.8	0.522	mg/L	0.0013	0.522 mg/L	0.0013	0.25%
Ni 231.604†	10786.3	0.275	mg/L	0.0015	0.275 mg/L	0.0015	0.55%
Pb 220.353†	1978.5	0.258	mg/L	0.0030	0.258 mg/L	0.0030	1.18%
Sb 206.836†	1496.9	0.620	mg/L	0.0018	0.620 mg/L	0.0018	0.29%
Se 196.026†	209.6	0.202	mg/L	0.0031	0.202 mg/L	0.0031	1.55%
Si 251.611†	203666.4	5.61	mg/L	0.032	5.61 mg/L	0.032	0.57%
Sn 189.927†	-162.1	-0.0229	mg/L	0.00086	-0.0229 mg/L	0.00086	3.75%
Ti 334.940†	381101.6	0.519	mg/L	0.0068	0.519 mg/L	0.0068	1.31%
Tl 190.801†	508.0	0.259	mg/L	0.0009	0.259 mg/L	0.0009	0.36%
V 290.880†	101547.8	0.515	mg/L	0.0048	0.515 mg/L	0.0048	0.93%
Zn 206.200†	18709.8	0.539	mg/L	0.0042	0.539 mg/L	0.0042	0.77%
K 766.490†	42221.3	28.2	mg/L	0.25	28.2 mg/L	0.25	0.90%
Na 589.592†	297424.6	26.6	mg/L	0.25	26.6 mg/L	0.25	0.92%
Sr 407.771†	821466.3	0.679	mg/L	0.0135	0.679 mg/L	0.0135	1.99%
Li 670.784†	39315.6	0.555	mg/L	0.0045	0.555 mg/L	0.0045	0.81%

Sequence No.: 10 **Autosampler Location: 42**
Sample ID: L1305136305DL WG432418-02 **Date Collected: 5/31/2013 10:09:48 AM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1305136305DL WG432418-02

Analyte	Back Pressure	Flow
All	166.0 kPa	0.48 L/min

Mean Data: L1305136305DL WG432418-02

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2520265.9						50614.70	2.01%
YRADIAL	185121.0						2317.42	1.25%
Ga 417.206	975067.5						10169.96	1.04%
GaRADIAL	51401.1						82.55	0.16%
Ag 328.068†	77.8	0.00004	mg/L	0.000507	0.00004	mg/L	0.000507	>999.9%
Al 396.153†	15.4	-0.00560	mg/L	0.001332	-0.00560	mg/L	0.001332	23.78%
As 188.979†	3.8	0.00281	mg/L	0.001745	0.00281	mg/L	0.001745	62.15%
Ba 233.527†	280.1	0.00130	mg/L	0.000035	0.00130	mg/L	0.000035	2.73%
Be 234.861†	-11.3	0.00001	mg/L	0.000042	0.00001	mg/L	0.000042	457.08%
B 249.677†	1387.0	0.0211	mg/L	0.00188	0.0211	mg/L	0.00188	8.92%
Ca 227.546†	1106.2	5.26	mg/L	0.031	5.26	mg/L	0.031	0.59%
Cd 228.802†	-4.4	-0.00026	mg/L	0.000406	-0.00026	mg/L	0.000406	156.38%
Co 228.616†	-1.3	-0.00096	mg/L	0.000179	-0.00096	mg/L	0.000179	18.69%
Cr 267.716†	9.1	-0.00111	mg/L	0.000106	-0.00111	mg/L	0.000106	9.54%
Cu 327.393†	52.8	0.00005	mg/L	0.000478	0.00005	mg/L	0.000478	961.91%
Fe 239.562†	34.1	-0.00420	mg/L	0.002613	-0.00420	mg/L	0.002613	62.25%
Mg 279.077†	6594.9	4.71	mg/L	0.020	4.71	mg/L	0.020	0.43%
Mn 257.610†	5905.5	0.00863	mg/L	0.000193	0.00863	mg/L	0.000193	2.23%
Mo 202.031†	1.7	-0.00196	mg/L	0.000386	-0.00196	mg/L	0.000386	19.68%
Ni 231.604†	152.1	0.00214	mg/L	0.000284	0.00214	mg/L	0.000284	13.24%
Pb 220.353†	18.4	0.00066	mg/L	0.000562	0.00066	mg/L	0.000562	85.49%
Sb 206.836†	2.9	-0.00117	mg/L	0.000950	-0.00117	mg/L	0.000950	81.18%
Se 196.026†	-1.3	-0.00230	mg/L	0.004663	-0.00230	mg/L	0.004663	202.46%
Si 251.611†	24753.7	0.681	mg/L	0.0206	0.681	mg/L	0.0206	3.02%
Sn 189.927†	-39.4	-0.00750	mg/L	0.001102	-0.00750	mg/L	0.001102	14.69%

Approved: June 03, 2013

Ti 334.940†	-695.6	-0.00047 mg/L	0.000142	-0.00047 mg/L	0.000142	30.21%
Tl 190.801†	-15.7	-0.0119 mg/L	0.00402	-0.0119 mg/L	0.00402	33.71%
V 290.880†	797.8	0.00261 mg/L	0.001119	0.00261 mg/L	0.001119	42.81%
Zn 206.200†	417.9	0.0101 mg/L	0.00014	0.0101 mg/L	0.00014	1.39%
K 766.490†	817.0	0.536 mg/L	0.0223	0.536 mg/L	0.0223	4.15%
Na 589.592†	2172.1	0.191 mg/L	0.0113	0.191 mg/L	0.0113	5.94%
Sr 407.771†	45446.9	0.0343 mg/L	0.00023	0.0343 mg/L	0.00023	0.67%
Li 670.784†	396.9	0.00191 mg/L	0.000471	0.00191 mg/L	0.000471	24.64%

Sequence No.: 11 **Autosampler Location: 6**
Sample ID: CCV **Date Collected: 5/31/2013 10:12:48 AM**
Analyst: **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: CCV

Analyte	Back Pressure	Flow
All	165.0 kPa	0.48 L/min

Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2449416.9						9817.93	0.40%
YRADIAL	182604.7						6740.97	3.69%
Ga 417.206	939195.3						5939.52	0.63%
GaRADIAL	50672.4						1575.23	3.11%
Ag 328.068†	98193.0	0.423	mg/L	0.0042	0.423	mg/L	0.0042	1.00%
QC value within limits for Ag 328.068 Recovery = 105.78%								
Al 396.153†	31220.1	10.2	mg/L	0.05	10.2	mg/L	0.05	0.51%
QC value within limits for Al 396.153 Recovery = 101.57%								
As 188.979†	840.0	0.410	mg/L	0.0046	0.410	mg/L	0.0046	1.13%
QC value within limits for As 188.979 Recovery = 102.62%								
Ba 233.527†	92916.1	1.04	mg/L	0.005	1.04	mg/L	0.005	0.44%
QC value within limits for Ba 233.527 Recovery = 103.98%								
Be 234.861†	35375.4	0.0521	mg/L	0.00039	0.0521	mg/L	0.00039	0.75%
QC value within limits for Be 234.861 Recovery = 104.20%								
B 249.677†	37068.0	0.523	mg/L	0.0052	0.523	mg/L	0.0052	1.00%
QC value within limits for B 249.677 Recovery = 104.60%								
Ca 227.546†	2165.1	10.8	mg/L	0.10	10.8	mg/L	0.10	0.95%
QC value within limits for Ca 227.546 Recovery = 107.99%								
Cd 228.802†	1661.9	0.0508	mg/L	0.00071	0.0508	mg/L	0.00071	1.40%
QC value within limits for Cd 228.802 Recovery = 101.69%								
Co 228.616†	4983.3	0.207	mg/L	0.0012	0.207	mg/L	0.0012	0.59%
QC value within limits for Co 228.616 Recovery = 103.60%								
Cr 267.716†	48389.5	0.518	mg/L	0.0017	0.518	mg/L	0.0017	0.32%
QC value within limits for Cr 267.716 Recovery = 103.66%								
Cu 327.393†	92486.6	0.530	mg/L	0.0049	0.530	mg/L	0.0049	0.92%
QC value within limits for Cu 327.393 Recovery = 105.99%								
Fe 239.562†	16795.9	4.11	mg/L	0.035	4.11	mg/L	0.035	0.85%
QC value within limits for Fe 239.562 Recovery = 102.82%								
Mg 279.077†	14377.1	10.3	mg/L	0.11	10.3	mg/L	0.11	1.08%
QC value within limits for Mg 279.077 Recovery = 103.04%								
Mn 257.610†	280942.6	0.530	mg/L	0.0019	0.530	mg/L	0.0019	0.37%
QC value within limits for Mn 257.610 Recovery = 105.92%								
Mo 202.031†	20369.1	1.04	mg/L	0.004	1.04	mg/L	0.004	0.39%
QC value within limits for Mo 202.031 Recovery = 103.84%								
Ni 231.604†	20475.8	0.523	mg/L	0.0031	0.523	mg/L	0.0031	0.59%
QC value within limits for Ni 231.604 Recovery = 104.70%								
Pb 220.353†	3980.3	0.521	mg/L	0.0041	0.521	mg/L	0.0041	0.79%
QC value within limits for Pb 220.353 Recovery = 104.12%								
Sb 206.836†	3020.2	1.25	mg/L	0.004	1.25	mg/L	0.004	0.35%
QC value within limits for Sb 206.836 Recovery = 104.45%								
Se 196.026†	429.8	0.416	mg/L	0.0064	0.416	mg/L	0.0064	1.54%
QC value within limits for Se 196.026 Recovery = 103.99%								
Si 251.611†	189930.6	5.23	mg/L	0.020	5.23	mg/L	0.020	0.38%
QC value within limits for Si 251.611 Recovery = 104.51%								
Sn 189.927†	7457.4	0.933	mg/L	0.0089	0.933	mg/L	0.0089	0.96%
QC value within limits for Sn 189.927 Recovery = 93.28%								
Ti 334.940†	753912.2	1.02	mg/L	0.005	1.02	mg/L	0.005	0.46%

Approved: June 03, 2013

Lynn H. Rhoden

```
   QC value within limits for Ti 334.940  Recovery = 101.99%
Tl 190.801†            1052.5       0.540 mg/L        0.0042       0.540 mg/L        0.0042   0.78%
   QC value within limits for Tl 190.801  Recovery = 108.03%
V 290.880†           203458.0        1.03 mg/L         0.009        1.03 mg/L         0.009   0.82%
   QC value within limits for V 290.880  Recovery = 103.39%
Zn 206.200†           35922.8        1.04 mg/L         0.006        1.04 mg/L         0.006   0.59%
   QC value within limits for Zn 206.200  Recovery = 103.71%
K 766.490†            76080.3        51.1 mg/L          0.11        51.1 mg/L          0.11   0.21%
   QC value within limits for K 766.490  Recovery = 102.27%
Na 589.592†          568688.5        51.6 mg/L          1.75        51.6 mg/L          1.75   3.40%
   QC value within limits for Na 589.592  Recovery = 103.14%
Sr 407.771†          1270996.4        1.05 mg/L         0.037        1.05 mg/L         0.037   3.54%
   QC value within limits for Sr 407.771  Recovery = 105.21%
Li 670.784†           74681.9        1.06 mg/L         0.005        1.06 mg/L         0.005   0.47%
   QC value within limits for Li 670.784  Recovery = 105.82%
All analyte(s) passed QC.

==========================================================================================
Sequence No.: 12                                    Autosampler Location: 1
Sample ID: CCB                                      Date Collected: 5/31/2013 10:14:53 AM
Analyst:                                            Data Type: Original
Initial Sample Wt:                                  Initial Sample Vol:
Dilution:                                           Sample Prep Vol:

------------------------------------------------------------------------------------------
Nebulizer Parameters: CCB
Analyte                 Back Pressure    Flow
All                     166.0 kPa        0.48 L/min

------------------------------------------------------------------------------------------
Mean Data: CCB
                   Mean Corrected        Calib.                          Sample
Analyte               Intensity     Conc. Units     Std.Dev.     Conc. Units     Std.Dev.   RSD
Y 371.029            2553585.8                                                  18704.43   0.73%
YRADIAL               185250.5                                                   1659.80   0.90%
Ga 417.206            969599.6                                                  12172.22   1.26%
GaRADIAL               50924.8                                                   1197.83   2.35%
Ag 328.068†               58.8    -0.00005 mg/L      0.000456    -0.00005 mg/L      0.000456 986.18%
   QC value within limits for Ag 328.068  Recovery = Not calculated
Al 396.153†                4.2    -0.00925 mg/L      0.000767    -0.00925 mg/L      0.000767   8.30%
   QC value within limits for Al 396.153  Recovery = Not calculated
As 188.979†                4.5     0.00306 mg/L      0.001978     0.00306 mg/L      0.001978  64.62%
   QC value within limits for As 188.979  Recovery = Not calculated
Ba 233.527†               -6.5    -0.00191 mg/L      0.000056    -0.00191 mg/L      0.000056   2.91%
   QC value within limits for Ba 233.527  Recovery = Not calculated
Be 234.861†              -37.6    -0.00003 mg/L      0.000032    -0.00003 mg/L      0.000032 108.36%
   QC value within limits for Be 234.861  Recovery = Not calculated
B 249.677†                802.6      0.0128 mg/L       0.00122      0.0128 mg/L       0.00122   9.54%
   QC value within limits for B 249.677  Recovery = Not calculated
Ca 227.546†                2.4     -0.0240 mg/L       0.01832     -0.0240 mg/L       0.01832  76.50%
   QC value within limits for Ca 227.546  Recovery = Not calculated
Cd 228.802†               -8.5    -0.00039 mg/L      0.000244    -0.00039 mg/L      0.000244  62.64%
   QC value within limits for Cd 228.802  Recovery = Not calculated
Co 228.616†                2.5    -0.00080 mg/L      0.000230    -0.00080 mg/L      0.000230  28.81%
   QC value within limits for Co 228.616  Recovery = Not calculated
Cr 267.716†               -0.6    -0.00122 mg/L      0.000158    -0.00122 mg/L      0.000158  12.99%
   QC value within limits for Cr 267.716  Recovery = Not calculated
Cu 327.393†               14.8    -0.00017 mg/L      0.000135    -0.00017 mg/L      0.000135  80.30%
   QC value within limits for Cu 327.393  Recovery = Not calculated
Fe 239.562†                6.9     -0.0108 mg/L       0.00016     -0.0108 mg/L       0.00016   1.44%
   QC value within limits for Fe 239.562  Recovery = Not calculated
Mg 279.077†                4.8     -0.0122 mg/L       0.00850     -0.0122 mg/L       0.00850  69.50%
   QC value within limits for Mg 279.077  Recovery = Not calculated
Mn 257.610†              -59.0    -0.00266 mg/L      0.000023    -0.00266 mg/L      0.000023   0.87%
   QC value within limits for Mn 257.610  Recovery = Not calculated
Mo 202.031†               -2.9    -0.00220 mg/L      0.000244    -0.00220 mg/L      0.000244  11.10%
   QC value within limits for Mo 202.031  Recovery = Not calculated
Ni 231.604†               -5.8    -0.00191 mg/L      0.000308    -0.00191 mg/L      0.000308  16.12%
   QC value within limits for Ni 231.604  Recovery = Not calculated
Pb 220.353†                7.9    -0.00071 mg/L      0.001942    -0.00071 mg/L      0.001942 272.11%
   QC value within limits for Pb 220.353  Recovery = Not calculated
Sb 206.836†                5.3    -0.00021 mg/L      0.001134    -0.00021 mg/L      0.001134 545.16%
```

Approved: June 03, 2013

Lynn H. Rhoden

QC value within limits for Sb 206.836 Recovery = Not calculated
Se 196.026† -5.4 -0.00625 mg/L 0.005451 -0.00625 mg/L 0.005451 87.22%
QC value within limits for Se 196.026 Recovery = Not calculated
Si 251.611† -90.3 -0.00456 mg/L 0.000213 -0.00456 mg/L 0.000213 4.67%
QC value within limits for Si 251.611 Recovery = Not calculated
Sn 189.927† 14.1 -0.00079 mg/L 0.000453 -0.00079 mg/L 0.000453 57.22%
QC value within limits for Sn 189.927 Recovery = Not calculated
Ti 334.940† -31.6 -0.00036 mg/L 0.000133 -0.00036 mg/L 0.000133 36.63%
QC value within limits for Ti 334.940 Recovery = Not calculated
Tl 190.801† -6.5 -0.00732 mg/L 0.002361 -0.00732 mg/L 0.002361 32.25%
QC value within limits for Tl 190.801 Recovery = Not calculated
V 290.880† 9.7 -0.00128 mg/L 0.001219 -0.00128 mg/L 0.001219 95.47%
QC value within limits for V 290.880 Recovery = Not calculated
Zn 206.200† -2.5 -0.00204 mg/L 0.000046 -0.00204 mg/L 0.000046 2.27%
QC value within limits for Zn 206.200 Recovery = Not calculated
K 766.490† 70.3 0.0422 mg/L 0.02017 0.0422 mg/L 0.02017 47.79%
QC value within limits for K 766.490 Recovery = Not calculated
Na 589.592† 435.7 0.0374 mg/L 0.02308 0.0374 mg/L 0.02308 61.73%
QC value within limits for Na 589.592 Recovery = Not calculated
Sr 407.771† 270.5 -0.00335 mg/L 0.000154 -0.00335 mg/L 0.000154 4.60%
QC value within limits for Sr 407.771 Recovery = Not calculated
Li 670.784† 89.5 -0.00246 mg/L 0.000336 -0.00246 mg/L 0.000336 13.67%
QC value within limits for Li 670.784 Recovery = Not calculated
All analyte(s) passed QC.

==========

Sequence No.: 13 **Autosampler Location: 43**
Sample ID: L1305136306 **Date Collected: 5/31/2013 10:17:52 AM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1305136306

Analyte	Back Pressure	Flow
All	166.0 kPa	0.48 L/min

Mean Data: L1305136306

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2521633.3						39605.24	1.57%
YRADIAL	184951.5						3217.43	1.74%
Ga 417.206	999316.3						15333.08	1.53%
GaRADIAL	52573.8						1062.15	2.02%
Ag 328.068†	174.7	0.00053	mg/L	0.000364	0.00053	mg/L	0.000364	68.78%
Al 396.153†	192.4	0.0525	mg/L	0.00048	0.0525	mg/L	0.00048	0.92%
As 188.979†	2.0	0.00221	mg/L	0.002985	0.00221	mg/L	0.002985	134.88%
Ba 233.527†	2860.0	0.0302	mg/L	0.00066	0.0302	mg/L	0.00066	2.18%
Be 234.861†	52.7	0.00006	mg/L	0.000063	0.00006	mg/L	0.000063	110.79%
B 249.677†	918.6	0.0143	mg/L	0.00065	0.0143	mg/L	0.00065	4.57%
Ca 227.546†	3462.3	16.5	mg/L	0.36	16.5	mg/L	0.36	2.19%
Cd 228.802†	-6.0	-0.00030	mg/L	0.000246	-0.00030	mg/L	0.000246	80.93%
Co 228.616†	3.4	-0.00077	mg/L	0.000502	-0.00077	mg/L	0.000502	65.04%
Cr 267.716†	45.0	-0.00074	mg/L	0.000091	-0.00074	mg/L	0.000091	12.25%
Cu 327.393†	-33.8	-0.00042	mg/L	0.000110	-0.00042	mg/L	0.000110	25.99%
Fe 239.562†	1082.5	0.253	mg/L	0.0055	0.253	mg/L	0.0055	2.16%
Mg 279.077†	18109.6	13.0	mg/L	0.25	13.0	mg/L	0.25	1.91%
Mn 257.610†	72099.1	0.134	mg/L	0.0023	0.134	mg/L	0.0023	1.73%
Mo 202.031†	9.1	-0.00154	mg/L	0.000435	-0.00154	mg/L	0.000435	28.19%
Ni 231.604†	95.2	0.00068	mg/L	0.000244	0.00068	mg/L	0.000244	35.76%
Pb 220.353†	20.2	0.00082	mg/L	0.000312	0.00082	mg/L	0.000312	37.80%
Sb 206.836†	1.3	-0.00186	mg/L	0.000318	-0.00186	mg/L	0.000318	17.11%
Se 196.026†	4.5	0.00341	mg/L	0.001939	0.00341	mg/L	0.001939	56.87%
Si 251.611†	84277.8	2.32	mg/L	0.037	2.32	mg/L	0.037	1.57%
Sn 189.927†	-97.7	-0.0148	mg/L	0.00069	-0.0148	mg/L	0.00069	4.67%
Ti 334.940†	-1370.7	0.00031	mg/L	0.000240	0.00031	mg/L	0.000240	77.70%
Tl 190.801†	-12.2	-0.0103	mg/L	0.00384	-0.0103	mg/L	0.00384	37.27%
V 290.880†	1323.8	0.00501	mg/L	0.000789	0.00501	mg/L	0.000789	15.73%
Zn 206.200†	367.8	0.00861	mg/L	0.000253	0.00861	mg/L	0.000253	2.93%
K 766.490†	2857.8	1.88	mg/L	0.025	1.88	mg/L	0.025	1.31%
Na 589.592†	24840.0	2.20	mg/L	0.016	2.20	mg/L	0.016	0.74%

Approved: June 03, 2013

Kym H. Rhoden

Sr 407.771†	133348.5	0.107	mg/L	0.0022	0.107	mg/L	0.0022	2.09%
Li 670.784†	521.0	0.00368	mg/L	0.000042	0.00368	mg/L	0.000042	1.14%

==========

Sequence No.: 14 **Autosampler Location: 44**
Sample ID: L1305136307 **Date Collected: 5/31/2013 10:20:53 AM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1305136307

Analyte	Back Pressure	Flow
All	165.0 kPa	0.48 L/min

Mean Data: L1305136307

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2497900.5						44226.26	1.77%
YRADIAL	185612.3						820.74	0.44%
Ga 417.206	991426.5						13808.02	1.39%
GaRADIAL	52596.9						912.59	1.74%
Ag 328.068†	99.1	0.00012	mg/L	0.000508	0.00012	mg/L	0.000508	422.72%
Al 396.153†	7.6	-0.00816	mg/L	0.002836	-0.00816	mg/L	0.002836	34.76%
As 188.979†	7.0	0.00465	mg/L	0.000126	0.00465	mg/L	0.000126	2.71%
Ba 233.527†	2729.0	0.0287	mg/L	0.00042	0.0287	mg/L	0.00042	1.47%
Be 234.861†	-0.4	0.00003	mg/L	0.000038	0.00003	mg/L	0.000038	131.14%
B 249.677†	836.0	0.0132	mg/L	0.00095	0.0132	mg/L	0.00095	7.18%
Ca 227.546†	3429.5	16.4	mg/L	0.19	16.4	mg/L	0.19	1.15%
Cd 228.802†	-3.6	-0.00024	mg/L	0.000118	-0.00024	mg/L	0.000118	49.35%
Co 228.616†	6.3	-0.00064	mg/L	0.000251	-0.00064	mg/L	0.000251	39.08%
Cr 267.716†	57.0	-0.00060	mg/L	0.000136	-0.00060	mg/L	0.000136	22.69%
Cu 327.393†	54.2	0.00006	mg/L	0.000778	0.00006	mg/L	0.000778	>999.9%
Fe 239.562†	161.8	0.0270	mg/L	0.00123	0.0270	mg/L	0.00123	4.56%
Mg 279.077†	17648.2	12.6	mg/L	0.19	12.6	mg/L	0.19	1.50%
Mn 257.610†	61216.2	0.113	mg/L	0.0015	0.113	mg/L	0.0015	1.30%
Mo 202.031†	8.1	-0.00161	mg/L	0.000244	-0.00161	mg/L	0.000244	15.16%
Ni 231.604†	87.2	0.00048	mg/L	0.000046	0.00048	mg/L	0.000046	9.71%
Pb 220.353†	18.2	0.00057	mg/L	0.001008	0.00057	mg/L	0.001008	177.24%
Sb 206.836†	3.8	-0.00083	mg/L	0.001686	-0.00083	mg/L	0.001686	203.66%
Se 196.026†	-0.2	-0.00120	mg/L	0.007802	-0.00120	mg/L	0.007802	649.18%
Si 251.611†	84453.7	2.33	mg/L	0.026	2.33	mg/L	0.026	1.10%
Sn 189.927†	-109.6	-0.0163	mg/L	0.00119	-0.0163	mg/L	0.00119	7.31%
Ti 334.940†	-2125.9	-0.00074	mg/L	0.000074	-0.00074	mg/L	0.000074	10.09%
Tl 190.801†	-11.8	-0.0101	mg/L	0.00293	-0.0101	mg/L	0.00293	29.00%
V 290.880†	1559.4	0.00628	mg/L	0.001110	0.00628	mg/L	0.001110	17.67%
Zn 206.200†	313.4	0.00705	mg/L	0.000086	0.00705	mg/L	0.000086	1.22%
K 766.490†	3126.6	2.06	mg/L	0.011	2.06	mg/L	0.011	0.51%
Na 589.592†	24363.7	2.15	mg/L	0.045	2.15	mg/L	0.045	2.07%
Sr 407.771†	133429.5	0.107	mg/L	0.0017	0.107	mg/L	0.0017	1.60%
Li 670.784†	468.1	0.00293	mg/L	0.000485	0.00293	mg/L	0.000485	16.58%

==========

Sequence No.: 15 **Autosampler Location: 45**
Sample ID: L1305136308 **Date Collected: 5/31/2013 10:23:54 AM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1305136308

Analyte	Back Pressure	Flow
All	166.0 kPa	0.48 L/min

Mean Data: L1305136308

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2480317.3						36964.90	1.49%
YRADIAL	183861.2						3221.05	1.75%
Ga 417.206	974141.3						12053.16	1.24%

Approved: June 03, 2013

Kym H. Rhoden

GaRADIAL	50708.9					1323.88	2.61%
Ag 328.068†	178.8	0.00047	mg/L	0.000153	0.00047 mg/L	0.000153	32.24%
Al 396.153†	208.0	0.0576	mg/L	0.00096	0.0576 mg/L	0.00096	1.66%
As 188.979†	1.8	0.00183	mg/L	0.003118	0.00183 mg/L	0.003118	170.32%
Ba 233.527†	3780.4	0.0405	mg/L	0.00059	0.0405 mg/L	0.00059	1.45%
Be 234.861†	54.9	0.00011	mg/L	0.000009	0.00011 mg/L	0.000009	8.46%
B 249.677†	604.7	0.00997	mg/L	0.000073	0.00997 mg/L	0.000073	0.73%
Ca 227.546†	1320.3	6.28	mg/L	0.112	6.28 mg/L	0.112	1.79%
Cd 228.802†	-3.4	-0.00022	mg/L	0.000054	-0.00022 mg/L	0.000054	24.72%
Co 228.616†	10.0	-0.00050	mg/L	0.000466	-0.00050 mg/L	0.000466	93.13%
Cr 267.716†	21.7	-0.00098	mg/L	0.000068	-0.00098 mg/L	0.000068	6.90%
Cu 327.393†	-7.6	-0.00029	mg/L	0.000150	-0.00029 mg/L	0.000150	51.41%
Fe 239.562†	154.6	0.0254	mg/L	0.00077	0.0254 mg/L	0.00077	3.02%
Mg 279.077†	4916.2	3.51	mg/L	0.076	3.51 mg/L	0.076	2.18%
Mn 257.610†	37422.1	0.0682	mg/L	0.00087	0.0682 mg/L	0.00087	1.28%
Mo 202.031†	4.1	-0.00182	mg/L	0.000334	-0.00182 mg/L	0.000334	18.31%
Ni 231.604†	137.6	0.00177	mg/L	0.000411	0.00177 mg/L	0.000411	23.24%
Pb 220.353†	15.4	0.00023	mg/L	0.001326	0.00023 mg/L	0.001326	567.44%
Sb 206.836†	0.0	-0.00238	mg/L	0.001563	-0.00238 mg/L	0.001563	65.82%
Se 196.026†	0.1	-0.00094	mg/L	0.001636	-0.00094 mg/L	0.001636	173.21%
Si 251.611†	89351.9	2.46	mg/L	0.038	2.46 mg/L	0.038	1.54%
Sn 189.927†	-52.8	-0.00919	mg/L	0.001584	-0.00919 mg/L	0.001584	17.25%
Ti 334.940†	-459.4	0.00000	mg/L	0.000313	0.00000 mg/L	0.000313	>999.9%
Tl 190.801†	-9.1	-0.00868	mg/L	0.001962	-0.00868 mg/L	0.001962	22.60%
V 290.880†	719.6	0.00224	mg/L	0.000624	0.00224 mg/L	0.000624	27.87%
Zn 206.200†	609.6	0.0156	mg/L	0.00027	0.0156 mg/L	0.00027	1.74%
K 766.490†	1570.7	1.03	mg/L	0.054	1.03 mg/L	0.054	5.21%
Na 589.592†	41776.0	3.70	mg/L	0.068	3.70 mg/L	0.068	1.83%
Sr 407.771†	39865.3	0.0296	mg/L	0.00028	0.0296 mg/L	0.00028	0.95%
Li 670.784†	167.9	-0.00134	mg/L	0.001513	-0.00134 mg/L	0.001513	112.71%

Sequence No.: 16 **Autosampler Location: 46**
Sample ID: L1305136309 **Date Collected: 5/31/2013 10:26:55 AM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1305136309

Analyte	Back Pressure	Flow
All	166.0 kPa	0.48 L/min

Mean Data: L1305136309

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2543242.3						10786.19	0.42%
YRADIAL	184595.0						3593.20	1.95%
Ga 417.206	993759.4						8699.24	0.88%
GaRADIAL	51998.2						565.70	1.09%
Ag 328.068†	105.6	0.00015	mg/L	0.000633	0.00015	mg/L	0.000633	435.24%
Al 396.153†	49.5	0.00558	mg/L	0.001187	0.00558	mg/L	0.001187	21.29%
As 188.979†	0.3	0.00108	mg/L	0.002196	0.00108	mg/L	0.002196	203.36%
Ba 233.527†	3186.2	0.0339	mg/L	0.00036	0.0339	mg/L	0.00036	1.08%
Be 234.861†	45.9	0.00010	mg/L	0.000021	0.00010	mg/L	0.000021	21.05%
B 249.677†	531.5	0.00895	mg/L	0.000131	0.00895	mg/L	0.000131	1.46%
Ca 227.546†	1227.3	5.84	mg/L	0.056	5.84	mg/L	0.056	0.95%
Cd 228.802†	-2.3	-0.00018	mg/L	0.000054	-0.00018	mg/L	0.000054	29.29%
Co 228.616†	4.3	-0.00073	mg/L	0.000184	-0.00073	mg/L	0.000184	25.06%
Cr 267.716†	17.8	-0.00102	mg/L	0.000095	-0.00102	mg/L	0.000095	9.32%
Cu 327.393†	-6.2	-0.00029	mg/L	0.000261	-0.00029	mg/L	0.000261	90.86%
Fe 239.562†	28.0	-0.00567	mg/L	0.001547	-0.00567	mg/L	0.001547	27.27%
Mg 279.077†	4682.9	3.34	mg/L	0.072	3.34	mg/L	0.072	2.15%
Mn 257.610†	30542.3	0.0552	mg/L	0.00033	0.0552	mg/L	0.00033	0.60%
Mo 202.031†	2.4	-0.00192	mg/L	0.000319	-0.00192	mg/L	0.000319	16.66%
Ni 231.604†	139.7	0.00182	mg/L	0.000360	0.00182	mg/L	0.000360	19.71%
Pb 220.353†	8.2	-0.00070	mg/L	0.000700	-0.00070	mg/L	0.000700	100.26%
Sb 206.836†	3.7	-0.00086	mg/L	0.001632	-0.00086	mg/L	0.001632	189.42%
Se 196.026†	-5.4	-0.00623	mg/L	0.006606	-0.00623	mg/L	0.006606	105.96%
Si 251.611†	80881.4	2.23	mg/L	0.019	2.23	mg/L	0.019	0.84%
Sn 189.927†	-46.9	-0.00844	mg/L	0.000332	-0.00844	mg/L	0.000332	3.94%

Approved: June 03, 2013

Kym H. Rhoden

Ti 334.940†	-629.0	-0.00029	mg/L	0.000193	-0.00029	mg/L	0.000193	66.19%
Tl 190.801†	-11.1	-0.00967	mg/L	0.002515	-0.00967	mg/L	0.002515	26.00%
V 290.880†	352.6	0.00038	mg/L	0.001064	0.00038	mg/L	0.001064	279.74%
Zn 206.200†	475.5	0.0117	mg/L	0.00024	0.0117	mg/L	0.00024	2.05%
K 766.490†	1419.5	0.931	mg/L	0.0140	0.931	mg/L	0.0140	1.50%
Na 589.592†	38976.1	3.45	mg/L	0.010	3.45	mg/L	0.010	0.29%
Sr 407.771†	40289.5	0.0300	mg/L	0.00024	0.0300	mg/L	0.00024	0.80%
Li 670.784†	133.7	-0.00183	mg/L	0.000768	-0.00183	mg/L	0.000768	41.99%

Sequence No.: 17 **Autosampler Location: 47**
Sample ID: L1305136310 **Date Collected: 5/31/2013 10:29:56 AM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1305136310

Analyte	Back Pressure	Flow
All	165.0 kPa	0.48 L/min

Mean Data: L1305136310

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2545645.1						26628.82	1.05%
YRADIAL	185644.3						52.52	0.03%
Ga 417.206	1003518.2						15461.53	1.54%
GaRADIAL	52463.4						637.55	1.22%
Ag 328.068†	109.9	0.00024	mg/L	0.000093	0.00024	mg/L	0.000093	38.31%
Al 396.153†	346.4	0.103	mg/L	0.0001	0.103	mg/L	0.0001	0.08%
As 188.979†	1.7	0.00193	mg/L	0.002591	0.00193	mg/L	0.002591	134.50%
Ba 233.527†	4555.9	0.0492	mg/L	0.00020	0.0492	mg/L	0.00020	0.41%
Be 234.861†	46.6	0.00005	mg/L	0.000043	0.00005	mg/L	0.000043	79.00%
B 249.677†	577.8	0.00952	mg/L	0.000174	0.00952	mg/L	0.000174	1.82%
Ca 227.546†	2120.2	10.1	mg/L	0.13	10.1	mg/L	0.13	1.31%
Cd 228.802†	-4.2	-0.00025	mg/L	0.000085	-0.00025	mg/L	0.000085	34.29%
Co 228.616†	-1.7	-0.00100	mg/L	0.000308	-0.00100	mg/L	0.000308	30.95%
Cr 267.716†	38.7	-0.00081	mg/L	0.000108	-0.00081	mg/L	0.000108	13.42%
Cu 327.393†	70.8	0.00017	mg/L	0.000246	0.00017	mg/L	0.000246	144.31%
Fe 239.562†	805.7	0.185	mg/L	0.0020	0.185	mg/L	0.0020	1.10%
Mg 279.077†	13600.6	9.73	mg/L	0.067	9.73	mg/L	0.067	0.69%
Mn 257.610†	21757.8	0.0386	mg/L	0.00080	0.0386	mg/L	0.00080	2.08%
Mo 202.031†	10.8	-0.00148	mg/L	0.000127	-0.00148	mg/L	0.000127	8.61%
Ni 231.604†	20.2	-0.00124	mg/L	0.000051	-0.00124	mg/L	0.000051	4.13%
Pb 220.353†	12.5	-0.00012	mg/L	0.001491	-0.00012	mg/L	0.001491	>999.9%
Sb 206.836†	0.7	-0.00210	mg/L	0.001413	-0.00210	mg/L	0.001413	67.39%
Se 196.026†	-0.7	-0.00169	mg/L	0.005283	-0.00169	mg/L	0.005283	313.33%
Si 251.611†	79266.2	2.18	mg/L	0.056	2.18	mg/L	0.056	2.56%
Sn 189.927†	-79.5	-0.0125	mg/L	0.00126	-0.0125	mg/L	0.00126	10.09%
Ti 334.940†	-18.5	0.00117	mg/L	0.000462	0.00117	mg/L	0.000462	39.40%
Tl 190.801†	-13.6	-0.0109	mg/L	0.00349	-0.0109	mg/L	0.00349	32.05%
V 290.880†	1130.5	0.00413	mg/L	0.001136	0.00413	mg/L	0.001136	27.52%
Zn 206.200†	254.5	0.00535	mg/L	0.000055	0.00535	mg/L	0.000055	1.02%
K 766.490†	2198.2	1.45	mg/L	0.033	1.45	mg/L	0.033	2.25%
Na 589.592†	7243.4	0.639	mg/L	0.0068	0.639	mg/L	0.0068	1.06%
Sr 407.771†	86549.8	0.0685	mg/L	0.00113	0.0685	mg/L	0.00113	1.66%
Li 670.784†	160.0	-0.00146	mg/L	0.000598	-0.00146	mg/L	0.000598	41.11%

Sequence No.: 18 **Autosampler Location: 48**
Sample ID: L1305136311 **Date Collected: 5/31/2013 10:32:56 AM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1305136311

Analyte	Back Pressure	Flow
All	165.0 kPa	0.48 L/min

Approved: June 03, 2013

Kym H. Rhoden

Mean Data: L1305136311

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	2499619.7						63816.66	2.55%
YRADIAL	186904.4						3957.61	2.12%
Ga 417.206	979947.4						31422.06	3.21%
GaRADIAL	52588.9						1495.72	2.84%
Ag 328.068†	-21.6	-0.00038	mg/L	0.000581	-0.00038	mg/L	0.000581	151.98%
Al 396.153†	17.0	-0.00507	mg/L	0.001383	-0.00507	mg/L	0.001383	27.26%
As 188.979†	1.6	0.00183	mg/L	0.001785	0.00183	mg/L	0.001785	97.27%
Ba 233.527†	4115.9	0.0443	mg/L	0.00115	0.0443	mg/L	0.00115	2.59%
Be 234.861†	-50.2	-0.00005	mg/L	0.000092	-0.00005	mg/L	0.000092	172.49%
B 249.677†	541.6	0.00907	mg/L	0.000610	0.00907	mg/L	0.000610	6.72%
Ca 227.546†	2093.3	9.97	mg/L	0.344	9.97	mg/L	0.344	3.45%
Cd 228.802†	0.1	-0.00011	mg/L	0.000298	-0.00011	mg/L	0.000298	266.15%
Co 228.616†	-0.7	-0.00095	mg/L	0.000332	-0.00095	mg/L	0.000332	35.10%
Cr 267.716†	26.9	-0.00092	mg/L	0.000133	-0.00092	mg/L	0.000133	14.36%
Cu 327.393†	78.6	0.00020	mg/L	0.000595	0.00020	mg/L	0.000595	297.22%
Fe 239.562†	150.9	0.0244	mg/L	0.00264	0.0244	mg/L	0.00264	10.81%
Mg 279.077†	12858.0	9.20	mg/L	0.257	9.20	mg/L	0.257	2.80%
Mn 257.610†	15517.1	0.0268	mg/L	0.00073	0.0268	mg/L	0.00073	2.71%
Mo 202.031†	3.2	-0.00188	mg/L	0.000252	-0.00188	mg/L	0.000252	13.42%
Ni 231.604†	24.2	-0.00114	mg/L	0.000536	-0.00114	mg/L	0.000536	46.95%
Pb 220.353†	23.8	0.00136	mg/L	0.000843	0.00136	mg/L	0.000843	62.08%
Sb 206.836†	0.9	-0.00200	mg/L	0.000998	-0.00200	mg/L	0.000998	49.92%
Se 196.026†	0.4	-0.00059	mg/L	0.001606	-0.00059	mg/L	0.001606	272.66%
Si 251.611†	74145.3	2.04	mg/L	0.062	2.04	mg/L	0.062	3.03%
Sn 189.927†	-74.2	-0.0119	mg/L	0.00022	-0.0119	mg/L	0.00022	1.88%
Ti 334.940†	-1199.4	-0.00044	mg/L	0.000154	-0.00044	mg/L	0.000154	34.88%
Tl 190.801†	-8.3	-0.00824	mg/L	0.002445	-0.00824	mg/L	0.002445	29.68%
V 290.880†	1121.1	0.00414	mg/L	0.000992	0.00414	mg/L	0.000992	23.98%
Zn 206.200†	313.9	0.00707	mg/L	0.000328	0.00707	mg/L	0.000328	4.64%
K 766.490†	2084.6	1.37	mg/L	0.029	1.37	mg/L	0.029	2.13%
Na 589.592†	7547.5	0.666	mg/L	0.0166	0.666	mg/L	0.0166	2.49%
Sr 407.771†	85476.2	0.0676	mg/L	0.00056	0.0676	mg/L	0.00056	0.83%
Li 670.784†	138.3	-0.00176	mg/L	0.000175	-0.00176	mg/L	0.000175	9.91%

==========

Sequence No.: 19 **Autosampler Location: 49**
Sample ID: L1305136401 WG432321-02 **Date Collected: 5/31/2013 10:35:56 AM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1305136401 WG432321-02

Analyte	Back Pressure	Flow
All	166.0 kPa	0.48 L/min

Mean Data: L1305136401 WG432321-02

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	2464749.7						71482.99	2.90%
YRADIAL	182698.6						7432.89	4.07%
Ga 417.206	976105.8						30187.80	3.09%
GaRADIAL	52170.4						1413.57	2.71%
Ag 328.068†	109.0	0.00021	mg/L	0.000185	0.00021	mg/L	0.000185	88.27%
Al 396.153†	71.8	0.0129	mg/L	0.00298	0.0129	mg/L	0.00298	23.13%
As 188.979†	0.6	0.00152	mg/L	0.002260	0.00152	mg/L	0.002260	148.25%
Ba 233.527†	2897.4	0.0306	mg/L	0.00089	0.0306	mg/L	0.00089	2.91%
Be 234.861†	8.7	0.00002	mg/L	0.000084	0.00002	mg/L	0.000084	550.55%
B 249.677†	670.3	0.0108	mg/L	0.00018	0.0108	mg/L	0.00018	1.67%
Ca 227.546†	3520.8	16.8	mg/L	0.56	16.8	mg/L	0.56	3.33%
Cd 228.802†	-0.9	-0.00014	mg/L	0.000017	-0.00014	mg/L	0.000017	12.32%
Co 228.616†	5.2	-0.00069	mg/L	0.000103	-0.00069	mg/L	0.000103	14.89%
Cr 267.716†	55.5	-0.00062	mg/L	0.000136	-0.00062	mg/L	0.000136	21.84%
Cu 327.393†	69.8	0.00016	mg/L	0.000347	0.00016	mg/L	0.000347	217.86%
Fe 239.562†	649.8	0.147	mg/L	0.0064	0.147	mg/L	0.0064	4.38%
Mg 279.077†	17887.1	12.8	mg/L	0.16	12.8	mg/L	0.16	1.25%
Mn 257.610†	67435.5	0.125	mg/L	0.0020	0.125	mg/L	0.0020	1.62%
Mo 202.031†	12.7	-0.00136	mg/L	0.000148	-0.00136	mg/L	0.000148	10.86%

Approved: June 03, 2013

Kym H. Rhoden

Ni 231.604†	95.8	0.00070	mg/L	0.000142	0.00070	mg/L	0.000142	20.29%
Pb 220.353†	24.0	0.00132	mg/L	0.000549	0.00132	mg/L	0.000549	41.43%
Sb 206.836†	-2.6	-0.00347	mg/L	0.000526	-0.00347	mg/L	0.000526	15.18%
Se 196.026†	0.2	-0.00081	mg/L	0.005450	-0.00081	mg/L	0.005450	669.03%
Si 251.611†	85506.5	2.36	mg/L	0.040	2.36	mg/L	0.040	1.70%
Sn 189.927†	-117.9	-0.0173	mg/L	0.00117	-0.0173	mg/L	0.00117	6.75%
Ti 334.940†	-1782.6	-0.00021	mg/L	0.000162	-0.00021	mg/L	0.000162	78.80%
Tl 190.801†	-16.4	-0.0124	mg/L	0.00139	-0.0124	mg/L	0.00139	11.23%
V 290.880†	1571.7	0.00631	mg/L	0.001365	0.00631	mg/L	0.001365	21.64%
Zn 206.200†	300.5	0.00668	mg/L	0.000200	0.00668	mg/L	0.000200	2.99%
K 766.490†	2674.5	1.76	mg/L	0.052	1.76	mg/L	0.052	2.95%
Na 589.592†	24586.9	2.17	mg/L	0.026	2.17	mg/L	0.026	1.18%
Sr 407.771†	132045.2	0.106	mg/L	0.0023	0.106	mg/L	0.0023	2.13%
Li 670.784†	443.5	0.00258	mg/L	0.000638	0.00258	mg/L	0.000638	24.78%

Sequence No.: 20 **Autosampler Location: 50**
Sample ID: L1305136401MS WG432321-07 **Date Collected: 5/31/2013 10:38:56 AM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1305136401MS WG432321-07

Analyte	Back Pressure	Flow
All	166.0 kPa	0.48 L/min

Mean Data: L1305136401MS WG432321-07

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2442599.9						40820.03	1.67%
YRADIAL	189757.3						5851.08	3.08%
Ga 417.206	955209.8						18355.48	1.92%
GaRADIAL	51701.3						1476.77	2.86%
Ag 328.068†	47543.2	0.205	mg/L	0.0044	0.205	mg/L	0.0044	2.16%
Al 396.153†	15279.9	4.96	mg/L	0.021	4.96	mg/L	0.021	0.43%
As 188.979†	421.5	0.207	mg/L	0.0059	0.207	mg/L	0.0059	2.84%
Ba 233.527†	48044.1	0.537	mg/L	0.0119	0.537	mg/L	0.0119	2.22%
Be 234.861†	17102.9	0.0252	mg/L	0.00054	0.0252	mg/L	0.00054	2.14%
B 249.677†	70853.8	1.00	mg/L	0.026	1.00	mg/L	0.026	2.59%
Ca 227.546†	4483.5	21.6	mg/L	0.45	21.6	mg/L	0.45	2.08%
Cd 228.802†	801.2	0.0244	mg/L	0.00013	0.0244	mg/L	0.00013	0.52%
Co 228.616†	2423.4	0.100	mg/L	0.0018	0.100	mg/L	0.0018	1.79%
Cr 267.716†	23741.7	0.254	mg/L	0.0036	0.254	mg/L	0.0036	1.42%
Cu 327.393†	44255.1	0.254	mg/L	0.0057	0.254	mg/L	0.0057	2.25%
Fe 239.562†	8754.5	2.14	mg/L	0.017	2.14	mg/L	0.017	0.79%
Mg 279.077†	23643.0	16.9	mg/L	0.04	16.9	mg/L	0.04	0.25%
Mn 257.610†	202429.8	0.381	mg/L	0.0083	0.381	mg/L	0.0083	2.17%
Mo 202.031†	10208.7	0.519	mg/L	0.0113	0.519	mg/L	0.0113	2.18%
Ni 231.604†	10160.6	0.259	mg/L	0.0056	0.259	mg/L	0.0056	2.18%
Pb 220.353†	1957.2	0.255	mg/L	0.0057	0.255	mg/L	0.0057	2.25%
Sb 206.836†	1493.3	0.619	mg/L	0.0106	0.619	mg/L	0.0106	1.72%
Se 196.026†	213.3	0.206	mg/L	0.0074	0.206	mg/L	0.0074	3.58%
Si 251.611†	173936.5	4.79	mg/L	0.115	4.79	mg/L	0.115	2.40%
Sn 189.927†	-100.1	-0.0151	mg/L	0.00144	-0.0151	mg/L	0.00144	9.54%
Ti 334.940†	383837.3	0.522	mg/L	0.0092	0.522	mg/L	0.0092	1.76%
Tl 190.801†	492.5	0.251	mg/L	0.0092	0.251	mg/L	0.0092	3.66%
V 290.880†	101629.6	0.515	mg/L	0.0135	0.515	mg/L	0.0135	2.61%
Zn 206.200†	17560.0	0.506	mg/L	0.0113	0.506	mg/L	0.0113	2.23%
K 766.490†	40091.2	26.7	mg/L	0.16	26.7	mg/L	0.16	0.59%
Na 589.592†	300864.1	26.9	mg/L	0.75	26.9	mg/L	0.75	2.80%
Sr 407.771†	732884.0	0.605	mg/L	0.0156	0.605	mg/L	0.0156	2.58%
Li 670.784†	37377.9	0.528	mg/L	0.0025	0.528	mg/L	0.0025	0.47%

Sequence No.: 21 **Autosampler Location: 51**
Sample ID: L1305136402 **Date Collected: 5/31/2013 10:40:59 AM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Approved: June 03, 2013

Nebulizer Parameters: L1305136402

Analyte	Back Pressure	Flow
All	166.0 kPa	0.48 L/min

Mean Data: L1305136402

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2505869.9						9536.41	0.38%
YRADIAL	185658.6						2491.09	1.34%
Ga 417.206	992965.1						8251.33	0.83%
GaRADIAL	52383.0						495.56	0.95%
Ag 328.068†	242.3	0.00074	mg/L	0.000415	0.00074	mg/L	0.000415	56.39%
Al 396.153†	16.5	-0.00528	mg/L	0.001668	-0.00528	mg/L	0.001668	31.56%
As 188.979†	-0.1	0.00116	mg/L	0.001052	0.00116	mg/L	0.001052	90.96%
Ba 233.527†	2711.7	0.0285	mg/L	0.00011	0.0285	mg/L	0.00011	0.37%
Be 234.861†	-3.5	0.00002	mg/L	0.000021	0.00002	mg/L	0.000021	94.11%
B 249.677†	1390.7	0.0211	mg/L	0.00208	0.0211	mg/L	0.00208	9.86%
Ca 227.546†	3464.5	16.5	mg/L	0.18	16.5	mg/L	0.18	1.12%
Cd 228.802†	-5.0	-0.00027	mg/L	0.000142	-0.00027	mg/L	0.000142	52.90%
Co 228.616†	-0.4	-0.00093	mg/L	0.000268	-0.00093	mg/L	0.000268	28.95%
Cr 267.716†	46.6	-0.00071	mg/L	0.000045	-0.00071	mg/L	0.000045	6.39%
Cu 327.393†	74.1	0.00017	mg/L	0.000664	0.00017	mg/L	0.000664	379.31%
Fe 239.562†	193.3	0.0348	mg/L	0.00141	0.0348	mg/L	0.00141	4.06%
Mg 279.077†	17270.5	12.4	mg/L	0.06	12.4	mg/L	0.06	0.51%
Mn 257.610†	58784.0	0.109	mg/L	0.0015	0.109	mg/L	0.0015	1.40%
Mo 202.031†	14.5	-0.00128	mg/L	0.000327	-0.00128	mg/L	0.000327	25.46%
Ni 231.604†	100.3	0.00081	mg/L	0.000230	0.00081	mg/L	0.000230	28.29%
Pb 220.353†	18.5	0.00062	mg/L	0.000751	0.00062	mg/L	0.000751	121.97%
Sb 206.836†	1.6	-0.00172	mg/L	0.001420	-0.00172	mg/L	0.001420	82.69%
Se 196.026†	-2.4	-0.00335	mg/L	0.005748	-0.00335	mg/L	0.005748	171.51%
Si 251.611†	82970.4	2.29	mg/L	0.028	2.29	mg/L	0.028	1.23%
Sn 189.927†	-107.0	-0.0160	mg/L	0.00089	-0.0160	mg/L	0.00089	5.57%
Ti 334.940†	-1832.4	-0.00031	mg/L	0.000144	-0.00031	mg/L	0.000144	46.11%
Tl 190.801†	-15.5	-0.0120	mg/L	0.00101	-0.0120	mg/L	0.00101	8.44%
V 290.880†	1429.9	0.00563	mg/L	0.000821	0.00563	mg/L	0.000821	14.59%
Zn 206.200†	493.1	0.0122	mg/L	0.00049	0.0122	mg/L	0.00049	3.97%
K 766.490†	3158.7	2.08	mg/L	0.038	2.08	mg/L	0.038	1.81%
Na 589.592†	24373.0	2.15	mg/L	0.033	2.15	mg/L	0.033	1.55%
Sr 407.771†	131539.6	0.106	mg/L	0.0027	0.106	mg/L	0.0027	2.60%
Li 670.784†	504.7	0.00345	mg/L	0.000771	0.00345	mg/L	0.000771	22.39%

Sequence No.: 22 **Autosampler Location: 6**
Sample ID: CCV **Date Collected: 5/31/2013 10:43:59 AM**
Analyst: **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: CCV

Analyte	Back Pressure	Flow
All	166.0 kPa	0.48 L/min

Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2465315.3						20944.15	0.85%
YRADIAL	185383.8						5720.91	3.09%
Ga 417.206	943571.7						19382.55	2.05%
GaRADIAL	49815.8						1398.90	2.81%
Ag 328.068†	99066.0	0.427	mg/L	0.0122	0.427	mg/L	0.0122	2.87%
QC value within limits for Ag 328.068 Recovery = 106.72%								
Al 396.153†	32110.5	10.4	mg/L	0.27	10.4	mg/L	0.27	2.58%
QC value within limits for Al 396.153 Recovery = 104.48%								
As 188.979†	839.7	0.410	mg/L	0.0065	0.410	mg/L	0.0065	1.57%
QC value within limits for As 188.979 Recovery = 102.57%								
Ba 233.527†	93502.4	1.05	mg/L	0.011	1.05	mg/L	0.011	1.07%
QC value within limits for Ba 233.527 Recovery = 104.63%								
Be 234.861†	35726.0	0.0526	mg/L	0.00128	0.0526	mg/L	0.00128	2.43%

Approved: June 03, 2013

QC value within limits for Be 234.861 Recovery = 105.24%
B 249.677† 37280.9 0.526 mg/L 0.0134 0.526 mg/L 0.0134 2.54%
QC value within limits for B 249.677 Recovery = 105.20%
Ca 227.546† 2178.3 10.9 mg/L 0.10 10.9 mg/L 0.10 0.96%
QC value within limits for Ca 227.546 Recovery = 108.65%
Cd 228.802† 1658.6 0.0507 mg/L 0.00132 0.0507 mg/L 0.00132 2.59%
QC value within limits for Cd 228.802 Recovery = 101.48%
Co 228.616† 4956.2 0.206 mg/L 0.0018 0.206 mg/L 0.0018 0.88%
QC value within limits for Co 228.616 Recovery = 103.03%
Cr 267.716† 49011.3 0.525 mg/L 0.0091 0.525 mg/L 0.0091 1.74%
QC value within limits for Cr 267.716 Recovery = 105.00%
Cu 327.393† 93684.3 0.537 mg/L 0.0165 0.537 mg/L 0.0165 3.08%
QC value within limits for Cu 327.393 Recovery = 107.36%
Fe 239.562† 16891.7 4.14 mg/L 0.142 4.14 mg/L 0.142 3.44%
QC value within limits for Fe 239.562 Recovery = 103.41%
Mg 279.077† 14370.9 10.3 mg/L 0.38 10.3 mg/L 0.38 3.69%
QC value within limits for Mg 279.077 Recovery = 103.00%
Mn 257.610† 282942.6 0.533 mg/L 0.0069 0.533 mg/L 0.0069 1.30%
QC value within limits for Mn 257.610 Recovery = 106.67%
Mo 202.031† 20574.1 1.05 mg/L 0.013 1.05 mg/L 0.013 1.26%
QC value within limits for Mo 202.031 Recovery = 104.89%
Ni 231.604† 20587.8 0.526 mg/L 0.0072 0.526 mg/L 0.0072 1.36%
QC value within limits for Ni 231.604 Recovery = 105.27%
Pb 220.353† 3961.1 0.518 mg/L 0.0036 0.518 mg/L 0.0036 0.70%
QC value within limits for Pb 220.353 Recovery = 103.63%
Sb 206.836† 3006.1 1.25 mg/L 0.022 1.25 mg/L 0.022 1.76%
QC value within limits for Sb 206.836 Recovery = 103.96%
Se 196.026† 440.5 0.426 mg/L 0.0110 0.426 mg/L 0.0110 2.58%
QC value within limits for Se 196.026 Recovery = 106.59%
Si 251.611† 191747.3 5.28 mg/L 0.128 5.28 mg/L 0.128 2.43%
QC value within limits for Si 251.611 Recovery = 105.51%
Sn 189.927† 7435.1 0.930 mg/L 0.0083 0.930 mg/L 0.0083 0.89%
QC value within limits for Sn 189.927 Recovery = 93.01%
Ti 334.940† 761505.1 1.03 mg/L 0.013 1.03 mg/L 0.013 1.28%
QC value within limits for Ti 334.940 Recovery = 103.02%
Tl 190.801† 1043.9 0.536 mg/L 0.0079 0.536 mg/L 0.0079 1.47%
QC value within limits for Tl 190.801 Recovery = 107.20%
V 290.880† 205310.7 1.04 mg/L 0.013 1.04 mg/L 0.013 1.25%
QC value within limits for V 290.880 Recovery = 104.34%
Zn 206.200† 36118.5 1.04 mg/L 0.011 1.04 mg/L 0.011 1.01%
QC value within limits for Zn 206.200 Recovery = 104.28%
K 766.490† 77942.1 52.4 mg/L 1.46 52.4 mg/L 1.46 2.78%
QC value within limits for K 766.490 Recovery = 104.82%
Na 589.592† 575156.9 52.2 mg/L 2.72 52.2 mg/L 2.72 5.21%
QC value within limits for Na 589.592 Recovery = 104.35%
Sr 407.771† 1252954.6 1.04 mg/L 0.049 1.04 mg/L 0.049 4.71%
QC value within limits for Sr 407.771 Recovery = 103.71%
Li 670.784† 75907.9 1.08 mg/L 0.031 1.08 mg/L 0.031 2.89%
QC value within limits for Li 670.784 Recovery = 107.56%
All analyte(s) passed QC.

==========

Sequence No.: 23 **Autosampler Location: 1**
Sample ID: CCB **Date Collected: 5/31/2013 10:46:04 AM**
Analyst: **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: CCB

Analyte	Back Pressure	Flow
All	166.0 kPa	0.48 L/min

Mean Data: CCB

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2525522.3						59135.04	2.34%
YRADIAL	186959.2						3038.71	1.63%
Ga 417.206	960928.8						19218.04	2.00%
GaRADIAL	50516.5						754.24	1.49%
Ag 328.068†	85.9	0.00007	mg/L	0.000326	0.00007	mg/L	0.000326	454.76%

Approved: June 03, 2013

```
   QC value within limits for Ag 328.068  Recovery = Not calculated
Al 396.153†                9.8    -0.00743 mg/L      0.002550    -0.00743 mg/L      0.002550  34.33%
   QC value within limits for Al 396.153  Recovery = Not calculated
As 188.979†                5.0     0.00328 mg/L      0.002518     0.00328 mg/L      0.002518  76.76%
   QC value within limits for As 188.979  Recovery = Not calculated
Ba 233.527†              -12.4    -0.00198 mg/L      0.000118    -0.00198 mg/L      0.000118   5.98%
   QC value within limits for Ba 233.527  Recovery = Not calculated
Be 234.861†              -65.4    -0.00007 mg/L      0.000038    -0.00007 mg/L      0.000038  53.96%
   QC value within limits for Be 234.861  Recovery = Not calculated
B 249.677†               620.9      0.0102 mg/L       0.00114      0.0102 mg/L       0.00114  11.17%
   QC value within limits for B 249.677  Recovery = Not calculated
Ca 227.546†               -2.9     -0.0494 mg/L       0.07195     -0.0494 mg/L       0.07195 145.55%
   QC value within limits for Ca 227.546  Recovery = Not calculated
Cd 228.802†               -4.0    -0.00025 mg/L      0.000184    -0.00025 mg/L      0.000184  73.60%
   QC value within limits for Cd 228.802  Recovery = Not calculated
Co 228.616†               -2.0    -0.00099 mg/L      0.000023    -0.00099 mg/L      0.000023   2.36%
   QC value within limits for Co 228.616  Recovery = Not calculated
Cr 267.716†                0.4    -0.00121 mg/L      0.000083    -0.00121 mg/L      0.000083   6.84%
   QC value within limits for Cr 267.716  Recovery = Not calculated
Cu 327.393†              -43.2    -0.00050 mg/L      0.000066    -0.00050 mg/L      0.000066  13.13%
   QC value within limits for Cu 327.393  Recovery = Not calculated
Fe 239.562†                5.5     -0.0111 mg/L       0.00170     -0.0111 mg/L       0.00170  15.27%
   QC value within limits for Fe 239.562  Recovery = Not calculated
Mg 279.077†                2.4     -0.0139 mg/L       0.00467     -0.0139 mg/L       0.00467  33.48%
   QC value within limits for Mg 279.077  Recovery = Not calculated
Mn 257.610†              -64.2    -0.00267 mg/L      0.000032    -0.00267 mg/L      0.000032   1.20%
   QC value within limits for Mn 257.610  Recovery = Not calculated
Mo 202.031†               -0.9    -0.00210 mg/L      0.000145    -0.00210 mg/L      0.000145   6.89%
   QC value within limits for Mo 202.031  Recovery = Not calculated
Ni 231.604†              -15.1    -0.00215 mg/L      0.000137    -0.00215 mg/L      0.000137   6.38%
   QC value within limits for Ni 231.604  Recovery = Not calculated
Pb 220.353†               13.8     0.00007 mg/L      0.000900     0.00007 mg/L      0.000900 >999.9%
   QC value within limits for Pb 220.353  Recovery = Not calculated
Sb 206.836†                8.8     0.00126 mg/L      0.000454     0.00126 mg/L      0.000454  36.17%
   QC value within limits for Sb 206.836  Recovery = Not calculated
Se 196.026†               -0.4    -0.00138 mg/L      0.002622    -0.00138 mg/L      0.002622 190.11%
   QC value within limits for Se 196.026  Recovery = Not calculated
Si 251.611†                7.4    -0.00186 mg/L      0.000476    -0.00186 mg/L      0.000476  25.58%
   QC value within limits for Si 251.611  Recovery = Not calculated
Sn 189.927†               21.4     0.00013 mg/L      0.000450     0.00013 mg/L      0.000450 351.73%
   QC value within limits for Sn 189.927  Recovery = Not calculated
Ti 334.940†              -48.9    -0.00039 mg/L      0.000057    -0.00039 mg/L      0.000057  14.72%
   QC value within limits for Ti 334.940  Recovery = Not calculated
Tl 190.801†               -7.5    -0.00781 mg/L      0.002034    -0.00781 mg/L      0.002034  26.04%
   QC value within limits for Tl 190.801  Recovery = Not calculated
V 290.880†               253.5    -0.00003 mg/L      0.000692    -0.00003 mg/L      0.000692 >999.9%
   QC value within limits for V 290.880  Recovery = Not calculated
Zn 206.200†               -2.7    -0.00205 mg/L      0.000215    -0.00205 mg/L      0.000215  10.51%
   QC value within limits for Zn 206.200  Recovery = Not calculated
K 766.490†                57.1      0.0335 mg/L       0.01522      0.0335 mg/L       0.01522  45.45%
   QC value within limits for K 766.490  Recovery = Not calculated
Na 589.592†              212.3      0.0176 mg/L       0.01437      0.0176 mg/L       0.01437  81.45%
   QC value within limits for Na 589.592  Recovery = Not calculated
Sr 407.771†              204.1    -0.00340 mg/L      0.000115    -0.00340 mg/L      0.000115   3.38%
   QC value within limits for Sr 407.771  Recovery = Not calculated
Li 670.784†              139.6    -0.00174 mg/L      0.000787    -0.00174 mg/L      0.000787  45.10%
   QC value within limits for Li 670.784  Recovery = Not calculated
All analyte(s) passed QC.

==========================================================================================================
Sequence No.: 24                                    Autosampler Location: 52
Sample ID: L1305136403                              Date Collected: 5/31/2013 10:49:07 AM
Analyst: KHR                                        Data Type: Original
Initial Sample Wt:                                  Initial Sample Vol:
Dilution:                                           Sample Prep Vol:

----------------------------------------------------------------------------------------------------------
Nebulizer Parameters: L1305136403
Analyte                 Back Pressure    Flow
All                   165.0 kPa         0.48 L/min

----------------------------------------------------------------------------------------------------------
```

Approved: June 03, 2013

Mean Data: L1305136403

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	2506072.0						31216.04	1.25%
YRADIAL	187693.5						2627.84	1.40%
Ga 417.206	979391.9						12925.50	1.32%
GaRADIAL	51934.4						1078.77	2.08%
Ag 328.068†	-1.8	-0.00031	mg/L	0.000101	-0.00031	mg/L	0.000101	32.38%
Al 396.153†	52.6	0.00659	mg/L	0.003377	0.00659	mg/L	0.003377	51.22%
As 188.979†	6.1	0.00395	mg/L	0.003148	0.00395	mg/L	0.003148	79.80%
Ba 233.527†	3183.1	0.0338	mg/L	0.00065	0.0338	mg/L	0.00065	1.92%
Be 234.861†	17.8	0.00006	mg/L	0.000017	0.00006	mg/L	0.000017	28.58%
B 249.677†	634.7	0.0104	mg/L	0.00054	0.0104	mg/L	0.00054	5.20%
Ca 227.546†	1182.4	5.62	mg/L	0.126	5.62	mg/L	0.126	2.25%
Cd 228.802†	0.2	-0.00012	mg/L	0.000263	-0.00012	mg/L	0.000263	226.51%
Co 228.616†	15.0	-0.00028	mg/L	0.000386	-0.00028	mg/L	0.000386	135.53%
Cr 267.716†	29.4	-0.00090	mg/L	0.000139	-0.00090	mg/L	0.000139	15.54%
Cu 327.393†	627.9	0.00334	mg/L	0.000787	0.00334	mg/L	0.000787	23.60%
Fe 239.562†	24.8	-0.00644	mg/L	0.000638	-0.00644	mg/L	0.000638	9.90%
Mg 279.077†	4349.7	3.10	mg/L	0.051	3.10	mg/L	0.051	1.64%
Mn 257.610†	30776.9	0.0557	mg/L	0.00063	0.0557	mg/L	0.00063	1.13%
Mo 202.031†	7.9	-0.00163	mg/L	0.000279	-0.00163	mg/L	0.000279	17.07%
Ni 231.604†	109.6	0.00105	mg/L	0.000284	0.00105	mg/L	0.000284	27.00%
Pb 220.353†	16.8	0.00042	mg/L	0.001088	0.00042	mg/L	0.001088	258.78%
Sb 206.836†	1.0	-0.00197	mg/L	0.000187	-0.00197	mg/L	0.000187	9.51%
Se 196.026†	-1.2	-0.00218	mg/L	0.003481	-0.00218	mg/L	0.003481	159.92%
Si 251.611†	78445.6	2.16	mg/L	0.025	2.16	mg/L	0.025	1.15%
Sn 189.927†	-44.4	-0.00814	mg/L	0.000488	-0.00814	mg/L	0.000488	6.00%
Ti 334.940†	-838.4	-0.00061	mg/L	0.000127	-0.00061	mg/L	0.000127	20.96%
Tl 190.801†	-6.6	-0.00742	mg/L	0.003113	-0.00742	mg/L	0.003113	41.93%
V 290.880†	586.4	0.00158	mg/L	0.000380	0.00158	mg/L	0.000380	24.06%
Zn 206.200†	458.5	0.0112	mg/L	0.00042	0.0112	mg/L	0.00042	3.75%
K 766.490†	1728.6	1.14	mg/L	0.037	1.14	mg/L	0.037	3.27%
Na 589.592†	37870.6	3.35	mg/L	0.045	3.35	mg/L	0.045	1.35%
Sr 407.771†	38287.6	0.0283	mg/L	0.00023	0.0283	mg/L	0.00023	0.83%
Li 670.784†	190.7	-0.00102	mg/L	0.000609	-0.00102	mg/L	0.000609	59.81%

==========

Sequence No.: 25
Sample ID: L1305136404
Analyst: KHR
Initial Sample Wt:
Dilution:

Autosampler Location: 53
Date Collected: 5/31/2013 10:52:07 AM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: L1305136404

Analyte	Back Pressure	Flow
All	165.0 kPa	0.48 L/min

Mean Data: L1305136404

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	2550499.9						33597.89	1.32%
YRADIAL	191070.4						3543.95	1.85%
Ga 417.206	996909.3						5836.33	0.59%
GaRADIAL	52478.0						253.97	0.48%
Ag 328.068†	36.2	-0.00012	mg/L	0.000208	-0.00012	mg/L	0.000208	173.20%
Al 396.153†	217.0	0.0606	mg/L	0.00184	0.0606	mg/L	0.00184	3.03%
As 188.979†	1.3	0.00160	mg/L	0.003249	0.00160	mg/L	0.003249	203.43%
Ba 233.527†	3390.0	0.0361	mg/L	0.00054	0.0361	mg/L	0.00054	1.48%
Be 234.861†	82.1	0.00014	mg/L	0.000038	0.00014	mg/L	0.000038	27.53%
B 249.677†	518.3	0.00873	mg/L	0.000080	0.00873	mg/L	0.000080	0.92%
Ca 227.546†	1206.5	5.74	mg/L	0.027	5.74	mg/L	0.027	0.47%
Cd 228.802†	-4.8	-0.00026	mg/L	0.000127	-0.00026	mg/L	0.000127	48.26%
Co 228.616†	4.4	-0.00073	mg/L	0.000186	-0.00073	mg/L	0.000186	25.28%
Cr 267.716†	18.9	-0.00101	mg/L	0.000190	-0.00101	mg/L	0.000190	18.78%
Cu 327.393†	53.2	0.00006	mg/L	0.000629	0.00006	mg/L	0.000629	>999.9%
Fe 239.562†	326.5	0.0677	mg/L	0.00194	0.0677	mg/L	0.00194	2.87%
Mg 279.077†	4337.0	3.09	mg/L	0.055	3.09	mg/L	0.055	1.77%
Mn 257.610†	34612.0	0.0629	mg/L	0.00100	0.0629	mg/L	0.00100	1.59%
Mo 202.031†	-1.3	-0.00210	mg/L	0.000188	-0.00210	mg/L	0.000188	8.96%

Approved: June 03, 2013

Ni 231.604†	128.2	0.00153 mg/L	0.000014	0.00153 mg/L	0.000014	0.92%
Pb 220.353†	5.1	-0.00111 mg/L	0.000641	-0.00111 mg/L	0.000641	57.74%
Sb 206.836†	1.9	-0.00159 mg/L	0.001767	-0.00159 mg/L	0.001767	110.89%
Se 196.026†	-1.2	-0.00218 mg/L	0.003959	-0.00218 mg/L	0.003959	181.90%
Si 251.611†	81553.5	2.25 mg/L	0.026	2.25 mg/L	0.026	1.14%
Sn 189.927†	-45.9	-0.00832 mg/L	0.000379	-0.00832 mg/L	0.000379	4.56%
Ti 334.940†	-388.4	0.00002 mg/L	0.000201	0.00002 mg/L	0.000201	>999.9%
Tl 190.801†	-12.9	-0.0106 mg/L	0.00161	-0.0106 mg/L	0.00161	15.19%
V 290.880†	600.7	0.00163 mg/L	0.000299	0.00163 mg/L	0.000299	18.32%
Zn 206.200†	455.2	0.0111 mg/L	0.00018	0.0111 mg/L	0.00018	1.59%
K 766.490†	1416.5	0.929 mg/L	0.0456	0.929 mg/L	0.0456	4.90%
Na 589.592†	37668.7	3.33 mg/L	0.037	3.33 mg/L	0.037	1.10%
Sr 407.771†	37281.9	0.0275 mg/L	0.00045	0.0275 mg/L	0.00045	1.62%
Li 670.784†	224.7	-0.00054 mg/L	0.000435	-0.00054 mg/L	0.000435	81.26%

==========

Sequence No.: 26 **Autosampler Location: 54**
Sample ID: L1305136405 **Date Collected: 5/31/2013 10:55:07 AM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1305136405

Analyte	Back Pressure	Flow
All	166.0 kPa	0.48 L/min

Mean Data: L1305136405

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2490659.9						15273.98	0.61%
YRADIAL	183985.8						4325.67	2.35%
Ga 417.206	978471.7						10788.30	1.10%
GaRADIAL	52144.1						915.79	1.76%
Ag 328.068†	121.3	0.00029	mg/L	0.000095	0.00029	mg/L	0.000095	32.36%
Al 396.153†	292.6	0.0853	mg/L	0.00115	0.0853	mg/L	0.00115	1.35%
As 188.979†	4.7	0.00341	mg/L	0.003629	0.00341	mg/L	0.003629	106.37%
Ba 233.527†	4543.3	0.0491	mg/L	0.00015	0.0491	mg/L	0.00015	0.30%
Be 234.861†	19.7	0.00001	mg/L	0.000010	0.00001	mg/L	0.000010	72.26%
B 249.677†	569.7	0.00941	mg/L	0.000390	0.00941	mg/L	0.000390	4.14%
Ca 227.546†	2119.8	10.1	mg/L	0.08	10.1	mg/L	0.08	0.75%
Cd 228.802†	-2.4	-0.00020	mg/L	0.000084	-0.00020	mg/L	0.000084	42.98%
Co 228.616†	5.0	-0.00072	mg/L	0.000450	-0.00072	mg/L	0.000450	62.59%
Cr 267.716†	44.9	-0.00074	mg/L	0.000176	-0.00074	mg/L	0.000176	23.90%
Cu 327.393†	-92.9	-0.00076	mg/L	0.000670	-0.00076	mg/L	0.000670	87.62%
Fe 239.562†	801.6	0.184	mg/L	0.0046	0.184	mg/L	0.0046	2.52%
Mg 279.077†	13356.6	9.56	mg/L	0.219	9.56	mg/L	0.219	2.29%
Mn 257.610†	21832.8	0.0388	mg/L	0.00033	0.0388	mg/L	0.00033	0.86%
Mo 202.031†	2.5	-0.00190	mg/L	0.000355	-0.00190	mg/L	0.000355	18.65%
Ni 231.604†	39.5	-0.00075	mg/L	0.000093	-0.00075	mg/L	0.000093	12.47%
Pb 220.353†	22.0	0.00112	mg/L	0.002264	0.00112	mg/L	0.002264	201.83%
Sb 206.836†	2.7	-0.00125	mg/L	0.001612	-0.00125	mg/L	0.001612	128.71%
Se 196.026†	-2.4	-0.00328	mg/L	0.001380	-0.00328	mg/L	0.001380	42.07%
Si 251.611†	78044.5	2.15	mg/L	0.034	2.15	mg/L	0.034	1.57%
Sn 189.927†	-83.6	-0.0130	mg/L	0.00032	-0.0130	mg/L	0.00032	2.46%
Ti 334.940†	55.4	0.00127	mg/L	0.000229	0.00127	mg/L	0.000229	17.98%
Tl 190.801†	-14.3	-0.0113	mg/L	0.00400	-0.0113	mg/L	0.00400	35.49%
V 290.880†	1224.3	0.00461	mg/L	0.000630	0.00461	mg/L	0.000630	13.65%
Zn 206.200†	390.7	0.00928	mg/L	0.000210	0.00928	mg/L	0.000210	2.26%
K 766.490†	2150.6	1.42	mg/L	0.040	1.42	mg/L	0.040	2.81%
Na 589.592†	7097.7	0.626	mg/L	0.0085	0.626	mg/L	0.0085	1.37%
Sr 407.771†	85162.8	0.0673	mg/L	0.00114	0.0673	mg/L	0.00114	1.69%
Li 670.784†	183.4	-0.00112	mg/L	0.001571	-0.00112	mg/L	0.001571	139.93%

==========

Sequence No.: 27 **Autosampler Location: 55**
Sample ID: L1305136406 **Date Collected: 5/31/2013 10:58:07 AM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Approved: June 03, 2013

Nebulizer Parameters: L1305136406

Analyte	Back Pressure	Flow
All	165.0 kPa	0.48 L/min

Mean Data: L1305136406

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	2540016.6						30548.22	1.20%
YRADIAL	190742.2						4316.19	2.26%
Ga 417.206	1011837.4						21275.09	2.10%
GaRADIAL	53590.2						133.04	0.25%
Ag 328.068†	123.5	0.00024	mg/L	0.000465	0.00024	mg/L	0.000465	193.08%
Al 396.153†	66.1	0.0111	mg/L	0.00170	0.0111	mg/L	0.00170	15.41%
As 188.979†	5.9	0.00397	mg/L	0.004038	0.00397	mg/L	0.004038	101.77%
Ba 233.527†	4207.2	0.0453	mg/L	0.00043	0.0453	mg/L	0.00043	0.96%
Be 234.861†	25.5	0.00006	mg/L	0.000056	0.00006	mg/L	0.000056	95.72%
B 249.677†	531.9	0.00894	mg/L	0.000253	0.00894	mg/L	0.000253	2.82%
Ca 227.546†	2081.0	9.92	mg/L	0.176	9.92	mg/L	0.176	1.77%
Cd 228.802†	-6.0	-0.00031	mg/L	0.000243	-0.00031	mg/L	0.000243	77.11%
Co 228.616†	-5.7	-0.00116	mg/L	0.000232	-0.00116	mg/L	0.000232	20.06%
Cr 267.716†	39.4	-0.00079	mg/L	0.000054	-0.00079	mg/L	0.000054	6.89%
Cu 327.393†	-27.3	-0.00040	mg/L	0.000677	-0.00040	mg/L	0.000677	167.56%
Fe 239.562†	167.3	0.0284	mg/L	0.00027	0.0284	mg/L	0.00027	0.97%
Mg 279.077†	12713.3	9.10	mg/L	0.170	9.10	mg/L	0.170	1.87%
Mn 257.610†	15963.5	0.0277	mg/L	0.00057	0.0277	mg/L	0.00057	2.05%
Mo 202.031†	-0.3	-0.00206	mg/L	0.000357	-0.00206	mg/L	0.000357	17.37%
Ni 231.604†	106.5	0.00097	mg/L	0.000083	0.00097	mg/L	0.000083	8.58%
Pb 220.353†	17.8	0.00058	mg/L	0.000148	0.00058	mg/L	0.000148	25.53%
Sb 206.836†	3.8	-0.00079	mg/L	0.002153	-0.00079	mg/L	0.002153	272.35%
Se 196.026†	-0.5	-0.00144	mg/L	0.001575	-0.00144	mg/L	0.001575	109.26%
Si 251.611†	76365.8	2.10	mg/L	0.041	2.10	mg/L	0.041	1.96%
Sn 189.927†	-77.0	-0.0122	mg/L	0.00120	-0.0122	mg/L	0.00120	9.78%
Ti 334.940†	-881.6	-0.00002	mg/L	0.000463	-0.00002	mg/L	0.000463	>999.9%
Tl 190.801†	-12.5	-0.0103	mg/L	0.00615	-0.0103	mg/L	0.00615	59.58%
V 290.880†	1231.1	0.00470	mg/L	0.000918	0.00470	mg/L	0.000918	19.55%
Zn 206.200†	250.1	0.00523	mg/L	0.000089	0.00523	mg/L	0.000089	1.70%
K 766.490†	2108.1	1.39	mg/L	0.048	1.39	mg/L	0.048	3.48%
Na 589.592†	7653.4	0.675	mg/L	0.0048	0.675	mg/L	0.0048	0.72%
Sr 407.771†	85810.7	0.0678	mg/L	0.00195	0.0678	mg/L	0.00195	2.87%
Li 670.784†	158.5	-0.00148	mg/L	0.000525	-0.00148	mg/L	0.000525	35.55%

Sequence No.: 28 **Autosampler Location: 56**
Sample ID: L1305136407 **Date Collected: 5/31/2013 11:01:07 AM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1305136407

Analyte	Back Pressure	Flow
All	166.0 kPa	0.48 L/min

Mean Data: L1305136407

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	2514973.9						30081.39	1.20%
YRADIAL	186855.7						1307.73	0.70%
Ga 417.206	980542.1						5328.27	0.54%
GaRADIAL	52350.8						812.85	1.55%
Ag 328.068†	60.6	-0.00003	mg/L	0.000224	-0.00003	mg/L	0.000224	708.56%
Al 396.153†	191.7	0.0522	mg/L	0.00165	0.0522	mg/L	0.00165	3.16%
As 188.979†	2.5	0.00220	mg/L	0.001191	0.00220	mg/L	0.001191	54.25%
Ba 233.527†	3498.8	0.0374	mg/L	0.00066	0.0374	mg/L	0.00066	1.78%
Be 234.861†	55.1	0.00011	mg/L	0.000025	0.00011	mg/L	0.000025	23.36%
B 249.677†	439.0	0.00762	mg/L	0.000097	0.00762	mg/L	0.000097	1.28%
Ca 227.546†	1217.9	5.79	mg/L	0.052	5.79	mg/L	0.052	0.90%
Cd 228.802†	-3.5	-0.00022	mg/L	0.000149	-0.00022	mg/L	0.000149	66.67%
Co 228.616†	5.2	-0.00070	mg/L	0.000284	-0.00070	mg/L	0.000284	40.71%

Approved: June 03, 2013

Kym H. Rhoden

Cr 267.716†	21.2	-0.00098	mg/L	0.000090	-0.00098	mg/L	0.000090	9.13%
Cu 327.393†	8.0	-0.00020	mg/L	0.000124	-0.00020	mg/L	0.000124	61.09%
Fe 239.562†	156.0	0.0258	mg/L	0.00195	0.0258	mg/L	0.00195	7.58%
Mg 279.077†	4498.6	3.21	mg/L	0.039	3.21	mg/L	0.039	1.21%
Mn 257.610†	35527.0	0.0647	mg/L	0.00252	0.0647	mg/L	0.00252	3.90%
Mo 202.031†	7.7	-0.00164	mg/L	0.000306	-0.00164	mg/L	0.000306	18.62%
Ni 231.604†	130.6	0.00159	mg/L	0.000258	0.00159	mg/L	0.000258	16.20%
Pb 220.353†	13.5	0.00000	mg/L	0.001773	0.00000	mg/L	0.001773	>999.9%
Sb 206.836†	-0.7	-0.00269	mg/L	0.001951	-0.00269	mg/L	0.001951	72.59%
Se 196.026†	-7.6	-0.00841	mg/L	0.001988	-0.00841	mg/L	0.001988	23.64%
Si 251.611†	83350.8	2.30	mg/L	0.056	2.30	mg/L	0.056	2.45%
Sn 189.927†	-50.3	-0.00887	mg/L	0.000478	-0.00887	mg/L	0.000478	5.39%
Ti 334.940†	-582.7	-0.00024	mg/L	0.000009	-0.00024	mg/L	0.000009	3.83%
Tl 190.801†	-12.5	-0.0104	mg/L	0.00116	-0.0104	mg/L	0.00116	11.22%
V 290.880†	727.4	0.00229	mg/L	0.000401	0.00229	mg/L	0.000401	17.52%
Zn 206.200†	363.2	0.00848	mg/L	0.000128	0.00848	mg/L	0.000128	1.50%
K 766.490†	1350.8	0.885	mg/L	0.0574	0.885	mg/L	0.0574	6.49%
Na 589.592†	38700.3	3.42	mg/L	0.044	3.42	mg/L	0.044	1.27%
Sr 407.771†	37694.7	0.0278	mg/L	0.00008	0.0278	mg/L	0.00008	0.28%
Li 670.784†	153.8	-0.00154	mg/L	0.000490	-0.00154	mg/L	0.000490	31.73%

Sequence No.: 29
Sample ID: L1305136408
Analyst: KHR
Initial Sample Wt:
Dilution:

Autosampler Location: 57
Date Collected: 5/31/2013 11:04:08 AM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: L1305136408

Analyte	Back Pressure	Flow
All	166.0 kPa	0.48 L/min

Mean Data: L1305136408

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2547576.4						41825.17	1.64%
YRADIAL	187382.6						3962.41	2.11%
Ga 417.206	997405.2						10374.92	1.04%
GaRADIAL	51724.1						1141.13	2.21%
Ag 328.068†	101.6	0.00014	mg/L	0.000364	0.00014	mg/L	0.000364	267.92%
Al 396.153†	68.9	0.0120	mg/L	0.00113	0.0120	mg/L	0.00113	9.48%
As 188.979†	-0.6	0.00063	mg/L	0.002984	0.00063	mg/L	0.002984	470.31%
Ba 233.527†	3215.8	0.0342	mg/L	0.00071	0.0342	mg/L	0.00071	2.09%
Be 234.861†	43.7	0.00009	mg/L	0.000047	0.00009	mg/L	0.000047	51.36%
B 249.677†	421.8	0.00738	mg/L	0.000256	0.00738	mg/L	0.000256	3.46%
Ca 227.546†	1201.0	5.71	mg/L	0.035	5.71	mg/L	0.035	0.61%
Cd 228.802†	-0.8	-0.00013	mg/L	0.000078	-0.00013	mg/L	0.000078	59.32%
Co 228.616†	5.8	-0.00067	mg/L	0.000475	-0.00067	mg/L	0.000475	70.71%
Cr 267.716†	24.6	-0.00095	mg/L	0.000215	-0.00095	mg/L	0.000215	22.64%
Cu 327.393†	8.4	-0.00020	mg/L	0.000437	-0.00020	mg/L	0.000437	215.34%
Fe 239.562†	91.7	0.00997	mg/L	0.000833	0.00997	mg/L	0.000833	8.35%
Mg 279.077†	4555.7	3.25	mg/L	0.051	3.25	mg/L	0.051	1.57%
Mn 257.610†	29765.9	0.0538	mg/L	0.00130	0.0538	mg/L	0.00130	2.42%
Mo 202.031†	2.1	-0.00193	mg/L	0.000339	-0.00193	mg/L	0.000339	17.52%
Ni 231.604†	111.2	0.00109	mg/L	0.000140	0.00109	mg/L	0.000140	12.84%
Pb 220.353†	8.2	-0.00069	mg/L	0.001527	-0.00069	mg/L	0.001527	219.79%
Sb 206.836†	-1.7	-0.00311	mg/L	0.001303	-0.00311	mg/L	0.001303	41.88%
Se 196.026†	-1.7	-0.00268	mg/L	0.002318	-0.00268	mg/L	0.002318	86.49%
Si 251.611†	78362.5	2.16	mg/L	0.039	2.16	mg/L	0.039	1.83%
Sn 189.927†	-50.0	-0.00883	mg/L	0.000820	-0.00883	mg/L	0.000820	9.28%
Ti 334.940†	-655.4	-0.00035	mg/L	0.000083	-0.00035	mg/L	0.000083	23.93%
Tl 190.801†	-10.5	-0.00935	mg/L	0.003505	-0.00935	mg/L	0.003505	37.49%
V 290.880†	434.7	0.00080	mg/L	0.000644	0.00080	mg/L	0.000644	80.79%
Zn 206.200†	386.9	0.00917	mg/L	0.000317	0.00917	mg/L	0.000317	3.46%
K 766.490†	1366.8	0.896	mg/L	0.0241	0.896	mg/L	0.0241	2.69%
Na 589.592†	36824.8	3.26	mg/L	0.046	3.26	mg/L	0.046	1.41%
Sr 407.771†	38205.1	0.0282	mg/L	0.00037	0.0282	mg/L	0.00037	1.32%
Li 670.784†	111.7	-0.00214	mg/L	0.001010	-0.00214	mg/L	0.001010	47.19%

Approved: June 03, 2013

Kym H. Rhoden

Sequence No.: 30
Sample ID: L1305141301
Analyst: KHR
Initial Sample Wt:
Dilution:

Autosampler Location: 58
Date Collected: 5/31/2013 11:07:09 AM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: L1305141301

Analyte	Back Pressure	Flow
All	165.0 kPa	0.48 L/min

Mean Data: L1305141301

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2479709.5						51650.85	2.08%
YRADIAL	183455.3						2344.44	1.28%
Ga 417.206	983397.2						15724.77	1.60%
GaRADIAL	51790.8						390.61	0.75%
Ag 328.068†	183.4	0.00075	mg/L	0.000322	0.00075	mg/L	0.000322	42.78%
Al 396.153†	320.7	0.0945	mg/L	0.00106	0.0945	mg/L	0.00106	1.12%
As 188.979†	5.1	0.00407	mg/L	0.001234	0.00407	mg/L	0.001234	30.35%
Ba 233.527†	3257.5	0.0346	mg/L	0.00094	0.0346	mg/L	0.00094	2.73%
Be 234.861†	146.5	0.00008	mg/L	0.000126	0.00008	mg/L	0.000126	154.40%
B 249.677†	2466.4	0.0361	mg/L	0.00189	0.0361	mg/L	0.00189	5.24%
Ca 227.546†	5619.7	26.9	mg/L	0.49	26.9	mg/L	0.49	1.84%
Cd 228.802†	-5.4	-0.00029	mg/L	0.000257	-0.00029	mg/L	0.000257	88.76%
Co 228.616†	2.3	-0.00083	mg/L	0.000314	-0.00083	mg/L	0.000314	37.73%
Cr 267.716†	67.1	-0.00054	mg/L	0.000076	-0.00054	mg/L	0.000076	14.19%
Cu 327.393†	147.1	0.00065	mg/L	0.000612	0.00065	mg/L	0.000612	94.69%
Fe 239.562†	2963.1	0.715	mg/L	0.0044	0.715	mg/L	0.0044	0.62%
Mg 279.077†	9848.8	7.04	mg/L	0.045	7.04	mg/L	0.045	0.64%
Mn 257.610†	38919.2	0.0711	mg/L	0.00194	0.0711	mg/L	0.00194	2.73%
Mo 202.031†	32.6	-0.00033	mg/L	0.000037	-0.00033	mg/L	0.000037	11.19%
Ni 231.604†	69.3	0.00002	mg/L	0.000143	0.00002	mg/L	0.000143	834.91%
Pb 220.353†	387.2	0.0489	mg/L	0.00175	0.0489	mg/L	0.00175	3.58%
Sb 206.836†	-1.4	-0.00293	mg/L	0.001032	-0.00293	mg/L	0.001032	35.24%
Se 196.026†	-2.4	-0.00321	mg/L	0.003287	-0.00321	mg/L	0.003287	102.36%
Si 251.611†	46884.6	1.29	mg/L	0.046	1.29	mg/L	0.046	3.56%
Sn 189.927†	-166.5	-0.0234	mg/L	0.00045	-0.0234	mg/L	0.00045	1.90%
Ti 334.940†	-1546.3	0.00162	mg/L	0.000621	0.00162	mg/L	0.000621	38.33%
Tl 190.801†	-17.5	-0.0129	mg/L	0.00293	-0.0129	mg/L	0.00293	22.63%
V 290.880†	1409.6	0.00549	mg/L	0.001114	0.00549	mg/L	0.001114	20.31%
Zn 206.200†	231.4	0.00469	mg/L	0.000183	0.00469	mg/L	0.000183	3.91%
K 766.490†	2542.3	1.66	mg/L	0.013	1.66	mg/L	0.013	0.78%
Na 589.592†	235204.3	21.0	mg/L	0.15	21.0	mg/L	0.15	0.70%
Sr 407.771†	175718.7	0.143	mg/L	0.0028	0.143	mg/L	0.0028	1.93%
Li 670.784†	464.9	0.00288	mg/L	0.000300	0.00288	mg/L	0.000300	10.41%

==========

Sequence No.: 31
Sample ID: CCV
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 6
Date Collected: 5/31/2013 11:10:10 AM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: CCV

Analyte	Back Pressure	Flow
All	166.0 kPa	0.48 L/min

Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2487324.0						88788.09	3.57%
YRADIAL	187134.3						4670.77	2.50%
Ga 417.206	959271.7						24208.58	2.52%
GaRADIAL	50502.4						1197.60	2.37%
Ag 328.068†	95642.1	0.412	mg/L	0.0112	0.412	mg/L	0.0112	2.73%
QC value within limits for Ag 328.068 Recovery = 103.05%								
Al 396.153†	31806.4	10.4	mg/L	0.10	10.4	mg/L	0.10	0.94%

Approved: June 03, 2013

Kym H. Rhoden

```
   QC value within limits for Al 396.153  Recovery = 103.51%
As 188.979†              826.9       0.404 mg/L        0.0126       0.404 mg/L        0.0126   3.12%
   QC value within limits for As 188.979  Recovery = 101.03%
Ba 233.527†            91282.0        1.02 mg/L         0.030        1.02 mg/L         0.030   2.94%
   QC value within limits for Ba 233.527  Recovery = 102.14%
Be 234.861†            34478.8      0.0508 mg/L       0.00125      0.0508 mg/L       0.00125   2.46%
   QC value within limits for Be 234.861  Recovery = 101.51%
B 249.677†             35493.3       0.501 mg/L        0.0133       0.501 mg/L        0.0133   2.66%
   QC value within limits for B 249.677  Recovery = 100.13%
Ca 227.546†             2148.4        10.7 mg/L          0.28        10.7 mg/L          0.28   2.61%
   QC value within limits for Ca 227.546  Recovery = 107.10%
Cd 228.802†             1639.3      0.0502 mg/L       0.00085      0.0502 mg/L       0.00085   1.69%
   QC value within limits for Cd 228.802  Recovery = 100.33%
Co 228.616†             4942.2       0.205 mg/L        0.0070       0.205 mg/L        0.0070   3.40%
   QC value within limits for Co 228.616  Recovery = 102.71%
Cr 267.716†            47672.7       0.511 mg/L        0.0157       0.511 mg/L        0.0157   3.08%
   QC value within limits for Cr 267.716  Recovery = 102.12%
Cu 327.393†            89980.1       0.516 mg/L        0.0139       0.516 mg/L        0.0139   2.70%
   QC value within limits for Cu 327.393  Recovery = 103.13%
Fe 239.562†            16843.4        4.12 mg/L         0.079        4.12 mg/L         0.079   1.91%
   QC value within limits for Fe 239.562  Recovery = 103.11%
Mg 279.077†            14331.4        10.3 mg/L          0.10        10.3 mg/L          0.10   0.97%
   QC value within limits for Mg 279.077  Recovery = 102.71%
Mn 257.610†           275873.8       0.520 mg/L        0.0161       0.520 mg/L        0.0161   3.09%
   QC value within limits for Mn 257.610  Recovery = 104.00%
Mo 202.031†            19931.6        1.02 mg/L         0.032        1.02 mg/L         0.032   3.15%
   QC value within limits for Mo 202.031  Recovery = 101.61%
Ni 231.604†            20045.6       0.512 mg/L        0.0152       0.512 mg/L        0.0152   2.96%
   QC value within limits for Ni 231.604  Recovery = 102.49%
Pb 220.353†             3938.1       0.515 mg/L        0.0161       0.515 mg/L        0.0161   3.13%
   QC value within limits for Pb 220.353  Recovery = 103.02%
Sb 206.836†             2967.0        1.23 mg/L         0.024        1.23 mg/L         0.024   1.93%
   QC value within limits for Sb 206.836  Recovery = 102.61%
Se 196.026†              418.0       0.405 mg/L        0.0158       0.405 mg/L        0.0158   3.89%
   QC value within limits for Se 196.026  Recovery = 101.16%
Si 251.611†           184870.8        5.09 mg/L         0.112        5.09 mg/L         0.112   2.19%
   QC value within limits for Si 251.611  Recovery = 101.72%
Sn 189.927†             7397.5       0.925 mg/L        0.0307       0.925 mg/L        0.0307   3.32%
   QC value within limits for Sn 189.927  Recovery = 92.53%
Ti 334.940†           760597.8        1.03 mg/L         0.019        1.03 mg/L         0.019   1.81%
   QC value within limits for Ti 334.940  Recovery = 102.89%
Tl 190.801†             1037.3       0.533 mg/L        0.0191       0.533 mg/L        0.0191   3.59%
   QC value within limits for Tl 190.801  Recovery = 106.51%
V 290.880†            199406.0        1.01 mg/L         0.032        1.01 mg/L         0.032   3.17%
   QC value within limits for V 290.880  Recovery = 101.33%
Zn 206.200†            35287.4        1.02 mg/L         0.031        1.02 mg/L         0.031   3.01%
   QC value within limits for Zn 206.200  Recovery = 101.87%
K 766.490†             77374.0        52.0 mg/L          0.46        52.0 mg/L          0.46   0.89%
   QC value within limits for K 766.490  Recovery = 104.04%
Na 589.592†           587611.7        53.3 mg/L          1.58        53.3 mg/L          1.58   2.95%
   QC value within limits for Na 589.592  Recovery = 106.67%
Sr 407.771†          1279991.6        1.06 mg/L         0.030        1.06 mg/L         0.030   2.79%
   QC value within limits for Sr 407.771  Recovery = 105.96%
Li 670.784†            75499.5        1.07 mg/L         0.012        1.07 mg/L         0.012   1.14%
   QC value within limits for Li 670.784  Recovery = 106.98%
All analyte(s) passed QC.

==========================================================================================
Sequence No.: 32                                  Autosampler Location: 1
Sample ID: CCB                                    Date Collected: 5/31/2013 11:12:15 AM
Analyst:                                          Data Type: Original
Initial Sample Wt:                                Initial Sample Vol:
Dilution:                                         Sample Prep Vol:

------------------------------------------------------------------------------------------
Nebulizer Parameters: CCB
Analyte                 Back Pressure    Flow
All                    165.0 kPa         0.48 L/min

------------------------------------------------------------------------------------------
Mean Data: CCB
                  Mean Corrected         Calib.                        Sample
```

Approved: June 03, 2013

Analyte	Intensity	Conc. Units	Std.Dev.	Conc. Units	Std.Dev.	RSD
Y 371.029	2518821.7				48130.58	1.91%
YRADIAL	185312.7				2440.74	1.32%
Ga 417.206	955962.4				20791.15	2.17%
GaRADIAL	50993.8				610.47	1.20%
Ag 328.068†	29.5	-0.00017 mg/L	0.000314	-0.00017 mg/L	0.000314	184.65%
QC value within limits for Ag 328.068 Recovery = Not calculated						
Al 396.153†	8.7	-0.00778 mg/L	0.003523	-0.00778 mg/L	0.003523	45.28%
QC value within limits for Al 396.153 Recovery = Not calculated						
As 188.979†	-0.4	0.00062 mg/L	0.003497	0.00062 mg/L	0.003497	563.52%
QC value within limits for As 188.979 Recovery = Not calculated						
Ba 233.527†	-8.8	-0.00194 mg/L	0.000096	-0.00194 mg/L	0.000096	4.95%
QC value within limits for Ba 233.527 Recovery = Not calculated						
Be 234.861†	-69.9	-0.00008 mg/L	0.000068	-0.00008 mg/L	0.000068	87.64%
QC value within limits for Be 234.861 Recovery = Not calculated						
B 249.677†	473.6	0.00813 mg/L	0.000960	0.00813 mg/L	0.000960	11.81%
QC value within limits for B 249.677 Recovery = Not calculated						
Ca 227.546†	-3.3	-0.0514 mg/L	0.02699	-0.0514 mg/L	0.02699	52.49%
QC value within limits for Ca 227.546 Recovery = Not calculated						
Cd 228.802†	-3.1	-0.00021 mg/L	0.000090	-0.00021 mg/L	0.000090	43.70%
QC value within limits for Cd 228.802 Recovery = Not calculated						
Co 228.616†	-1.9	-0.00098 mg/L	0.000135	-0.00098 mg/L	0.000135	13.67%
QC value within limits for Co 228.616 Recovery = Not calculated						
Cr 267.716†	-7.1	-0.00129 mg/L	0.000200	-0.00129 mg/L	0.000200	15.54%
QC value within limits for Cr 267.716 Recovery = Not calculated						
Cu 327.393†	-39.3	-0.00048 mg/L	0.000231	-0.00048 mg/L	0.000231	48.44%
QC value within limits for Cu 327.393 Recovery = Not calculated						
Fe 239.562†	7.3	-0.0107 mg/L	0.00097	-0.0107 mg/L	0.00097	9.04%
QC value within limits for Fe 239.562 Recovery = Not calculated						
Mg 279.077†	7.7	-0.0102 mg/L	0.00526	-0.0102 mg/L	0.00526	51.77%
QC value within limits for Mg 279.077 Recovery = Not calculated						
Mn 257.610†	-68.6	-0.00267 mg/L	0.000010	-0.00267 mg/L	0.000010	0.39%
QC value within limits for Mn 257.610 Recovery = Not calculated						
Mo 202.031†	-3.7	-0.00224 mg/L	0.000346	-0.00224 mg/L	0.000346	15.43%
QC value within limits for Mo 202.031 Recovery = Not calculated						
Ni 231.604†	-18.3	-0.00223 mg/L	0.000272	-0.00223 mg/L	0.000272	12.20%
QC value within limits for Ni 231.604 Recovery = Not calculated						
Pb 220.353†	5.1	-0.00107 mg/L	0.001042	-0.00107 mg/L	0.001042	96.99%
QC value within limits for Pb 220.353 Recovery = Not calculated						
Sb 206.836†	1.1	-0.00193 mg/L	0.001460	-0.00193 mg/L	0.001460	75.71%
QC value within limits for Sb 206.836 Recovery = Not calculated						
Se 196.026†	-3.6	-0.00444 mg/L	0.003100	-0.00444 mg/L	0.003100	69.81%
QC value within limits for Se 196.026 Recovery = Not calculated						
Si 251.611†	-17.3	-0.00254 mg/L	0.000230	-0.00254 mg/L	0.000230	9.03%
QC value within limits for Si 251.611 Recovery = Not calculated						
Sn 189.927†	18.7	-0.00022 mg/L	0.000396	-0.00022 mg/L	0.000396	180.10%
QC value within limits for Sn 189.927 Recovery = Not calculated						
Ti 334.940†	12.6	-0.00031 mg/L	0.000034	-0.00031 mg/L	0.000034	10.98%
QC value within limits for Ti 334.940 Recovery = Not calculated						
Tl 190.801†	-8.1	-0.00813 mg/L	0.001045	-0.00813 mg/L	0.001045	12.86%
QC value within limits for Tl 190.801 Recovery = Not calculated						
V 290.880†	165.7	-0.00048 mg/L	0.001035	-0.00048 mg/L	0.001035	214.66%
QC value within limits for V 290.880 Recovery = Not calculated						
Zn 206.200†	4.5	-0.00184 mg/L	0.000065	-0.00184 mg/L	0.000065	3.50%
QC value within limits for Zn 206.200 Recovery = Not calculated						
K 766.490†	49.7	0.0286 mg/L	0.03708	0.0286 mg/L	0.03708	129.72%
QC value within limits for K 766.490 Recovery = Not calculated						
Na 589.592†	358.5	0.0306 mg/L	0.03107	0.0306 mg/L	0.03107	101.69%
QC value within limits for Na 589.592 Recovery = Not calculated						
Sr 407.771†	166.2	-0.00343 mg/L	0.000164	-0.00343 mg/L	0.000164	4.79%
QC value within limits for Sr 407.771 Recovery = Not calculated						
Li 670.784†	96.0	-0.00236 mg/L	0.001236	-0.00236 mg/L	0.001236	52.25%
QC value within limits for Li 670.784 Recovery = Not calculated						

All analyte(s) passed QC.

Approved: June 03, 2013

Lynn H. Rhoden

==========

Analysis Begun

Start Time: 5/31/2013 11:19:27 AM **Plasma On Time: 5/31/2013 6:21:19 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\FRIDAY1.sif
Batch ID:
Results Data Set: 053113HR
Results Library: C:\pe\peicp2\Results\Results.mdb

==========

Sequence No.: 1 **Autosampler Location: 59**
Sample ID: PBW 2T WG432374-03 **Date Collected: 5/31/2013 11:19:29 AM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: PBW 2T WG432374-03

Analyte	Back Pressure	Flow
All	165.0 kPa	0.48 L/min

Mean Data: PBW 2T WG432374-03

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2543556.1						40627.63	1.60%
YRADIAL	187240.3						4636.68	2.48%
Ga 417.206	962170.7						25153.42	2.61%
GaRADIAL	50229.9						1030.02	2.05%
Ag 328.068†	-44.8	-0.00049	mg/L	0.000151	-0.00049	mg/L	0.000151	30.80%
Al 396.153†	5.8	-0.00875	mg/L	0.001986	-0.00875	mg/L	0.001986	22.69%
As 188.979†	1.9	0.00178	mg/L	0.001451	0.00178	mg/L	0.001451	81.65%
Ba 233.527†	2.8	-0.00181	mg/L	0.000062	-0.00181	mg/L	0.000062	3.45%
Be 234.861†	-48.1	-0.00004	mg/L	0.000038	-0.00004	mg/L	0.000038	83.89%
B 249.677†	78.3	0.00252	mg/L	0.000301	0.00252	mg/L	0.000301	11.92%
Ca 227.546†	9.6	0.0105	mg/L	0.03699	0.0105	mg/L	0.03699	353.95%
Cd 228.802†	-0.5	-0.00013	mg/L	0.000099	-0.00013	mg/L	0.000099	74.68%
Co 228.616†	-7.5	-0.00122	mg/L	0.000120	-0.00122	mg/L	0.000120	9.90%
Cr 267.716†	-12.5	-0.00135	mg/L	0.000151	-0.00135	mg/L	0.000151	11.21%
Cu 327.393†	-0.3	-0.00025	mg/L	0.000912	-0.00025	mg/L	0.000912	358.99%
Fe 239.562†	2.5	-0.0119	mg/L	0.00072	-0.0119	mg/L	0.00072	6.04%
Mg 279.077†	-6.7	-0.0204	mg/L	0.00101	-0.0204	mg/L	0.00101	4.93%
Mn 257.610†	-100.6	-0.00274	mg/L	0.000019	-0.00274	mg/L	0.000019	0.69%
Mo 202.031†	1.7	-0.00197	mg/L	0.000322	-0.00197	mg/L	0.000322	16.39%
Ni 231.604†	-7.7	-0.00196	mg/L	0.000502	-0.00196	mg/L	0.000502	25.61%
Pb 220.353†	7.5	-0.00076	mg/L	0.000797	-0.00076	mg/L	0.000797	104.97%
Sb 206.836†	0.3	-0.00227	mg/L	0.000476	-0.00227	mg/L	0.000476	21.01%
Se 196.026†	-1.9	-0.00280	mg/L	0.006622	-0.00280	mg/L	0.006622	236.21%
Si 251.611†	-60.8	-0.00374	mg/L	0.000342	-0.00374	mg/L	0.000342	9.15%
Sn 189.927†	4.7	-0.00197	mg/L	0.000689	-0.00197	mg/L	0.000689	34.90%
Ti 334.940†	-3.4	-0.00032	mg/L	0.000193	-0.00032	mg/L	0.000193	60.52%
Tl 190.801†	-3.0	-0.00553	mg/L	0.002226	-0.00553	mg/L	0.002226	40.27%
V 290.880†	92.3	-0.00086	mg/L	0.001088	-0.00086	mg/L	0.001088	127.10%
Zn 206.200†	43.8	-0.00071	mg/L	0.000119	-0.00071	mg/L	0.000119	16.65%
K 766.490†	-31.4	-0.0250	mg/L	0.00961	-0.0250	mg/L	0.00961	38.49%
Na 589.592†	-122.9	-0.0120	mg/L	0.01144	-0.0120	mg/L	0.01144	95.62%
Sr 407.771†	-27.8	-0.00359	mg/L	0.000061	-0.00359	mg/L	0.000061	1.69%
Li 670.784†	63.3	-0.00283	mg/L	0.000670	-0.00283	mg/L	0.000670	23.68%

==========

Sequence No.: 2 **Autosampler Location: 60**
Sample ID: LCSW 2T WG432374-04 **Date Collected: 5/31/2013 11:22:30 AM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: LCSW 2T WG432374-04

Approved: June 03, 2013
Lynn H. Rhoden

Analyte	Back Pressure	Flow
All	165.0 kPa	0.48 L/min

Mean Data: LCSW 2T WG432374-04

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	2487395.3						30817.35	1.24%
YRADIAL	188237.9						4400.45	2.34%
Ga 417.206	955392.4						13246.70	1.39%
GaRADIAL	50831.9						1139.71	2.24%
Ag 328.068†	46839.9	0.202	mg/L	0.0023	0.202	mg/L	0.0023	1.15%
Al 396.153†	15374.4	5.00	mg/L	0.022	5.00	mg/L	0.022	0.44%
As 188.979†	418.9	0.205	mg/L	0.0036	0.205	mg/L	0.0036	1.76%
Ba 233.527†	44204.9	0.494	mg/L	0.0075	0.494	mg/L	0.0075	1.52%
Be 234.861†	16798.1	0.0247	mg/L	0.00029	0.0247	mg/L	0.00029	1.16%
B 249.677†	68398.2	0.969	mg/L	0.0132	0.969	mg/L	0.0132	1.36%
Ca 227.546†	1042.3	5.19	mg/L	0.089	5.19	mg/L	0.089	1.72%
Cd 228.802†	806.6	0.0246	mg/L	0.00061	0.0246	mg/L	0.00061	2.49%
Co 228.616†	2415.4	0.1000	mg/L	0.00096	0.1000	mg/L	0.00096	0.96%
Cr 267.716†	23262.5	0.249	mg/L	0.0033	0.249	mg/L	0.0033	1.33%
Cu 327.393†	44128.9	0.253	mg/L	0.0034	0.253	mg/L	0.0034	1.35%
Fe 239.562†	8217.5	2.01	mg/L	0.009	2.01	mg/L	0.009	0.45%
Mg 279.077†	7024.1	5.03	mg/L	0.060	5.03	mg/L	0.060	1.20%
Mn 257.610†	133480.0	0.250	mg/L	0.0041	0.250	mg/L	0.0041	1.62%
Mo 202.031†	9981.1	0.508	mg/L	0.0055	0.508	mg/L	0.0055	1.08%
Ni 231.604†	10170.4	0.259	mg/L	0.0025	0.259	mg/L	0.0025	0.97%
Pb 220.353†	1935.4	0.252	mg/L	0.0030	0.252	mg/L	0.0030	1.17%
Sb 206.836†	1474.9	0.611	mg/L	0.0041	0.611	mg/L	0.0041	0.68%
Se 196.026†	207.2	0.200	mg/L	0.0063	0.200	mg/L	0.0063	3.15%
Si 251.611†	88565.8	2.44	mg/L	0.031	2.44	mg/L	0.031	1.29%
Sn 189.927†	-1.1	-0.00270	mg/L	0.000988	-0.00270	mg/L	0.000988	36.61%
Ti 334.940†	371209.2	0.502	mg/L	0.0084	0.502	mg/L	0.0084	1.67%
Tl 190.801†	525.8	0.268	mg/L	0.0047	0.268	mg/L	0.0047	1.77%
V 290.880†	96444.8	0.489	mg/L	0.0085	0.489	mg/L	0.0085	1.74%
Zn 206.200†	17222.2	0.496	mg/L	0.0087	0.496	mg/L	0.0087	1.75%
K 766.490†	37872.0	25.2	mg/L	0.32	25.2	mg/L	0.32	1.26%
Na 589.592†	282457.3	25.3	mg/L	0.40	25.3	mg/L	0.40	1.57%
Sr 407.771†	612824.8	0.505	mg/L	0.0071	0.505	mg/L	0.0071	1.40%
Li 670.784†	37340.6	0.527	mg/L	0.0072	0.527	mg/L	0.0072	1.36%

Sequence No.: 3
Sample ID: L1305136501 WG432374-01
Analyst: KHR
Initial Sample Wt:
Dilution:

Autosampler Location: 61
Date Collected: 5/31/2013 11:24:33 AM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: L1305136501 WG432374-01

Analyte	Back Pressure	Flow
All	165.0 kPa	0.48 L/min

Mean Data: L1305136501 WG432374-01

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	2455646.6						30736.05	1.25%
YRADIAL	182767.8						4876.84	2.67%
Ga 417.206	980926.0						14814.37	1.51%
GaRADIAL	53015.0						750.74	1.42%
Ag 328.068†	478.1	0.00163	mg/L	0.000548	0.00163	mg/L	0.000548	33.59%
Al 396.153†	32.5	-0.00007	mg/L	0.000363	-0.00007	mg/L	0.000363	509.53%
As 188.979†	1.3	0.00276	mg/L	0.002250	0.00276	mg/L	0.002250	81.45%
Ba 233.527†	1737.5	0.0176	mg/L	0.00033	0.0176	mg/L	0.00033	1.89%
Be 234.861†	32.3	0.00003	mg/L	0.000045	0.00003	mg/L	0.000045	150.16%
B 249.677†	1925.4	0.0286	mg/L	0.00224	0.0286	mg/L	0.00224	7.83%
Ca 227.546†	11732.3	56.1	mg/L	2.03	56.1	mg/L	2.03	3.63%
Cd 228.802†	-0.1	-0.00011	mg/L	0.000110	-0.00011	mg/L	0.000110	95.90%
Co 228.616†	-3.2	-0.00103	mg/L	0.000104	-0.00103	mg/L	0.000104	10.08%
Cr 267.716†	95.4	-0.00020	mg/L	0.000164	-0.00020	mg/L	0.000164	80.38%
Cu 327.393†	-81.6	-0.00070	mg/L	0.000352	-0.00070	mg/L	0.000352	50.08%

Approved: June 03, 2013

Kym H. Rhoden

Fe 239.562†	1290.0	0.304	mg/L	0.0092	0.304	mg/L	0.0092	3.03%
Mg 279.077†	28623.8	20.5	mg/L	0.55	20.5	mg/L	0.55	2.69%
Mn 257.610†	150483.2	0.282	mg/L	0.0071	0.282	mg/L	0.0071	2.53%
Mo 202.031†	37.0	-0.00008	mg/L	0.000430	-0.00008	mg/L	0.000430	528.11%
Ni 231.604†	73.3	0.00012	mg/L	0.000299	0.00012	mg/L	0.000299	247.01%
Pb 220.353†	28.2	0.00177	mg/L	0.001535	0.00177	mg/L	0.001535	86.68%
Sb 206.836†	0.6	-0.00214	mg/L	0.001258	-0.00214	mg/L	0.001258	58.72%
Se 196.026†	1.0	-0.00011	mg/L	0.005853	-0.00011	mg/L	0.005853	>999.9%
Si 251.611†	116906.3	3.22	mg/L	0.086	3.22	mg/L	0.086	2.66%
Sn 189.927†	-254.3	-0.0345	mg/L	0.00188	-0.0345	mg/L	0.00188	5.45%
Ti 334.940†	-6226.0	-0.00032	mg/L	0.000241	-0.00032	mg/L	0.000241	75.27%
Tl 190.801†	-19.0	-0.0139	mg/L	0.00380	-0.0139	mg/L	0.00380	27.22%
V 290.880†	1970.4	0.00810	mg/L	0.001369	0.00810	mg/L	0.001369	16.90%
Zn 206.200†	120.9	0.00151	mg/L	0.000193	0.00151	mg/L	0.000193	12.77%
K 766.490†	5083.7	3.34	mg/L	0.078	3.34	mg/L	0.078	2.33%
Na 589.592†	268306.0	24.0	mg/L	0.05	24.0	mg/L	0.05	0.22%
Sr 407.771†	1353739.9	1.12	mg/L	0.027	1.12	mg/L	0.027	2.45%
Li 670.784†	1888.5	0.0231	mg/L	0.00046	0.0231	mg/L	0.00046	2.00%

Sequence No.: 4 **Autosampler Location: 62**
Sample ID: L1305136501DU WG432374-05 **Date Collected: 5/31/2013 11:27:34 AM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1305136501DU WG432374-05

Analyte	Back Pressure	Flow
All	165.0 kPa	0.48 L/min

Mean Data: L1305136501DU WG432374-05

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2467313.3						32687.84	1.32%
YRADIAL	181305.3						1965.60	1.08%
Ga 417.206	991221.6						16183.60	1.63%
GaRADIAL	52374.2						256.25	0.49%
Ag 328.068†	611.0	0.00220	mg/L	0.000090	0.00220	mg/L	0.000090	4.11%
Al 396.153†	23.4	-0.00304	mg/L	0.001510	-0.00304	mg/L	0.001510	49.69%
As 188.979†	3.0	0.00365	mg/L	0.002016	0.00365	mg/L	0.002016	55.25%
Ba 233.527†	1778.6	0.0181	mg/L	0.00029	0.0181	mg/L	0.00029	1.61%
Be 234.861†	37.4	0.00003	mg/L	0.000011	0.00003	mg/L	0.000011	32.34%
B 249.677†	1471.3	0.0221	mg/L	0.00104	0.0221	mg/L	0.00104	4.68%
Ca 227.546†	12166.5	58.1	mg/L	1.94	58.1	mg/L	1.94	3.34%
Cd 228.802†	-6.1	-0.00031	mg/L	0.000127	-0.00031	mg/L	0.000127	41.08%
Co 228.616†	-4.7	-0.00109	mg/L	0.000132	-0.00109	mg/L	0.000132	12.06%
Cr 267.716†	100.1	-0.00016	mg/L	0.000139	-0.00016	mg/L	0.000139	89.27%
Cu 327.393†	-109.6	-0.00086	mg/L	0.000724	-0.00086	mg/L	0.000724	84.06%
Fe 239.562†	1347.4	0.318	mg/L	0.0025	0.318	mg/L	0.0025	0.78%
Mg 279.077†	29752.8	21.3	mg/L	0.21	21.3	mg/L	0.21	0.97%
Mn 257.610†	155465.8	0.292	mg/L	0.0077	0.292	mg/L	0.0077	2.62%
Mo 202.031†	37.9	-0.00003	mg/L	0.000188	-0.00003	mg/L	0.000188	586.47%
Ni 231.604†	23.3	-0.00116	mg/L	0.000317	-0.00116	mg/L	0.000317	27.33%
Pb 220.353†	41.1	0.00346	mg/L	0.001087	0.00346	mg/L	0.001087	31.44%
Sb 206.836†	-2.5	-0.00343	mg/L	0.001638	-0.00343	mg/L	0.001638	47.69%
Se 196.026†	-0.8	-0.00180	mg/L	0.003682	-0.00180	mg/L	0.003682	204.77%
Si 251.611†	121520.5	3.35	mg/L	0.100	3.35	mg/L	0.100	3.00%
Sn 189.927†	-260.6	-0.0353	mg/L	0.00061	-0.0353	mg/L	0.00061	1.72%
Ti 334.940†	-6607.0	-0.00052	mg/L	0.000031	-0.00052	mg/L	0.000031	5.88%
Tl 190.801†	-33.0	-0.0210	mg/L	0.00103	-0.0210	mg/L	0.00103	4.90%
V 290.880†	2174.2	0.00911	mg/L	0.000903	0.00911	mg/L	0.000903	9.91%
Zn 206.200†	45.6	-0.00066	mg/L	0.000222	-0.00066	mg/L	0.000222	33.73%
K 766.490†	5265.1	3.45	mg/L	0.022	3.45	mg/L	0.022	0.62%
Na 589.592†	281255.1	25.2	mg/L	0.32	25.2	mg/L	0.32	1.28%
Sr 407.771†	1408155.9	1.17	mg/L	0.007	1.17	mg/L	0.007	0.63%
Li 670.784†	1941.9	0.0239	mg/L	0.00012	0.0239	mg/L	0.00012	0.51%

Sequence No.: 5 **Autosampler Location: 63**
Sample ID: L1305136501MS WG432374-06 **Date Collected: 5/31/2013 11:30:35 AM**

Approved: June 03, 2013

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

Nebulizer Parameters: L1305136501MS WG432374-06

Analyte	Back Pressure	Flow
All	165.0 kPa	0.48 L/min

Mean Data: L1305136501MS WG432374-06

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2458987.1						14895.44	0.61%
YRADIAL	181919.9						5657.22	3.11%
Ga 417.206	968200.0						10717.68	1.11%
GaRADIAL	49898.8						1384.68	2.77%
Ag 328.068†	45975.6	0.198	mg/L	0.0052	0.198	mg/L	0.0052	2.64%
Al 396.153†	15283.1	4.97	mg/L	0.027	4.97	mg/L	0.027	0.55%
As 188.979†	408.7	0.201	mg/L	0.0026	0.201	mg/L	0.0026	1.27%
Ba 233.527†	45294.8	0.506	mg/L	0.0094	0.506	mg/L	0.0094	1.85%
Be 234.861†	16505.6	0.0243	mg/L	0.00068	0.0243	mg/L	0.00068	2.81%
B 249.677†	69720.8	0.988	mg/L	0.0301	0.988	mg/L	0.0301	3.04%
Ca 227.546†	12808.7	61.4	mg/L	0.88	61.4	mg/L	0.88	1.43%
Cd 228.802†	772.7	0.0235	mg/L	0.00057	0.0235	mg/L	0.00057	2.42%
Co 228.616†	2317.6	0.0959	mg/L	0.00064	0.0959	mg/L	0.00064	0.67%
Cr 267.716†	22974.0	0.245	mg/L	0.0038	0.245	mg/L	0.0038	1.53%
Cu 327.393†	41914.8	0.240	mg/L	0.0078	0.240	mg/L	0.0078	3.23%
Fe 239.562†	9473.7	2.31	mg/L	0.022	2.31	mg/L	0.022	0.94%
Mg 279.077†	33848.6	24.3	mg/L	0.16	24.3	mg/L	0.16	0.67%
Mn 257.610†	274436.7	0.517	mg/L	0.0083	0.517	mg/L	0.0083	1.60%
Mo 202.031†	10013.7	0.510	mg/L	0.0041	0.510	mg/L	0.0041	0.81%
Ni 231.604†	9710.4	0.247	mg/L	0.0019	0.247	mg/L	0.0019	0.76%
Pb 220.353†	1904.2	0.248	mg/L	0.0034	0.248	mg/L	0.0034	1.38%
Sb 206.836†	1449.7	0.600	mg/L	0.0086	0.600	mg/L	0.0086	1.43%
Se 196.026†	207.2	0.200	mg/L	0.0040	0.200	mg/L	0.0040	1.99%
Si 251.611†	200433.1	5.52	mg/L	0.148	5.52	mg/L	0.148	2.67%
Sn 189.927†	-209.1	-0.0288	mg/L	0.00105	-0.0288	mg/L	0.00105	3.65%
Ti 334.940†	365245.9	0.502	mg/L	0.0090	0.502	mg/L	0.0090	1.80%
Tl 190.801†	468.0	0.238	mg/L	0.0040	0.238	mg/L	0.0040	1.67%
V 290.880†	98650.6	0.500	mg/L	0.0100	0.500	mg/L	0.0100	2.00%
Zn 206.200†	16544.2	0.477	mg/L	0.0077	0.477	mg/L	0.0077	1.61%
K 766.490†	42450.0	28.3	mg/L	0.23	28.3	mg/L	0.23	0.80%
Na 589.592†	560959.6	50.8	mg/L	1.89	50.8	mg/L	1.89	3.72%
Sr 407.771†	1947184.5	1.61	mg/L	0.062	1.61	mg/L	0.062	3.83%
Li 670.784†	38342.3	0.541	mg/L	0.0036	0.541	mg/L	0.0036	0.66%

==========

Sequence No.: 6 **Autosampler Location: 64**
Sample ID: L1305136502 **Date Collected: 5/31/2013 11:32:39 AM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1305136502

Analyte	Back Pressure	Flow
All	164.0 kPa	0.48 L/min

Mean Data: L1305136502

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2492601.0						47154.58	1.89%
YRADIAL	187564.8						4004.26	2.13%
Ga 417.206	998066.2						22692.80	2.27%
GaRADIAL	52136.0						621.65	1.19%
Ag 328.068†	558.6	0.00185	mg/L	0.000122	0.00185	mg/L	0.000122	6.60%
Al 396.153†	-19.7	-0.0172	mg/L	0.00134	-0.0172	mg/L	0.00134	7.76%
As 188.979†	4.0	0.00409	mg/L	0.001840	0.00409	mg/L	0.001840	45.03%
Ba 233.527†	1685.3	0.0170	mg/L	0.00040	0.0170	mg/L	0.00040	2.33%
Be 234.861†	6.7	0.00006	mg/L	0.000054	0.00006	mg/L	0.000054	84.98%

Approved: June 03, 2013

Lynn H. Rhoden

B 249.677†	1940.8	0.0289	mg/L	0.00214	0.0289	mg/L	0.00214	7.38%
Ca 227.546†	12242.3	58.5	mg/L	1.52	58.5	mg/L	1.52	2.60%
Cd 228.802†	-1.9	-0.00018	mg/L	0.000214	-0.00018	mg/L	0.000214	117.39%
Co 228.616†	-5.5	-0.00112	mg/L	0.000379	-0.00112	mg/L	0.000379	33.95%
Cr 267.716†	80.0	-0.00035	mg/L	0.000083	-0.00035	mg/L	0.000083	23.61%
Cu 327.393†	-41.6	-0.00050	mg/L	0.000697	-0.00050	mg/L	0.000697	139.53%
Fe 239.562†	13.2	-0.00965	mg/L	0.000495	-0.00965	mg/L	0.000495	5.13%
Mg 279.077†	28671.6	20.5	mg/L	0.08	20.5	mg/L	0.08	0.39%
Mn 257.610†	143906.2	0.270	mg/L	0.0023	0.270	mg/L	0.0023	0.87%
Mo 202.031†	38.1	-0.00005	mg/L	0.000389	-0.00005	mg/L	0.000389	800.17%
Ni 231.604†	26.4	-0.00108	mg/L	0.000223	-0.00108	mg/L	0.000223	20.60%
Pb 220.353†	31.7	0.00224	mg/L	0.001587	0.00224	mg/L	0.001587	70.72%
Sb 206.836†	-1.8	-0.00315	mg/L	0.001777	-0.00315	mg/L	0.001777	56.42%
Se 196.026†	2.0	0.00089	mg/L	0.007680	0.00089	mg/L	0.007680	865.60%
Si 251.611†	118311.3	3.26	mg/L	0.059	3.26	mg/L	0.059	1.81%
Sn 189.927†	-253.1	-0.0343	mg/L	0.00063	-0.0343	mg/L	0.00063	1.84%
Ti 334.940†	-6498.9	-0.00032	mg/L	0.000477	-0.00032	mg/L	0.000477	147.33%
Tl 190.801†	-28.2	-0.0186	mg/L	0.00227	-0.0186	mg/L	0.00227	12.21%
V 290.880†	1916.4	0.00790	mg/L	0.000961	0.00790	mg/L	0.000961	12.16%
Zn 206.200†	85.7	0.00050	mg/L	0.000046	0.00050	mg/L	0.000046	9.11%
K 766.490†	5289.0	3.47	mg/L	0.026	3.47	mg/L	0.026	0.74%
Na 589.592†	281198.8	25.2	mg/L	0.18	25.2	mg/L	0.18	0.72%
Sr 407.771†	1343466.0	1.11	mg/L	0.035	1.11	mg/L	0.035	3.12%
Li 670.784†	1955.5	0.0241	mg/L	0.00097	0.0241	mg/L	0.00097	4.04%

Sequence No.: 7
Sample ID: L1305136503
Analyst: KHR
Initial Sample Wt:
Dilution:

Autosampler Location: 65
Date Collected: 5/31/2013 11:35:43 AM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: L1305136503

Analyte	Back Pressure	Flow
All	165.0 kPa	0.48 L/min

Mean Data: L1305136503

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2444697.7						32917.49	1.35%
YRADIAL	179677.1						5540.10	3.08%
Ga 417.206	977178.8						20119.95	2.06%
GaRADIAL	51789.2						388.13	0.75%
Ag 328.068†	330.1	0.00112	mg/L	0.000207	0.00112	mg/L	0.000207	18.52%
Al 396.153†	434.5	0.132	mg/L	0.0026	0.132	mg/L	0.0026	1.98%
As 188.979†	1.4	0.00230	mg/L	0.003746	0.00230	mg/L	0.003746	162.85%
Ba 233.527†	1305.2	0.0128	mg/L	0.00011	0.0128	mg/L	0.00011	0.87%
Be 234.861†	18.5	0.00004	mg/L	0.000034	0.00004	mg/L	0.000034	97.79%
B 249.677†	940.7	0.0147	mg/L	0.00026	0.0147	mg/L	0.00026	1.80%
Ca 227.546†	7381.3	35.3	mg/L	0.71	35.3	mg/L	0.71	2.01%
Cd 228.802†	-5.0	-0.00027	mg/L	0.000051	-0.00027	mg/L	0.000051	18.98%
Co 228.616†	10.1	-0.00048	mg/L	0.000152	-0.00048	mg/L	0.000152	31.56%
Cr 267.716†	70.9	-0.00046	mg/L	0.000185	-0.00046	mg/L	0.000185	40.34%
Cu 327.393†	-86.2	-0.00073	mg/L	0.000461	-0.00073	mg/L	0.000461	63.13%
Fe 239.562†	880.7	0.204	mg/L	0.0076	0.204	mg/L	0.0076	3.71%
Mg 279.077†	22829.0	16.3	mg/L	0.11	16.3	mg/L	0.11	0.66%
Mn 257.610†	163628.7	0.307	mg/L	0.0004	0.307	mg/L	0.0004	0.14%
Mo 202.031†	28.6	-0.00051	mg/L	0.000110	-0.00051	mg/L	0.000110	21.54%
Ni 231.604†	235.2	0.00428	mg/L	0.000276	0.00428	mg/L	0.000276	6.46%
Pb 220.353†	26.7	0.00158	mg/L	0.000923	0.00158	mg/L	0.000923	58.58%
Sb 206.836†	2.7	-0.00126	mg/L	0.001206	-0.00126	mg/L	0.001206	95.36%
Se 196.026†	2.6	0.00144	mg/L	0.002365	0.00144	mg/L	0.002365	163.92%
Si 251.611†	111690.7	3.08	mg/L	0.061	3.08	mg/L	0.061	1.98%
Sn 189.927†	-197.5	-0.0273	mg/L	0.00063	-0.0273	mg/L	0.00063	2.32%
Ti 334.940†	-2909.1	0.00104	mg/L	0.001428	0.00104	mg/L	0.001428	137.15%
Tl 190.801†	-20.2	-0.0145	mg/L	0.00162	-0.0145	mg/L	0.00162	11.16%
V 290.880†	1769.0	0.00721	mg/L	0.000659	0.00721	mg/L	0.000659	9.14%
Zn 206.200†	348.8	0.00807	mg/L	0.000250	0.00807	mg/L	0.000250	3.10%
K 766.490†	3637.9	2.40	mg/L	0.067	2.40	mg/L	0.067	2.79%
Na 589.592†	40558.2	3.59	mg/L	0.070	3.59	mg/L	0.070	1.95%

Approved: June 03, 2013

Sr 407.771†	361281.1	0.297	mg/L	0.0049	0.297	mg/L	0.0049	1.65%
Li 670.784†	477.4	0.00306	mg/L	0.000757	0.00306	mg/L	0.000757	24.77%

Sequence No.: 8 **Autosampler Location: 66**
Sample ID: L1305136504 **Date Collected: 5/31/2013 11:38:44 AM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1305136504

Analyte	Back Pressure	Flow
All	165.0 kPa	0.48 L/min

Mean Data: L1305136504

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2500166.2						10817.01	0.43%
YRADIAL	184112.7						2140.57	1.16%
Ga 417.206	1032254.6						7975.78	0.77%
GaRADIAL	53137.2						794.78	1.50%
Ag 328.068†	322.9	0.00101	mg/L	0.000102	0.00101	mg/L	0.000102	10.03%
Al 396.153†	124.0	0.0300	mg/L	0.00340	0.0300	mg/L	0.00340	11.35%
As 188.979†	4.4	0.00376	mg/L	0.002722	0.00376	mg/L	0.002722	72.40%
Ba 233.527†	1251.9	0.0122	mg/L	0.00019	0.0122	mg/L	0.00019	1.53%
Be 234.861†	47.2	0.00012	mg/L	0.000038	0.00012	mg/L	0.000038	32.23%
B 249.677†	725.8	0.0117	mg/L	0.00079	0.0117	mg/L	0.00079	6.78%
Ca 227.546†	7175.8	34.3	mg/L	0.48	34.3	mg/L	0.48	1.40%
Cd 228.802†	-7.8	-0.00037	mg/L	0.000087	-0.00037	mg/L	0.000087	23.86%
Co 228.616†	7.1	-0.00060	mg/L	0.000397	-0.00060	mg/L	0.000397	66.21%
Cr 267.716†	88.5	-0.00026	mg/L	0.000180	-0.00026	mg/L	0.000180	69.33%
Cu 327.393†	8.2	-0.00021	mg/L	0.000488	-0.00021	mg/L	0.000488	235.86%
Fe 239.562†	113.6	0.0151	mg/L	0.00183	0.0151	mg/L	0.00183	12.14%
Mg 279.077†	22809.9	16.3	mg/L	0.06	16.3	mg/L	0.06	0.39%
Mn 257.610†	149590.3	0.280	mg/L	0.0021	0.280	mg/L	0.0021	0.74%
Mo 202.031†	22.5	-0.00084	mg/L	0.000520	-0.00084	mg/L	0.000520	62.03%
Ni 231.604†	221.7	0.00393	mg/L	0.000253	0.00393	mg/L	0.000253	6.44%
Pb 220.353†	20.2	0.00074	mg/L	0.000771	0.00074	mg/L	0.000771	104.77%
Sb 206.836†	-0.0	-0.00240	mg/L	0.001343	-0.00240	mg/L	0.001343	56.05%
Se 196.026†	1.7	0.00057	mg/L	0.001007	0.00057	mg/L	0.001007	175.74%
Si 251.611†	108281.6	2.98	mg/L	0.045	2.98	mg/L	0.045	1.49%
Sn 189.927†	-199.2	-0.0276	mg/L	0.00010	-0.0276	mg/L	0.00010	0.35%
Ti 334.940†	-4027.6	-0.00062	mg/L	0.000233	-0.00062	mg/L	0.000233	37.75%
Tl 190.801†	-22.7	-0.0158	mg/L	0.00543	-0.0158	mg/L	0.00543	34.49%
V 290.880†	1721.2	0.00701	mg/L	0.000666	0.00701	mg/L	0.000666	9.50%
Zn 206.200†	368.2	0.00863	mg/L	0.000237	0.00863	mg/L	0.000237	2.74%
K 766.490†	3608.1	2.38	mg/L	0.048	2.38	mg/L	0.048	2.00%
Na 589.592†	40783.3	3.61	mg/L	0.059	3.61	mg/L	0.059	1.64%
Sr 407.771†	366760.1	0.302	mg/L	0.0024	0.302	mg/L	0.0024	0.80%
Li 670.784†	553.8	0.00414	mg/L	0.000639	0.00414	mg/L	0.000639	15.42%

Sequence No.: 9 **Autosampler Location: 67**
Sample ID: L1305136504PS WG432432-01 **Date Collected: 5/31/2013 11:41:45 AM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1305136504PS WG432432-01

Analyte	Back Pressure	Flow
All	165.0 kPa	0.48 L/min

Mean Data: L1305136504PS WG432432-01

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2464558.7						24640.55	1.00%
YRADIAL	184136.3						2369.68	1.29%
Ga 417.206	994918.6						13361.03	1.34%

Approved: June 03, 2013

Lynn H. Rhoden

GaRADIAL	52267.8					1218.49	2.33%
Ag 328.068†	47093.0	0.203	mg/L	0.0028	0.203 mg/L	0.0028	1.36%
Al 396.153†	15659.8	5.09	mg/L	0.031	5.09 mg/L	0.031	0.61%
As 188.979†	418.8	0.206	mg/L	0.0017	0.206 mg/L	0.0017	0.83%
Ba 233.527†	47299.3	0.528	mg/L	0.0046	0.528 mg/L	0.0046	0.86%
Be 234.861†	16901.8	0.0249	mg/L	0.00042	0.0249 mg/L	0.00042	1.68%
B 249.677†	70551.6	1.000	mg/L	0.0065	1.000 mg/L	0.0065	0.65%
Ca 227.546†	7658.4	36.8	mg/L	0.60	36.8 mg/L	0.60	1.63%
Cd 228.802†	787.9	0.0240	mg/L	0.00054	0.0240 mg/L	0.00054	2.25%
Co 228.616†	2444.2	0.101	mg/L	0.0014	0.101 mg/L	0.0014	1.35%
Cr 267.716†	24042.5	0.257	mg/L	0.0032	0.257 mg/L	0.0032	1.23%
Cu 327.393†	43194.5	0.247	mg/L	0.0036	0.247 mg/L	0.0036	1.45%
Fe 239.562†	8780.6	2.14	mg/L	0.075	2.14 mg/L	0.075	3.48%
Mg 279.077†	27772.5	19.9	mg/L	0.67	19.9 mg/L	0.67	3.37%
Mn 257.610†	278552.6	0.525	mg/L	0.0039	0.525 mg/L	0.0039	0.74%
Mo 202.031†	10414.1	0.530	mg/L	0.0062	0.530 mg/L	0.0062	1.18%
Ni 231.604†	10411.9	0.265	mg/L	0.0030	0.265 mg/L	0.0030	1.12%
Pb 220.353†	2006.1	0.261	mg/L	0.0027	0.261 mg/L	0.0027	1.03%
Sb 206.836†	1481.7	0.614	mg/L	0.0101	0.614 mg/L	0.0101	1.65%
Se 196.026†	201.9	0.195	mg/L	0.0095	0.195 mg/L	0.0095	4.89%
Si 251.611†	188740.2	5.20	mg/L	0.072	5.20 mg/L	0.072	1.39%
Sn 189.927†	-193.0	-0.0268	mg/L	0.00119	-0.0268 mg/L	0.00119	4.44%
Ti 334.940†	388004.5	0.529	mg/L	0.0061	0.529 mg/L	0.0061	1.16%
Tl 190.801†	514.0	0.262	mg/L	0.0081	0.262 mg/L	0.0081	3.09%
V 290.880†	103367.7	0.524	mg/L	0.0048	0.524 mg/L	0.0048	0.91%
Zn 206.200†	17882.6	0.515	mg/L	0.0035	0.515 mg/L	0.0035	0.67%
K 766.490†	41699.7	27.8	mg/L	0.14	27.8 mg/L	0.14	0.50%
Na 589.592†	321405.8	28.8	mg/L	0.67	28.8 mg/L	0.67	2.31%
Sr 407.771†	965801.5	0.799	mg/L	0.0062	0.799 mg/L	0.0062	0.78%
Li 670.784†	38198.3	0.539	mg/L	0.0054	0.539 mg/L	0.0054	1.01%

Sequence No.: 10 **Autosampler Location: 68**
Sample ID: L1305136504DL WG432432-02 **Date Collected: 5/31/2013 11:43:49 AM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1305136504DL WG432432-02

Analyte	Back Pressure	Flow
All	165.0 kPa	0.48 L/min

Mean Data: L1305136504DL WG432432-02

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2592936.4						18267.10	0.70%
YRADIAL	191625.5						4878.42	2.55%
Ga 417.206	1029120.7						5418.82	0.53%
GaRADIAL	52902.9						551.80	1.04%
Ag 328.068†	43.3	-0.00013	mg/L	0.000251	-0.00013	mg/L	0.000251	200.36%
Al 396.153†	29.8	-0.00088	mg/L	0.002095	-0.00088	mg/L	0.002095	236.82%
As 188.979†	3.3	0.00257	mg/L	0.001127	0.00257	mg/L	0.001127	43.82%
Ba 233.527†	244.6	0.00090	mg/L	0.000034	0.00090	mg/L	0.000034	3.79%
Be 234.861†	29.5	0.00007	mg/L	0.000032	0.00007	mg/L	0.000032	43.14%
B 249.677†	886.9	0.0140	mg/L	0.00137	0.0140	mg/L	0.00137	9.81%
Ca 227.546†	1393.0	6.63	mg/L	0.001	6.63	mg/L	0.001	0.02%
Cd 228.802†	-0.0	-0.00012	mg/L	0.000040	-0.00012	mg/L	0.000040	33.47%
Co 228.616†	1.6	-0.00083	mg/L	0.000181	-0.00083	mg/L	0.000181	21.70%
Cr 267.716†	22.0	-0.00098	mg/L	0.000156	-0.00098	mg/L	0.000156	15.95%
Cu 327.393†	61.0	0.00010	mg/L	0.000166	0.00010	mg/L	0.000166	172.43%
Fe 239.562†	25.6	-0.00626	mg/L	0.000346	-0.00626	mg/L	0.000346	5.53%
Mg 279.077†	4485.5	3.20	mg/L	0.073	3.20	mg/L	0.073	2.29%
Mn 257.610†	29509.2	0.0533	mg/L	0.00055	0.0533	mg/L	0.00055	1.04%
Mo 202.031†	5.8	-0.00174	mg/L	0.000145	-0.00174	mg/L	0.000145	8.31%
Ni 231.604†	44.9	-0.00061	mg/L	0.000038	-0.00061	mg/L	0.000038	6.22%
Pb 220.353†	13.9	0.00004	mg/L	0.000731	0.00004	mg/L	0.000731	>999.9%
Sb 206.836†	3.8	-0.00083	mg/L	0.002589	-0.00083	mg/L	0.002589	312.03%
Se 196.026†	-3.9	-0.00483	mg/L	0.004229	-0.00483	mg/L	0.004229	87.52%
Si 251.611†	21182.0	0.582	mg/L	0.0087	0.582	mg/L	0.0087	1.50%
Sn 189.927†	-56.1	-0.00960	mg/L	0.000919	-0.00960	mg/L	0.000919	9.57%

Approved: June 03, 2013

Kym H. Rhoden

Ti 334.940†	-867.6	-0.00050 mg/L	0.000106	-0.00050 mg/L	0.000106	21.44%
Tl 190.801†	-8.2	-0.00822 mg/L	0.001917	-0.00822 mg/L	0.001917	23.31%
V 290.880†	485.0	0.00106 mg/L	0.000221	0.00106 mg/L	0.000221	20.82%
Zn 206.200†	108.1	0.00114 mg/L	0.000128	0.00114 mg/L	0.000128	11.22%
K 766.490†	697.2	0.456 mg/L	0.0064	0.456 mg/L	0.0064	1.41%
Na 589.592†	8404.8	0.742 mg/L	0.0181	0.742 mg/L	0.0181	2.44%
Sr 407.771†	71041.9	0.0555 mg/L	0.00029	0.0555 mg/L	0.00029	0.53%
Li 670.784†	96.8	-0.00235 mg/L	0.000102	-0.00235 mg/L	0.000102	4.33%

Sequence No.: 11 **Autosampler Location: 6**
Sample ID: CCV **Date Collected: 5/31/2013 11:46:50 AM**
Analyst: **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: CCV

Analyte	Back Pressure	Flow
All	165.0 kPa	0.48 L/min

Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2490232.3						54273.98	2.18%
YRADIAL	191636.1						2280.42	1.19%
Ga 417.206	959890.3						25285.74	2.63%
GaRADIAL	51722.4						610.40	1.18%
Ag 328.068†	94366.8	0.407	mg/L	0.0137	0.407	mg/L	0.0137	3.38%
QC value within limits for Ag 328.068 Recovery = 101.66%								
Al 396.153†	30589.9	9.95	mg/L	0.094	9.95	mg/L	0.094	0.95%
QC value within limits for Al 396.153 Recovery = 99.53%								
As 188.979†	821.7	0.402	mg/L	0.0126	0.402	mg/L	0.0126	3.13%
QC value within limits for As 188.979 Recovery = 100.40%								
Ba 233.527†	89757.8	1.00	mg/L	0.029	1.00	mg/L	0.029	2.84%
QC value within limits for Ba 233.527 Recovery = 100.44%								
Be 234.861†	34042.9	0.0501	mg/L	0.00155	0.0501	mg/L	0.00155	3.09%
QC value within limits for Be 234.861 Recovery = 100.28%								
B 249.677†	35157.7	0.496	mg/L	0.0191	0.496	mg/L	0.0191	3.86%
QC value within limits for B 249.677 Recovery = 99.20%								
Ca 227.546†	2143.7	10.7	mg/L	0.32	10.7	mg/L	0.32	3.01%
QC value within limits for Ca 227.546 Recovery = 106.80%								
Cd 228.802†	1634.7	0.0500	mg/L	0.00129	0.0500	mg/L	0.00129	2.58%
QC value within limits for Cd 228.802 Recovery = 100.05%								
Co 228.616†	4893.8	0.203	mg/L	0.0046	0.203	mg/L	0.0046	2.27%
QC value within limits for Co 228.616 Recovery = 101.72%								
Cr 267.716†	46915.9	0.502	mg/L	0.0146	0.502	mg/L	0.0146	2.91%
QC value within limits for Cr 267.716 Recovery = 100.50%								
Cu 327.393†	88794.0	0.509	mg/L	0.0187	0.509	mg/L	0.0187	3.67%
QC value within limits for Cu 327.393 Recovery = 101.76%								
Fe 239.562†	16121.0	3.95	mg/L	0.041	3.95	mg/L	0.041	1.05%
QC value within limits for Fe 239.562 Recovery = 98.67%								
Mg 279.077†	13633.7	9.77	mg/L	0.113	9.77	mg/L	0.113	1.15%
QC value within limits for Mg 279.077 Recovery = 97.71%								
Mn 257.610†	271118.3	0.511	mg/L	0.0148	0.511	mg/L	0.0148	2.91%
QC value within limits for Mn 257.610 Recovery = 102.19%								
Mo 202.031†	19657.1	1.00	mg/L	0.030	1.00	mg/L	0.030	3.00%
QC value within limits for Mo 202.031 Recovery = 100.21%								
Ni 231.604†	19830.3	0.507	mg/L	0.0161	0.507	mg/L	0.0161	3.17%
QC value within limits for Ni 231.604 Recovery = 101.39%								
Pb 220.353†	3923.7	0.513	mg/L	0.0095	0.513	mg/L	0.0095	1.85%
QC value within limits for Pb 220.353 Recovery = 102.64%								
Sb 206.836†	2948.6	1.22	mg/L	0.033	1.22	mg/L	0.033	2.68%
QC value within limits for Sb 206.836 Recovery = 101.97%								
Se 196.026†	420.8	0.407	mg/L	0.0086	0.407	mg/L	0.0086	2.12%
QC value within limits for Se 196.026 Recovery = 101.82%								
Si 251.611†	181646.7	5.00	mg/L	0.170	5.00	mg/L	0.170	3.41%
QC value within limits for Si 251.611 Recovery = 99.95%								
Sn 189.927†	7372.2	0.922	mg/L	0.0193	0.922	mg/L	0.0193	2.09%
QC value within limits for Sn 189.927 Recovery = 92.22%								
Ti 334.940†	740252.1	1.00	mg/L	0.005	1.00	mg/L	0.005	0.55%

Approved: June 03, 2013

Lynn H. Rhoden

```
   QC value within limits for Ti 334.940  Recovery = 100.14%
Tl 190.801†            1037.8       0.532 mg/L        0.0121       0.532 mg/L        0.0121   2.27%
   QC value within limits for Tl 190.801  Recovery = 106.49%
V 290.880†           195880.3       0.995 mg/L        0.0301       0.995 mg/L        0.0301   3.02%
   QC value within limits for V 290.880  Recovery = 99.54%
Zn 206.200†           34782.3        1.00 mg/L         0.029        1.00 mg/L         0.029   2.89%
   QC value within limits for Zn 206.200  Recovery = 100.41%
K 766.490†            74729.1        50.2 mg/L          0.58        50.2 mg/L          0.58   1.15%
   QC value within limits for K 766.490  Recovery = 100.42%
Na 589.592†          558728.4        50.6 mg/L          1.26        50.6 mg/L          1.26   2.49%
   QC value within limits for Na 589.592  Recovery = 101.28%
Sr 407.771†          1217051.3        1.01 mg/L         0.034        1.01 mg/L         0.034   3.38%
   QC value within limits for Sr 407.771  Recovery = 100.73%
Li 670.784†           72361.9        1.03 mg/L         0.009        1.03 mg/L         0.009   0.90%
   QC value within limits for Li 670.784  Recovery = 102.52%
All analyte(s) passed QC.

==========================================================================================
Sequence No.: 12                                    Autosampler Location: 1
Sample ID: CCB                                      Date Collected: 5/31/2013 11:48:55 AM
Analyst:                                            Data Type: Original
Initial Sample Wt:                                  Initial Sample Vol:
Dilution:                                           Sample Prep Vol:

------------------------------------------------------------------------------------------
Nebulizer Parameters: CCB
Analyte                 Back Pressure    Flow
All                     165.0 kPa        0.48 L/min

------------------------------------------------------------------------------------------
Mean Data: CCB
                   Mean Corrected         Calib.                          Sample
Analyte               Intensity     Conc. Units      Std.Dev.     Conc. Units      Std.Dev.   RSD
Y 371.029            2524708.6                                                   44489.04   1.76%
YRADIAL               185357.4                                                    6651.42   3.59%
Ga 417.206            958676.3                                                   17852.11   1.86%
GaRADIAL               49853.2                                                     804.32   1.61%
Ag 328.068†               18.2    -0.00022 mg/L      0.000246    -0.00022 mg/L      0.000246 112.43%
   QC value within limits for Ag 328.068  Recovery = Not calculated
Al 396.153†                8.7    -0.00779 mg/L      0.001698    -0.00779 mg/L      0.001698  21.79%
   QC value within limits for Al 396.153  Recovery = Not calculated
As 188.979†                4.3     0.00294 mg/L      0.002895     0.00294 mg/L      0.002895  98.54%
   QC value within limits for As 188.979  Recovery = Not calculated
Ba 233.527†               -3.9    -0.00188 mg/L      0.000077    -0.00188 mg/L      0.000077   4.08%
   QC value within limits for Ba 233.527  Recovery = Not calculated
Be 234.861†              -69.2    -0.00008 mg/L      0.000034    -0.00008 mg/L      0.000034  43.70%
   QC value within limits for Be 234.861  Recovery = Not calculated
B 249.677†               621.7      0.0102 mg/L       0.00138      0.0102 mg/L       0.00138  13.54%
   QC value within limits for B 249.677  Recovery = Not calculated
Ca 227.546†                3.2     -0.0204 mg/L       0.01246     -0.0204 mg/L       0.01246  61.11%
   QC value within limits for Ca 227.546  Recovery = Not calculated
Cd 228.802†               -3.4    -0.00023 mg/L      0.000062    -0.00023 mg/L      0.000062  26.99%
   QC value within limits for Cd 228.802  Recovery = Not calculated
Co 228.616†                0.4    -0.00089 mg/L      0.000338    -0.00089 mg/L      0.000338  38.07%
   QC value within limits for Co 228.616  Recovery = Not calculated
Cr 267.716†                3.6    -0.00117 mg/L      0.000168    -0.00117 mg/L      0.000168  14.30%
   QC value within limits for Cr 267.716  Recovery = Not calculated
Cu 327.393†              -16.3    -0.00035 mg/L      0.000472    -0.00035 mg/L      0.000472 136.63%
   QC value within limits for Cu 327.393  Recovery = Not calculated
Fe 239.562†               12.5    -0.00942 mg/L      0.000568    -0.00942 mg/L      0.000568   6.03%
   QC value within limits for Fe 239.562  Recovery = Not calculated
Mg 279.077†                4.7     -0.0123 mg/L       0.00156     -0.0123 mg/L       0.00156  12.73%
   QC value within limits for Mg 279.077  Recovery = Not calculated
Mn 257.610†              -38.5    -0.00262 mg/L      0.000023    -0.00262 mg/L      0.000023   0.88%
   QC value within limits for Mn 257.610  Recovery = Not calculated
Mo 202.031†               -0.1    -0.00206 mg/L      0.000285    -0.00206 mg/L      0.000285  13.83%
   QC value within limits for Mo 202.031  Recovery = Not calculated
Ni 231.604†              -12.3    -0.00208 mg/L      0.000399    -0.00208 mg/L      0.000399  19.22%
   QC value within limits for Ni 231.604  Recovery = Not calculated
Pb 220.353†               12.9    -0.00005 mg/L      0.000120    -0.00005 mg/L      0.000120 235.60%
   QC value within limits for Pb 220.353  Recovery = Not calculated
Sb 206.836†                1.3    -0.00184 mg/L      0.001184    -0.00184 mg/L      0.001184  64.44%
```

Approved: June 03, 2013

Lynn H. Rhoden

QC value within limits for Sb 206.836 Recovery = Not calculated

Se 196.026†	-2.3	-0.00320 mg/L	0.001652	-0.00320 mg/L	0.001652	51.58%

QC value within limits for Se 196.026 Recovery = Not calculated

Si 251.611†	24.8	-0.00138 mg/L	0.000324	-0.00138 mg/L	0.000324	23.47%

QC value within limits for Si 251.611 Recovery = Not calculated

Sn 189.927†	12.8	-0.00095 mg/L	0.000374	-0.00095 mg/L	0.000374	39.28%

QC value within limits for Sn 189.927 Recovery = Not calculated

Ti 334.940†	105.6	-0.00018 mg/L	0.000132	-0.00018 mg/L	0.000132	74.61%

QC value within limits for Ti 334.940 Recovery = Not calculated

Tl 190.801†	-9.8	-0.00894 mg/L	0.001042	-0.00894 mg/L	0.001042	11.65%

QC value within limits for Tl 190.801 Recovery = Not calculated

V 290.880†	110.6	-0.00076 mg/L	0.000909	-0.00076 mg/L	0.000909	118.96%

QC value within limits for V 290.880 Recovery = Not calculated

Zn 206.200†	-7.3	-0.00218 mg/L	0.000111	-0.00218 mg/L	0.000111	5.07%

QC value within limits for Zn 206.200 Recovery = Not calculated

K 766.490†	130.7	0.0821 mg/L	0.03054	0.0821 mg/L	0.03054	37.18%

QC value within limits for K 766.490 Recovery = Not calculated

Na 589.592†	151.1	0.0122 mg/L	0.01893	0.0122 mg/L	0.01893	154.61%

QC value within limits for Na 589.592 Recovery = Not calculated

Sr 407.771†	242.3	-0.00337 mg/L	0.000158	-0.00337 mg/L	0.000158	4.69%

QC value within limits for Sr 407.771 Recovery = Not calculated

Li 670.784†	160.0	-0.00145 mg/L	0.001154	-0.00145 mg/L	0.001154	79.34%

QC value within limits for Li 670.784 Recovery = Not calculated

All analyte(s) passed QC.

Sequence No.: 13 **Autosampler Location: 69**
Sample ID: L1305136505 **Date Collected: 5/31/2013 11:51:54 AM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1305136505

Analyte	Back Pressure	Flow
All	165.0 kPa	0.48 L/min

Mean Data: L1305136505

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2509790.7						32677.92	1.30%
YRADIAL	179763.8						4812.24	2.68%
Ga 417.206	996589.1						22049.75	2.21%
GaRADIAL	51810.1						676.88	1.31%
Ag 328.068†	214.6	0.00073	mg/L	0.000349	0.00073	mg/L	0.000349	47.84%
Al 396.153†	547.0	0.169	mg/L	0.0048	0.169	mg/L	0.0048	2.85%
As 188.979†	1.7	0.00226	mg/L	0.003026	0.00226	mg/L	0.003026	133.97%
Ba 233.527†	1609.9	0.0162	mg/L	0.00022	0.0162	mg/L	0.00022	1.34%
Be 234.861†	96.5	0.00013	mg/L	0.000168	0.00013	mg/L	0.000168	134.68%
B 249.677†	748.0	0.0117	mg/L	0.00172	0.0117	mg/L	0.00172	14.66%
Ca 227.546†	4682.0	22.4	mg/L	0.52	22.4	mg/L	0.52	2.33%
Cd 228.802†	-7.5	-0.00034	mg/L	0.000183	-0.00034	mg/L	0.000183	53.35%
Co 228.616†	39.2	0.00072	mg/L	0.000018	0.00072	mg/L	0.000018	2.47%
Cr 267.716†	76.0	-0.00043	mg/L	0.000228	-0.00043	mg/L	0.000228	52.69%
Cu 327.393†	113.2	0.00045	mg/L	0.000254	0.00045	mg/L	0.000254	56.95%
Fe 239.562†	2669.4	0.643	mg/L	0.0114	0.643	mg/L	0.0114	1.77%
Mg 279.077†	17413.5	12.5	mg/L	0.28	12.5	mg/L	0.28	2.21%
Mn 257.610†	573765.7	1.08	mg/L	0.010	1.08	mg/L	0.010	0.95%
Mo 202.031†	12.2	-0.00117	mg/L	0.000408	-0.00117	mg/L	0.000408	35.02%
Ni 231.604†	251.1	0.00469	mg/L	0.000210	0.00469	mg/L	0.000210	4.48%
Pb 220.353†	25.8	0.00098	mg/L	0.001338	0.00098	mg/L	0.001338	136.13%
Sb 206.836†	0.1	-0.00233	mg/L	0.001059	-0.00233	mg/L	0.001059	45.42%
Se 196.026†	-0.6	-0.00179	mg/L	0.008870	-0.00179	mg/L	0.008870	495.73%
Si 251.611†	110494.7	3.05	mg/L	0.062	3.05	mg/L	0.062	2.05%
Sn 189.927†	-153.9	-0.0219	mg/L	0.00053	-0.0219	mg/L	0.00053	2.42%
Ti 334.940†	-922.1	0.00179	mg/L	0.001414	0.00179	mg/L	0.001414	78.98%
Tl 190.801†	-24.5	-0.0174	mg/L	0.00133	-0.0174	mg/L	0.00133	7.63%
V 290.880†	1498.6	0.00582	mg/L	0.001046	0.00582	mg/L	0.001046	17.98%
Zn 206.200†	330.4	0.00753	mg/L	0.000242	0.00753	mg/L	0.000242	3.21%
K 766.490†	2840.9	1.87	mg/L	0.036	1.87	mg/L	0.036	1.90%
Na 589.592†	20581.2	1.82	mg/L	0.003	1.82	mg/L	0.003	0.14%

Approved: June 03, 2013

Kym H. Rhoden

Sr 407.771†	152825.1	0.124 mg/L	0.0020	0.124 mg/L	0.0020	1.60%
Li 670.784†	435.6	0.00246 mg/L	0.000167	0.00246 mg/L	0.000167	6.77%

Sequence No.: 14 **Autosampler Location: 70**
Sample ID: L1305136506 **Date Collected: 5/31/2013 11:54:55 AM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1305136506

Analyte	Back Pressure	Flow
All	165.0 kPa	0.48 L/min

Mean Data: L1305136506

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2498599.2						49112.48	1.97%
YRADIAL	182665.3						6254.57	3.42%
Ga 417.206	995293.7						22221.06	2.23%
GaRADIAL	52308.4						1077.95	2.06%
Ag 328.068†	271.5	0.00078	mg/L	0.000365	0.00078	mg/L	0.000365	47.02%
Al 396.153†	51.8	0.00634	mg/L	0.001030	0.00634	mg/L	0.001030	16.25%
As 188.979†	8.7	0.00563	mg/L	0.000510	0.00563	mg/L	0.000510	9.06%
Ba 233.527†	1536.0	0.0154	mg/L	0.00046	0.0154	mg/L	0.00046	3.02%
Be 234.861†	-5.1	0.00009	mg/L	0.000029	0.00009	mg/L	0.000029	32.07%
B 249.677†	652.4	0.0106	mg/L	0.00027	0.0106	mg/L	0.00027	2.52%
Ca 227.546†	4762.6	22.7	mg/L	0.71	22.7	mg/L	0.71	3.13%
Cd 228.802†	-1.0	-0.00016	mg/L	0.000204	-0.00016	mg/L	0.000204	130.39%
Co 228.616†	40.0	0.00077	mg/L	0.000136	0.00077	mg/L	0.000136	17.65%
Cr 267.716†	67.6	-0.00049	mg/L	0.000148	-0.00049	mg/L	0.000148	30.01%
Cu 327.393†	-25.7	-0.00039	mg/L	0.000465	-0.00039	mg/L	0.000465	119.00%
Fe 239.562†	583.4	0.131	mg/L	0.0053	0.131	mg/L	0.0053	4.04%
Mg 279.077†	17006.2	12.2	mg/L	0.05	12.2	mg/L	0.05	0.43%
Mn 257.610†	544594.8	1.03	mg/L	0.014	1.03	mg/L	0.014	1.40%
Mo 202.031†	12.4	-0.00119	mg/L	0.000159	-0.00119	mg/L	0.000159	13.33%
Ni 231.604†	265.8	0.00506	mg/L	0.000636	0.00506	mg/L	0.000636	12.57%
Pb 220.353†	19.5	0.00020	mg/L	0.000486	0.00020	mg/L	0.000486	244.98%
Sb 206.836†	-2.6	-0.00347	mg/L	0.000759	-0.00347	mg/L	0.000759	21.87%
Se 196.026†	2.3	0.00092	mg/L	0.002940	0.00092	mg/L	0.002940	318.51%
Si 251.611†	107093.0	2.95	mg/L	0.119	2.95	mg/L	0.119	4.03%
Sn 189.927†	-160.0	-0.0226	mg/L	0.00120	-0.0226	mg/L	0.00120	5.28%
Ti 334.940†	-2659.3	-0.00050	mg/L	0.000252	-0.00050	mg/L	0.000252	50.35%
Tl 190.801†	-17.8	-0.0140	mg/L	0.00312	-0.0140	mg/L	0.00312	22.27%
V 290.880†	1424.8	0.00558	mg/L	0.002200	0.00558	mg/L	0.002200	39.43%
Zn 206.200†	304.8	0.00681	mg/L	0.000298	0.00681	mg/L	0.000298	4.38%
K 766.490†	2774.4	1.83	mg/L	0.025	1.83	mg/L	0.025	1.38%
Na 589.592†	20536.4	1.81	mg/L	0.025	1.81	mg/L	0.025	1.35%
Sr 407.771†	152204.2	0.123	mg/L	0.0015	0.123	mg/L	0.0015	1.23%
Li 670.784†	323.1	0.00086	mg/L	0.000563	0.00086	mg/L	0.000563	65.21%

Sequence No.: 15 **Autosampler Location: 71**
Sample ID: L1305136801 **Date Collected: 5/31/2013 11:58:05 AM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1305136801

Analyte	Back Pressure	Flow
All	165.0 kPa	0.48 L/min

Mean Data: L1305136801

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2483277.0						24863.59	1.00%
YRADIAL	181441.7						342.51	0.19%
Ga 417.206	989577.9						13272.20	1.34%

Approved: June 03, 2013

Lynn H. Rhoden

GaRADIAL	52592.6					858.94	1.63%
Ag 328.068†	367.5	0.00133	mg/L	0.000112	0.00133 mg/L	0.000112	8.46%
Al 396.153†	1199.3	0.383	mg/L	0.0124	0.383 mg/L	0.0124	3.25%
As 188.979†	4.5	0.00409	mg/L	0.001055	0.00409 mg/L	0.001055	25.77%
Ba 233.527†	2852.0	0.0301	mg/L	0.00025	0.0301 mg/L	0.00025	0.82%
Be 234.861†	108.0	0.00007	mg/L	0.000010	0.00007 mg/L	0.000010	14.18%
B 249.677†	903.8	0.0140	mg/L	0.00057	0.0140 mg/L	0.00057	4.10%
Ca 227.546†	9016.9	43.1	mg/L	0.49	43.1 mg/L	0.49	1.14%
Cd 228.802†	3.4	-0.00001	mg/L	0.000217	-0.00001 mg/L	0.000217	>999.9%
Co 228.616†	-0.0	-0.00094	mg/L	0.000421	-0.00094 mg/L	0.000421	44.89%
Cr 267.716†	104.8	-0.00011	mg/L	0.000186	-0.00011 mg/L	0.000186	167.29%
Cu 327.393†	6.7	-0.00016	mg/L	0.000900	-0.00016 mg/L	0.000900	547.48%
Fe 239.562†	2237.4	0.537	mg/L	0.0064	0.537 mg/L	0.0064	1.19%
Mg 279.077†	24218.3	17.3	mg/L	0.09	17.3 mg/L	0.09	0.49%
Mn 257.610†	48734.1	0.0897	mg/L	0.00141	0.0897 mg/L	0.00141	1.57%
Mo 202.031†	29.3	-0.00050	mg/L	0.000321	-0.00050 mg/L	0.000321	64.00%
Ni 231.604†	29.2	-0.00101	mg/L	0.000160	-0.00101 mg/L	0.000160	15.89%
Pb 220.353†	31.9	0.00241	mg/L	0.001831	0.00241 mg/L	0.001831	75.94%
Sb 206.836†	-0.5	-0.00257	mg/L	0.002091	-0.00257 mg/L	0.002091	81.39%
Se 196.026†	3.0	0.00200	mg/L	0.004815	0.00200 mg/L	0.004815	240.62%
Si 251.611†	127990.7	3.53	mg/L	0.036	3.53 mg/L	0.036	1.02%
Sn 189.927†	-223.1	-0.0305	mg/L	0.00082	-0.0305 mg/L	0.00082	2.68%
Ti 334.940†	3554.9	0.0109	mg/L	0.00305	0.0109 mg/L	0.00305	27.85%
Tl 190.801†	-28.8	-0.0185	mg/L	0.00180	-0.0185 mg/L	0.00180	9.69%
V 290.880†	1816.3	0.00734	mg/L	0.000745	0.00734 mg/L	0.000745	10.15%
Zn 206.200†	192.8	0.00358	mg/L	0.000187	0.00358 mg/L	0.000187	5.22%
K 766.490†	4301.1	2.82	mg/L	0.041	2.82 mg/L	0.041	1.45%
Na 589.592†	204863.2	18.3	mg/L	0.18	18.3 mg/L	0.18	0.97%
Sr 407.771†	1034508.2	0.856	mg/L	0.0152	0.856 mg/L	0.0152	1.77%
Li 670.784†	1326.1	0.0151	mg/L	0.00035	0.0151 mg/L	0.00035	2.30%

Sequence No.: 16 **Autosampler Location: 72**
Sample ID: L1305136802 **Date Collected: 5/31/2013 12:01:06 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1305136802

Analyte	Back Pressure	Flow
All	165.0 kPa	0.48 L/min

Mean Data: L1305136802

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2521533.4						55925.29	2.22%
YRADIAL	183072.8						1882.53	1.03%
Ga 417.206	1006737.6						26934.46	2.68%
GaRADIAL	52008.2						1579.09	3.04%
Ag 328.068†	388.5	0.00122	mg/L	0.000359	0.00122	mg/L	0.000359	29.47%
Al 396.153†	-0.2	-0.0108	mg/L	0.00188	-0.0108	mg/L	0.00188	17.42%
As 188.979†	1.0	0.00226	mg/L	0.001138	0.00226	mg/L	0.001138	50.39%
Ba 233.527†	2475.1	0.0259	mg/L	0.00065	0.0259	mg/L	0.00065	2.50%
Be 234.861†	-11.8	0.00001	mg/L	0.000061	0.00001	mg/L	0.000061	703.49%
B 249.677†	907.4	0.0143	mg/L	0.00156	0.0143	mg/L	0.00156	10.91%
Ca 227.546†	9135.1	43.6	mg/L	1.25	43.6	mg/L	1.25	2.87%
Cd 228.802†	-2.5	-0.00019	mg/L	0.000099	-0.00019	mg/L	0.000099	51.45%
Co 228.616†	-6.5	-0.00117	mg/L	0.000232	-0.00117	mg/L	0.000232	19.83%
Cr 267.716†	77.9	-0.00037	mg/L	0.000226	-0.00037	mg/L	0.000226	60.60%
Cu 327.393†	-156.2	-0.00115	mg/L	0.000522	-0.00115	mg/L	0.000522	45.38%
Fe 239.562†	50.9	-0.00032	mg/L	0.000938	-0.00032	mg/L	0.000938	292.76%
Mg 279.077†	23495.3	16.8	mg/L	0.31	16.8	mg/L	0.31	1.85%
Mn 257.610†	10012.1	0.0164	mg/L	0.00045	0.0164	mg/L	0.00045	2.74%
Mo 202.031†	23.7	-0.00083	mg/L	0.000389	-0.00083	mg/L	0.000389	46.77%
Ni 231.604†	17.1	-0.00132	mg/L	0.000138	-0.00132	mg/L	0.000138	10.46%
Pb 220.353†	32.1	0.00246	mg/L	0.001648	0.00246	mg/L	0.001648	67.09%
Sb 206.836†	1.8	-0.00164	mg/L	0.001119	-0.00164	mg/L	0.001119	68.19%
Se 196.026†	-1.4	-0.00238	mg/L	0.004577	-0.00238	mg/L	0.004577	191.98%
Si 251.611†	107514.1	2.96	mg/L	0.085	2.96	mg/L	0.085	2.86%
Sn 189.927†	-220.7	-0.0302	mg/L	0.00046	-0.0302	mg/L	0.00046	1.52%

Approved: June 03, 2013

Kym H. Rhoden

Ti 334.940†	-5070.6	-0.00062	mg/L	0.000382	-0.00062	mg/L	0.000382 61.32%
Tl 190.801†	-22.2	-0.0153	mg/L	0.00373	-0.0153	mg/L	0.00373 24.44%
V 290.880†	1844.4	0.00763	mg/L	0.000667	0.00763	mg/L	0.000667 8.74%
Zn 206.200†	115.8	0.00137	mg/L	0.000044	0.00137	mg/L	0.000044 3.23%
K 766.490†	4085.7	2.68	mg/L	0.023	2.68	mg/L	0.023 0.84%
Na 589.592†	205374.9	18.3	mg/L	0.26	18.3	mg/L	0.26 1.40%
Sr 407.771†	1012775.8	0.838	mg/L	0.0127	0.838	mg/L	0.0127 1.52%
Li 670.784†	1240.3	0.0139	mg/L	0.00009	0.0139	mg/L	0.00009 0.62%

Sequence No.: 17 **Autosampler Location: 73**
Sample ID: L1305136803 **Date Collected: 5/31/2013 12:04:10 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1305136803

Analyte	Back Pressure	Flow
All	165.0 kPa	0.48 L/min

Mean Data: L1305136803

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2501380.5						24733.11	0.99%
YRADIAL	184047.8						5542.30	3.01%
Ga 417.206	997727.6						13053.09	1.31%
GaRADIAL	52852.4						909.51	1.72%
Ag 328.068†	351.4	0.00115	mg/L	0.000442	0.00115	mg/L	0.000442	38.30%
Al 396.153†	298.3	0.0872	mg/L	0.00701	0.0872	mg/L	0.00701	8.04%
As 188.979†	0.9	0.00223	mg/L	0.001139	0.00223	mg/L	0.001139	50.98%
Ba 233.527†	2429.5	0.0254	mg/L	0.00019	0.0254	mg/L	0.00019	0.75%
Be 234.861†	55.2	0.00012	mg/L	0.000118	0.00012	mg/L	0.000118	98.11%
B 249.677†	822.6	0.0128	mg/L	0.00013	0.0128	mg/L	0.00013	0.99%
Ca 227.546†	8073.0	38.6	mg/L	0.50	38.6	mg/L	0.50	1.29%
Cd 228.802†	-2.6	-0.00018	mg/L	0.000010	-0.00018	mg/L	0.000010	5.63%
Co 228.616†	63.5	0.00175	mg/L	0.000077	0.00175	mg/L	0.000077	4.44%
Cr 267.716†	95.6	-0.00021	mg/L	0.000179	-0.00021	mg/L	0.000179	83.32%
Cu 327.393†	81.2	0.00025	mg/L	0.000487	0.00025	mg/L	0.000487	195.18%
Fe 239.562†	2084.3	0.499	mg/L	0.0080	0.499	mg/L	0.0080	1.59%
Mg 279.077†	22197.1	15.9	mg/L	0.38	15.9	mg/L	0.38	2.40%
Mn 257.610†	690755.0	1.30	mg/L	0.006	1.30	mg/L	0.006	0.43%
Mo 202.031†	26.9	-0.00037	mg/L	0.000556	-0.00037	mg/L	0.000556	149.80%
Ni 231.604†	226.4	0.00405	mg/L	0.000512	0.00405	mg/L	0.000512	12.65%
Pb 220.353†	40.1	0.00272	mg/L	0.001433	0.00272	mg/L	0.001433	52.74%
Sb 206.836†	-1.1	-0.00282	mg/L	0.000498	-0.00282	mg/L	0.000498	17.67%
Se 196.026†	0.8	-0.00050	mg/L	0.001353	-0.00050	mg/L	0.001353	270.55%
Si 251.611†	109722.8	3.02	mg/L	0.037	3.02	mg/L	0.037	1.22%
Sn 189.927†	-211.2	-0.0291	mg/L	0.00185	-0.0291	mg/L	0.00185	6.38%
Ti 334.940†	-2482.2	0.00211	mg/L	0.000863	0.00211	mg/L	0.000863	40.82%
Tl 190.801†	-25.5	-0.0182	mg/L	0.00256	-0.0182	mg/L	0.00256	14.06%
V 290.880†	1725.3	0.00692	mg/L	0.000858	0.00692	mg/L	0.000858	12.40%
Zn 206.200†	274.7	0.00594	mg/L	0.000264	0.00594	mg/L	0.000264	4.45%
K 766.490†	4371.5	2.88	mg/L	0.052	2.88	mg/L	0.052	1.81%
Na 589.592†	47453.4	4.20	mg/L	0.002	4.20	mg/L	0.002	0.05%
Sr 407.771†	617715.1	0.510	mg/L	0.0045	0.510	mg/L	0.0045	0.88%
Li 670.784†	814.0	0.00784	mg/L	0.000221	0.00784	mg/L	0.000221	2.82%

Sequence No.: 18 **Autosampler Location: 74**
Sample ID: L1305136804 WG432374-02 **Date Collected: 5/31/2013 12:07:11 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1305136804 WG432374-02

Analyte	Back Pressure	Flow
All	165.0 kPa	0.48 L/min

Approved: June 03, 2013

Kym H. Rhoden

Mean Data: L1305136804 WG432374-02

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2544281.8						34179.42	1.34%
YRADIAL	186011.8						4504.97	2.42%
Ga 417.206	1044264.5						12198.45	1.17%
GaRADIAL	54057.8						914.89	1.69%
Ag 328.068†	331.1	0.00088	mg/L	0.000089	0.00088	mg/L	0.000089	10.17%
Al 396.153†	4.2	-0.00936	mg/L	0.001795	-0.00936	mg/L	0.001795	19.16%
As 188.979†	4.1	0.00371	mg/L	0.000268	0.00371	mg/L	0.000268	7.23%
Ba 233.527†	2294.0	0.0239	mg/L	0.00025	0.0239	mg/L	0.00025	1.03%
Be 234.861†	-5.2	0.00014	mg/L	0.000038	0.00014	mg/L	0.000038	27.14%
B 249.677†	722.0	0.0116	mg/L	0.00079	0.0116	mg/L	0.00079	6.81%
Ca 227.546†	8018.0	38.3	mg/L	0.15	38.3	mg/L	0.15	0.38%
Cd 228.802†	-1.9	-0.00017	mg/L	0.000154	-0.00017	mg/L	0.000154	90.15%
Co 228.616†	60.3	0.00163	mg/L	0.000259	0.00163	mg/L	0.000259	15.90%
Cr 267.716†	81.8	-0.00033	mg/L	0.000060	-0.00033	mg/L	0.000060	17.97%
Cu 327.393†	-30.9	-0.00043	mg/L	0.000472	-0.00043	mg/L	0.000472	108.92%
Fe 239.562†	92.2	0.00983	mg/L	0.000941	0.00983	mg/L	0.000941	9.58%
Mg 279.077†	22659.1	16.2	mg/L	0.35	16.2	mg/L	0.35	2.17%
Mn 257.610†	658343.2	1.24	mg/L	0.007	1.24	mg/L	0.007	0.53%
Mo 202.031†	28.3	-0.00034	mg/L	0.000347	-0.00034	mg/L	0.000347	101.90%
Ni 231.604†	202.7	0.00344	mg/L	0.000377	0.00344	mg/L	0.000377	10.95%
Pb 220.353†	43.6	0.00322	mg/L	0.001341	0.00322	mg/L	0.001341	41.70%
Sb 206.836†	-0.4	-0.00256	mg/L	0.000382	-0.00256	mg/L	0.000382	14.89%
Se 196.026†	0.5	-0.00089	mg/L	0.003453	-0.00089	mg/L	0.003453	389.76%
Si 251.611†	103047.0	2.84	mg/L	0.013	2.84	mg/L	0.013	0.47%
Sn 189.927†	-215.2	-0.0296	mg/L	0.00088	-0.0296	mg/L	0.00088	2.99%
Ti 334.940†	-4615.7	-0.00081	mg/L	0.000071	-0.00081	mg/L	0.000071	8.83%
Tl 190.801†	-17.7	-0.0142	mg/L	0.00105	-0.0142	mg/L	0.00105	7.36%
V 290.880†	1678.5	0.00680	mg/L	0.000527	0.00680	mg/L	0.000527	7.76%
Zn 206.200†	203.7	0.00390	mg/L	0.000199	0.00390	mg/L	0.000199	5.11%
K 766.490†	4160.9	2.74	mg/L	0.049	2.74	mg/L	0.049	1.79%
Na 589.592†	47715.0	4.22	mg/L	0.131	4.22	mg/L	0.131	3.10%
Sr 407.771†	634266.7	0.524	mg/L	0.0047	0.524	mg/L	0.0047	0.90%
Li 670.784†	769.2	0.00721	mg/L	0.000301	0.00721	mg/L	0.000301	4.18%

==========

Sequence No.: 19 **Autosampler Location: 75**
Sample ID: L1305136804MS WG432374-07 **Date Collected: 5/31/2013 12:10:15 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1305136804MS WG432374-07

Analyte	Back Pressure	Flow
All	164.0 kPa	0.48 L/min

Mean Data: L1305136804MS WG432374-07

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2469476.2						17525.54	0.71%
YRADIAL	178281.5						1632.87	0.92%
Ga 417.206	976823.3						5842.18	0.60%
GaRADIAL	50432.2						742.77	1.47%
Ag 328.068†	45387.6	0.195	mg/L	0.0030	0.195	mg/L	0.0030	1.53%
Al 396.153†	14974.1	4.87	mg/L	0.028	4.87	mg/L	0.028	0.58%
As 188.979†	408.4	0.201	mg/L	0.0032	0.201	mg/L	0.0032	1.61%
Ba 233.527†	45476.3	0.508	mg/L	0.0010	0.508	mg/L	0.0010	0.19%
Be 234.861†	16169.0	0.0239	mg/L	0.00032	0.0239	mg/L	0.00032	1.34%
B 249.677†	67554.4	0.957	mg/L	0.0125	0.957	mg/L	0.0125	1.31%
Ca 227.546†	9128.8	43.9	mg/L	0.38	43.9	mg/L	0.38	0.87%
Cd 228.802†	769.2	0.0234	mg/L	0.00013	0.0234	mg/L	0.00013	0.54%
Co 228.616†	2365.7	0.0979	mg/L	0.00114	0.0979	mg/L	0.00114	1.17%
Cr 267.716†	22991.7	0.246	mg/L	0.0002	0.246	mg/L	0.0002	0.09%
Cu 327.393†	41250.3	0.236	mg/L	0.0025	0.236	mg/L	0.0025	1.05%
Fe 239.562†	8424.0	2.06	mg/L	0.055	2.06	mg/L	0.055	2.68%
Mg 279.077†	28693.2	20.6	mg/L	0.50	20.6	mg/L	0.50	2.43%
Mn 257.610†	755341.3	1.43	mg/L	0.018	1.43	mg/L	0.018	1.28%
Mo 202.031†	9931.0	0.505	mg/L	0.0057	0.505	mg/L	0.0057	1.13%

Approved: June 03, 2013

Ni 231.604†	9898.5	0.252 mg/L	0.0024	0.252 mg/L	0.0024	0.93%
Pb 220.353†	1899.1	0.247 mg/L	0.0029	0.247 mg/L	0.0029	1.19%
Sb 206.836†	1429.1	0.592 mg/L	0.0047	0.592 mg/L	0.0047	0.80%
Se 196.026†	203.4	0.196 mg/L	0.0099	0.196 mg/L	0.0099	5.03%
Si 251.611†	186478.3	5.14 mg/L	0.054	5.14 mg/L	0.054	1.06%
Sn 189.927†	-184.9	-0.0258 mg/L	0.00110	-0.0258 mg/L	0.00110	4.28%
Ti 334.940†	363215.7	0.497 mg/L	0.0005	0.497 mg/L	0.0005	0.10%
Tl 190.801†	484.5	0.246 mg/L	0.0024	0.246 mg/L	0.0024	0.99%
V 290.880†	97342.5	0.494 mg/L	0.0063	0.494 mg/L	0.0063	1.28%
Zn 206.200†	16776.8	0.483 mg/L	0.0046	0.483 mg/L	0.0046	0.95%
K 766.490†	41146.7	27.4 mg/L	0.26	27.4 mg/L	0.26	0.94%
Na 589.592†	321390.8	28.8 mg/L	0.54	28.8 mg/L	0.54	1.87%
Sr 407.771†	1223889.0	1.01 mg/L	0.007	1.01 mg/L	0.007	0.65%
Li 670.784†	36688.2	0.518 mg/L	0.0025	0.518 mg/L	0.0025	0.47%

Sequence No.: 20 **Autosampler Location: 76**
Sample ID: L1305136805 **Date Collected: 5/31/2013 12:12:19 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1305136805

Analyte	Back Pressure	Flow
All	165.0 kPa	0.48 L/min

Mean Data: L1305136805

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2434765.5						18501.48	0.76%
YRADIAL	174906.9						1883.79	1.08%
Ga 417.206	966497.0						15826.76	1.64%
GaRADIAL	50964.1						612.17	1.20%
Ag 328.068†	220.4	0.00067	mg/L	0.000792	0.00067	mg/L	0.000792	118.95%
Al 396.153†	426.2	0.129	mg/L	0.0049	0.129	mg/L	0.0049	3.78%
As 188.979†	1.6	0.00253	mg/L	0.000791	0.00253	mg/L	0.000791	31.34%
Ba 233.527†	3329.7	0.0355	mg/L	0.00023	0.0355	mg/L	0.00023	0.65%
Be 234.861†	-3.3	-0.00005	mg/L	0.000027	-0.00005	mg/L	0.000027	59.93%
B 249.677†	1433.3	0.0216	mg/L	0.00181	0.0216	mg/L	0.00181	8.38%
Ca 227.546†	8304.8	39.7	mg/L	0.38	39.7	mg/L	0.38	0.95%
Cd 228.802†	-2.6	-0.00019	mg/L	0.000095	-0.00019	mg/L	0.000095	49.11%
Co 228.616†	2.8	-0.00080	mg/L	0.000232	-0.00080	mg/L	0.000232	29.18%
Cr 267.716†	98.6	-0.00017	mg/L	0.000160	-0.00017	mg/L	0.000160	96.25%
Cu 327.393†	51.1	0.00006	mg/L	0.000682	0.00006	mg/L	0.000682	>999.9%
Fe 239.562†	1248.5	0.294	mg/L	0.0008	0.294	mg/L	0.0008	0.28%
Mg 279.077†	26621.4	19.1	mg/L	0.09	19.1	mg/L	0.09	0.47%
Mn 257.610†	22692.6	0.0404	mg/L	0.00057	0.0404	mg/L	0.00057	1.40%
Mo 202.031†	27.1	-0.00064	mg/L	0.000156	-0.00064	mg/L	0.000156	24.48%
Ni 231.604†	31.3	-0.00095	mg/L	0.000179	-0.00095	mg/L	0.000179	18.75%
Pb 220.353†	31.6	0.00237	mg/L	0.001026	0.00237	mg/L	0.001026	43.20%
Sb 206.836†	0.1	-0.00235	mg/L	0.001518	-0.00235	mg/L	0.001518	64.65%
Se 196.026†	2.4	0.00139	mg/L	0.001082	0.00139	mg/L	0.001082	77.72%
Si 251.611†	100374.2	2.77	mg/L	0.011	2.77	mg/L	0.011	0.41%
Sn 189.927†	-219.2	-0.0301	mg/L	0.00035	-0.0301	mg/L	0.00035	1.17%
Ti 334.940†	-2356.8	0.00245	mg/L	0.000927	0.00245	mg/L	0.000927	37.85%
Tl 190.801†	-31.8	-0.0201	mg/L	0.00149	-0.0201	mg/L	0.00149	7.43%
V 290.880†	2043.4	0.00851	mg/L	0.001503	0.00851	mg/L	0.001503	17.66%
Zn 206.200†	228.6	0.00461	mg/L	0.000336	0.00461	mg/L	0.000336	7.28%
K 766.490†	3718.1	2.44	mg/L	0.057	2.44	mg/L	0.057	2.33%
Na 589.592†	124138.6	11.0	mg/L	0.22	11.0	mg/L	0.22	2.00%
Sr 407.771†	700685.5	0.579	mg/L	0.0028	0.579	mg/L	0.0028	0.48%
Li 670.784†	740.9	0.00680	mg/L	0.000111	0.00680	mg/L	0.000111	1.64%

Sequence No.: 21 **Autosampler Location: 77**
Sample ID: L1305136806 **Date Collected: 5/31/2013 12:15:20 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Approved: June 03, 2013

Nebulizer Parameters: L1305136806

Analyte	Back Pressure	Flow
All	164.0 kPa	0.48 L/min

Mean Data: L1305136806

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	2503603.3						38279.38	1.53%
YRADIAL	177054.3						1905.01	1.08%
Ga 417.206	995319.4						20436.44	2.05%
GaRADIAL	50449.2						1756.54	3.48%
Ag 328.068†	359.9	0.00115	mg/L	0.000336	0.00115	mg/L	0.000336	29.22%
Al 396.153†	-4.6	-0.0122	mg/L	0.00207	-0.0122	mg/L	0.00207	16.96%
As 188.979†	-1.8	0.00078	mg/L	0.003538	0.00078	mg/L	0.003538	451.65%
Ba 233.527†	3053.0	0.0324	mg/L	0.00063	0.0324	mg/L	0.00063	1.95%
Be 234.861†	-28.6	-0.00002	mg/L	0.000035	-0.00002	mg/L	0.000035	205.23%
B 249.677†	948.3	0.0149	mg/L	0.00110	0.0149	mg/L	0.00110	7.39%
Ca 227.546†	7994.5	38.2	mg/L	1.07	38.2	mg/L	1.07	2.80%
Cd 228.802†	-4.5	-0.00025	mg/L	0.000154	-0.00025	mg/L	0.000154	61.90%
Co 228.616†	-3.2	-0.00103	mg/L	0.000312	-0.00103	mg/L	0.000312	30.22%
Cr 267.716†	88.9	-0.00025	mg/L	0.000063	-0.00025	mg/L	0.000063	24.92%
Cu 327.393†	248.5	0.00116	mg/L	0.000216	0.00116	mg/L	0.000216	18.58%
Fe 239.562†	55.7	0.00086	mg/L	0.000540	0.00086	mg/L	0.000540	63.08%
Mg 279.077†	25175.2	18.0	mg/L	0.46	18.0	mg/L	0.46	2.57%
Mn 257.610†	6538.0	0.00982	mg/L	0.000402	0.00982	mg/L	0.000402	4.09%
Mo 202.031†	19.6	-0.00104	mg/L	0.000354	-0.00104	mg/L	0.000354	33.93%
Ni 231.604†	7.6	-0.00156	mg/L	0.000198	-0.00156	mg/L	0.000198	12.64%
Pb 220.353†	33.3	0.00261	mg/L	0.001914	0.00261	mg/L	0.001914	73.45%
Sb 206.836†	1.1	-0.00195	mg/L	0.001092	-0.00195	mg/L	0.001092	55.98%
Se 196.026†	-1.4	-0.00239	mg/L	0.003962	-0.00239	mg/L	0.003962	165.73%
Si 251.611†	90998.4	2.51	mg/L	0.086	2.51	mg/L	0.086	3.43%
Sn 189.927†	-209.6	-0.0289	mg/L	0.00080	-0.0289	mg/L	0.00080	2.76%
Ti 334.940†	-4601.8	-0.00081	mg/L	0.000290	-0.00081	mg/L	0.000290	35.95%
Tl 190.801†	-28.9	-0.0187	mg/L	0.00387	-0.0187	mg/L	0.00387	20.76%
V 290.880†	1745.9	0.00710	mg/L	0.000597	0.00710	mg/L	0.000597	8.40%
Zn 206.200†	163.0	0.00273	mg/L	0.000159	0.00273	mg/L	0.000159	5.83%
K 766.490†	3411.3	2.24	mg/L	0.039	2.24	mg/L	0.039	1.75%
Na 589.592†	123725.3	11.0	mg/L	0.37	11.0	mg/L	0.37	3.38%
Sr 407.771†	680819.6	0.562	mg/L	0.0097	0.562	mg/L	0.0097	1.73%
Li 670.784†	719.5	0.00650	mg/L	0.000866	0.00650	mg/L	0.000866	13.32%

Sequence No.: 22
Sample ID: CCV
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 6
Date Collected: 5/31/2013 12:18:24 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: CCV

Analyte	Back Pressure	Flow
All	164.0 kPa	0.48 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	2479395.1						6511.41	0.26%
YRADIAL	186811.1						3004.21	1.61%
Ga 417.206	953723.2						7600.36	0.80%
GaRADIAL	50601.5						685.92	1.36%
Ag 328.068†	96609.1	0.416	mg/L	0.0045	0.416	mg/L	0.0045	1.08%
QC value within limits for Ag 328.068 Recovery = 104.08%								
Al 396.153†	30998.4	10.1	mg/L	0.03	10.1	mg/L	0.03	0.34%
QC value within limits for Al 396.153 Recovery = 100.85%								
As 188.979†	834.1	0.408	mg/L	0.0032	0.408	mg/L	0.0032	0.78%
QC value within limits for As 188.979 Recovery = 101.91%								
Ba 233.527†	92006.6	1.03	mg/L	0.009	1.03	mg/L	0.009	0.86%
QC value within limits for Ba 233.527 Recovery = 102.96%								
Be 234.861†	34888.0	0.0514	mg/L	0.00035	0.0514	mg/L	0.00035	0.69%

Approved: June 03, 2013

```
   QC value within limits for Be 234.861  Recovery = 102.77%
B 249.677†            36007.3       0.508 mg/L        0.0084       0.508 mg/L        0.0084   1.66%
   QC value within limits for B 249.677  Recovery = 101.60%
Ca 227.546†            2130.4        10.6 mg/L          0.07        10.6 mg/L          0.07   0.64%
   QC value within limits for Ca 227.546  Recovery = 106.27%
Cd 228.802†            1640.1      0.0502 mg/L       0.00022      0.0502 mg/L       0.00022   0.44%
   QC value within limits for Cd 228.802  Recovery = 100.35%
Co 228.616†            4944.9       0.206 mg/L        0.0016       0.206 mg/L        0.0016   0.77%
   QC value within limits for Co 228.616  Recovery = 102.79%
Cr 267.716†           48058.3       0.515 mg/L        0.0046       0.515 mg/L        0.0046   0.90%
   QC value within limits for Cr 267.716  Recovery = 102.95%
Cu 327.393†           90729.2       0.520 mg/L        0.0062       0.520 mg/L        0.0062   1.19%
   QC value within limits for Cu 327.393  Recovery = 103.98%
Fe 239.562†           16478.0        4.03 mg/L         0.035        4.03 mg/L         0.035   0.88%
   QC value within limits for Fe 239.562  Recovery = 100.87%
Mg 279.077†           14142.2        10.1 mg/L          0.05        10.1 mg/L          0.05   0.47%
   QC value within limits for Mg 279.077  Recovery = 101.36%
Mn 257.610†          277494.6       0.523 mg/L        0.0040       0.523 mg/L        0.0040   0.76%
   QC value within limits for Mn 257.610  Recovery = 104.61%
Mo 202.031†           20081.5        1.02 mg/L         0.011        1.02 mg/L         0.011   1.06%
   QC value within limits for Mo 202.031  Recovery = 102.37%
Ni 231.604†           20271.1       0.518 mg/L        0.0072       0.518 mg/L        0.0072   1.39%
   QC value within limits for Ni 231.604  Recovery = 103.65%
Pb 220.353†            3954.3       0.517 mg/L        0.0034       0.517 mg/L        0.0034   0.65%
   QC value within limits for Pb 220.353  Recovery = 103.44%
Sb 206.836†            2973.5        1.23 mg/L         0.011        1.23 mg/L         0.011   0.92%
   QC value within limits for Sb 206.836  Recovery = 102.83%
Se 196.026†             427.5       0.414 mg/L        0.0101       0.414 mg/L        0.0101   2.45%
   QC value within limits for Se 196.026  Recovery = 103.44%
Si 251.611†          186395.2        5.13 mg/L         0.059        5.13 mg/L         0.059   1.15%
   QC value within limits for Si 251.611  Recovery = 102.56%
Sn 189.927†            7432.2       0.930 mg/L        0.0058       0.930 mg/L        0.0058   0.62%
   QC value within limits for Sn 189.927  Recovery = 92.97%
Ti 334.940†          749590.5        1.01 mg/L         0.004        1.01 mg/L         0.004   0.42%
   QC value within limits for Ti 334.940  Recovery = 101.41%
Tl 190.801†            1045.2       0.536 mg/L        0.0022       0.536 mg/L        0.0022   0.42%
   QC value within limits for Tl 190.801  Recovery = 107.27%
V 290.880†           200712.6        1.02 mg/L         0.010        1.02 mg/L         0.010   0.95%
   QC value within limits for V 290.880  Recovery = 102.00%
Zn 206.200†           35657.1        1.03 mg/L         0.010        1.03 mg/L         0.010   0.93%
   QC value within limits for Zn 206.200  Recovery = 102.94%
K 766.490†            75895.0        51.0 mg/L          0.56        51.0 mg/L          0.56   1.09%
   QC value within limits for K 766.490  Recovery = 102.02%
Na 589.592†          554951.9        50.3 mg/L          1.33        50.3 mg/L          1.33   2.65%
   QC value within limits for Na 589.592  Recovery = 100.58%
Sr 407.771†         1213584.4        1.00 mg/L         0.033        1.00 mg/L         0.033   3.25%
   QC value within limits for Sr 407.771  Recovery = 100.44%
Li 670.784†           72892.0        1.03 mg/L         0.005        1.03 mg/L         0.005   0.51%
   QC value within limits for Li 670.784  Recovery = 103.27%
All analyte(s) passed QC.

==========================================================================================
Sequence No.: 23                                  Autosampler Location: 1
Sample ID: CCB                                    Date Collected: 5/31/2013 12:20:29 PM
Analyst:                                          Data Type: Original
Initial Sample Wt:                                Initial Sample Vol:
Dilution:                                         Sample Prep Vol:

------------------------------------------------------------------------------------------
Nebulizer Parameters: CCB
Analyte                 Back Pressure    Flow
All                    164.0 kPa        0.48 L/min

------------------------------------------------------------------------------------------
Mean Data: CCB
                   Mean Corrected         Calib.                          Sample
Analyte               Intensity     Conc. Units      Std.Dev.      Conc. Units      Std.Dev.   RSD
Y 371.029           2547126.6                                                      73216.82   2.87%
YRADIAL              184909.0                                                       1486.28   0.80%
Ga 417.206           973722.4                                                      30755.72   3.16%
GaRADIAL              50132.4                                                        519.06   1.04%
Ag 328.068†             -42.2    -0.00048 mg/L      0.000242    -0.00048 mg/L      0.000242  50.67%
```

Approved: June 03, 2013

Lynn H. Rhoden

```
   QC value within limits for Ag 328.068  Recovery = Not calculated
Al 396.153†                1.0     -0.0103 mg/L       0.00275     -0.0103 mg/L       0.00275  26.64%
   QC value within limits for Al 396.153  Recovery = Not calculated
As 188.979†                2.5     0.00204 mg/L      0.004066     0.00204 mg/L      0.004066 199.05%
   QC value within limits for As 188.979  Recovery = Not calculated
Ba 233.527†               -7.6    -0.00192 mg/L      0.000071    -0.00192 mg/L      0.000071   3.71%
   QC value within limits for Ba 233.527  Recovery = Not calculated
Be 234.861†              -45.8    -0.00004 mg/L      0.000094    -0.00004 mg/L      0.000094 226.39%
   QC value within limits for Be 234.861  Recovery = Not calculated
B 249.677†               524.4     0.00885 mg/L      0.000834     0.00885 mg/L      0.000834   9.42%
   QC value within limits for B 249.677  Recovery = Not calculated
Ca 227.546†               -4.4     -0.0569 mg/L       0.02614     -0.0569 mg/L       0.02614  45.96%
   QC value within limits for Ca 227.546  Recovery = Not calculated
Cd 228.802†               -2.5    -0.00019 mg/L      0.000152    -0.00019 mg/L      0.000152  77.94%
   QC value within limits for Cd 228.802  Recovery = Not calculated
Co 228.616†                0.8    -0.00087 mg/L      0.000128    -0.00087 mg/L      0.000128  14.71%
   QC value within limits for Co 228.616  Recovery = Not calculated
Cr 267.716†              -12.5    -0.00135 mg/L      0.000143    -0.00135 mg/L      0.000143  10.58%
   QC value within limits for Cr 267.716  Recovery = Not calculated
Cu 327.393†              119.4     0.00043 mg/L      0.000337     0.00043 mg/L      0.000337  78.57%
   QC value within limits for Cu 327.393  Recovery = Not calculated
Fe 239.562†                6.7     -0.0108 mg/L       0.00042     -0.0108 mg/L       0.00042   3.92%
   QC value within limits for Fe 239.562  Recovery = Not calculated
Mg 279.077†                3.6     -0.0131 mg/L       0.00319     -0.0131 mg/L       0.00319  24.43%
   QC value within limits for Mg 279.077  Recovery = Not calculated
Mn 257.610†               39.3    -0.00247 mg/L      0.000037    -0.00247 mg/L      0.000037   1.50%
   QC value within limits for Mn 257.610  Recovery = Not calculated
Mo 202.031†                1.4    -0.00198 mg/L      0.000233    -0.00198 mg/L      0.000233  11.77%
   QC value within limits for Mo 202.031  Recovery = Not calculated
Ni 231.604†              -20.2    -0.00228 mg/L      0.000612    -0.00228 mg/L      0.000612  26.83%
   QC value within limits for Ni 231.604  Recovery = Not calculated
Pb 220.353†                3.8    -0.00125 mg/L      0.001946    -0.00125 mg/L      0.001946 155.48%
   QC value within limits for Pb 220.353  Recovery = Not calculated
Sb 206.836†                5.7    -0.00001 mg/L      0.000362    -0.00001 mg/L      0.000362 >999.9%
   QC value within limits for Sb 206.836  Recovery = Not calculated
Se 196.026†               -0.6    -0.00158 mg/L      0.002964    -0.00158 mg/L      0.002964 187.05%
   QC value within limits for Se 196.026  Recovery = Not calculated
Si 251.611†                7.2    -0.00187 mg/L      0.000493    -0.00187 mg/L      0.000493  26.38%
   QC value within limits for Si 251.611  Recovery = Not calculated
Sn 189.927†               18.2    -0.00027 mg/L      0.000735    -0.00027 mg/L      0.000735 268.57%
   QC value within limits for Sn 189.927  Recovery = Not calculated
Ti 334.940†              -98.3    -0.00046 mg/L      0.000146    -0.00046 mg/L      0.000146  31.86%
   QC value within limits for Ti 334.940  Recovery = Not calculated
Tl 190.801†               -2.7    -0.00540 mg/L      0.000989    -0.00540 mg/L      0.000989  18.33%
   QC value within limits for Tl 190.801  Recovery = Not calculated
V 290.880†                34.6    -0.00115 mg/L      0.001374    -0.00115 mg/L      0.001374 119.43%
   QC value within limits for V 290.880  Recovery = Not calculated
Zn 206.200†                2.6    -0.00190 mg/L      0.000255    -0.00190 mg/L      0.000255  13.45%
   QC value within limits for Zn 206.200  Recovery = Not calculated
K 766.490†                97.5      0.0602 mg/L       0.03932      0.0602 mg/L       0.03932  65.35%
   QC value within limits for K 766.490  Recovery = Not calculated
Na 589.592†              182.1      0.0150 mg/L       0.03736      0.0150 mg/L       0.03736 249.39%
   QC value within limits for Na 589.592  Recovery = Not calculated
Sr 407.771†              232.2    -0.00338 mg/L      0.000131    -0.00338 mg/L      0.000131   3.86%
   QC value within limits for Sr 407.771  Recovery = Not calculated
Li 670.784†              188.1    -0.00106 mg/L      0.000392    -0.00106 mg/L      0.000392  37.18%
   QC value within limits for Li 670.784  Recovery = Not calculated
All analyte(s) passed QC.

==========================================================================================================
Sequence No.: 24                                    Autosampler Location: 78
Sample ID: L1305136807                              Date Collected: 5/31/2013 12:23:29 PM
Analyst: KHR                                        Data Type: Original
Initial Sample Wt:                                  Initial Sample Vol:
Dilution:                                           Sample Prep Vol:

----------------------------------------------------------------------------------------------------------
Nebulizer Parameters: L1305136807
Analyte                 Back Pressure    Flow
All                   164.0 kPa         0.48 L/min

----------------------------------------------------------------------------------------------------------
```

Approved: June 03, 2013

Mean Data: L1305136807

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	2543615.5						39715.16	1.56%
YRADIAL	188018.3						2412.24	1.28%
Ga 417.206	994064.0						17112.08	1.72%
GaRADIAL	52025.2						1095.89	2.11%
Ag 328.068†	-117.7	-0.00072	mg/L	0.000356	-0.00072	mg/L	0.000356	49.80%
Al 396.153†	465.4	0.142	mg/L	0.0052	0.142	mg/L	0.0052	3.66%
As 188.979†	2.7	0.00225	mg/L	0.001395	0.00225	mg/L	0.001395	61.94%
Ba 233.527†	2028.2	0.0209	mg/L	0.00030	0.0209	mg/L	0.00030	1.42%
Be 234.861†	21.1	0.00001	mg/L	0.000042	0.00001	mg/L	0.000042	561.99%
B 249.677†	772.3	0.0123	mg/L	0.00031	0.0123	mg/L	0.00031	2.54%
Ca 227.546†	799.1	3.79	mg/L	0.028	3.79	mg/L	0.028	0.73%
Cd 228.802†	-3.4	-0.00022	mg/L	0.000165	-0.00022	mg/L	0.000165	74.43%
Co 228.616†	-1.0	-0.00096	mg/L	0.000171	-0.00096	mg/L	0.000171	17.75%
Cr 267.716†	28.3	-0.00092	mg/L	0.000031	-0.00092	mg/L	0.000031	3.34%
Cu 327.393†	121.2	0.00046	mg/L	0.000655	0.00046	mg/L	0.000655	142.00%
Fe 239.562†	908.2	0.211	mg/L	0.0049	0.211	mg/L	0.0049	2.34%
Mg 279.077†	2850.5	2.03	mg/L	0.034	2.03	mg/L	0.034	1.66%
Mn 257.610†	8240.7	0.0131	mg/L	0.00057	0.0131	mg/L	0.00057	4.38%
Mo 202.031†	4.9	-0.00178	mg/L	0.000252	-0.00178	mg/L	0.000252	14.13%
Ni 231.604†	1.1	-0.00173	mg/L	0.000213	-0.00173	mg/L	0.000213	12.31%
Pb 220.353†	12.9	-0.00005	mg/L	0.002114	-0.00005	mg/L	0.002114	>999.9%
Sb 206.836†	4.3	-0.00062	mg/L	0.002892	-0.00062	mg/L	0.002892	468.70%
Se 196.026†	-2.1	-0.00295	mg/L	0.004002	-0.00295	mg/L	0.004002	135.63%
Si 251.611†	101647.5	2.80	mg/L	0.121	2.80	mg/L	0.121	4.32%
Sn 189.927†	-42.1	-0.00784	mg/L	0.000254	-0.00784	mg/L	0.000254	3.24%
Ti 334.940†	1629.0	0.00245	mg/L	0.000421	0.00245	mg/L	0.000421	17.18%
Tl 190.801†	-11.6	-0.00982	mg/L	0.001819	-0.00982	mg/L	0.001819	18.53%
V 290.880†	540.4	0.00132	mg/L	0.001050	0.00132	mg/L	0.001050	79.74%
Zn 206.200†	150.1	0.00235	mg/L	0.000253	0.00235	mg/L	0.000253	10.79%
K 766.490†	1293.3	0.850	mg/L	0.0382	0.850	mg/L	0.0382	4.50%
Na 589.592†	11154.3	0.985	mg/L	0.0206	0.985	mg/L	0.0206	2.10%
Sr 407.771†	35053.9	0.0256	mg/L	0.00007	0.0256	mg/L	0.00007	0.27%
Li 670.784†	61.9	-0.00285	mg/L	0.000569	-0.00285	mg/L	0.000569	19.97%

==========

Sequence No.: 25 **Autosampler Location: 79**
Sample ID: L1305136808 **Date Collected: 5/31/2013 12:26:29 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1305136808

Analyte	Back Pressure	Flow
All	164.0 kPa	0.48 L/min

Mean Data: L1305136808

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	2578138.3						58428.24	2.27%
YRADIAL	184777.7						5087.94	2.75%
Ga 417.206	1012028.8						25799.31	2.55%
GaRADIAL	52437.2						930.94	1.78%
Ag 328.068†	27.8	-0.00017	mg/L	0.000744	-0.00017	mg/L	0.000744	447.81%
Al 396.153†	84.3	0.0170	mg/L	0.00084	0.0170	mg/L	0.00084	4.94%
As 188.979†	1.3	0.00157	mg/L	0.001229	0.00157	mg/L	0.001229	78.23%
Ba 233.527†	1823.9	0.0186	mg/L	0.00035	0.0186	mg/L	0.00035	1.88%
Be 234.861†	-3.5	0.00001	mg/L	0.000052	0.00001	mg/L	0.000052	458.66%
B 249.677†	650.7	0.0106	mg/L	0.00044	0.0106	mg/L	0.00044	4.19%
Ca 227.546†	821.2	3.89	mg/L	0.129	3.89	mg/L	0.129	3.33%
Cd 228.802†	-5.8	-0.00030	mg/L	0.000168	-0.00030	mg/L	0.000168	56.99%
Co 228.616†	0.5	-0.00089	mg/L	0.000187	-0.00089	mg/L	0.000187	21.01%
Cr 267.716†	13.9	-0.00107	mg/L	0.000162	-0.00107	mg/L	0.000162	15.21%
Cu 327.393†	-84.4	-0.00073	mg/L	0.000126	-0.00073	mg/L	0.000126	17.33%
Fe 239.562†	195.8	0.0356	mg/L	0.00248	0.0356	mg/L	0.00248	6.98%
Mg 279.077†	2985.3	2.12	mg/L	0.068	2.12	mg/L	0.068	3.19%
Mn 257.610†	4384.2	0.00575	mg/L	0.000205	0.00575	mg/L	0.000205	3.57%
Mo 202.031†	6.2	-0.00173	mg/L	0.000216	-0.00173	mg/L	0.000216	12.44%

Approved: June 03, 2013

Kym H. Rhoden

Ni 231.604†	-1.5	-0.00180 mg/L	0.000215	-0.00180 mg/L	0.000215	11.93%
Pb 220.353†	5.5	-0.00102 mg/L	0.000535	-0.00102 mg/L	0.000535	52.38%
Sb 206.836†	1.9	-0.00162 mg/L	0.000756	-0.00162 mg/L	0.000756	46.74%
Se 196.026†	-7.0	-0.00775 mg/L	0.003002	-0.00775 mg/L	0.003002	38.76%
Si 251.611†	95118.6	2.62 mg/L	0.078	2.62 mg/L	0.078	2.98%
Sn 189.927†	-40.8	-0.00768 mg/L	0.000214	-0.00768 mg/L	0.000214	2.78%
Ti 334.940†	200.4	0.00054 mg/L	0.000127	0.00054 mg/L	0.000127	23.60%
Tl 190.801†	-5.1	-0.00657 mg/L	0.000265	-0.00657 mg/L	0.000265	4.04%
V 290.880†	223.0	-0.00026 mg/L	0.000678	-0.00026 mg/L	0.000678	262.37%
Zn 206.200†	108.8	0.00116 mg/L	0.000169	0.00116 mg/L	0.000169	14.55%
K 766.490†	1249.8	0.821 mg/L	0.0419	0.821 mg/L	0.0419	5.11%
Na 589.592†	12356.5	1.09 mg/L	0.009	1.09 mg/L	0.009	0.80%
Sr 407.771†	40444.4	0.0301 mg/L	0.00055	0.0301 mg/L	0.00055	1.83%
Li 670.784†	57.3	-0.00291 mg/L	0.000177	-0.00291 mg/L	0.000177	6.07%

Sequence No.: 26 **Autosampler Location: 80**
Sample ID: L1305136809 **Date Collected: 5/31/2013 12:29:29 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1305136809

Analyte	Back Pressure	Flow
All	164.0 kPa	0.48 L/min

Mean Data: L1305136809

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2471852.4						10328.47	0.42%
YRADIAL	178554.1						396.93	0.22%
Ga 417.206	987244.4						6287.30	0.64%
GaRADIAL	51737.5						833.25	1.61%
Ag 328.068†	403.3	0.00140	mg/L	0.000196	0.00140	mg/L	0.000196	13.97%
Al 396.153†	23.4	-0.00300	mg/L	0.004506	-0.00300	mg/L	0.004506	150.00%
As 188.979†	-3.7	-0.00012	mg/L	0.004076	-0.00012	mg/L	0.004076	>999.9%
Ba 233.527†	3814.8	0.0409	mg/L	0.00012	0.0409	mg/L	0.00012	0.29%
Be 234.861†	-21.5	-0.00001	mg/L	0.000038	-0.00001	mg/L	0.000038	271.12%
B 249.677†	594.4	0.00982	mg/L	0.000284	0.00982	mg/L	0.000284	2.89%
Ca 227.546†	8240.4	39.4	mg/L	0.83	39.4	mg/L	0.83	2.10%
Cd 228.802†	-2.6	-0.00018	mg/L	0.000251	-0.00018	mg/L	0.000251	136.70%
Co 228.616†	1.0	-0.00087	mg/L	0.000109	-0.00087	mg/L	0.000109	12.57%
Cr 267.716†	86.9	-0.00028	mg/L	0.000090	-0.00028	mg/L	0.000090	32.60%
Cu 327.393†	1.9	-0.00024	mg/L	0.000255	-0.00024	mg/L	0.000255	107.26%
Fe 239.562†	225.2	0.0424	mg/L	0.00161	0.0424	mg/L	0.00161	3.80%
Mg 279.077†	31240.4	22.4	mg/L	0.13	22.4	mg/L	0.13	0.60%
Mn 257.610†	20226.1	0.0357	mg/L	0.00045	0.0357	mg/L	0.00045	1.26%
Mo 202.031†	15.2	-0.00126	mg/L	0.000306	-0.00126	mg/L	0.000306	24.23%
Ni 231.604†	34.0	-0.00089	mg/L	0.000235	-0.00089	mg/L	0.000235	26.52%
Pb 220.353†	40.8	0.00358	mg/L	0.001077	0.00358	mg/L	0.001077	30.07%
Sb 206.836†	2.1	-0.00150	mg/L	0.002355	-0.00150	mg/L	0.002355	156.57%
Se 196.026†	-2.1	-0.00299	mg/L	0.004616	-0.00299	mg/L	0.004616	154.26%
Si 251.611†	83921.7	2.31	mg/L	0.030	2.31	mg/L	0.030	1.28%
Sn 189.927†	-220.4	-0.0302	mg/L	0.00129	-0.0302	mg/L	0.00129	4.27%
Ti 334.940†	-4118.1	0.00002	mg/L	0.000651	0.00002	mg/L	0.000651	>999.9%
Tl 190.801†	-19.7	-0.0140	mg/L	0.00308	-0.0140	mg/L	0.00308	22.02%
V 290.880†	2163.2	0.00910	mg/L	0.001503	0.00910	mg/L	0.001503	16.51%
Zn 206.200†	603.9	0.0154	mg/L	0.00010	0.0154	mg/L	0.00010	0.63%
K 766.490†	3150.0	2.08	mg/L	0.022	2.08	mg/L	0.022	1.07%
Na 589.592†	43894.5	3.88	mg/L	0.025	3.88	mg/L	0.025	0.63%
Sr 407.771†	390733.2	0.322	mg/L	0.0063	0.322	mg/L	0.0063	1.96%
Li 670.784†	215.0	-0.00067	mg/L	0.000782	-0.00067	mg/L	0.000782	116.03%

Sequence No.: 27 **Autosampler Location: 81**
Sample ID: L1305136810 **Date Collected: 5/31/2013 12:32:30 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Approved: June 03, 2013

Kym H. Rhoden

Nebulizer Parameters: L1305136810

Analyte	Back Pressure	Flow
All	164.0 kPa	0.48 L/min

Mean Data: L1305136810

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2482517.1						28736.57	1.16%
YRADIAL	179176.4						2124.26	1.19%
Ga 417.206	998865.2						11813.32	1.18%
GaRADIAL	51804.7						966.07	1.86%
Ag 328.068†	400.5	0.00146	mg/L	0.000094	0.00146	mg/L	0.000094	6.46%
Al 396.153†	407.4	0.123	mg/L	0.0034	0.123	mg/L	0.0034	2.77%
As 188.979†	3.8	0.00365	mg/L	0.003159	0.00365	mg/L	0.003159	86.64%
Ba 233.527†	3946.6	0.0424	mg/L	0.00041	0.0424	mg/L	0.00041	0.96%
Be 234.861†	10.0	-0.00001	mg/L	0.000017	-0.00001	mg/L	0.000017	284.02%
B 249.677†	553.4	0.00916	mg/L	0.000205	0.00916	mg/L	0.000205	2.24%
Ca 227.546†	8513.0	40.7	mg/L	1.09	40.7	mg/L	1.09	2.69%
Cd 228.802†	-2.0	-0.00018	mg/L	0.000118	-0.00018	mg/L	0.000118	64.21%
Co 228.616†	1.9	-0.00084	mg/L	0.000581	-0.00084	mg/L	0.000581	69.51%
Cr 267.716†	97.2	-0.00017	mg/L	0.000348	-0.00017	mg/L	0.000348	199.45%
Cu 327.393†	0.3	-0.00023	mg/L	0.000929	-0.00023	mg/L	0.000929	401.76%
Fe 239.562†	917.4	0.212	mg/L	0.0023	0.212	mg/L	0.0023	1.08%
Mg 279.077†	31510.8	22.6	mg/L	0.09	22.6	mg/L	0.09	0.42%
Mn 257.610†	24870.8	0.0445	mg/L	0.00037	0.0445	mg/L	0.00037	0.83%
Mo 202.031†	25.0	-0.00075	mg/L	0.000676	-0.00075	mg/L	0.000676	90.16%
Ni 231.604†	15.5	-0.00136	mg/L	0.000386	-0.00136	mg/L	0.000386	28.35%
Pb 220.353†	40.4	0.00353	mg/L	0.001121	0.00353	mg/L	0.001121	31.77%
Sb 206.836†	-0.3	-0.00250	mg/L	0.002345	-0.00250	mg/L	0.002345	93.70%
Se 196.026†	4.3	0.00318	mg/L	0.003023	0.00318	mg/L	0.003023	95.13%
Si 251.611†	93664.4	2.58	mg/L	0.086	2.58	mg/L	0.086	3.32%
Sn 189.927†	-215.7	-0.0296	mg/L	0.00109	-0.0296	mg/L	0.00109	3.68%
Ti 334.940†	-2243.7	0.00275	mg/L	0.001657	0.00275	mg/L	0.001657	60.22%
Tl 190.801†	-24.9	-0.0166	mg/L	0.00152	-0.0166	mg/L	0.00152	9.16%
V 290.880†	2450.6	0.0105	mg/L	0.00140	0.0105	mg/L	0.00140	13.30%
Zn 206.200†	278.2	0.00604	mg/L	0.000118	0.00604	mg/L	0.000118	1.95%
K 766.490†	3335.6	2.20	mg/L	0.025	2.20	mg/L	0.025	1.13%
Na 589.592†	44260.5	3.92	mg/L	0.057	3.92	mg/L	0.057	1.46%
Sr 407.771†	392177.4	0.323	mg/L	0.0031	0.323	mg/L	0.0031	0.97%
Li 670.784†	172.8	-0.00127	mg/L	0.001651	-0.00127	mg/L	0.001651	129.69%

Sequence No.: 28
Sample ID: L1305136811
Analyst: KHR
Initial Sample Wt:
Dilution:

Autosampler Location: 82
Date Collected: 5/31/2013 12:35:31 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: L1305136811

Analyte	Back Pressure	Flow
All	164.0 kPa	0.48 L/min

Mean Data: L1305136811

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2423526.2						12581.71	0.52%
YRADIAL	178009.0						2318.76	1.30%
Ga 417.206	978118.5						18656.95	1.91%
GaRADIAL	51515.5						448.18	0.87%
Ag 328.068†	60.3	0.00173	mg/L	0.000723	0.00173	mg/L	0.000723	41.77%
Al 396.153†	74.0	0.0141	mg/L	0.01462	0.0141	mg/L	0.01462	103.57%
As 188.979†	2.5	0.00482	mg/L	0.001840	0.00482	mg/L	0.001840	38.18%
Ba 233.527†	2694.5	0.0282	mg/L	0.00031	0.0282	mg/L	0.00031	1.10%
Be 234.861†	936.0	0.00026	mg/L	0.000108	0.00026	mg/L	0.000108	42.28%
B 249.677†	1417.6	0.0192	mg/L	0.00048	0.0192	mg/L	0.00048	2.51%
Ca 227.546†	14380.4	68.9	mg/L	1.73	68.9	mg/L	1.73	2.52%
Cd 228.802†	2.2	-0.00003	mg/L	0.000018	-0.00003	mg/L	0.000018	64.76%
Co 228.616†	1.5	-0.00097	mg/L	0.000161	-0.00097	mg/L	0.000161	16.71%

Approved: June 03, 2013

Kym H. Rhoden

Cr 267.716†	84.8	-0.00065	mg/L	0.000139	-0.00065	mg/L	0.000139	21.37%
Cu 327.393†	-139.2	-0.00064	mg/L	0.000253	-0.00064	mg/L	0.000253	39.70%
Fe 239.562†	21605.3	5.29	mg/L	0.126	5.29	mg/L	0.126	2.38%
Mg 279.077†	30675.5	22.0	mg/L	0.58	22.0	mg/L	0.58	2.63%
Mn 257.610†	440856.7	0.832	mg/L	0.0012	0.832	mg/L	0.0012	0.14%
Mo 202.031†	40.1	0.00047	mg/L	0.000342	0.00047	mg/L	0.000342	72.98%
Ni 231.604†	11.1	-0.00147	mg/L	0.000386	-0.00147	mg/L	0.000386	26.25%
Pb 220.353†	35.8	0.00227	mg/L	0.000856	0.00227	mg/L	0.000856	37.68%
Sb 206.836†	-0.6	-0.00245	mg/L	0.001233	-0.00245	mg/L	0.001233	50.24%
Se 196.026†	3.7	0.00338	mg/L	0.004525	0.00338	mg/L	0.004525	133.82%
Si 251.611†	163481.4	4.51	mg/L	0.068	4.51	mg/L	0.068	1.50%
Sn 189.927†	-279.4	-0.0376	mg/L	0.00158	-0.0376	mg/L	0.00158	4.20%
Ti 334.940†	-7253.5	0.00019	mg/L	0.000495	0.00019	mg/L	0.000495	260.14%
Tl 190.801†	-33.3	-0.0217	mg/L	0.00341	-0.0217	mg/L	0.00341	15.69%
V 290.880†	2192.1	0.00791	mg/L	0.001329	0.00791	mg/L	0.001329	16.79%
Zn 206.200†	216.9	0.00416	mg/L	0.000149	0.00416	mg/L	0.000149	3.58%
K 766.490†	5593.9	3.67	mg/L	0.145	3.67	mg/L	0.145	3.95%
Na 589.592†	301925.0	27.0	mg/L	0.18	27.0	mg/L	0.18	0.67%
Sr 407.771†	1575504.5	1.31	mg/L	0.014	1.31	mg/L	0.014	1.05%
Li 670.784†	2074.9	0.0258	mg/L	0.00075	0.0258	mg/L	0.00075	2.91%

Sequence No.: 29
Sample ID: L1305136812
Analyst: KHR
Initial Sample Wt:
Dilution:

Autosampler Location: 83
Date Collected: 5/31/2013 12:37:36 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: L1305136812

Analyte	Back Pressure	Flow
All	164.0 kPa	0.48 L/min

Mean Data: L1305136812

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2484537.5						40167.21	1.62%
YRADIAL	186284.1						3193.42	1.71%
Ga 417.206	1026387.9						28674.68	2.79%
GaRADIAL	53628.8						902.92	1.68%
Ag 328.068†	232.2	0.00205	mg/L	0.000549	0.00205	mg/L	0.000549	26.82%
Al 396.153†	-17.3	-0.0159	mg/L	0.00755	-0.0159	mg/L	0.00755	47.36%
As 188.979†	4.2	0.00531	mg/L	0.001752	0.00531	mg/L	0.001752	32.98%
Ba 233.527†	2563.1	0.0267	mg/L	0.00026	0.0267	mg/L	0.00026	0.98%
Be 234.861†	730.9	0.00020	mg/L	0.000078	0.00020	mg/L	0.000078	39.49%
B 249.677†	1317.6	0.0183	mg/L	0.00062	0.0183	mg/L	0.00062	3.39%
Ca 227.546†	13773.7	65.9	mg/L	1.90	65.9	mg/L	1.90	2.88%
Cd 228.802†	-0.1	-0.00011	mg/L	0.000032	-0.00011	mg/L	0.000032	30.16%
Co 228.616†	5.8	-0.00076	mg/L	0.000148	-0.00076	mg/L	0.000148	19.50%
Cr 267.716†	74.2	-0.00069	mg/L	0.000042	-0.00069	mg/L	0.000042	6.04%
Cu 327.393†	-129.8	-0.00067	mg/L	0.000222	-0.00067	mg/L	0.000222	33.27%
Fe 239.562†	17226.2	4.22	mg/L	0.075	4.22	mg/L	0.075	1.77%
Mg 279.077†	29939.3	21.4	mg/L	0.41	21.4	mg/L	0.41	1.90%
Mn 257.610†	417155.6	0.787	mg/L	0.0139	0.787	mg/L	0.0139	1.77%
Mo 202.031†	35.4	0.00016	mg/L	0.000024	0.00016	mg/L	0.000024	15.43%
Ni 231.604†	21.0	-0.00122	mg/L	0.000543	-0.00122	mg/L	0.000543	44.63%
Pb 220.353†	42.7	0.00324	mg/L	0.000459	0.00324	mg/L	0.000459	14.16%
Sb 206.836†	-2.4	-0.00324	mg/L	0.001675	-0.00324	mg/L	0.001675	51.71%
Se 196.026†	-3.4	-0.00367	mg/L	0.002456	-0.00367	mg/L	0.002456	66.93%
Si 251.611†	151655.2	4.18	mg/L	0.120	4.18	mg/L	0.120	2.86%
Sn 189.927†	-277.3	-0.0373	mg/L	0.00176	-0.0373	mg/L	0.00176	4.71%
Ti 334.940†	-7227.0	-0.00021	mg/L	0.000250	-0.00021	mg/L	0.000250	119.43%
Tl 190.801†	-34.6	-0.0223	mg/L	0.00391	-0.0223	mg/L	0.00391	17.51%
V 290.880†	2068.6	0.00757	mg/L	0.001773	0.00757	mg/L	0.001773	23.41%
Zn 206.200†	187.3	0.00333	mg/L	0.000051	0.00333	mg/L	0.000051	1.53%
K 766.490†	5449.2	3.58	mg/L	0.061	3.58	mg/L	0.061	1.70%
Na 589.592†	293475.1	26.3	mg/L	0.24	26.3	mg/L	0.24	0.93%
Sr 407.771†	1533590.7	1.27	mg/L	0.010	1.27	mg/L	0.010	0.78%
Li 670.784†	2032.7	0.0252	mg/L	0.00056	0.0252	mg/L	0.00056	2.23%

Approved: June 03, 2013

Kym H. Rhoden

Sequence No.: 30
Sample ID: L1305136813
Analyst: KHR
Initial Sample Wt:
Dilution:

Autosampler Location: 84
Date Collected: 5/31/2013 12:39:41 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: L1305136813

Analyte	Back Pressure	Flow
All	164.0 kPa	0.48 L/min

Mean Data: L1305136813

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2586125.5						23828.19	0.92%
YRADIAL	184369.5						1818.43	0.99%
Ga 417.206	1023826.3						10203.33	1.00%
GaRADIAL	52467.4						920.75	1.75%
Ag 328.068†	109.2	0.00018	mg/L	0.000399	0.00018	mg/L	0.000399	222.88%
Al 396.153†	158.7	0.0414	mg/L	0.00441	0.0414	mg/L	0.00441	10.65%
As 188.979†	0.9	0.00139	mg/L	0.000478	0.00139	mg/L	0.000478	34.43%
Ba 233.527†	3435.1	0.0367	mg/L	0.00023	0.0367	mg/L	0.00023	0.62%
Be 234.861†	62.3	0.00011	mg/L	0.000019	0.00011	mg/L	0.000019	17.17%
B 249.677†	438.1	0.00761	mg/L	0.000064	0.00761	mg/L	0.000064	0.85%
Ca 227.546†	1291.2	6.14	mg/L	0.048	6.14	mg/L	0.048	0.78%
Cd 228.802†	-3.6	-0.00023	mg/L	0.000096	-0.00023	mg/L	0.000096	42.43%
Co 228.616†	-6.5	-0.00119	mg/L	0.000133	-0.00119	mg/L	0.000133	11.19%
Cr 267.716†	49.2	-0.00069	mg/L	0.000104	-0.00069	mg/L	0.000104	15.20%
Cu 327.393†	25.4	-0.00010	mg/L	0.000262	-0.00010	mg/L	0.000262	253.18%
Fe 239.562†	185.0	0.0329	mg/L	0.00161	0.0329	mg/L	0.00161	4.88%
Mg 279.077†	5556.8	3.97	mg/L	0.062	3.97	mg/L	0.062	1.57%
Mn 257.610†	7106.3	0.0109	mg/L	0.00013	0.0109	mg/L	0.00013	1.18%
Mo 202.031†	2.5	-0.00192	mg/L	0.000324	-0.00192	mg/L	0.000324	16.87%
Ni 231.604†	141.7	0.00187	mg/L	0.000289	0.00187	mg/L	0.000289	15.41%
Pb 220.353†	12.2	-0.00015	mg/L	0.001187	-0.00015	mg/L	0.001187	795.58%
Sb 206.836†	-4.4	-0.00422	mg/L	0.001634	-0.00422	mg/L	0.001634	38.69%
Se 196.026†	-2.7	-0.00365	mg/L	0.006996	-0.00365	mg/L	0.006996	191.87%
Si 251.611†	109256.5	3.01	mg/L	0.024	3.01	mg/L	0.024	0.80%
Sn 189.927†	-58.6	-0.00991	mg/L	0.000336	-0.00991	mg/L	0.000336	3.39%
Ti 334.940†	-524.5	-0.00010	mg/L	0.000032	-0.00010	mg/L	0.000032	30.75%
Tl 190.801†	-5.1	-0.00660	mg/L	0.001896	-0.00660	mg/L	0.001896	28.75%
V 290.880†	412.9	0.00066	mg/L	0.000520	0.00066	mg/L	0.000520	78.61%
Zn 206.200†	400.2	0.00955	mg/L	0.000204	0.00955	mg/L	0.000204	2.13%
K 766.490†	1341.3	0.881	mg/L	0.0363	0.881	mg/L	0.0363	4.12%
Na 589.592†	16681.1	1.47	mg/L	0.030	1.47	mg/L	0.030	2.02%
Sr 407.771†	61947.8	0.0480	mg/L	0.00016	0.0480	mg/L	0.00016	0.34%
Li 670.784†	15.8	-0.00350	mg/L	0.000233	-0.00350	mg/L	0.000233	6.65%

==========

Sequence No.: 31
Sample ID: CCV
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 6
Date Collected: 5/31/2013 12:42:41 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: CCV

Analyte	Back Pressure	Flow
All	164.0 kPa	0.48 L/min

Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2432170.9						18785.00	0.77%
YRADIAL	180878.0						4693.08	2.59%
Ga 417.206	934961.4						8721.93	0.93%
GaRADIAL	49218.8						1041.25	2.12%
Ag 328.068†	98382.3	0.424	mg/L	0.0094	0.424	mg/L	0.0094	2.21%
QC value within limits for Ag 328.068 Recovery = 105.99%								
Al 396.153†	31745.1	10.3	mg/L	0.11	10.3	mg/L	0.11	1.09%

Approved: June 03, 2013

Kym H. Rhoden

```
   QC value within limits for Al 396.153  Recovery = 103.29%
As 188.979†              857.2       0.419 mg/L        0.0018       0.419 mg/L        0.0018   0.43%
   QC value within limits for As 188.979  Recovery = 104.74%
Ba 233.527†            93502.9        1.05 mg/L         0.016        1.05 mg/L         0.016   1.49%
   QC value within limits for Ba 233.527  Recovery = 104.63%
Be 234.861†            35610.7      0.0524 mg/L       0.00112      0.0524 mg/L       0.00112   2.14%
   QC value within limits for Be 234.861  Recovery = 104.90%
B 249.677†             36450.3       0.514 mg/L        0.0111       0.514 mg/L        0.0111   2.16%
   QC value within limits for B 249.677  Recovery = 102.84%
Ca 227.546†             2195.4        10.9 mg/L          0.16        10.9 mg/L          0.16   1.43%
   QC value within limits for Ca 227.546  Recovery = 109.45%
Cd 228.802†             1683.3      0.0515 mg/L       0.00088      0.0515 mg/L       0.00088   1.71%
   QC value within limits for Cd 228.802  Recovery = 102.99%
Co 228.616†             5071.8       0.211 mg/L        0.0010       0.211 mg/L        0.0010   0.47%
   QC value within limits for Co 228.616  Recovery = 105.45%
Cr 267.716†            48909.6       0.524 mg/L        0.0108       0.524 mg/L        0.0108   2.05%
   QC value within limits for Cr 267.716  Recovery = 104.78%
Cu 327.393†            92390.0       0.529 mg/L        0.0130       0.529 mg/L        0.0130   2.46%
   QC value within limits for Cu 327.393  Recovery = 105.88%
Fe 239.562†            16853.0        4.13 mg/L         0.059        4.13 mg/L         0.059   1.44%
   QC value within limits for Fe 239.562  Recovery = 103.17%
Mg 279.077†            14425.9        10.3 mg/L          0.10        10.3 mg/L          0.10   1.01%
   QC value within limits for Mg 279.077  Recovery = 103.39%
Mn 257.610†           281865.8       0.531 mg/L        0.0089       0.531 mg/L        0.0089   1.67%
   QC value within limits for Mn 257.610  Recovery = 106.27%
Mo 202.031†            20522.3        1.05 mg/L         0.024        1.05 mg/L         0.024   2.26%
   QC value within limits for Mo 202.031  Recovery = 104.62%
Ni 231.604†            20591.2       0.526 mg/L        0.0115       0.526 mg/L        0.0115   2.18%
   QC value within limits for Ni 231.604  Recovery = 105.29%
Pb 220.353†             4038.5       0.528 mg/L        0.0028       0.528 mg/L        0.0028   0.54%
   QC value within limits for Pb 220.353  Recovery = 105.65%
Sb 206.836†             3044.7        1.26 mg/L         0.011        1.26 mg/L         0.011   0.84%
   QC value within limits for Sb 206.836  Recovery = 105.30%
Se 196.026†              435.6       0.422 mg/L        0.0039       0.422 mg/L        0.0039   0.92%
   QC value within limits for Se 196.026  Recovery = 105.41%
Si 251.611†           189652.0        5.22 mg/L         0.102        5.22 mg/L         0.102   1.96%
   QC value within limits for Si 251.611  Recovery = 104.36%
Sn 189.927†             7621.6       0.953 mg/L        0.0035       0.953 mg/L        0.0035   0.37%
   QC value within limits for Sn 189.927  Recovery = 95.35%
Ti 334.940†           759285.5        1.03 mg/L         0.009        1.03 mg/L         0.009   0.90%
   QC value within limits for Ti 334.940  Recovery = 102.72%
Tl 190.801†             1061.0       0.545 mg/L        0.0069       0.545 mg/L        0.0069   1.28%
   QC value within limits for Tl 190.801  Recovery = 108.91%
V 290.880†            204073.9        1.04 mg/L         0.014        1.04 mg/L         0.014   1.34%
   QC value within limits for V 290.880  Recovery = 103.71%
Zn 206.200†            36509.1        1.05 mg/L         0.016        1.05 mg/L         0.016   1.49%
   QC value within limits for Zn 206.200  Recovery = 105.40%
K 766.490†             77561.0        52.1 mg/L          0.76        52.1 mg/L          0.76   1.45%
   QC value within limits for K 766.490  Recovery = 104.30%
Na 589.592†           573763.0        52.0 mg/L          1.01        52.0 mg/L          1.01   1.94%
   QC value within limits for Na 589.592  Recovery = 104.08%
Sr 407.771†          1247632.1        1.03 mg/L         0.029        1.03 mg/L         0.029   2.76%
   QC value within limits for Sr 407.771  Recovery = 103.27%
Li 670.784†            74189.4        1.05 mg/L         0.012        1.05 mg/L         0.012   1.17%
   QC value within limits for Li 670.784  Recovery = 105.12%
All analyte(s) passed QC.

==========================================================================================
Sequence No.: 32                                  Autosampler Location: 1
Sample ID: CCB                                    Date Collected: 5/31/2013 12:44:46 PM
Analyst:                                          Data Type: Original
Initial Sample Wt:                                Initial Sample Vol:
Dilution:                                         Sample Prep Vol:

------------------------------------------------------------------------------------------
Nebulizer Parameters: CCB
Analyte                 Back Pressure    Flow
All                    164.0 kPa         0.48 L/min

------------------------------------------------------------------------------------------
Mean Data: CCB
                  Mean Corrected         Calib.                        Sample
```

Approved: June 03, 2013

Analyte	Intensity	Conc.	Units	Std.Dev.	Conc.	Units	Std.Dev.	RSD
Y 371.029	2492205.4						8084.93	0.32%
YRADIAL	181538.0						2298.51	1.27%
Ga 417.206	942636.5						10815.20	1.15%
GaRADIAL	49073.4						316.79	0.65%
Ag 328.068†	-79.7	-0.00064	mg/L	0.000202	-0.00064	mg/L	0.000202	31.76%
QC value within limits for Ag 328.068 Recovery = Not calculated								
Al 396.153†	3.9	-0.00936	mg/L	0.002376	-0.00936	mg/L	0.002376	25.40%
QC value within limits for Al 396.153 Recovery = Not calculated								
As 188.979†	3.2	0.00242	mg/L	0.002856	0.00242	mg/L	0.002856	118.18%
QC value within limits for As 188.979 Recovery = Not calculated								
Ba 233.527†	-9.7	-0.00195	mg/L	0.000100	-0.00195	mg/L	0.000100	5.14%
QC value within limits for Ba 233.527 Recovery = Not calculated								
Be 234.861†	-93.4	-0.00011	mg/L	0.000030	-0.00011	mg/L	0.000030	26.66%
QC value within limits for Be 234.861 Recovery = Not calculated								
B 249.677†	425.5	0.00745	mg/L	0.000503	0.00745	mg/L	0.000503	6.76%
QC value within limits for B 249.677 Recovery = Not calculated								
Ca 227.546†	-7.3	-0.0706	mg/L	0.08323	-0.0706	mg/L	0.08323	117.94%
QC value within limits for Ca 227.546 Recovery = Not calculated								
Cd 228.802†	-2.4	-0.00019	mg/L	0.000069	-0.00019	mg/L	0.000069	35.62%
QC value within limits for Cd 228.802 Recovery = Not calculated								
Co 228.616†	-4.5	-0.00109	mg/L	0.000488	-0.00109	mg/L	0.000488	44.61%
QC value within limits for Co 228.616 Recovery = Not calculated								
Cr 267.716†	13.2	-0.00107	mg/L	0.000147	-0.00107	mg/L	0.000147	13.75%
QC value within limits for Cr 267.716 Recovery = Not calculated								
Cu 327.393†	-88.8	-0.00076	mg/L	0.000399	-0.00076	mg/L	0.000399	52.53%
QC value within limits for Cu 327.393 Recovery = Not calculated								
Fe 239.562†	8.1	-0.0105	mg/L	0.00170	-0.0105	mg/L	0.00170	16.24%
QC value within limits for Fe 239.562 Recovery = Not calculated								
Mg 279.077†	-2.3	-0.0173	mg/L	0.00826	-0.0173	mg/L	0.00826	47.65%
QC value within limits for Mg 279.077 Recovery = Not calculated								
Mn 257.610†	25.8	-0.00250	mg/L	0.000034	-0.00250	mg/L	0.000034	1.38%
QC value within limits for Mn 257.610 Recovery = Not calculated								
Mo 202.031†	-3.2	-0.00222	mg/L	0.000276	-0.00222	mg/L	0.000276	12.47%
QC value within limits for Mo 202.031 Recovery = Not calculated								
Ni 231.604†	-14.7	-0.00214	mg/L	0.000184	-0.00214	mg/L	0.000184	8.61%
QC value within limits for Ni 231.604 Recovery = Not calculated								
Pb 220.353†	2.8	-0.00137	mg/L	0.001164	-0.00137	mg/L	0.001164	84.78%
QC value within limits for Pb 220.353 Recovery = Not calculated								
Sb 206.836†	3.1	-0.00110	mg/L	0.000699	-0.00110	mg/L	0.000699	63.77%
QC value within limits for Sb 206.836 Recovery = Not calculated								
Se 196.026†	3.8	0.00268	mg/L	0.001920	0.00268	mg/L	0.001920	71.56%
QC value within limits for Se 196.026 Recovery = Not calculated								
Si 251.611†	36.2	-0.00107	mg/L	0.000255	-0.00107	mg/L	0.000255	23.91%
QC value within limits for Si 251.611 Recovery = Not calculated								
Sn 189.927†	24.6	0.00053	mg/L	0.000821	0.00053	mg/L	0.000821	155.55%
QC value within limits for Sn 189.927 Recovery = Not calculated								
Ti 334.940†	-76.9	-0.00043	mg/L	0.000068	-0.00043	mg/L	0.000068	15.75%
QC value within limits for Ti 334.940 Recovery = Not calculated								
Tl 190.801†	-4.4	-0.00622	mg/L	0.004068	-0.00622	mg/L	0.004068	65.38%
QC value within limits for Tl 190.801 Recovery = Not calculated								
V 290.880†	197.5	-0.00032	mg/L	0.000711	-0.00032	mg/L	0.000711	221.80%
QC value within limits for V 290.880 Recovery = Not calculated								
Zn 206.200†	1.3	-0.00194	mg/L	0.000088	-0.00194	mg/L	0.000088	4.56%
QC value within limits for Zn 206.200 Recovery = Not calculated								
K 766.490†	89.9	0.0552	mg/L	0.01855	0.0552	mg/L	0.01855	33.64%
QC value within limits for K 766.490 Recovery = Not calculated								
Na 589.592†	108.9	0.00851	mg/L	0.038068	0.00851	mg/L	0.038068	447.23%
QC value within limits for Na 589.592 Recovery = Not calculated								
Sr 407.771†	186.4	-0.00342	mg/L	0.000192	-0.00342	mg/L	0.000192	5.61%
QC value within limits for Sr 407.771 Recovery = Not calculated								
Li 670.784†	96.9	-0.00235	mg/L	0.000436	-0.00235	mg/L	0.000436	18.55%
QC value within limits for Li 670.784 Recovery = Not calculated								

All analyte(s) passed QC.

Approved: June 03, 2013

Kym H. Rhoden

==========

Analysis Begun

Start Time: 5/31/2013 1:02:09 PM **Plasma On Time: 5/31/2013 6:21:19 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\FRIDAY1.sif
Batch ID:
Results Data Set: 053113HR
Results Library: C:\pe\peicp2\Results\Results.mdb

==========

Sequence No.: 1 **Autosampler Location: 85**
Sample ID: PBW 34 WG432425-03 **Date Collected: 5/31/2013 1:02:12 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: PBW 34 WG432425-03

Analyte	Back Pressure	Flow
All	164.0 kPa	0.48 L/min

Mean Data: PBW 34 WG432425-03

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2539633.4						20365.17	0.80%
YRADIAL	189858.0						9300.22	4.90%
Ga 417.206	973639.3						10668.76	1.10%
GaRADIAL	50658.0						1076.15	2.12%
Ag 328.068†	-0.0	-0.00028	mg/L	0.000390	-0.00028	mg/L	0.000390	140.53%
Al 396.153†	113.2	0.0265	mg/L	0.00202	0.0265	mg/L	0.00202	7.65%
As 188.979†	4.0	0.00281	mg/L	0.000919	0.00281	mg/L	0.000919	32.73%
Ba 233.527†	51.3	-0.00127	mg/L	0.000068	-0.00127	mg/L	0.000068	5.34%
Be 234.861†	-30.0	-0.00003	mg/L	0.000043	-0.00003	mg/L	0.000043	142.47%
B 249.677†	989.2	0.0154	mg/L	0.00055	0.0154	mg/L	0.00055	3.59%
Ca 227.546†	32.7	0.122	mg/L	0.0392	0.122	mg/L	0.0392	32.03%
Cd 228.802†	-2.7	-0.00021	mg/L	0.000120	-0.00021	mg/L	0.000120	58.37%
Co 228.616†	0.1	-0.00090	mg/L	0.000221	-0.00090	mg/L	0.000221	24.49%
Cr 267.716†	1.7	-0.00120	mg/L	0.000182	-0.00120	mg/L	0.000182	15.20%
Cu 327.393†	-38.9	-0.00047	mg/L	0.000547	-0.00047	mg/L	0.000547	116.44%
Fe 239.562†	215.6	0.0405	mg/L	0.00249	0.0405	mg/L	0.00249	6.15%
Mg 279.077†	119.2	0.0697	mg/L	0.01133	0.0697	mg/L	0.01133	16.25%
Mn 257.610†	905.0	-0.00083	mg/L	0.000031	-0.00083	mg/L	0.000031	3.73%
Mo 202.031†	5.0	-0.00180	mg/L	0.000274	-0.00180	mg/L	0.000274	15.24%
Ni 231.604†	5.0	-0.00163	mg/L	0.000112	-0.00163	mg/L	0.000112	6.86%
Pb 220.353†	6.0	-0.00095	mg/L	0.000792	-0.00095	mg/L	0.000792	83.38%
Sb 206.836†	0.0	-0.00239	mg/L	0.000959	-0.00239	mg/L	0.000959	40.18%
Se 196.026†	-1.9	-0.00280	mg/L	0.002637	-0.00280	mg/L	0.002637	94.20%
Si 251.611†	446.9	0.0103	mg/L	0.00098	0.0103	mg/L	0.00098	9.59%
Sn 189.927†	-1.0	-0.00269	mg/L	0.000709	-0.00269	mg/L	0.000709	26.36%
Ti 334.940†	509.5	0.00039	mg/L	0.000101	0.00039	mg/L	0.000101	25.93%
Tl 190.801†	-10.0	-0.00905	mg/L	0.001769	-0.00905	mg/L	0.001769	19.55%
V 290.880†	32.0	-0.00118	mg/L	0.000931	-0.00118	mg/L	0.000931	78.93%
Zn 206.200†	112.7	0.00127	mg/L	0.000195	0.00127	mg/L	0.000195	15.36%
K 766.490†	-64.7	-0.0472	mg/L	0.00708	-0.0472	mg/L	0.00708	15.00%
Na 589.592†	1863.3	0.163	mg/L	0.0079	0.163	mg/L	0.0079	4.81%
Sr 407.771†	773.9	-0.00293	mg/L	0.000061	-0.00293	mg/L	0.000061	2.10%
Li 670.784†	48.8	-0.00304	mg/L	0.000426	-0.00304	mg/L	0.000426	14.04%

==========

Sequence No.: 2 **Autosampler Location: 86**
Sample ID: LCSW 34 WG432425-04 **Date Collected: 5/31/2013 1:05:13 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: LCSW 34 WG432425-04

Approved: June 03, 2013

Kym H. Rhoden

Analyte	Back Pressure	Flow
All	164.0 kPa	0.48 L/min

Mean Data: LCSW 34 WG432425-04

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2502873.4						5073.31	0.20%
YRADIAL	186529.3						5718.07	3.07%
Ga 417.206	978430.0						7132.92	0.73%
GaRADIAL	50471.8						1361.62	2.70%
Ag 328.068†	46460.5	0.200	mg/L	0.0070	0.200	mg/L	0.0070	3.52%
Al 396.153†	15186.2	4.93	mg/L	0.014	4.93	mg/L	0.014	0.28%
As 188.979†	405.2	0.198	mg/L	0.0009	0.198	mg/L	0.0009	0.45%
Ba 233.527†	44703.5	0.499	mg/L	0.0138	0.499	mg/L	0.0138	2.76%
Be 234.861†	16534.4	0.0244	mg/L	0.00103	0.0244	mg/L	0.00103	4.24%
B 249.677†	67752.4	0.960	mg/L	0.0362	0.960	mg/L	0.0362	3.77%
Ca 227.546†	1017.0	5.07	mg/L	0.064	5.07	mg/L	0.064	1.26%
Cd 228.802†	790.7	0.0241	mg/L	0.00048	0.0241	mg/L	0.00048	1.99%
Co 228.616†	2433.0	0.101	mg/L	0.0003	0.101	mg/L	0.0003	0.27%
Cr 267.716†	23418.0	0.250	mg/L	0.0081	0.250	mg/L	0.0081	3.24%
Cu 327.393†	43298.4	0.248	mg/L	0.0096	0.248	mg/L	0.0096	3.88%
Fe 239.562†	8124.6	1.98	mg/L	0.022	1.98	mg/L	0.022	1.13%
Mg 279.077†	6946.8	4.97	mg/L	0.043	4.97	mg/L	0.043	0.86%
Mn 257.610†	134593.8	0.252	mg/L	0.0069	0.252	mg/L	0.0069	2.75%
Mo 202.031†	9996.2	0.509	mg/L	0.0029	0.509	mg/L	0.0029	0.56%
Ni 231.604†	10195.8	0.260	mg/L	0.0011	0.260	mg/L	0.0011	0.42%
Pb 220.353†	1954.4	0.255	mg/L	0.0025	0.255	mg/L	0.0025	1.00%
Sb 206.836†	1434.5	0.594	mg/L	0.0022	0.594	mg/L	0.0022	0.36%
Se 196.026†	206.7	0.200	mg/L	0.0056	0.200	mg/L	0.0056	2.80%
Si 251.611†	87796.0	2.41	mg/L	0.087	2.41	mg/L	0.087	3.61%
Sn 189.927†	4060.1	0.507	mg/L	0.0043	0.507	mg/L	0.0043	0.85%
Ti 334.940†	372939.6	0.504	mg/L	0.0165	0.504	mg/L	0.0165	3.27%
Tl 190.801†	522.2	0.266	mg/L	0.0004	0.266	mg/L	0.0004	0.16%
V 290.880†	96946.8	0.492	mg/L	0.0113	0.492	mg/L	0.0113	2.29%
Zn 206.200†	17374.0	0.501	mg/L	0.0133	0.501	mg/L	0.0133	2.66%
K 766.490†	37352.5	24.9	mg/L	0.15	24.9	mg/L	0.15	0.59%
Na 589.592†	279978.8	25.0	mg/L	0.72	25.0	mg/L	0.72	2.89%
Sr 407.771†	604407.0	0.498	mg/L	0.0169	0.498	mg/L	0.0169	3.38%
Li 670.784†	36614.5	0.517	mg/L	0.0042	0.517	mg/L	0.0042	0.82%

Sequence No.: 3
Sample ID: L1305137214 WG432425-01
Analyst: KHR
Initial Sample Wt:
Dilution:

Autosampler Location: 87
Date Collected: 5/31/2013 1:07:17 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: L1305137214 WG432425-01

Analyte	Back Pressure	Flow
All	165.0 kPa	0.48 L/min

Mean Data: L1305137214 WG432425-01

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2549565.6						41397.28	1.62%
YRADIAL	188163.5						2789.54	1.48%
Ga 417.206	999936.7						27517.42	2.75%
GaRADIAL	52259.6						344.56	0.66%
Ag 328.068†	11.0	-0.00026	mg/L	0.000061	-0.00026	mg/L	0.000061	23.62%
Al 396.153†	64.2	0.0104	mg/L	0.00060	0.0104	mg/L	0.00060	5.81%
As 188.979†	5.6	0.00373	mg/L	0.001487	0.00373	mg/L	0.001487	39.87%
Ba 233.527†	3199.2	0.0340	mg/L	0.00058	0.0340	mg/L	0.00058	1.70%
Be 234.861†	56.9	0.00012	mg/L	0.000041	0.00012	mg/L	0.000041	35.38%
B 249.677†	1128.1	0.0174	mg/L	0.00214	0.0174	mg/L	0.00214	12.29%
Ca 227.546†	1218.0	5.79	mg/L	0.132	5.79	mg/L	0.132	2.27%
Cd 228.802†	-2.6	-0.00020	mg/L	0.000251	-0.00020	mg/L	0.000251	123.05%
Co 228.616†	6.8	-0.00064	mg/L	0.000393	-0.00064	mg/L	0.000393	61.87%
Cr 267.716†	18.9	-0.00101	mg/L	0.000133	-0.00101	mg/L	0.000133	13.21%
Cu 327.393†	31.4	-0.00007	mg/L	0.000622	-0.00007	mg/L	0.000622	898.23%

Approved: June 03, 2013

Kym H. Rhoden

Fe 239.562†	24.4	-0.00656	mg/L	0.001467	-0.00656	mg/L	0.001467	22.35%
Mg 279.077†	4657.0	3.32	mg/L	0.032	3.32	mg/L	0.032	0.97%
Mn 257.610†	29688.6	0.0536	mg/L	0.00119	0.0536	mg/L	0.00119	2.23%
Mo 202.031†	2.1	-0.00193	mg/L	0.000224	-0.00193	mg/L	0.000224	11.60%
Ni 231.604†	105.7	0.00095	mg/L	0.000103	0.00095	mg/L	0.000103	10.87%
Pb 220.353†	2.3	-0.00147	mg/L	0.001871	-0.00147	mg/L	0.001871	127.46%
Sb 206.836†	0.9	-0.00203	mg/L	0.000265	-0.00203	mg/L	0.000265	13.04%
Se 196.026†	-2.6	-0.00354	mg/L	0.001209	-0.00354	mg/L	0.001209	34.20%
Si 251.611†	78897.6	2.17	mg/L	0.072	2.17	mg/L	0.072	3.31%
Sn 189.927†	-55.6	-0.00954	mg/L	0.000350	-0.00954	mg/L	0.000350	3.67%
Ti 334.940†	1896.0	0.00311	mg/L	0.005946	0.00311	mg/L	0.005946	190.95%
Tl 190.801†	-9.4	-0.00875	mg/L	0.002549	-0.00875	mg/L	0.002549	29.12%
V 290.880†	465.7	0.00096	mg/L	0.001833	0.00096	mg/L	0.001833	191.59%
Zn 206.200†	401.7	0.00959	mg/L	0.000424	0.00959	mg/L	0.000424	4.42%
K 766.490†	1348.1	0.884	mg/L	0.0230	0.884	mg/L	0.0230	2.61%
Na 589.592†	37778.5	3.34	mg/L	0.067	3.34	mg/L	0.067	2.00%
Sr 407.771†	40285.1	0.0300	mg/L	0.00020	0.0300	mg/L	0.00020	0.66%
Li 670.784†	204.1	-0.00083	mg/L	0.000907	-0.00083	mg/L	0.000907	109.47%

Sequence No.: 4 **Autosampler Location: 88**
Sample ID: L1305137214DU WG432425-05 **Date Collected: 5/31/2013 1:10:17 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1305137214DU WG432425-05

Analyte	Back Pressure	Flow
All	164.0 kPa	0.48 L/min

Mean Data: L1305137214DU WG432425-05

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2554490.8						27964.78	1.09%
YRADIAL	185551.2						1083.89	0.58%
Ga 417.206	1002491.6						22937.12	2.29%
GaRADIAL	52607.0						865.50	1.65%
Ag 328.068†	81.3	0.00004	mg/L	0.000146	0.00004	mg/L	0.000146	356.09%
Al 396.153†	60.7	0.00926	mg/L	0.002531	0.00926	mg/L	0.002531	27.33%
As 188.979†	4.3	0.00305	mg/L	0.003335	0.00305	mg/L	0.003335	109.34%
Ba 233.527†	3127.7	0.0332	mg/L	0.00038	0.0332	mg/L	0.00038	1.15%
Be 234.861†	45.4	0.00010	mg/L	0.000051	0.00010	mg/L	0.000051	51.35%
B 249.677†	674.4	0.0110	mg/L	0.00046	0.0110	mg/L	0.00046	4.24%
Ca 227.546†	1198.3	5.70	mg/L	0.135	5.70	mg/L	0.135	2.37%
Cd 228.802†	-2.4	-0.00020	mg/L	0.000048	-0.00020	mg/L	0.000048	24.61%
Co 228.616†	4.8	-0.00071	mg/L	0.000287	-0.00071	mg/L	0.000287	40.38%
Cr 267.716†	19.2	-0.00101	mg/L	0.000158	-0.00101	mg/L	0.000158	15.76%
Cu 327.393†	4.2	-0.00023	mg/L	0.000402	-0.00023	mg/L	0.000402	175.72%
Fe 239.562†	19.2	-0.00782	mg/L	0.000652	-0.00782	mg/L	0.000652	8.34%
Mg 279.077†	4728.4	3.37	mg/L	0.022	3.37	mg/L	0.022	0.66%
Mn 257.610†	29267.6	0.0528	mg/L	0.00057	0.0528	mg/L	0.00057	1.07%
Mo 202.031†	8.1	-0.00163	mg/L	0.000101	-0.00163	mg/L	0.000101	6.18%
Ni 231.604†	106.6	0.00097	mg/L	0.000133	0.00097	mg/L	0.000133	13.66%
Pb 220.353†	9.8	-0.00048	mg/L	0.000810	-0.00048	mg/L	0.000810	167.66%
Sb 206.836†	2.7	-0.00126	mg/L	0.000443	-0.00126	mg/L	0.000443	35.27%
Se 196.026†	-0.8	-0.00180	mg/L	0.002472	-0.00180	mg/L	0.002472	137.59%
Si 251.611†	78060.1	2.15	mg/L	0.037	2.15	mg/L	0.037	1.73%
Sn 189.927†	-50.2	-0.00886	mg/L	0.001213	-0.00886	mg/L	0.001213	13.70%
Ti 334.940†	-702.0	-0.00041	mg/L	0.000078	-0.00041	mg/L	0.000078	18.95%
Tl 190.801†	-9.6	-0.00895	mg/L	0.002539	-0.00895	mg/L	0.002539	28.38%
V 290.880†	367.1	0.00045	mg/L	0.000605	0.00045	mg/L	0.000605	133.38%
Zn 206.200†	278.2	0.00604	mg/L	0.000181	0.00604	mg/L	0.000181	2.99%
K 766.490†	1295.9	0.849	mg/L	0.0230	0.849	mg/L	0.0230	2.71%
Na 589.592†	37357.9	3.30	mg/L	0.033	3.30	mg/L	0.033	1.01%
Sr 407.771†	40657.3	0.0303	mg/L	0.00041	0.0303	mg/L	0.00041	1.36%
Li 670.784†	112.4	-0.00213	mg/L	0.000308	-0.00213	mg/L	0.000308	14.43%

Sequence No.: 5 **Autosampler Location: 89**
Sample ID: L1305137214MS WG432425-06 **Date Collected: 5/31/2013 1:13:17 PM**

Approved: June 03, 2013

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

Nebulizer Parameters: L1305137214MS WG432425-06

Analyte	Back Pressure	Flow
All	165.0 kPa	0.48 L/min

Mean Data: L1305137214MS WG432425-06

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2511604.1						51461.42	2.05%
YRADIAL	186920.0						5022.41	2.69%
Ga 417.206	993089.7						11736.25	1.18%
GaRADIAL	51267.9						1234.67	2.41%
Ag 328.068†	45259.5	0.195	mg/L	0.0012	0.195	mg/L	0.0012	0.63%
Al 396.153†	15019.9	4.88	mg/L	0.031	4.88	mg/L	0.031	0.64%
As 188.979†	394.9	0.193	mg/L	0.0045	0.193	mg/L	0.0045	2.34%
Ba 233.527†	47002.6	0.525	mg/L	0.0065	0.525	mg/L	0.0065	1.23%
Be 234.861†	16280.9	0.0240	mg/L	0.00023	0.0240	mg/L	0.00023	0.94%
B 249.677†	66784.4	0.946	mg/L	0.0131	0.946	mg/L	0.0131	1.38%
Ca 227.546†	2186.4	10.7	mg/L	0.12	10.7	mg/L	0.12	1.11%
Cd 228.802†	766.9	0.0234	mg/L	0.00015	0.0234	mg/L	0.00015	0.63%
Co 228.616†	2376.4	0.0983	mg/L	0.00222	0.0983	mg/L	0.00222	2.25%
Cr 267.716†	23005.9	0.246	mg/L	0.0031	0.246	mg/L	0.0031	1.27%
Cu 327.393†	42087.8	0.241	mg/L	0.0025	0.241	mg/L	0.0025	1.04%
Fe 239.562†	8163.4	1.99	mg/L	0.019	1.99	mg/L	0.019	0.97%
Mg 279.077†	11262.4	8.06	mg/L	0.071	8.06	mg/L	0.071	0.88%
Mn 257.610†	161696.0	0.304	mg/L	0.0044	0.304	mg/L	0.0044	1.45%
Mo 202.031†	9844.8	0.501	mg/L	0.0120	0.501	mg/L	0.0120	2.40%
Ni 231.604†	10071.0	0.257	mg/L	0.0060	0.257	mg/L	0.0060	2.33%
Pb 220.353†	1905.2	0.248	mg/L	0.0059	0.248	mg/L	0.0059	2.39%
Sb 206.836†	1415.1	0.586	mg/L	0.0083	0.586	mg/L	0.0083	1.42%
Se 196.026†	195.4	0.189	mg/L	0.0104	0.189	mg/L	0.0104	5.49%
Si 251.611†	162030.5	4.46	mg/L	0.030	4.46	mg/L	0.030	0.67%
Sn 189.927†	4022.7	0.502	mg/L	0.0130	0.502	mg/L	0.0130	2.59%
Ti 334.940†	366631.3	0.497	mg/L	0.0053	0.497	mg/L	0.0053	1.07%
Tl 190.801†	501.8	0.255	mg/L	0.0041	0.255	mg/L	0.0041	1.59%
V 290.880†	96119.5	0.488	mg/L	0.0097	0.488	mg/L	0.0097	1.99%
Zn 206.200†	17231.7	0.496	mg/L	0.0063	0.496	mg/L	0.0063	1.28%
K 766.490†	38716.0	25.8	mg/L	0.21	25.8	mg/L	0.21	0.83%
Na 589.592†	311710.6	27.9	mg/L	1.11	27.9	mg/L	1.11	3.97%
Sr 407.771†	650435.2	0.537	mg/L	0.0215	0.537	mg/L	0.0215	4.00%
Li 670.784†	36210.9	0.511	mg/L	0.0039	0.511	mg/L	0.0039	0.77%

==========

Sequence No.: 6 **Autosampler Location: 90**
Sample ID: L1305137215 **Date Collected: 5/31/2013 1:15:21 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1305137215

Analyte	Back Pressure	Flow
All	164.0 kPa	0.48 L/min

Mean Data: L1305137215

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2576538.3						28546.59	1.11%
YRADIAL	189503.5						1338.25	0.71%
Ga 417.206	1012052.8						16544.93	1.63%
GaRADIAL	52532.4						696.36	1.33%
Ag 328.068†	24.7	-0.00019	mg/L	0.000224	-0.00019	mg/L	0.000224	115.73%
Al 396.153†	161.8	0.0424	mg/L	0.00084	0.0424	mg/L	0.00084	1.99%
As 188.979†	2.9	0.00236	mg/L	0.001296	0.00236	mg/L	0.001296	54.96%
Ba 233.527†	3308.5	0.0352	mg/L	0.00029	0.0352	mg/L	0.00029	0.83%
Be 234.861†	60.1	0.00012	mg/L	0.000041	0.00012	mg/L	0.000041	34.77%

Approved: June 03, 2013

Kym H. Rhoden

B 249.677†	1174.0	0.0180	mg/L	0.00261	0.0180	mg/L	0.00261	14.48%
Ca 227.546†	1136.0	5.40	mg/L	0.106	5.40	mg/L	0.106	1.96%
Cd 228.802†	-2.6	-0.00020	mg/L	0.000123	-0.00020	mg/L	0.000123	61.30%
Co 228.616†	1.8	-0.00084	mg/L	0.000027	-0.00084	mg/L	0.000027	3.23%
Cr 267.716†	18.8	-0.00101	mg/L	0.000140	-0.00101	mg/L	0.000140	13.90%
Cu 327.393†	53.0	0.00005	mg/L	0.000217	0.00005	mg/L	0.000217	418.08%
Fe 239.562†	88.7	0.00924	mg/L	0.001848	0.00924	mg/L	0.001848	20.00%
Mg 279.077†	4267.7	3.04	mg/L	0.027	3.04	mg/L	0.027	0.88%
Mn 257.610†	32302.3	0.0586	mg/L	0.00201	0.0586	mg/L	0.00201	3.43%
Mo 202.031†	2.0	-0.00193	mg/L	0.000112	-0.00193	mg/L	0.000112	5.77%
Ni 231.604†	121.3	0.00135	mg/L	0.000308	0.00135	mg/L	0.000308	22.81%
Pb 220.353†	19.0	0.00071	mg/L	0.000167	0.00071	mg/L	0.000167	23.50%
Sb 206.836†	2.9	-0.00119	mg/L	0.000799	-0.00119	mg/L	0.000799	67.39%
Se 196.026†	-1.5	-0.00249	mg/L	0.005395	-0.00249	mg/L	0.005395	216.92%
Si 251.611†	76094.1	2.10	mg/L	0.079	2.10	mg/L	0.079	3.75%
Sn 189.927†	-43.8	-0.00805	mg/L	0.000399	-0.00805	mg/L	0.000399	4.95%
Ti 334.940†	-544.7	-0.00024	mg/L	0.000096	-0.00024	mg/L	0.000096	39.54%
Tl 190.801†	-8.3	-0.00825	mg/L	0.001729	-0.00825	mg/L	0.001729	20.95%
V 290.880†	444.3	0.00085	mg/L	0.000926	0.00085	mg/L	0.000926	108.77%
Zn 206.200†	273.3	0.00590	mg/L	0.000293	0.00590	mg/L	0.000293	4.97%
K 766.490†	1434.8	0.941	mg/L	0.0747	0.941	mg/L	0.0747	7.94%
Na 589.592†	37019.6	3.27	mg/L	0.079	3.27	mg/L	0.079	2.42%
Sr 407.771†	36089.3	0.0265	mg/L	0.00040	0.0265	mg/L	0.00040	1.49%
Li 670.784†	213.1	-0.00070	mg/L	0.000604	-0.00070	mg/L	0.000604	86.27%

Sequence No.: 7 **Autosampler Location: 91**
Sample ID: L1305137216 **Date Collected: 5/31/2013 1:18:21 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1305137216

Analyte	Back Pressure	Flow
All	165.0 kPa	0.48 L/min

Mean Data: L1305137216

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2593433.3						31606.35	1.22%
YRADIAL	185407.3						5595.88	3.02%
Ga 417.206	1024636.5						12050.54	1.18%
GaRADIAL	51478.8						784.04	1.52%
Ag 328.068†	22.9	-0.00021	mg/L	0.000410	-0.00021	mg/L	0.000410	199.46%
Al 396.153†	69.3	0.0121	mg/L	0.00066	0.0121	mg/L	0.00066	5.49%
As 188.979†	4.4	0.00312	mg/L	0.002023	0.00312	mg/L	0.002023	64.78%
Ba 233.527†	3087.2	0.0328	mg/L	0.00044	0.0328	mg/L	0.00044	1.34%
Be 234.861†	76.4	0.00014	mg/L	0.000013	0.00014	mg/L	0.000013	9.35%
B 249.677†	679.2	0.0110	mg/L	0.00052	0.0110	mg/L	0.00052	4.74%
Ca 227.546†	1138.1	5.41	mg/L	0.142	5.41	mg/L	0.142	2.63%
Cd 228.802†	-8.9	-0.00040	mg/L	0.000098	-0.00040	mg/L	0.000098	24.42%
Co 228.616†	0.8	-0.00088	mg/L	0.000271	-0.00088	mg/L	0.000271	30.66%
Cr 267.716†	2.4	-0.00119	mg/L	0.000067	-0.00119	mg/L	0.000067	5.68%
Cu 327.393†	-11.3	-0.00032	mg/L	0.000665	-0.00032	mg/L	0.000665	210.06%
Fe 239.562†	38.2	-0.00317	mg/L	0.001372	-0.00317	mg/L	0.001372	43.31%
Mg 279.077†	4409.6	3.14	mg/L	0.076	3.14	mg/L	0.076	2.42%
Mn 257.610†	29299.2	0.0529	mg/L	0.00192	0.0529	mg/L	0.00192	3.62%
Mo 202.031†	-3.3	-0.00221	mg/L	0.000196	-0.00221	mg/L	0.000196	8.87%
Ni 231.604†	104.6	0.00092	mg/L	0.000247	0.00092	mg/L	0.000247	26.78%
Pb 220.353†	15.6	0.00027	mg/L	0.001487	0.00027	mg/L	0.001487	549.10%
Sb 206.836†	2.4	-0.00138	mg/L	0.001815	-0.00138	mg/L	0.001815	131.44%
Se 196.026†	0.6	-0.00043	mg/L	0.002382	-0.00043	mg/L	0.002382	555.06%
Si 251.611†	74803.1	2.06	mg/L	0.071	2.06	mg/L	0.071	3.44%
Sn 189.927†	-48.6	-0.00866	mg/L	0.000907	-0.00866	mg/L	0.000907	10.47%
Ti 334.940†	-600.0	-0.00032	mg/L	0.000094	-0.00032	mg/L	0.000094	29.71%
Tl 190.801†	-9.0	-0.00860	mg/L	0.003007	-0.00860	mg/L	0.003007	34.95%
V 290.880†	494.9	0.00111	mg/L	0.001468	0.00111	mg/L	0.001468	132.30%
Zn 206.200†	329.5	0.00751	mg/L	0.000350	0.00751	mg/L	0.000350	4.66%
K 766.490†	1321.0	0.866	mg/L	0.0263	0.866	mg/L	0.0263	3.04%
Na 589.592†	37059.8	3.28	mg/L	0.030	3.28	mg/L	0.030	0.90%

Approved: June 03, 2013

Sr 407.771†	37729.9	0.0278	mg/L	0.00033	0.0278	mg/L	0.00033	1.18%
Li 670.784†	157.2	-0.00149	mg/L	0.001054	-0.00149	mg/L	0.001054	70.54%

Sequence No.: 8 **Autosampler Location: 92**
Sample ID: L1305137217 **Date Collected: 5/31/2013 1:21:21 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1305137217

Analyte	Back Pressure	Flow
All	164.0 kPa	0.48 L/min

Mean Data: L1305137217

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2593761.5						28328.86	1.09%
YRADIAL	187366.8						2916.82	1.56%
Ga 417.206	1022588.6						15166.93	1.48%
GaRADIAL	53270.0						362.84	0.68%
Ag 328.068†	87.7	0.00007	mg/L	0.000106	0.00007	mg/L	0.000106	141.90%
Al 396.153†	153.6	0.0397	mg/L	0.00164	0.0397	mg/L	0.00164	4.13%
As 188.979†	2.0	0.00192	mg/L	0.001943	0.00192	mg/L	0.001943	101.24%
Ba 233.527†	3262.2	0.0347	mg/L	0.00022	0.0347	mg/L	0.00022	0.63%
Be 234.861†	94.4	0.00017	mg/L	0.000024	0.00017	mg/L	0.000024	14.02%
B 249.677†	521.3	0.00879	mg/L	0.000010	0.00879	mg/L	0.000010	0.12%
Ca 227.546†	1126.5	5.35	mg/L	0.070	5.35	mg/L	0.070	1.30%
Cd 228.802†	0.3	-0.00010	mg/L	0.000095	-0.00010	mg/L	0.000095	90.86%
Co 228.616†	5.3	-0.00069	mg/L	0.000149	-0.00069	mg/L	0.000149	21.59%
Cr 267.716†	11.7	-0.00109	mg/L	0.000103	-0.00109	mg/L	0.000103	9.43%
Cu 327.393†	-48.6	-0.00053	mg/L	0.000667	-0.00053	mg/L	0.000667	126.22%
Fe 239.562†	86.1	0.00862	mg/L	0.001538	0.00862	mg/L	0.001538	17.84%
Mg 279.077†	4334.7	3.09	mg/L	0.028	3.09	mg/L	0.028	0.91%
Mn 257.610†	32192.6	0.0584	mg/L	0.00215	0.0584	mg/L	0.00215	3.68%
Mo 202.031†	-2.6	-0.00217	mg/L	0.000462	-0.00217	mg/L	0.000462	21.29%
Ni 231.604†	121.6	0.00136	mg/L	0.000215	0.00136	mg/L	0.000215	15.78%
Pb 220.353†	17.5	0.00052	mg/L	0.000179	0.00052	mg/L	0.000179	34.43%
Sb 206.836†	0.1	-0.00234	mg/L	0.000561	-0.00234	mg/L	0.000561	24.00%
Se 196.026†	-3.1	-0.00402	mg/L	0.002554	-0.00402	mg/L	0.002554	63.55%
Si 251.611†	75905.2	2.09	mg/L	0.094	2.09	mg/L	0.094	4.50%
Sn 189.927†	-46.2	-0.00835	mg/L	0.000318	-0.00835	mg/L	0.000318	3.81%
Ti 334.940†	-641.8	-0.00038	mg/L	0.000143	-0.00038	mg/L	0.000143	37.40%
Tl 190.801†	-12.5	-0.0104	mg/L	0.00262	-0.0104	mg/L	0.00262	25.22%
V 290.880†	369.0	0.00047	mg/L	0.001142	0.00047	mg/L	0.001142	244.69%
Zn 206.200†	300.4	0.00668	mg/L	0.000089	0.00668	mg/L	0.000089	1.34%
K 766.490†	1290.9	0.846	mg/L	0.0613	0.846	mg/L	0.0613	7.25%
Na 589.592†	36809.5	3.26	mg/L	0.009	3.26	mg/L	0.009	0.28%
Sr 407.771†	36165.8	0.0265	mg/L	0.00004	0.0265	mg/L	0.00004	0.15%
Li 670.784†	156.8	-0.00150	mg/L	0.001168	-0.00150	mg/L	0.001168	77.88%

Sequence No.: 9 **Autosampler Location: 93**
Sample ID: L1305137217PS WG432460-01 **Date Collected: 5/31/2013 1:24:21 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1305137217PS WG432460-01

Analyte	Back Pressure	Flow
All	165.0 kPa	0.48 L/min

Mean Data: L1305137217PS WG432460-01

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2485841.8						44744.76	1.80%
YRADIAL	190486.1						1935.44	1.02%
Ga 417.206	977160.6						22892.55	2.34%

Approved: June 03, 2013

Kym H. Rhoden

GaRADIAL	51799.5					689.37	1.33%
Ag 328.068†	46140.8	0.199	mg/L	0.0032	0.199 mg/L	0.0032	1.59%
Al 396.153†	15268.2	4.96	mg/L	0.034	4.96 mg/L	0.034	0.69%
As 188.979†	412.3	0.202	mg/L	0.0051	0.202 mg/L	0.0051	2.55%
Ba 233.527†	47865.6	0.535	mg/L	0.0069	0.535 mg/L	0.0069	1.28%
Be 234.861†	16703.7	0.0246	mg/L	0.00059	0.0246 mg/L	0.00059	2.38%
B 249.677†	68108.4	0.965	mg/L	0.0107	0.965 mg/L	0.0107	1.11%
Ca 227.546†	2103.5	10.3	mg/L	0.23	10.3 mg/L	0.23	2.20%
Cd 228.802†	792.3	0.0242	mg/L	0.00082	0.0242 mg/L	0.00082	3.39%
Co 228.616†	2454.9	0.102	mg/L	0.0016	0.102 mg/L	0.0016	1.59%
Cr 267.716†	23374.6	0.250	mg/L	0.0041	0.250 mg/L	0.0041	1.62%
Cu 327.393†	43179.9	0.247	mg/L	0.0036	0.247 mg/L	0.0036	1.46%
Fe 239.562†	8287.1	2.02	mg/L	0.017	2.02 mg/L	0.017	0.86%
Mg 279.077†	10694.5	7.66	mg/L	0.082	7.66 mg/L	0.082	1.07%
Mn 257.610†	165370.5	0.311	mg/L	0.0036	0.311 mg/L	0.0036	1.17%
Mo 202.031†	10143.4	0.516	mg/L	0.0072	0.516 mg/L	0.0072	1.40%
Ni 231.604†	10367.9	0.264	mg/L	0.0039	0.264 mg/L	0.0039	1.48%
Pb 220.353†	1972.9	0.257	mg/L	0.0052	0.257 mg/L	0.0052	2.04%
Sb 206.836†	1477.0	0.612	mg/L	0.0153	0.612 mg/L	0.0153	2.50%
Se 196.026†	204.3	0.197	mg/L	0.0048	0.197 mg/L	0.0048	2.44%
Si 251.611†	158249.1	4.36	mg/L	0.076	4.36 mg/L	0.076	1.74%
Sn 189.927†	-82.7	-0.0129	mg/L	0.00060	-0.0129 mg/L	0.00060	4.60%
Ti 334.940†	373552.8	0.506	mg/L	0.0064	0.506 mg/L	0.0064	1.27%
Tl 190.801†	509.6	0.260	mg/L	0.0012	0.260 mg/L	0.0012	0.47%
V 290.880†	97998.6	0.497	mg/L	0.0055	0.497 mg/L	0.0055	1.11%
Zn 206.200†	17505.6	0.504	mg/L	0.0100	0.504 mg/L	0.0100	1.99%
K 766.490†	39048.2	26.0	mg/L	0.39	26.0 mg/L	0.39	1.50%
Na 589.592†	309919.3	27.8	mg/L	0.80	27.8 mg/L	0.80	2.89%
Sr 407.771†	636795.4	0.525	mg/L	0.0149	0.525 mg/L	0.0149	2.83%
Li 670.784†	36743.2	0.519	mg/L	0.0048	0.519 mg/L	0.0048	0.92%

Sequence No.: 10 **Autosampler Location: 94**
Sample ID: L1305137217DL WG432460-02 **Date Collected: 5/31/2013 1:26:25 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1305137217DL WG432460-02

Analyte	Back Pressure	Flow
All	165.0 kPa	0.48 L/min

Mean Data: L1305137217DL WG432460-02

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2549253.0						86435.47	3.39%
YRADIAL	181340.1						3475.40	1.92%
Ga 417.206	974351.5						32483.90	3.33%
GaRADIAL	50923.6						335.38	0.66%
Ag 328.068†	-8.3	-0.00033	mg/L	0.000384	-0.00033	mg/L	0.000384	115.39%
Al 396.153†	36.1	0.00122	mg/L	0.003000	0.00122	mg/L	0.003000	246.48%
As 188.979†	4.5	0.00306	mg/L	0.001824	0.00306	mg/L	0.001824	59.63%
Ba 233.527†	661.1	0.00557	mg/L	0.000107	0.00557	mg/L	0.000107	1.92%
Be 234.861†	-39.8	-0.00003	mg/L	0.000081	-0.00003	mg/L	0.000081	252.20%
B 249.677†	962.8	0.0151	mg/L	0.00076	0.0151	mg/L	0.00076	5.06%
Ca 227.546†	233.7	1.08	mg/L	0.052	1.08	mg/L	0.052	4.84%
Cd 228.802†	-2.4	-0.00020	mg/L	0.000151	-0.00020	mg/L	0.000151	76.25%
Co 228.616†	-0.4	-0.00092	mg/L	0.000334	-0.00092	mg/L	0.000334	36.09%
Cr 267.716†	5.2	-0.00116	mg/L	0.000223	-0.00116	mg/L	0.000223	19.33%
Cu 327.393†	-19.7	-0.00036	mg/L	0.000927	-0.00036	mg/L	0.000927	254.10%
Fe 239.562†	20.2	-0.00752	mg/L	0.001547	-0.00752	mg/L	0.001547	20.56%
Mg 279.077†	893.4	0.625	mg/L	0.0147	0.625	mg/L	0.0147	2.35%
Mn 257.610†	6634.0	0.0100	mg/L	0.00044	0.0100	mg/L	0.00044	4.38%
Mo 202.031†	-1.9	-0.00215	mg/L	0.000200	-0.00215	mg/L	0.000200	9.33%
Ni 231.604†	12.8	-0.00143	mg/L	0.000664	-0.00143	mg/L	0.000664	46.31%
Pb 220.353†	11.4	-0.00026	mg/L	0.000429	-0.00026	mg/L	0.000429	166.86%
Sb 206.836†	3.1	-0.00109	mg/L	0.001297	-0.00109	mg/L	0.001297	118.73%
Se 196.026†	1.2	0.00019	mg/L	0.004916	0.00019	mg/L	0.004916	>999.9%
Si 251.611†	15941.9	0.438	mg/L	0.0122	0.438	mg/L	0.0122	2.80%
Sn 189.927†	-7.5	-0.00350	mg/L	0.000426	-0.00350	mg/L	0.000426	12.17%

Approved: June 03, 2013

Ti 334.940†	-246.7	-0.00049 mg/L	0.000078	-0.00049 mg/L	0.000078	15.91%
Tl 190.801†	-7.1	-0.00763 mg/L	0.003399	-0.00763 mg/L	0.003399	44.54%
V 290.880†	171.5	-0.00047 mg/L	0.000252	-0.00047 mg/L	0.000252	53.47%
Zn 206.200†	123.5	0.00158 mg/L	0.000108	0.00158 mg/L	0.000108	6.80%
K 766.490†	249.8	0.160 mg/L	0.0336	0.160 mg/L	0.0336	20.98%
Na 589.592†	7579.9	0.669 mg/L	0.0146	0.669 mg/L	0.0146	2.19%
Sr 407.771†	7341.8	0.00254 mg/L	0.000178	0.00254 mg/L	0.000178	6.99%
Li 670.784†	50.3	-0.00302 mg/L	0.001207	-0.00302 mg/L	0.001207	40.02%

Sequence No.: 11 **Autosampler Location: 6**
Sample ID: CCV **Date Collected: 5/31/2013 1:29:26 PM**
Analyst: **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: CCV

Analyte	Back Pressure	Flow
All	164.0 kPa	0.48 L/min

Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2516918.4						11014.73	0.44%
YRADIAL	187865.5						3239.93	1.72%
Ga 417.206	969251.1						6109.31	0.63%
GaRADIAL	50934.2						752.56	1.48%
Ag 328.068†	94839.6	0.409	mg/L	0.0087	0.409	mg/L	0.0087	2.13%
QC value within limits for Ag 328.068 Recovery = 102.18%								
Al 396.153†	30773.5	10.0	mg/L	0.05	10.0	mg/L	0.05	0.48%
QC value within limits for Al 396.153 Recovery = 100.12%								
As 188.979†	821.9	0.402	mg/L	0.0026	0.402	mg/L	0.0026	0.64%
QC value within limits for As 188.979 Recovery = 100.41%								
Ba 233.527†	91000.3	1.02	mg/L	0.014	1.02	mg/L	0.014	1.36%
QC value within limits for Ba 233.527 Recovery = 101.83%								
Be 234.861†	34285.5	0.0505	mg/L	0.00100	0.0505	mg/L	0.00100	1.98%
QC value within limits for Be 234.861 Recovery = 100.98%								
B 249.677†	35604.4	0.502	mg/L	0.0101	0.502	mg/L	0.0101	2.01%
QC value within limits for B 249.677 Recovery = 100.47%								
Ca 227.546†	2103.1	10.5	mg/L	0.13	10.5	mg/L	0.13	1.22%
QC value within limits for Ca 227.546 Recovery = 104.91%								
Cd 228.802†	1600.1	0.0489	mg/L	0.00067	0.0489	mg/L	0.00067	1.37%
QC value within limits for Cd 228.802 Recovery = 97.86%								
Co 228.616†	4870.3	0.202	mg/L	0.0013	0.202	mg/L	0.0013	0.63%
QC value within limits for Co 228.616 Recovery = 101.23%								
Cr 267.716†	47292.8	0.507	mg/L	0.0110	0.507	mg/L	0.0110	2.18%
QC value within limits for Cr 267.716 Recovery = 101.31%								
Cu 327.393†	89438.3	0.513	mg/L	0.0131	0.513	mg/L	0.0131	2.56%
QC value within limits for Cu 327.393 Recovery = 102.50%								
Fe 239.562†	16393.3	4.01	mg/L	0.030	4.01	mg/L	0.030	0.75%
QC value within limits for Fe 239.562 Recovery = 100.35%								
Mg 279.077†	13932.9	9.99	mg/L	0.095	9.99	mg/L	0.095	0.95%
QC value within limits for Mg 279.077 Recovery = 99.86%								
Mn 257.610†	274762.2	0.518	mg/L	0.0075	0.518	mg/L	0.0075	1.44%
QC value within limits for Mn 257.610 Recovery = 103.58%								
Mo 202.031†	19877.5	1.01	mg/L	0.020	1.01	mg/L	0.020	1.96%
QC value within limits for Mo 202.031 Recovery = 101.33%								
Ni 231.604†	20029.8	0.512	mg/L	0.0083	0.512	mg/L	0.0083	1.62%
QC value within limits for Ni 231.604 Recovery = 102.41%								
Pb 220.353†	3906.6	0.511	mg/L	0.0031	0.511	mg/L	0.0031	0.61%
QC value within limits for Pb 220.353 Recovery = 102.19%								
Sb 206.836†	2916.4	1.21	mg/L	0.009	1.21	mg/L	0.009	0.72%
QC value within limits for Sb 206.836 Recovery = 100.86%								
Se 196.026†	419.3	0.406	mg/L	0.0042	0.406	mg/L	0.0042	1.04%
QC value within limits for Se 196.026 Recovery = 101.46%								
Si 251.611†	183955.5	5.06	mg/L	0.088	5.06	mg/L	0.088	1.75%
QC value within limits for Si 251.611 Recovery = 101.22%								
Sn 189.927†	7311.8	0.915	mg/L	0.0026	0.915	mg/L	0.0026	0.28%
QC value within limits for Sn 189.927 Recovery = 91.46%								
Ti 334.940†	741958.9	1.00	mg/L	0.004	1.00	mg/L	0.004	0.38%

Approved: June 03, 2013

Lynn H. Rhoden

```
   QC value within limits for Ti 334.940  Recovery = 100.37%
Tl 190.801†            1018.8       0.523 mg/L        0.0030       0.523 mg/L        0.0030   0.57%
   QC value within limits for Tl 190.801  Recovery = 104.59%
V 290.880†           198675.4        1.01 mg/L         0.010        1.01 mg/L         0.010   1.01%
   QC value within limits for V 290.880  Recovery = 100.96%
Zn 206.200†           35383.0        1.02 mg/L         0.014        1.02 mg/L         0.014   1.34%
   QC value within limits for Zn 206.200  Recovery = 102.14%
K 766.490†            75742.4        50.9 mg/L          0.24        50.9 mg/L          0.24   0.47%
   QC value within limits for K 766.490  Recovery = 101.81%
Na 589.592†          548444.4        49.7 mg/L          1.13        49.7 mg/L          1.13   2.27%
   QC value within limits for Na 589.592  Recovery = 99.37%
Sr 407.771†          1201591.8       0.994 mg/L        0.0231       0.994 mg/L        0.0231   2.33%
   QC value within limits for Sr 407.771  Recovery = 99.45%
Li 670.784†           72529.1        1.03 mg/L         0.007        1.03 mg/L         0.007   0.70%
   QC value within limits for Li 670.784  Recovery = 102.75%
All analyte(s) passed QC.

==========================================================================================
Sequence No.: 12                                    Autosampler Location: 1
Sample ID: CCB                                      Date Collected: 5/31/2013 1:31:31 PM
Analyst:                                            Data Type: Original
Initial Sample Wt:                                  Initial Sample Vol:
Dilution:                                           Sample Prep Vol:

------------------------------------------------------------------------------------------
Nebulizer Parameters: CCB
Analyte                 Back Pressure    Flow
All                     164.0 kPa        0.48 L/min

------------------------------------------------------------------------------------------
Mean Data: CCB
                   Mean Corrected        Calib.                          Sample
Analyte               Intensity     Conc. Units     Std.Dev.     Conc. Units     Std.Dev.   RSD
Y 371.029            2545102.2                                                  29804.12   1.17%
YRADIAL               186392.3                                                   3092.26   1.66%
Ga 417.206            971732.0                                                  14298.66   1.47%
GaRADIAL               50846.9                                                   1073.81   2.11%
Ag 328.068†               33.2    -0.00016 mg/L      0.000171    -0.00016 mg/L      0.000171 110.28%
   QC value within limits for Ag 328.068  Recovery = Not calculated
Al 396.153†                7.8    -0.00807 mg/L      0.000600    -0.00807 mg/L      0.000600   7.43%
   QC value within limits for Al 396.153  Recovery = Not calculated
As 188.979†                3.2     0.00242 mg/L      0.001777     0.00242 mg/L      0.001777  73.39%
   QC value within limits for As 188.979  Recovery = Not calculated
Ba 233.527†              -13.3    -0.00199 mg/L      0.000113    -0.00199 mg/L      0.000113   5.70%
   QC value within limits for Ba 233.527  Recovery = Not calculated
Be 234.861†              -53.0    -0.00005 mg/L      0.000021    -0.00005 mg/L      0.000021  40.02%
   QC value within limits for Be 234.861  Recovery = Not calculated
B 249.677†               604.4     0.00999 mg/L      0.000970     0.00999 mg/L      0.000970   9.72%
   QC value within limits for B 249.677  Recovery = Not calculated
Ca 227.546†                6.0    -0.00700 mg/L      0.011689    -0.00700 mg/L      0.011689 167.03%
   QC value within limits for Ca 227.546  Recovery = Not calculated
Cd 228.802†               -5.6    -0.00030 mg/L      0.000097    -0.00030 mg/L      0.000097  32.73%
   QC value within limits for Cd 228.802  Recovery = Not calculated
Co 228.616†               -4.2    -0.00108 mg/L      0.000376    -0.00108 mg/L      0.000376  34.85%
   QC value within limits for Co 228.616  Recovery = Not calculated
Cr 267.716†                1.9    -0.00119 mg/L      0.000163    -0.00119 mg/L      0.000163  13.70%
   QC value within limits for Cr 267.716  Recovery = Not calculated
Cu 327.393†               67.3     0.00013 mg/L      0.000579     0.00013 mg/L      0.000579 438.11%
   QC value within limits for Cu 327.393  Recovery = Not calculated
Fe 239.562†                6.8     -0.0108 mg/L       0.00115     -0.0108 mg/L       0.00115  10.67%
   QC value within limits for Fe 239.562  Recovery = Not calculated
Mg 279.077†                1.7     -0.0144 mg/L       0.00438     -0.0144 mg/L       0.00438  30.30%
   QC value within limits for Mg 279.077  Recovery = Not calculated
Mn 257.610†              -28.8    -0.00260 mg/L      0.000037    -0.00260 mg/L      0.000037   1.43%
   QC value within limits for Mn 257.610  Recovery = Not calculated
Mo 202.031†               -5.3    -0.00232 mg/L      0.000205    -0.00232 mg/L      0.000205   8.83%
   QC value within limits for Mo 202.031  Recovery = Not calculated
Ni 231.604†              -14.5    -0.00213 mg/L      0.000323    -0.00213 mg/L      0.000323  15.13%
   QC value within limits for Ni 231.604  Recovery = Not calculated
Pb 220.353†               11.0    -0.00030 mg/L      0.000746    -0.00030 mg/L      0.000746 250.13%
   QC value within limits for Pb 220.353  Recovery = Not calculated
Sb 206.836†                2.8    -0.00125 mg/L      0.000621    -0.00125 mg/L      0.000621  49.61%
```

Approved: June 03, 2013

Lynn H. Rhoden

```
   QC value within limits for Sb 206.836  Recovery = Not calculated
Se 196.026†                -2.7    -0.00366 mg/L      0.001247    -0.00366 mg/L      0.001247  34.09%
   QC value within limits for Se 196.026  Recovery = Not calculated
Si 251.611†                 6.9    -0.00187 mg/L      0.001142    -0.00187 mg/L      0.001142  60.97%
   QC value within limits for Si 251.611  Recovery = Not calculated
Sn 189.927†                12.4    -0.00100 mg/L      0.000032    -0.00100 mg/L      0.000032   3.18%
   QC value within limits for Sn 189.927  Recovery = Not calculated
Ti 334.940†              -106.7    -0.00046 mg/L      0.000097    -0.00046 mg/L      0.000097  20.89%
   QC value within limits for Ti 334.940  Recovery = Not calculated
Tl 190.801†                -6.1    -0.00709 mg/L      0.001297    -0.00709 mg/L      0.001297  18.29%
   QC value within limits for Tl 190.801  Recovery = Not calculated
V 290.880†                 68.6    -0.00098 mg/L      0.000958    -0.00098 mg/L      0.000958  98.03%
   QC value within limits for V 290.880  Recovery = Not calculated
Zn 206.200†                 4.1    -0.00186 mg/L      0.000049    -0.00186 mg/L      0.000049   2.65%
   QC value within limits for Zn 206.200  Recovery = Not calculated
K 766.490†                 51.9      0.0300 mg/L       0.06861      0.0300 mg/L       0.06861 228.34%
   QC value within limits for K 766.490  Recovery = Not calculated
Na 589.592†                90.9     0.00692 mg/L      0.021300     0.00692 mg/L      0.021300 307.86%
   QC value within limits for Na 589.592  Recovery = Not calculated
Sr 407.771†               207.8    -0.00340 mg/L      0.000144    -0.00340 mg/L      0.000144   4.24%
   QC value within limits for Sr 407.771  Recovery = Not calculated
Li 670.784†               154.7    -0.00153 mg/L      0.000393    -0.00153 mg/L      0.000393  25.68%
   QC value within limits for Li 670.784  Recovery = Not calculated
All analyte(s) passed QC.

==========================================================================================
Sequence No.: 13                                    Autosampler Location: 95
Sample ID: L1305137218                              Date Collected: 5/31/2013 1:34:31 PM
Analyst: KHR                                        Data Type: Original
Initial Sample Wt:                                  Initial Sample Vol:
Dilution:                                           Sample Prep Vol:

------------------------------------------------------------------------------------------
Nebulizer Parameters: L1305137218
Analyte                  Back Pressure     Flow
All                     164.0 kPa         0.48 L/min

------------------------------------------------------------------------------------------
Mean Data: L1305137218
                   Mean Corrected          Calib.                          Sample
Analyte               Intensity      Conc. Units      Std.Dev.      Conc. Units      Std.Dev.   RSD
Y 371.029            2520891.4                                                     47177.78   1.87%
YRADIAL               178970.9                                                      3451.82   1.93%
Ga 417.206            991950.5                                                     28228.75   2.85%
GaRADIAL               51030.6                                                      1639.00   3.21%
Ag 328.068†               36.2    -0.00015 mg/L      0.000370    -0.00015 mg/L      0.000370 245.46%
Al 396.153†               54.0     0.00708 mg/L      0.002834     0.00708 mg/L      0.002834  40.05%
As 188.979†                3.0     0.00242 mg/L      0.003442     0.00242 mg/L      0.003442 142.33%
Ba 233.527†             3061.6      0.0325 mg/L       0.00076      0.0325 mg/L       0.00076   2.35%
Be 234.861†               38.7     0.00009 mg/L      0.000042     0.00009 mg/L      0.000042  46.98%
B 249.677†               644.7      0.0106 mg/L       0.00072      0.0106 mg/L       0.00072   6.82%
Ca 227.546†             1175.0        5.59 mg/L         0.150        5.59 mg/L         0.150   2.69%
Cd 228.802†               -4.5    -0.00026 mg/L      0.000111    -0.00026 mg/L      0.000111  42.73%
Co 228.616†               -3.6    -0.00107 mg/L      0.000248    -0.00107 mg/L      0.000248  23.24%
Cr 267.716†               20.8    -0.00099 mg/L      0.000081    -0.00099 mg/L      0.000081   8.16%
Cu 327.393†              -31.0    -0.00043 mg/L      0.000076    -0.00043 mg/L      0.000076  17.64%
Fe 239.562†               14.7    -0.00893 mg/L      0.000370    -0.00893 mg/L      0.000370   4.15%
Mg 279.077†             4576.4        3.26 mg/L         0.040        3.26 mg/L         0.040   1.24%
Mn 257.610†            29319.7      0.0529 mg/L       0.00122      0.0529 mg/L       0.00122   2.31%
Mo 202.031†               -2.0    -0.00214 mg/L      0.000325    -0.00214 mg/L      0.000325  15.18%
Ni 231.604†              102.5     0.00087 mg/L      0.000308     0.00087 mg/L      0.000308  35.31%
Pb 220.353†               18.7     0.00068 mg/L      0.000734     0.00068 mg/L      0.000734 108.10%
Sb 206.836†                4.7    -0.00043 mg/L      0.001960    -0.00043 mg/L      0.001960 459.04%
Se 196.026†                0.5    -0.00052 mg/L      0.006686    -0.00052 mg/L      0.006686 >999.9%
Si 251.611†            79079.6        2.18 mg/L         0.064        2.18 mg/L         0.064   2.92%
Sn 189.927†              -50.4    -0.00889 mg/L      0.000256    -0.00889 mg/L      0.000256   2.88%
Ti 334.940†             -719.0    -0.00045 mg/L      0.000141    -0.00045 mg/L      0.000141  31.30%
Tl 190.801†              -15.8     -0.0120 mg/L       0.00127     -0.0120 mg/L       0.00127  10.59%
V 290.880†               548.8     0.00138 mg/L      0.000497     0.00138 mg/L      0.000497  35.96%
Zn 206.200†              289.9     0.00637 mg/L      0.000306     0.00637 mg/L      0.000306   4.79%
K 766.490†              1382.5       0.906 mg/L        0.0427       0.906 mg/L        0.0427   4.71%
Na 589.592†            38071.4        3.37 mg/L         0.045        3.37 mg/L         0.045   1.32%
```

Approved: June 03, 2013

Kym H. Rhoden

Sr 407.771†	40237.5	0.0299	mg/L	0.00051	0.0299	mg/L	0.00051	1.70%
Li 670.784†	150.6	-0.00159	mg/L	0.000396	-0.00159	mg/L	0.000396	24.93%

==========

Sequence No.: 14 **Autosampler Location: 96**
Sample ID: L1305137219 **Date Collected: 5/31/2013 1:37:31 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1305137219

Analyte	Back Pressure	Flow
All	164.0 kPa	0.48 L/min

Mean Data: L1305137219

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2528361.2						63329.76	2.50%
YRADIAL	189819.5						1197.71	0.63%
Ga 417.206	1002373.5						30956.62	3.09%
GaRADIAL	52658.0						562.66	1.07%
Ag 328.068†	59.1	-0.00004	mg/L	0.000788	-0.00004	mg/L	0.000788	>999.9%
Al 396.153†	193.0	0.0526	mg/L	0.00158	0.0526	mg/L	0.00158	2.99%
As 188.979†	1.2	0.00155	mg/L	0.001675	0.00155	mg/L	0.001675	108.39%
Ba 233.527†	3376.1	0.0360	mg/L	0.00083	0.0360	mg/L	0.00083	2.30%
Be 234.861†	66.4	0.00012	mg/L	0.000093	0.00012	mg/L	0.000093	74.70%
B 249.677†	496.3	0.00844	mg/L	0.000160	0.00844	mg/L	0.000160	1.89%
Ca 227.546†	1153.5	5.48	mg/L	0.129	5.48	mg/L	0.129	2.36%
Cd 228.802†	-5.0	-0.00027	mg/L	0.000234	-0.00027	mg/L	0.000234	86.47%
Co 228.616†	4.1	-0.00074	mg/L	0.000327	-0.00074	mg/L	0.000327	43.93%
Cr 267.716†	17.2	-0.00103	mg/L	0.000083	-0.00103	mg/L	0.000083	8.10%
Cu 327.393†	-50.6	-0.00054	mg/L	0.000959	-0.00054	mg/L	0.000959	177.94%
Fe 239.562†	131.3	0.0197	mg/L	0.00036	0.0197	mg/L	0.00036	1.84%
Mg 279.077†	4293.1	3.06	mg/L	0.027	3.06	mg/L	0.027	0.89%
Mn 257.610†	33160.3	0.0602	mg/L	0.00187	0.0602	mg/L	0.00187	3.11%
Mo 202.031†	1.2	-0.00197	mg/L	0.000199	-0.00197	mg/L	0.000199	10.08%
Ni 231.604†	117.8	0.00126	mg/L	0.000117	0.00126	mg/L	0.000117	9.29%
Pb 220.353†	8.9	-0.00060	mg/L	0.001593	-0.00060	mg/L	0.001593	263.43%
Sb 206.836†	2.8	-0.00125	mg/L	0.000669	-0.00125	mg/L	0.000669	53.57%
Se 196.026†	-2.3	-0.00323	mg/L	0.004137	-0.00323	mg/L	0.004137	128.12%
Si 251.611†	78730.2	2.17	mg/L	0.065	2.17	mg/L	0.065	3.01%
Sn 189.927†	-51.3	-0.00900	mg/L	0.000402	-0.00900	mg/L	0.000402	4.46%
Ti 334.940†	-451.2	-0.00010	mg/L	0.000089	-0.00010	mg/L	0.000089	85.66%
Tl 190.801†	-11.6	-0.00993	mg/L	0.002864	-0.00993	mg/L	0.002864	28.84%
V 290.880†	455.1	0.00090	mg/L	0.000780	0.00090	mg/L	0.000780	86.28%
Zn 206.200†	301.9	0.00672	mg/L	0.000127	0.00672	mg/L	0.000127	1.89%
K 766.490†	1381.5	0.906	mg/L	0.0386	0.906	mg/L	0.0386	4.27%
Na 589.592†	37479.8	3.32	mg/L	0.094	3.32	mg/L	0.094	2.83%
Sr 407.771†	36234.0	0.0266	mg/L	0.00038	0.0266	mg/L	0.00038	1.43%
Li 670.784†	168.0	-0.00134	mg/L	0.001565	-0.00134	mg/L	0.001565	116.72%

==========

Sequence No.: 15 **Autosampler Location: 97**
Sample ID: L1305137220 **Date Collected: 5/31/2013 1:40:31 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1305137220

Analyte	Back Pressure	Flow
All	165.0 kPa	0.48 L/min

Mean Data: L1305137220

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2550489.4						31189.03	1.22%
YRADIAL	184087.3						5410.15	2.94%
Ga 417.206	1001507.1						16470.48	1.64%

Approved: June 03, 2013

Lynn H. Rhoden

GaRADIAL	51346.8					1098.10	2.14%
Ag 328.068†	13.6	-0.00025	mg/L	0.000401	-0.00025 mg/L	0.000401	162.07%
Al 396.153†	48.0	0.00510	mg/L	0.003213	0.00510 mg/L	0.003213	63.06%
As 188.979†	3.5	0.00267	mg/L	0.001644	0.00267 mg/L	0.001644	61.53%
Ba 233.527†	3120.3	0.0331	mg/L	0.00047	0.0331 mg/L	0.00047	1.41%
Be 234.861†	47.0	0.00010	mg/L	0.000028	0.00010 mg/L	0.000028	27.95%
B 249.677†	428.2	0.00748	mg/L	0.000392	0.00748 mg/L	0.000392	5.23%
Ca 227.546†	1116.9	5.31	mg/L	0.064	5.31 mg/L	0.064	1.20%
Cd 228.802†	-3.0	-0.00021	mg/L	0.000128	-0.00021 mg/L	0.000128	60.08%
Co 228.616†	5.7	-0.00068	mg/L	0.000157	-0.00068 mg/L	0.000157	23.15%
Cr 267.716†	20.5	-0.00099	mg/L	0.000172	-0.00099 mg/L	0.000172	17.36%
Cu 327.393†	85.6	0.00024	mg/L	0.000531	0.00024 mg/L	0.000531	224.67%
Fe 239.562†	12.0	-0.00959	mg/L	0.000591	-0.00959 mg/L	0.000591	6.17%
Mg 279.077†	4276.7	3.05	mg/L	0.078	3.05 mg/L	0.078	2.56%
Mn 257.610†	29268.8	0.0528	mg/L	0.00069	0.0528 mg/L	0.00069	1.30%
Mo 202.031†	1.7	-0.00195	mg/L	0.000313	-0.00195 mg/L	0.000313	16.03%
Ni 231.604†	112.2	0.00112	mg/L	0.000215	0.00112 mg/L	0.000215	19.24%
Pb 220.353†	5.5	-0.00105	mg/L	0.001286	-0.00105 mg/L	0.001286	122.65%
Sb 206.836†	4.4	-0.00057	mg/L	0.000598	-0.00057 mg/L	0.000598	104.37%
Se 196.026†	0.0	-0.00100	mg/L	0.001696	-0.00100 mg/L	0.001696	170.31%
Si 251.611†	75050.6	2.07	mg/L	0.036	2.07 mg/L	0.036	1.74%
Sn 189.927†	-49.3	-0.00874	mg/L	0.000308	-0.00874 mg/L	0.000308	3.52%
Ti 334.940†	-751.0	-0.00054	mg/L	0.000105	-0.00054 mg/L	0.000105	19.66%
Tl 190.801†	-12.0	-0.0101	mg/L	0.00114	-0.0101 mg/L	0.00114	11.21%
V 290.880†	468.3	0.00098	mg/L	0.000186	0.00098 mg/L	0.000186	19.02%
Zn 206.200†	265.7	0.00568	mg/L	0.000296	0.00568 mg/L	0.000296	5.22%
K 766.490†	1302.7	0.854	mg/L	0.0288	0.854 mg/L	0.0288	3.38%
Na 589.592†	36058.1	3.19	mg/L	0.043	3.19 mg/L	0.043	1.36%
Sr 407.771†	35751.6	0.0262	mg/L	0.00017	0.0262 mg/L	0.00017	0.65%
Li 670.784†	96.9	-0.00235	mg/L	0.000386	-0.00235 mg/L	0.000386	16.39%

==========

Sequence No.: 16 **Autosampler Location: 98**
Sample ID: L1305137221 **Date Collected: 5/31/2013 1:43:31 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1305137221

Analyte	Back Pressure	Flow
All	164.0 kPa	0.48 L/min

Mean Data: L1305137221

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2517295.2						23299.18	0.93%
YRADIAL	186236.9						6362.56	3.42%
Ga 417.206	982891.5						6134.59	0.62%
GaRADIAL	52073.1						752.44	1.44%
Ag 328.068†	62.3	0.00003	mg/L	0.000468	0.00003	mg/L	0.000468	>999.9%
Al 396.153†	397.9	0.120	mg/L	0.0023	0.120	mg/L	0.0023	1.91%
As 188.979†	2.1	0.00192	mg/L	0.001502	0.00192	mg/L	0.001502	78.36%
Ba 233.527†	5182.3	0.0562	mg/L	0.00022	0.0562	mg/L	0.00022	0.39%
Be 234.861†	-9.9	-0.00002	mg/L	0.000005	-0.00002	mg/L	0.000005	25.79%
B 249.677†	396.1	0.00697	mg/L	0.000210	0.00697	mg/L	0.000210	3.01%
Ca 227.546†	294.2	1.38	mg/L	0.034	1.38	mg/L	0.034	2.46%
Cd 228.802†	-3.8	-0.00024	mg/L	0.000080	-0.00024	mg/L	0.000080	33.75%
Co 228.616†	-8.8	-0.00130	mg/L	0.000391	-0.00130	mg/L	0.000391	30.04%
Cr 267.716†	30.1	-0.00090	mg/L	0.000110	-0.00090	mg/L	0.000110	12.25%
Cu 327.393†	-45.1	-0.00050	mg/L	0.000663	-0.00050	mg/L	0.000663	134.00%
Fe 239.562†	582.3	0.131	mg/L	0.0026	0.131	mg/L	0.0026	1.96%
Mg 279.077†	1102.0	0.774	mg/L	0.0175	0.774	mg/L	0.0175	2.27%
Mn 257.610†	4715.3	0.00638	mg/L	0.000043	0.00638	mg/L	0.000043	0.67%
Mo 202.031†	-1.4	-0.00211	mg/L	0.000149	-0.00211	mg/L	0.000149	7.04%
Ni 231.604†	29.7	-0.00100	mg/L	0.000228	-0.00100	mg/L	0.000228	22.80%
Pb 220.353†	12.9	-0.00005	mg/L	0.000385	-0.00005	mg/L	0.000385	732.26%
Sb 206.836†	2.2	-0.00150	mg/L	0.001426	-0.00150	mg/L	0.001426	95.23%
Se 196.026†	-3.1	-0.00395	mg/L	0.004464	-0.00395	mg/L	0.004464	113.02%
Si 251.611†	80372.8	2.21	mg/L	0.043	2.21	mg/L	0.043	1.94%
Sn 189.927†	-13.3	-0.00423	mg/L	0.000405	-0.00423	mg/L	0.000405	9.58%

Approved: June 03, 2013

Ti 334.940†	1797.6	0.00232	mg/L	0.000632	0.00232	mg/L	0.000632 27.27%
Tl 190.801†	-11.2	-0.00964	mg/L	0.001141	-0.00964	mg/L	0.001141 11.84%
V 290.880†	349.4	0.00040	mg/L	0.000544	0.00040	mg/L	0.000544 137.68%
Zn 206.200†	201.6	0.00383	mg/L	0.000063	0.00383	mg/L	0.000063 1.65%
K 766.490†	1152.2	0.757	mg/L	0.0781	0.757	mg/L	0.0781 10.32%
Na 589.592†	4826.6	0.425	mg/L	0.0106	0.425	mg/L	0.0106 2.49%
Sr 407.771†	13912.6	0.00801	mg/L	0.000120	0.00801	mg/L	0.000120 1.50%
Li 670.784†	-8.0	-0.00384	mg/L	0.000260	-0.00384	mg/L	0.000260 6.77%

Sequence No.: 17 **Autosampler Location: 99**
Sample ID: L1305137222 **Date Collected: 5/31/2013 1:46:31 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1305137222

Analyte	Back Pressure	Flow
All	164.0 kPa	0.48 L/min

Mean Data: L1305137222

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2544341.3						89668.73	3.52%
YRADIAL	180853.8						1708.88	0.94%
Ga 417.206	993523.5						35609.85	3.58%
GaRADIAL	51728.4						947.72	1.83%
Ag 328.068†	3.9	-0.00028	mg/L	0.000386	-0.00028	mg/L	0.000386	140.05%
Al 396.153†	50.3	0.00586	mg/L	0.001734	0.00586	mg/L	0.001734	29.60%
As 188.979†	-0.8	0.00047	mg/L	0.001790	0.00047	mg/L	0.001790	382.12%
Ba 233.527†	4448.1	0.0480	mg/L	0.00171	0.0480	mg/L	0.00171	3.57%
Be 234.861†	-9.7	0.00001	mg/L	0.000067	0.00001	mg/L	0.000067	778.97%
B 249.677†	379.3	0.00679	mg/L	0.000312	0.00679	mg/L	0.000312	4.59%
Ca 227.546†	286.8	1.34	mg/L	0.041	1.34	mg/L	0.041	3.04%
Cd 228.802†	-3.5	-0.00022	mg/L	0.000105	-0.00022	mg/L	0.000105	47.94%
Co 228.616†	-10.2	-0.00135	mg/L	0.000163	-0.00135	mg/L	0.000163	12.04%
Cr 267.716†	2.8	-0.00118	mg/L	0.000140	-0.00118	mg/L	0.000140	11.86%
Cu 327.393†	-6.1	-0.00029	mg/L	0.000625	-0.00029	mg/L	0.000625	219.37%
Fe 239.562†	70.6	0.00485	mg/L	0.000559	0.00485	mg/L	0.000559	11.53%
Mg 279.077†	1128.2	0.793	mg/L	0.0054	0.793	mg/L	0.0054	0.68%
Mn 257.610†	1196.4	-0.00028	mg/L	0.000103	-0.00028	mg/L	0.000103	36.63%
Mo 202.031†	-1.2	-0.00211	mg/L	0.000449	-0.00211	mg/L	0.000449	21.27%
Ni 231.604†	26.3	-0.00109	mg/L	0.000274	-0.00109	mg/L	0.000274	25.14%
Pb 220.353†	6.6	-0.00088	mg/L	0.000934	-0.00088	mg/L	0.000934	106.48%
Sb 206.836†	3.8	-0.00080	mg/L	0.001499	-0.00080	mg/L	0.001499	187.26%
Se 196.026†	-3.6	-0.00453	mg/L	0.002471	-0.00453	mg/L	0.002471	54.57%
Si 251.611†	73584.1	2.03	mg/L	0.049	2.03	mg/L	0.049	2.41%
Sn 189.927†	-17.5	-0.00475	mg/L	0.000519	-0.00475	mg/L	0.000519	10.91%
Ti 334.940†	-71.3	-0.00021	mg/L	0.000117	-0.00021	mg/L	0.000117	54.91%
Tl 190.801†	-4.5	-0.00628	mg/L	0.001399	-0.00628	mg/L	0.001399	22.30%
V 290.880†	180.9	-0.00043	mg/L	0.000380	-0.00043	mg/L	0.000380	88.02%
Zn 206.200†	223.2	0.00445	mg/L	0.000046	0.00445	mg/L	0.000046	1.03%
K 766.490†	1026.9	0.674	mg/L	0.0174	0.674	mg/L	0.0174	2.58%
Na 589.592†	4612.3	0.406	mg/L	0.0104	0.406	mg/L	0.0104	2.56%
Sr 407.771†	14105.5	0.00816	mg/L	0.000240	0.00816	mg/L	0.000240	2.94%
Li 670.784†	37.8	-0.00319	mg/L	0.001139	-0.00319	mg/L	0.001139	35.68%

Sequence No.: 18 **Autosampler Location: 100**
Sample ID: L1305137223 **Date Collected: 5/31/2013 1:49:31 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1305137223

Analyte	Back Pressure	Flow
All	164.0 kPa	0.48 L/min

Approved: June 03, 2013

Kym H. Rhoden

Mean Data: L1305137223

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	2571389.8						34524.61	1.34%
YRADIAL	187614.2						5336.71	2.84%
Ga 417.206	1000564.2						11845.76	1.18%
GaRADIAL	53280.7						714.10	1.34%
Ag 328.068†	-17.3	-0.00029	mg/L	0.000628	-0.00029	mg/L	0.000628	215.77%
Al 396.153†	692.0	0.216	mg/L	0.0035	0.216	mg/L	0.0035	1.63%
As 188.979†	2.5	0.00210	mg/L	0.000633	0.00210	mg/L	0.000633	30.14%
Ba 233.527†	5030.3	0.0545	mg/L	0.00071	0.0545	mg/L	0.00071	1.30%
Be 234.861†	51.2	0.00006	mg/L	0.000020	0.00006	mg/L	0.000020	35.85%
B 249.677†	379.6	0.00671	mg/L	0.000216	0.00671	mg/L	0.000216	3.22%
Ca 227.546†	287.1	1.34	mg/L	0.058	1.34	mg/L	0.058	4.35%
Cd 228.802†	-5.5	-0.00029	mg/L	0.000071	-0.00029	mg/L	0.000071	24.71%
Co 228.616†	0.0	-0.00095	mg/L	0.000268	-0.00095	mg/L	0.000268	28.25%
Cr 267.716†	23.5	-0.00097	mg/L	0.000191	-0.00097	mg/L	0.000191	19.78%
Cu 327.393†	-11.4	-0.00029	mg/L	0.000342	-0.00029	mg/L	0.000342	117.71%
Fe 239.562†	833.1	0.192	mg/L	0.0031	0.192	mg/L	0.0031	1.61%
Mg 279.077†	1088.8	0.764	mg/L	0.0097	0.764	mg/L	0.0097	1.27%
Mn 257.610†	5177.2	0.00726	mg/L	0.000333	0.00726	mg/L	0.000333	4.59%
Mo 202.031†	-4.4	-0.00226	mg/L	0.000154	-0.00226	mg/L	0.000154	6.80%
Ni 231.604†	67.9	-0.00002	mg/L	0.000147	-0.00002	mg/L	0.000147	793.05%
Pb 220.353†	5.5	-0.00100	mg/L	0.001260	-0.00100	mg/L	0.001260	125.77%
Sb 206.836†	1.1	-0.00193	mg/L	0.001324	-0.00193	mg/L	0.001324	68.64%
Se 196.026†	-5.3	-0.00609	mg/L	0.003352	-0.00609	mg/L	0.003352	55.05%
Si 251.611†	84111.5	2.32	mg/L	0.112	2.32	mg/L	0.112	4.82%
Sn 189.927†	-15.5	-0.00451	mg/L	0.000951	-0.00451	mg/L	0.000951	21.08%
Ti 334.940†	6986.9	0.00933	mg/L	0.005853	0.00933	mg/L	0.005853	62.76%
Tl 190.801†	-10.0	-0.00893	mg/L	0.001731	-0.00893	mg/L	0.001731	19.39%
V 290.880†	366.4	0.00047	mg/L	0.000903	0.00047	mg/L	0.000903	193.79%
Zn 206.200†	152.4	0.00241	mg/L	0.000132	0.00241	mg/L	0.000132	5.47%
K 766.490†	1096.5	0.720	mg/L	0.0430	0.720	mg/L	0.0430	5.97%
Na 589.592†	4430.2	0.390	mg/L	0.0078	0.390	mg/L	0.0078	2.00%
Sr 407.771†	13755.5	0.00787	mg/L	0.000020	0.00787	mg/L	0.000020	0.25%
Li 670.784†	53.3	-0.00297	mg/L	0.000536	-0.00297	mg/L	0.000536	18.04%

==========

Sequence No.: 19 **Autosampler Location: 101**
Sample ID: L1305137224 **Date Collected: 5/31/2013 1:52:31 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1305137224

Analyte	Back Pressure	Flow
All	165.0 kPa	0.48 L/min

Mean Data: L1305137224

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	2584986.3						40296.17	1.56%
YRADIAL	179741.8						1640.11	0.91%
Ga 417.206	1007701.7						15595.27	1.55%
GaRADIAL	51400.8						1248.34	2.43%
Ag 328.068†	-78.8	-0.00063	mg/L	0.000234	-0.00063	mg/L	0.000234	37.29%
Al 396.153†	52.5	0.00660	mg/L	0.001728	0.00660	mg/L	0.001728	26.18%
As 188.979†	3.0	0.00234	mg/L	0.001668	0.00234	mg/L	0.001668	71.32%
Ba 233.527†	4431.6	0.0478	mg/L	0.00100	0.0478	mg/L	0.00100	2.09%
Be 234.861†	4.6	0.00003	mg/L	0.000030	0.00003	mg/L	0.000030	104.26%
B 249.677†	352.3	0.00640	mg/L	0.000280	0.00640	mg/L	0.000280	4.37%
Ca 227.546†	307.5	1.44	mg/L	0.023	1.44	mg/L	0.023	1.61%
Cd 228.802†	-4.0	-0.00024	mg/L	0.000123	-0.00024	mg/L	0.000123	50.58%
Co 228.616†	-8.6	-0.00128	mg/L	0.000295	-0.00128	mg/L	0.000295	23.04%
Cr 267.716†	-6.1	-0.00128	mg/L	0.000108	-0.00128	mg/L	0.000108	8.42%
Cu 327.393†	17.1	-0.00015	mg/L	0.000179	-0.00015	mg/L	0.000179	117.81%
Fe 239.562†	79.4	0.00702	mg/L	0.001544	0.00702	mg/L	0.001544	22.00%
Mg 279.077†	1215.3	0.855	mg/L	0.0040	0.855	mg/L	0.0040	0.46%
Mn 257.610†	1128.7	-0.00041	mg/L	0.000032	-0.00041	mg/L	0.000032	7.76%
Mo 202.031†	-7.4	-0.00243	mg/L	0.000410	-0.00243	mg/L	0.000410	16.87%

Approved: June 03, 2013

Kym H. Rhoden

Ni 231.604†	18.5	-0.00129	mg/L	0.000290	-0.00129	mg/L	0.000290	22.48%
Pb 220.353†	3.3	-0.00131	mg/L	0.000673	-0.00131	mg/L	0.000673	51.35%
Sb 206.836†	5.1	-0.00028	mg/L	0.002355	-0.00028	mg/L	0.002355	826.99%
Se 196.026†	-2.8	-0.00369	mg/L	0.006306	-0.00369	mg/L	0.006306	171.00%
Si 251.611†	73070.8	2.01	mg/L	0.051	2.01	mg/L	0.051	2.53%
Sn 189.927†	-17.0	-0.00469	mg/L	0.000265	-0.00469	mg/L	0.000265	5.65%
Ti 334.940†	110.0	0.00005	mg/L	0.000464	0.00005	mg/L	0.000464	982.20%
Tl 190.801†	-6.6	-0.00733	mg/L	0.002811	-0.00733	mg/L	0.002811	38.37%
V 290.880†	271.2	0.00003	mg/L	0.001021	0.00003	mg/L	0.001021	>999.9%
Zn 206.200†	208.5	0.00403	mg/L	0.000246	0.00403	mg/L	0.000246	6.09%
K 766.490†	1107.1	0.727	mg/L	0.0222	0.727	mg/L	0.0222	3.05%
Na 589.592†	4791.7	0.422	mg/L	0.0133	0.422	mg/L	0.0133	3.14%
Sr 407.771†	14751.9	0.00870	mg/L	0.000167	0.00870	mg/L	0.000167	1.92%
Li 670.784†	66.2	-0.00279	mg/L	0.000847	-0.00279	mg/L	0.000847	30.37%

Sequence No.: 20 **Autosampler Location: 102**
Sample ID: L1305137225 **Date Collected: 5/31/2013 1:55:31 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1305137225

Analyte	Back Pressure	Flow
All	165.0 kPa	0.48 L/min

Mean Data: L1305137225

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2564567.4						36375.16	1.42%
YRADIAL	185854.3						3440.77	1.85%
Ga 417.206	1012319.5						13060.60	1.29%
GaRADIAL	52508.0						951.47	1.81%
Ag 328.068†	24.6	-0.00012	mg/L	0.000130	-0.00012	mg/L	0.000130	109.92%
Al 396.153†	564.2	0.174	mg/L	0.0044	0.174	mg/L	0.0044	2.51%
As 188.979†	2.1	0.00196	mg/L	0.003615	0.00196	mg/L	0.003615	184.74%
Ba 233.527†	2774.7	0.0292	mg/L	0.00042	0.0292	mg/L	0.00042	1.44%
Be 234.861†	35.5	0.00004	mg/L	0.000026	0.00004	mg/L	0.000026	73.31%
B 249.677†	505.9	0.00851	mg/L	0.000182	0.00851	mg/L	0.000182	2.13%
Ca 227.546†	808.1	3.83	mg/L	0.036	3.83	mg/L	0.036	0.93%
Cd 228.802†	-5.3	-0.00028	mg/L	0.000200	-0.00028	mg/L	0.000200	70.95%
Co 228.616†	-3.8	-0.00109	mg/L	0.000211	-0.00109	mg/L	0.000211	19.35%
Cr 267.716†	26.6	-0.00093	mg/L	0.000153	-0.00093	mg/L	0.000153	16.40%
Cu 327.393†	130.0	0.00051	mg/L	0.000520	0.00051	mg/L	0.000520	101.94%
Fe 239.562†	789.5	0.181	mg/L	0.0037	0.181	mg/L	0.0037	2.06%
Mg 279.077†	3450.6	2.46	mg/L	0.040	2.46	mg/L	0.040	1.64%
Mn 257.610†	8188.7	0.0130	mg/L	0.00062	0.0130	mg/L	0.00062	4.81%
Mo 202.031†	2.0	-0.00194	mg/L	0.000043	-0.00194	mg/L	0.000043	2.22%
Ni 231.604†	22.0	-0.00120	mg/L	0.000280	-0.00120	mg/L	0.000280	23.35%
Pb 220.353†	11.4	-0.00025	mg/L	0.000916	-0.00025	mg/L	0.000916	372.20%
Sb 206.836†	0.8	-0.00206	mg/L	0.000664	-0.00206	mg/L	0.000664	32.30%
Se 196.026†	-1.4	-0.00236	mg/L	0.005279	-0.00236	mg/L	0.005279	223.62%
Si 251.611†	71936.3	1.98	mg/L	0.085	1.98	mg/L	0.085	4.28%
Sn 189.927†	-42.5	-0.00790	mg/L	0.001470	-0.00790	mg/L	0.001470	18.61%
Ti 334.940†	2496.6	0.00363	mg/L	0.000433	0.00363	mg/L	0.000433	11.93%
Tl 190.801†	-12.9	-0.0105	mg/L	0.00095	-0.0105	mg/L	0.00095	9.06%
V 290.880†	527.3	0.00125	mg/L	0.000755	0.00125	mg/L	0.000755	60.58%
Zn 206.200†	133.8	0.00188	mg/L	0.000280	0.00188	mg/L	0.000280	14.93%
K 766.490†	953.4	0.626	mg/L	0.0399	0.626	mg/L	0.0399	6.38%
Na 589.592†	3671.1	0.323	mg/L	0.0092	0.323	mg/L	0.0092	2.83%
Sr 407.771†	33111.1	0.0240	mg/L	0.00030	0.0240	mg/L	0.00030	1.25%
Li 670.784†	9.4	-0.00360	mg/L	0.000637	-0.00360	mg/L	0.000637	17.71%

Sequence No.: 21 **Autosampler Location: 103**
Sample ID: L1305137226 **Date Collected: 5/31/2013 1:58:31 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Approved: June 03, 2013

Kym H. Rhoden

Nebulizer Parameters: L1305137226

Analyte	Back Pressure	Flow
All	165.0 kPa	0.48 L/min

Mean Data: L1305137226

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2588862.6						53935.06	2.08%
YRADIAL	184533.6						2410.15	1.31%
Ga 417.206	1013437.0						26167.95	2.58%
GaRADIAL	52566.4						525.30	1.00%
Ag 328.068†	45.8	-0.00009	mg/L	0.000389	-0.00009	mg/L	0.000389	446.15%
Al 396.153†	122.2	0.0295	mg/L	0.00071	0.0295	mg/L	0.00071	2.42%
As 188.979†	1.7	0.00176	mg/L	0.000604	0.00176	mg/L	0.000604	34.42%
Ba 233.527†	2399.0	0.0250	mg/L	0.00054	0.0250	mg/L	0.00054	2.16%
Be 234.861†	-1.5	0.00001	mg/L	0.000037	0.00001	mg/L	0.000037	260.97%
B 249.677†	515.6	0.00871	mg/L	0.000271	0.00871	mg/L	0.000271	3.11%
Ca 227.546†	807.5	3.83	mg/L	0.082	3.83	mg/L	0.082	2.15%
Cd 228.802†	-5.4	-0.00028	mg/L	0.000122	-0.00028	mg/L	0.000122	42.98%
Co 228.616†	2.2	-0.00082	mg/L	0.000402	-0.00082	mg/L	0.000402	48.83%
Cr 267.716†	12.4	-0.00108	mg/L	0.000024	-0.00108	mg/L	0.000024	2.25%
Cu 327.393†	22.6	-0.00012	mg/L	0.000361	-0.00012	mg/L	0.000361	305.51%
Fe 239.562†	197.4	0.0360	mg/L	0.00028	0.0360	mg/L	0.00028	0.79%
Mg 279.077†	3546.6	2.53	mg/L	0.027	2.53	mg/L	0.027	1.08%
Mn 257.610†	5409.2	0.00769	mg/L	0.000224	0.00769	mg/L	0.000224	2.91%
Mo 202.031†	-3.4	-0.00222	mg/L	0.000193	-0.00222	mg/L	0.000193	8.68%
Ni 231.604†	22.5	-0.00118	mg/L	0.000164	-0.00118	mg/L	0.000164	13.85%
Pb 220.353†	20.2	0.00089	mg/L	0.000426	0.00089	mg/L	0.000426	47.58%
Sb 206.836†	3.4	-0.00097	mg/L	0.001068	-0.00097	mg/L	0.001068	110.27%
Se 196.026†	-1.9	-0.00279	mg/L	0.002257	-0.00279	mg/L	0.002257	80.88%
Si 251.611†	65366.2	1.80	mg/L	0.057	1.80	mg/L	0.057	3.15%
Sn 189.927†	-40.5	-0.00764	mg/L	0.000135	-0.00764	mg/L	0.000135	1.77%
Ti 334.940†	467.0	0.00089	mg/L	0.000126	0.00089	mg/L	0.000126	14.17%
Tl 190.801†	-10.1	-0.00912	mg/L	0.002445	-0.00912	mg/L	0.002445	26.82%
V 290.880†	295.4	0.00010	mg/L	0.000995	0.00010	mg/L	0.000995	999.53%
Zn 206.200†	154.9	0.00249	mg/L	0.000117	0.00249	mg/L	0.000117	4.71%
K 766.490†	1345.1	0.885	mg/L	0.0231	0.885	mg/L	0.0231	2.61%
Na 589.592†	4508.1	0.397	mg/L	0.0069	0.397	mg/L	0.0069	1.74%
Sr 407.771†	33981.6	0.0247	mg/L	0.00005	0.0247	mg/L	0.00005	0.21%
Li 670.784†	33.7	-0.00325	mg/L	0.000440	-0.00325	mg/L	0.000440	13.54%

Sequence No.: 22 **Autosampler Location: 6**
Sample ID: CCV **Date Collected: 5/31/2013 2:01:31 PM**
Analyst: **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: CCV

Analyte	Back Pressure	Flow
All	164.0 kPa	0.48 L/min

Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2465599.7						19299.65	0.78%
YRADIAL	180654.5						2686.20	1.49%
Ga 417.206	951351.0						18673.94	1.96%
GaRADIAL	50730.6						732.89	1.44%
Ag 328.068†	95666.5	0.412	mg/L	0.0108	0.412	mg/L	0.0108	2.63%
QC value within limits for Ag 328.068 Recovery = 103.08%								
Al 396.153†	31149.1	10.1	mg/L	0.05	10.1	mg/L	0.05	0.49%
QC value within limits for Al 396.153 Recovery = 101.35%								
As 188.979†	830.6	0.406	mg/L	0.0124	0.406	mg/L	0.0124	3.07%
QC value within limits for As 188.979 Recovery = 101.48%								
Ba 233.527†	91720.5	1.03	mg/L	0.010	1.03	mg/L	0.010	0.93%
QC value within limits for Ba 233.527 Recovery = 102.63%								
Be 234.861†	34551.2	0.0509	mg/L	0.00112	0.0509	mg/L	0.00112	2.19%

Approved: June 03, 2013

```
   QC value within limits for Be 234.861  Recovery = 101.71%
B 249.677†            35337.8       0.498 mg/L        0.0104       0.498 mg/L        0.0104   2.09%
   QC value within limits for B 249.677  Recovery = 99.69%
Ca 227.546†            2140.9        10.7 mg/L          0.23        10.7 mg/L          0.23   2.13%
   QC value within limits for Ca 227.546  Recovery = 106.77%
Cd 228.802†            1634.9      0.0500 mg/L       0.00147      0.0500 mg/L       0.00147   2.93%
   QC value within limits for Cd 228.802  Recovery = 100.04%
Co 228.616†            4969.1       0.207 mg/L        0.0016       0.207 mg/L        0.0016   0.76%
   QC value within limits for Co 228.616  Recovery = 103.29%
Cr 267.716†           47606.5       0.510 mg/L        0.0076       0.510 mg/L        0.0076   1.49%
   QC value within limits for Cr 267.716  Recovery = 101.98%
Cu 327.393†           89503.9       0.513 mg/L        0.0135       0.513 mg/L        0.0135   2.63%
   QC value within limits for Cu 327.393  Recovery = 102.58%
Fe 239.562†           17029.8        4.17 mg/L         0.022        4.17 mg/L         0.022   0.52%
   QC value within limits for Fe 239.562  Recovery = 104.25%
Mg 279.077†           14549.3        10.4 mg/L          0.04        10.4 mg/L          0.04   0.38%
   QC value within limits for Mg 279.077  Recovery = 104.28%
Mn 257.610†          276720.5       0.522 mg/L        0.0041       0.522 mg/L        0.0041   0.78%
   QC value within limits for Mn 257.610  Recovery = 104.32%
Mo 202.031†           20090.6        1.02 mg/L         0.012        1.02 mg/L         0.012   1.19%
   QC value within limits for Mo 202.031  Recovery = 102.42%
Ni 231.604†           20129.3       0.515 mg/L        0.0064       0.515 mg/L        0.0064   1.24%
   QC value within limits for Ni 231.604  Recovery = 102.92%
Pb 220.353†            3958.4       0.518 mg/L        0.0030       0.518 mg/L        0.0030   0.59%
   QC value within limits for Pb 220.353  Recovery = 103.55%
Sb 206.836†            2969.6        1.23 mg/L         0.027        1.23 mg/L         0.027   2.19%
   QC value within limits for Sb 206.836  Recovery = 102.70%
Se 196.026†             424.6       0.411 mg/L        0.0101       0.411 mg/L        0.0101   2.46%
   QC value within limits for Se 196.026  Recovery = 102.75%
Si 251.611†          185069.9        5.09 mg/L         0.117        5.09 mg/L         0.117   2.30%
   QC value within limits for Si 251.611  Recovery = 101.83%
Sn 189.927†            7462.6       0.934 mg/L        0.0047       0.934 mg/L        0.0047   0.50%
   QC value within limits for Sn 189.927  Recovery = 93.35%
Ti 334.940†          753659.5        1.02 mg/L         0.001        1.02 mg/L         0.001   0.09%
   QC value within limits for Ti 334.940  Recovery = 101.96%
Tl 190.801†            1046.0       0.537 mg/L        0.0031       0.537 mg/L        0.0031   0.59%
   QC value within limits for Tl 190.801  Recovery = 107.37%
V 290.880†           200641.1        1.02 mg/L         0.007        1.02 mg/L         0.007   0.72%
   QC value within limits for V 290.880  Recovery = 101.96%
Zn 206.200†           35656.0        1.03 mg/L         0.015        1.03 mg/L         0.015   1.43%
   QC value within limits for Zn 206.200  Recovery = 102.93%
K 766.490†            77451.3        52.1 mg/L          0.10        52.1 mg/L          0.10   0.20%
   QC value within limits for K 766.490  Recovery = 104.15%
Na 589.592†          568485.2        51.5 mg/L          0.32        51.5 mg/L          0.32   0.63%
   QC value within limits for Na 589.592  Recovery = 103.10%
Sr 407.771†         1304197.6        1.08 mg/L         0.012        1.08 mg/L         0.012   1.13%
   QC value within limits for Sr 407.771  Recovery = 107.97%
Li 670.784†           73548.5        1.04 mg/L         0.006        1.04 mg/L         0.006   0.57%
   QC value within limits for Li 670.784  Recovery = 104.20%
All analyte(s) passed QC.

==========================================================================================
Sequence No.: 23                                  Autosampler Location: 1
Sample ID: CCB                                    Date Collected: 5/31/2013 2:03:36 PM
Analyst:                                          Data Type: Original
Initial Sample Wt:                                Initial Sample Vol:
Dilution:                                         Sample Prep Vol:

------------------------------------------------------------------------------------------
Nebulizer Parameters: CCB
Analyte                 Back Pressure    Flow
All                     165.0 kPa        0.48 L/min

------------------------------------------------------------------------------------------
Mean Data: CCB
                   Mean Corrected        Calib.                          Sample
Analyte               Intensity     Conc. Units      Std.Dev.     Conc. Units      Std.Dev.   RSD
Y 371.029           2575745.6                                                     39926.87   1.55%
YRADIAL              187951.7                                                      3500.69   1.86%
Ga 417.206           992254.2                                                     20647.41   2.08%
GaRADIAL              51249.9                                                      1329.65   2.59%
Ag 328.068†              34.7    -0.00015 mg/L      0.000411    -0.00015 mg/L      0.000411 271.49%
```

Approved: June 03, 2013

Lynn H. Rhoden

```
   QC value within limits for Ag 328.068  Recovery = Not calculated
Al 396.153†                7.7    -0.00810 mg/L      0.001871    -0.00810 mg/L      0.001871  23.09%
   QC value within limits for Al 396.153  Recovery = Not calculated
As 188.979†                1.0     0.00131 mg/L      0.000172     0.00131 mg/L      0.000172  13.15%
   QC value within limits for As 188.979  Recovery = Not calculated
Ba 233.527†              -14.9    -0.00201 mg/L      0.000037    -0.00201 mg/L      0.000037   1.85%
   QC value within limits for Ba 233.527  Recovery = Not calculated
Be 234.861†              -30.8    -0.00002 mg/L      0.000029    -0.00002 mg/L      0.000029 148.01%
   QC value within limits for Be 234.861  Recovery = Not calculated
B 249.677†               385.7     0.00688 mg/L      0.001165     0.00688 mg/L      0.001165  16.93%
   QC value within limits for B 249.677  Recovery = Not calculated
Ca 227.546†                6.4    -0.00498 mg/L      0.031368    -0.00498 mg/L      0.031368 629.33%
   QC value within limits for Ca 227.546  Recovery = Not calculated
Cd 228.802†               -3.5    -0.00022 mg/L      0.000114    -0.00022 mg/L      0.000114  50.91%
   QC value within limits for Cd 228.802  Recovery = Not calculated
Co 228.616†               -8.7    -0.00127 mg/L      0.000028    -0.00127 mg/L      0.000028   2.21%
   QC value within limits for Co 228.616  Recovery = Not calculated
Cr 267.716†               -3.2    -0.00125 mg/L      0.000040    -0.00125 mg/L      0.000040   3.21%
   QC value within limits for Cr 267.716  Recovery = Not calculated
Cu 327.393†               76.4     0.00018 mg/L      0.000220     0.00018 mg/L      0.000220 119.94%
   QC value within limits for Cu 327.393  Recovery = Not calculated
Fe 239.562†                5.3     -0.0112 mg/L       0.00038     -0.0112 mg/L       0.00038   3.40%
   QC value within limits for Fe 239.562  Recovery = Not calculated
Mg 279.077†               -0.9     -0.0163 mg/L       0.00324     -0.0163 mg/L       0.00324  19.87%
   QC value within limits for Mg 279.077  Recovery = Not calculated
Mn 257.610†              -50.0    -0.00264 mg/L      0.000007    -0.00264 mg/L      0.000007   0.27%
   QC value within limits for Mn 257.610  Recovery = Not calculated
Mo 202.031†                0.1    -0.00205 mg/L      0.000174    -0.00205 mg/L      0.000174   8.49%
   QC value within limits for Mo 202.031  Recovery = Not calculated
Ni 231.604†               -7.3    -0.00195 mg/L      0.000251    -0.00195 mg/L      0.000251  12.88%
   QC value within limits for Ni 231.604  Recovery = Not calculated
Pb 220.353†                5.3    -0.00105 mg/L      0.001906    -0.00105 mg/L      0.001906 181.00%
   QC value within limits for Pb 220.353  Recovery = Not calculated
Sb 206.836†                5.4    -0.00015 mg/L      0.002042    -0.00015 mg/L      0.002042 >999.9%
   QC value within limits for Sb 206.836  Recovery = Not calculated
Se 196.026†               -2.0    -0.00294 mg/L      0.004297    -0.00294 mg/L      0.004297 146.36%
   QC value within limits for Se 196.026  Recovery = Not calculated
Si 251.611†              -31.9    -0.00295 mg/L      0.000988    -0.00295 mg/L      0.000988  33.54%
   QC value within limits for Si 251.611  Recovery = Not calculated
Sn 189.927†               14.1    -0.00079 mg/L      0.000540    -0.00079 mg/L      0.000540  68.13%
   QC value within limits for Sn 189.927  Recovery = Not calculated
Ti 334.940†              -17.9    -0.00034 mg/L      0.000045    -0.00034 mg/L      0.000045  13.12%
   QC value within limits for Ti 334.940  Recovery = Not calculated
Tl 190.801†               -6.0    -0.00705 mg/L      0.000960    -0.00705 mg/L      0.000960  13.63%
   QC value within limits for Tl 190.801  Recovery = Not calculated
V 290.880†               -139.0    -0.00203 mg/L      0.000507    -0.00203 mg/L      0.000507  24.92%
   QC value within limits for V 290.880  Recovery = Not calculated
Zn 206.200†               -1.1    -0.00201 mg/L      0.000209    -0.00201 mg/L      0.000209  10.40%
   QC value within limits for Zn 206.200  Recovery = Not calculated
K 766.490†                70.9      0.0426 mg/L       0.02070      0.0426 mg/L       0.02070  48.58%
   QC value within limits for K 766.490  Recovery = Not calculated
Na 589.592†               95.9     0.00736 mg/L      0.021766     0.00736 mg/L      0.021766 295.74%
   QC value within limits for Na 589.592  Recovery = Not calculated
Sr 407.771†              153.9    -0.00344 mg/L      0.000121    -0.00344 mg/L      0.000121   3.50%
   QC value within limits for Sr 407.771  Recovery = Not calculated
Li 670.784†              162.8    -0.00142 mg/L      0.002214    -0.00142 mg/L      0.002214 156.34%
   QC value within limits for Li 670.784  Recovery = Not calculated
All analyte(s) passed QC.

==========================================================================================================
Sequence No.: 24                                    Autosampler Location: 104
Sample ID: L1305141801 WG432425-02                  Date Collected: 5/31/2013 2:06:35 PM
Analyst: KHR                                        Data Type: Original
Initial Sample Wt:                                  Initial Sample Vol:
Dilution:                                           Sample Prep Vol:

----------------------------------------------------------------------------------------------------------
Nebulizer Parameters: L1305141801 WG432425-02
Analyte                 Back Pressure    Flow
All                   165.0 kPa         0.48 L/min

----------------------------------------------------------------------------------------------------------
```

Approved: June 03, 2013

Kym H. Rhoden

Mean Data: L1305141801 WG432425-02

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	2455827.1						20454.98	0.83%
YRADIAL	182733.5						1749.01	0.96%
Ga 417.206	1008418.7						6015.84	0.60%
GaRADIAL	53679.6						246.24	0.46%
Ag 328.068†	1061.7	0.00416	mg/L	0.000607	0.00416	mg/L	0.000607	14.60%
Al 396.153†	70.0	0.0122	mg/L	0.00178	0.0122	mg/L	0.00178	14.53%
As 188.979†	7.9	0.00751	mg/L	0.002123	0.00751	mg/L	0.002123	28.28%
Ba 233.527†	1426.0	0.0141	mg/L	0.00016	0.0141	mg/L	0.00016	1.15%
Be 234.861†	78.1	0.00015	mg/L	0.000027	0.00015	mg/L	0.000027	18.01%
B 249.677†	1475.9	0.0223	mg/L	0.00035	0.0223	mg/L	0.00035	1.59%
Ca 227.546†	26544.5	127	mg/L	1.3	127	mg/L	1.3	1.02%
Cd 228.802†	-3.6	-0.00024	mg/L	0.000075	-0.00024	mg/L	0.000075	31.02%
Co 228.616†	17.1	-0.00015	mg/L	0.000099	-0.00015	mg/L	0.000099	66.01%
Cr 267.716†	220.4	0.00116	mg/L	0.000142	0.00116	mg/L	0.000142	12.26%
Cu 327.393†	-203.3	-0.00142	mg/L	0.000409	-0.00142	mg/L	0.000409	28.74%
Fe 239.562†	216.2	0.0385	mg/L	0.00016	0.0385	mg/L	0.00016	0.41%
Mg 279.077†	149391.1	107	mg/L	0.8	107	mg/L	0.8	0.77%
Mn 257.610†	89643.4	0.167	mg/L	0.0034	0.167	mg/L	0.0034	2.03%
Mo 202.031†	29.8	-0.00048	mg/L	0.000425	-0.00048	mg/L	0.000425	88.24%
Ni 231.604†	330.6	0.00673	mg/L	0.000274	0.00673	mg/L	0.000274	4.06%
Pb 220.353†	47.8	0.00443	mg/L	0.000720	0.00443	mg/L	0.000720	16.27%
Sb 206.836†	-0.5	-0.00258	mg/L	0.002432	-0.00258	mg/L	0.002432	94.24%
Se 196.026†	5.4	0.00418	mg/L	0.008922	0.00418	mg/L	0.008922	213.69%
Si 251.611†	89155.6	2.46	mg/L	0.028	2.46	mg/L	0.028	1.15%
Sn 189.927†	-322.7	-0.0430	mg/L	0.00067	-0.0430	mg/L	0.00067	1.56%
Ti 334.940†	-14227.3	-0.00051	mg/L	0.000198	-0.00051	mg/L	0.000198	38.94%
Tl 190.801†	-44.3	-0.0266	mg/L	0.00470	-0.0266	mg/L	0.00470	17.63%
V 290.880†	4608.3	0.0194	mg/L	0.00078	0.0194	mg/L	0.00078	4.02%
Zn 206.200†	292.6	0.00647	mg/L	0.000257	0.00647	mg/L	0.000257	3.97%
K 766.490†	11812.3	7.82	mg/L	0.061	7.82	mg/L	0.061	0.78%
Na 589.592†	35564.8	3.15	mg/L	0.024	3.15	mg/L	0.024	0.76%
Sr 407.771†	782985.6	0.649	mg/L	0.0059	0.649	mg/L	0.0059	0.91%
Li 670.784†	1170.5	0.0129	mg/L	0.00137	0.0129	mg/L	0.00137	10.59%

==========

Sequence No.: 25 **Autosampler Location: 105**
Sample ID: L1305141801MS WG432425-07 **Date Collected: 5/31/2013 2:09:39 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1305141801MS WG432425-07

Analyte	Back Pressure	Flow
All	165.0 kPa	0.48 L/min

Mean Data: L1305141801MS WG432425-07

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	2402067.0						31370.88	1.31%
YRADIAL	183024.4						498.11	0.27%
Ga 417.206	979161.4						11997.09	1.23%
GaRADIAL	51280.0						272.66	0.53%
Ag 328.068†	44666.8	0.192	mg/L	0.0017	0.192	mg/L	0.0017	0.90%
Al 396.153†	15130.6	4.92	mg/L	0.057	4.92	mg/L	0.057	1.15%
As 188.979†	401.5	0.199	mg/L	0.0013	0.199	mg/L	0.0013	0.66%
Ba 233.527†	44663.8	0.499	mg/L	0.0042	0.499	mg/L	0.0042	0.85%
Be 234.861†	15902.4	0.0234	mg/L	0.00025	0.0234	mg/L	0.00025	1.05%
B 249.677†	67442.3	0.956	mg/L	0.0085	0.956	mg/L	0.0085	0.89%
Ca 227.546†	28211.0	135	mg/L	1.0	135	mg/L	1.0	0.77%
Cd 228.802†	738.8	0.0225	mg/L	0.00006	0.0225	mg/L	0.00006	0.27%
Co 228.616†	2317.3	0.0959	mg/L	0.00067	0.0959	mg/L	0.00067	0.70%
Cr 267.716†	22840.7	0.244	mg/L	0.0032	0.244	mg/L	0.0032	1.33%
Cu 327.393†	40384.5	0.231	mg/L	0.0019	0.231	mg/L	0.0019	0.81%
Fe 239.562†	8348.6	2.04	mg/L	0.026	2.04	mg/L	0.026	1.28%
Mg 279.077†	160698.3	115	mg/L	1.0	115	mg/L	1.0	0.87%
Mn 257.610†	224682.8	0.423	mg/L	0.0042	0.423	mg/L	0.0042	1.00%
Mo 202.031†	9960.0	0.507	mg/L	0.0041	0.507	mg/L	0.0041	0.80%

Approved: June 03, 2013

Ni 231.604†	9959.0	0.254	mg/L	0.0022	0.254	mg/L	0.0022	0.86%
Pb 220.353†	1914.4	0.249	mg/L	0.0017	0.249	mg/L	0.0017	0.69%
Sb 206.836†	1385.4	0.574	mg/L	0.0039	0.574	mg/L	0.0039	0.68%
Se 196.026†	200.4	0.193	mg/L	0.0080	0.193	mg/L	0.0080	4.15%
Si 251.611†	176750.2	4.87	mg/L	0.058	4.87	mg/L	0.058	1.19%
Sn 189.927†	3901.1	0.487	mg/L	0.0041	0.487	mg/L	0.0041	0.85%
Ti 334.940†	355947.3	0.501	mg/L	0.0091	0.501	mg/L	0.0091	1.81%
Tl 190.801†	452.5	0.230	mg/L	0.0026	0.230	mg/L	0.0026	1.12%
V 290.880†	100817.8	0.509	mg/L	0.0060	0.509	mg/L	0.0060	1.18%
Zn 206.200†	16371.4	0.472	mg/L	0.0050	0.472	mg/L	0.0050	1.05%
K 766.490†	50046.9	33.4	mg/L	0.33	33.4	mg/L	0.33	0.98%
Na 589.592†	313732.6	28.1	mg/L	0.40	28.1	mg/L	0.40	1.42%
Sr 407.771†	1399708.6	1.16	mg/L	0.013	1.16	mg/L	0.013	1.12%
Li 670.784†	37515.3	0.530	mg/L	0.0064	0.530	mg/L	0.0064	1.20%

Sequence No.: 26 **Autosampler Location: 106**
Sample ID: L1305141802 **Date Collected: 5/31/2013 2:11:43 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1305141802

Analyte	Back Pressure	Flow
All	165.0 kPa	0.48 L/min

Mean Data: L1305141802

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2487509.4						9595.38	0.39%
YRADIAL	179181.2						4468.31	2.49%
Ga 417.206	1025884.4						2426.27	0.24%
GaRADIAL	52494.8						739.30	1.41%
Ag 328.068†	1004.6	0.00390	mg/L	0.000475	0.00390	mg/L	0.000475	12.18%
Al 396.153†	21.8	-0.00358	mg/L	0.002941	-0.00358	mg/L	0.002941	82.12%
As 188.979†	5.5	0.00618	mg/L	0.001765	0.00618	mg/L	0.001765	28.56%
Ba 233.527†	1385.5	0.0137	mg/L	0.00023	0.0137	mg/L	0.00023	1.71%
Be 234.861†	57.9	0.00012	mg/L	0.000025	0.00012	mg/L	0.000025	20.29%
B 249.677†	1950.2	0.0291	mg/L	0.00149	0.0291	mg/L	0.00149	5.13%
Ca 227.546†	25336.9	121	mg/L	0.5	121	mg/L	0.5	0.41%
Cd 228.802†	-5.5	-0.00030	mg/L	0.000060	-0.00030	mg/L	0.000060	20.40%
Co 228.616†	19.5	-0.00005	mg/L	0.000328	-0.00005	mg/L	0.000328	675.06%
Cr 267.716†	229.0	0.00126	mg/L	0.000148	0.00126	mg/L	0.000148	11.78%
Cu 327.393†	-89.0	-0.00077	mg/L	0.001172	-0.00077	mg/L	0.001172	151.31%
Fe 239.562†	47.4	-0.00297	mg/L	0.001127	-0.00297	mg/L	0.001127	37.91%
Mg 279.077†	148522.5	106	mg/L	1.2	106	mg/L	1.2	1.11%
Mn 257.610†	71582.0	0.133	mg/L	0.0006	0.133	mg/L	0.0006	0.42%
Mo 202.031†	31.3	-0.00042	mg/L	0.000310	-0.00042	mg/L	0.000310	74.07%
Ni 231.604†	302.4	0.00600	mg/L	0.000173	0.00600	mg/L	0.000173	2.88%
Pb 220.353†	50.6	0.00482	mg/L	0.001606	0.00482	mg/L	0.001606	33.34%
Sb 206.836†	0.4	-0.00223	mg/L	0.001542	-0.00223	mg/L	0.001542	69.24%
Se 196.026†	1.6	0.00054	mg/L	0.001102	0.00054	mg/L	0.001102	203.31%
Si 251.611†	85212.7	2.35	mg/L	0.004	2.35	mg/L	0.004	0.19%
Sn 189.927†	-319.1	-0.0426	mg/L	0.00113	-0.0426	mg/L	0.00113	2.65%
Ti 334.940†	-14028.0	-0.00111	mg/L	0.000055	-0.00111	mg/L	0.000055	5.00%
Tl 190.801†	-38.7	-0.0238	mg/L	0.00232	-0.0238	mg/L	0.00232	9.76%
V 290.880†	4252.7	0.0176	mg/L	0.00081	0.0176	mg/L	0.00081	4.59%
Zn 206.200†	274.1	0.00594	mg/L	0.000124	0.00594	mg/L	0.000124	2.08%
K 766.490†	11798.4	7.81	mg/L	0.136	7.81	mg/L	0.136	1.74%
Na 589.592†	36875.7	3.26	mg/L	0.067	3.26	mg/L	0.067	2.05%
Sr 407.771†	806906.5	0.668	mg/L	0.0224	0.668	mg/L	0.0224	3.35%
Li 670.784†	1148.2	0.0126	mg/L	0.00061	0.0126	mg/L	0.00061	4.85%

Sequence No.: 27 **Autosampler Location: 107**
Sample ID: L1305141901 **Date Collected: 5/31/2013 2:14:48 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Approved: June 03, 2013

Nebulizer Parameters: L1305141901

Analyte	Back Pressure	Flow
All	165.0 kPa	0.48 L/min

Mean Data: L1305141901

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	2467087.3						50864.96	2.06%
YRADIAL	180309.1						4438.94	2.46%
Ga 417.206	1002351.4						24494.81	2.44%
GaRADIAL	52682.6						1693.88	3.22%
Ag 328.068†	607.6	0.00236	mg/L	0.000506	0.00236	mg/L	0.000506	21.46%
Al 396.153†	17.5	-0.00495	mg/L	0.000893	-0.00495	mg/L	0.000893	18.05%
As 188.979†	4.4	0.00454	mg/L	0.004038	0.00454	mg/L	0.004038	88.96%
Ba 233.527†	1022.0	0.00960	mg/L	0.000225	0.00960	mg/L	0.000225	2.35%
Be 234.861†	50.4	0.00006	mg/L	0.000059	0.00006	mg/L	0.000059	102.63%
B 249.677†	1389.1	0.0209	mg/L	0.00075	0.0209	mg/L	0.00075	3.57%
Ca 227.546†	13876.6	66.3	mg/L	1.60	66.3	mg/L	1.60	2.42%
Cd 228.802†	-6.4	-0.00032	mg/L	0.000150	-0.00032	mg/L	0.000150	47.34%
Co 228.616†	45.7	0.00102	mg/L	0.000072	0.00102	mg/L	0.000072	7.05%
Cr 267.716†	113.7	-0.00002	mg/L	0.000240	-0.00002	mg/L	0.000240	>999.9%
Cu 327.393†	-121.6	-0.00092	mg/L	0.000931	-0.00092	mg/L	0.000931	100.95%
Fe 239.562†	1826.6	0.436	mg/L	0.0183	0.436	mg/L	0.0183	4.21%
Mg 279.077†	45467.9	32.6	mg/L	0.48	32.6	mg/L	0.48	1.49%
Mn 257.610†	322334.1	0.607	mg/L	0.0128	0.607	mg/L	0.0128	2.11%
Mo 202.031†	31.0	-0.00031	mg/L	0.000425	-0.00031	mg/L	0.000425	136.20%
Ni 231.604†	262.7	0.00498	mg/L	0.000401	0.00498	mg/L	0.000401	8.05%
Pb 220.353†	35.4	0.00252	mg/L	0.002069	0.00252	mg/L	0.002069	82.01%
Sb 206.836†	-1.7	-0.00309	mg/L	0.002799	-0.00309	mg/L	0.002799	90.66%
Se 196.026†	5.4	0.00412	mg/L	0.005391	0.00412	mg/L	0.005391	130.96%
Si 251.611†	95727.1	2.64	mg/L	0.075	2.64	mg/L	0.075	2.85%
Sn 189.927†	-268.2	-0.0362	mg/L	0.00057	-0.0362	mg/L	0.00057	1.57%
Ti 334.940†	-7759.3	-0.00085	mg/L	0.000108	-0.00085	mg/L	0.000108	12.62%
Tl 190.801†	-37.6	-0.0236	mg/L	0.00128	-0.0236	mg/L	0.00128	5.42%
V 290.880†	2634.6	0.0111	mg/L	0.00136	0.0111	mg/L	0.00136	12.24%
Zn 206.200†	129.3	0.00175	mg/L	0.000407	0.00175	mg/L	0.000407	23.21%
K 766.490†	4979.8	3.29	mg/L	0.109	3.29	mg/L	0.109	3.33%
Na 589.592†	27006.1	2.39	mg/L	0.033	2.39	mg/L	0.033	1.39%
Sr 407.771†	425886.8	0.351	mg/L	0.0046	0.351	mg/L	0.0046	1.32%
Li 670.784†	1493.2	0.0175	mg/L	0.00051	0.0175	mg/L	0.00051	2.91%

Sequence No.: 28
Sample ID: L1305141902
Analyst: KHR
Initial Sample Wt:
Dilution:

Autosampler Location: 108
Date Collected: 5/31/2013 2:17:49 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: L1305141902

Analyte	Back Pressure	Flow
All	165.0 kPa	0.48 L/min

Mean Data: L1305141902

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	2512470.7						22775.37	0.91%
YRADIAL	178556.2						832.63	0.47%
Ga 417.206	1020882.7						8150.32	0.80%
GaRADIAL	52466.9						735.63	1.40%
Ag 328.068†	579.5	0.00214	mg/L	0.000326	0.00214	mg/L	0.000326	15.22%
Al 396.153†	-19.1	-0.0170	mg/L	0.00076	-0.0170	mg/L	0.00076	4.50%
As 188.979†	6.7	0.00566	mg/L	0.003441	0.00566	mg/L	0.003441	60.76%
Ba 233.527†	906.1	0.00831	mg/L	0.000034	0.00831	mg/L	0.000034	0.41%
Be 234.861†	34.5	0.00009	mg/L	0.000005	0.00009	mg/L	0.000005	5.23%
B 249.677†	1241.6	0.0189	mg/L	0.00038	0.0189	mg/L	0.00038	2.00%
Ca 227.546†	13993.4	66.9	mg/L	0.75	66.9	mg/L	0.75	1.13%
Cd 228.802†	-2.6	-0.00020	mg/L	0.000082	-0.00020	mg/L	0.000082	40.16%
Co 228.616†	32.0	0.00045	mg/L	0.000360	0.00045	mg/L	0.000360	79.57%

Approved: June 03, 2013

Kym H. Rhoden

Cr 267.716†	110.9	-0.00003	mg/L	0.000064	-0.00003	mg/L	0.000064	223.37%
Cu 327.393†	40.7	-0.00001	mg/L	0.000142	-0.00001	mg/L	0.000142	>999.9%
Fe 239.562†	796.7	0.183	mg/L	0.0005	0.183	mg/L	0.0005	0.28%
Mg 279.077†	46604.3	33.4	mg/L	0.17	33.4	mg/L	0.17	0.51%
Mn 257.610†	294663.0	0.555	mg/L	0.0080	0.555	mg/L	0.0080	1.44%
Mo 202.031†	28.5	-0.00046	mg/L	0.000326	-0.00046	mg/L	0.000326	70.42%
Ni 231.604†	241.7	0.00445	mg/L	0.000396	0.00445	mg/L	0.000396	8.90%
Pb 220.353†	53.7	0.00495	mg/L	0.002145	0.00495	mg/L	0.002145	43.30%
Sb 206.836†	-1.4	-0.00295	mg/L	0.000588	-0.00295	mg/L	0.000588	19.92%
Se 196.026†	0.7	-0.00046	mg/L	0.003568	-0.00046	mg/L	0.003568	769.10%
Si 251.611†	94799.3	2.61	mg/L	0.027	2.61	mg/L	0.027	1.05%
Sn 189.927†	-266.1	-0.0359	mg/L	0.00170	-0.0359	mg/L	0.00170	4.74%
Ti 334.940†	-7622.7	-0.00059	mg/L	0.000203	-0.00059	mg/L	0.000203	34.60%
Tl 190.801†	-39.6	-0.0246	mg/L	0.00123	-0.0246	mg/L	0.00123	5.02%
V 290.880†	2607.6	0.0110	mg/L	0.00049	0.0110	mg/L	0.00049	4.44%
Zn 206.200†	160.8	0.00267	mg/L	0.000318	0.00267	mg/L	0.000318	11.92%
K 766.490†	5215.5	3.44	mg/L	0.041	3.44	mg/L	0.041	1.20%
Na 589.592†	28071.2	2.48	mg/L	0.007	2.48	mg/L	0.007	0.30%
Sr 407.771†	434449.9	0.358	mg/L	0.0049	0.358	mg/L	0.0049	1.38%
Li 670.784†	1477.2	0.0173	mg/L	0.00033	0.0173	mg/L	0.00033	1.88%

Sequence No.: 29
Sample ID: L1305155801
Analyst: KHR
Initial Sample Wt:
Dilution:

Autosampler Location: 109
Date Collected: 5/31/2013 2:20:50 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: L1305155801

Analyte	Back Pressure	Flow
All	165.0 kPa	0.48 L/min

Mean Data: L1305155801

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2505415.0						9836.25	0.39%
YRADIAL	179489.8						4884.24	2.72%
Ga 417.206	998432.3						3262.60	0.33%
GaRADIAL	51521.3						1173.55	2.28%
Ag 328.068†	434.9	0.00152	mg/L	0.000287	0.00152	mg/L	0.000287	18.89%
Al 396.153†	515.3	0.156	mg/L	0.0072	0.156	mg/L	0.0072	4.61%
As 188.979†	42.7	0.0227	mg/L	0.00423	0.0227	mg/L	0.00423	18.66%
Ba 233.527†	7300.7	0.0800	mg/L	0.00031	0.0800	mg/L	0.00031	0.38%
Be 234.861†	9.4	0.00004	mg/L	0.000018	0.00004	mg/L	0.000018	42.13%
B 249.677†	42877.0	0.609	mg/L	0.0112	0.609	mg/L	0.0112	1.83%
Ca 227.546†	9297.9	44.4	mg/L	0.88	44.4	mg/L	0.88	1.98%
Cd 228.802†	-4.2	-0.00035	mg/L	0.000114	-0.00035	mg/L	0.000114	32.44%
Co 228.616†	-9.9	-0.00128	mg/L	0.000334	-0.00128	mg/L	0.000334	26.13%
Cr 267.716†	457.6	0.00370	mg/L	0.000226	0.00370	mg/L	0.000226	6.10%
Cu 327.393†	290.0	0.00140	mg/L	0.000408	0.00140	mg/L	0.000408	29.07%
Fe 239.562†	217.5	0.0408	mg/L	0.00223	0.0408	mg/L	0.00223	5.46%
Mg 279.077†	11629.0	8.32	mg/L	0.232	8.32	mg/L	0.232	2.78%
Mn 257.610†	11980.4	0.0201	mg/L	0.00027	0.0201	mg/L	0.00027	1.35%
Mo 202.031†	640.4	0.0306	mg/L	0.00023	0.0306	mg/L	0.00023	0.75%
Ni 231.604†	35.8	-0.00084	mg/L	0.000378	-0.00084	mg/L	0.000378	45.11%
Pb 220.353†	34.7	0.00282	mg/L	0.000871	0.00282	mg/L	0.000871	30.89%
Sb 206.836†	2.6	-0.00127	mg/L	0.001422	-0.00127	mg/L	0.001422	112.05%
Se 196.026†	-2.0	-0.00296	mg/L	0.002102	-0.00296	mg/L	0.002102	70.92%
Si 251.611†	40454.8	1.11	mg/L	0.025	1.11	mg/L	0.025	2.27%
Sn 189.927†	-220.9	-0.0303	mg/L	0.00091	-0.0303	mg/L	0.00091	3.00%
Ti 334.940†	-4464.3	0.00031	mg/L	0.000359	0.00031	mg/L	0.000359	114.91%
Tl 190.801†	-31.5	-0.0199	mg/L	0.00210	-0.0199	mg/L	0.00210	10.51%
V 290.880†	2676.6	0.0121	mg/L	0.00083	0.0121	mg/L	0.00083	6.86%
Zn 206.200†	60.0	-0.00021	mg/L	0.000332	-0.00021	mg/L	0.000332	161.38%
K 766.490†	4535.7	2.98	mg/L	0.038	2.98	mg/L	0.038	1.27%
Na 589.592†	231023.2	20.6	mg/L	0.35	20.6	mg/L	0.35	1.71%
Sr 407.771†	520993.0	0.430	mg/L	0.0086	0.430	mg/L	0.0086	1.99%
Li 670.784†	3552.3	0.0468	mg/L	0.00093	0.0468	mg/L	0.00093	1.98%

Approved: June 03, 2013

Kym H. Rhoden

Sequence No.: 30
Sample ID: L1305156504
Analyst: KHR
Initial Sample Wt:
Dilution:

Autosampler Location: 110
Date Collected: 5/31/2013 2:23:51 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: L1305156504

Analyte	Back Pressure	Flow
All	165.0 kPa	0.48 L/min

Mean Data: L1305156504

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2352596.3						13914.01	0.59%
YRADIAL	183028.8						2418.89	1.32%
Ga 417.206	979536.9						1833.77	0.19%
GaRADIAL	51142.8						533.56	1.04%
Ag 328.068†	187.7	0.00050	mg/L	0.000455	0.00050	mg/L	0.000455	91.79%
Al 396.153†	237.4	0.0655	mg/L	0.00082	0.0655	mg/L	0.00082	1.26%
As 188.979†	15.1	0.00875	mg/L	0.001235	0.00875	mg/L	0.001235	14.12%
Ba 233.527†	643.9	0.00539	mg/L	0.000087	0.00539	mg/L	0.000087	1.62%
Be 234.861†	-18.8	0.00001	mg/L	0.000016	0.00001	mg/L	0.000016	275.14%
B 249.677†	8333.1	0.120	mg/L	0.0020	0.120	mg/L	0.0020	1.66%
Ca 227.546†	5663.8	27.1	mg/L	0.10	27.1	mg/L	0.10	0.39%
Cd 228.802†	-6.9	-0.00033	mg/L	0.000297	-0.00033	mg/L	0.000297	89.11%
Co 228.616†	223.4	0.00851	mg/L	0.000116	0.00851	mg/L	0.000116	1.36%
Cr 267.716†	61.6	-0.00055	mg/L	0.000169	-0.00055	mg/L	0.000169	30.71%
Cu 327.393†	-72.4	-0.00174	mg/L	0.000551	-0.00174	mg/L	0.000551	31.69%
Fe 239.562†	46.2	-0.00131	mg/L	0.000700	-0.00131	mg/L	0.000700	53.64%
Mg 279.077†	10352.6	7.40	mg/L	0.053	7.40	mg/L	0.053	0.72%
Mn 257.610†	742.0	-0.00113	mg/L	0.000036	-0.00113	mg/L	0.000036	3.17%
Mo 202.031†	482.6	0.0226	mg/L	0.00089	0.0226	mg/L	0.00089	3.92%
Ni 231.604†	358.4	0.00743	mg/L	0.000177	0.00743	mg/L	0.000177	2.38%
Pb 220.353†	30.3	0.00225	mg/L	0.000981	0.00225	mg/L	0.000981	43.56%
Sb 206.836†	-4.7	-0.00431	mg/L	0.001182	-0.00431	mg/L	0.001182	27.46%
Se 196.026†	-2.2	-0.00316	mg/L	0.005813	-0.00316	mg/L	0.005813	183.79%
Si 251.611†	39128.3	1.08	mg/L	0.008	1.08	mg/L	0.008	0.71%
Sn 189.927†	-158.3	-0.0224	mg/L	0.00076	-0.0224	mg/L	0.00076	3.37%
Ti 334.940†	-3563.9	-0.00108	mg/L	0.000093	-0.00108	mg/L	0.000093	8.62%
Tl 190.801†	-30.5	-0.0194	mg/L	0.00241	-0.0194	mg/L	0.00241	12.44%
V 290.880†	1716.9	0.00722	mg/L	0.001174	0.00722	mg/L	0.001174	16.25%
Zn 206.200†	152.4	0.00242	mg/L	0.000371	0.00242	mg/L	0.000371	15.30%
K 766.490†	5834.4	3.86	mg/L	0.074	3.86	mg/L	0.074	1.92%
Na 589.592†	Saturated2							
Sr 407.771†	185420.2	0.151	mg/L	0.0014	0.151	mg/L	0.0014	0.95%
Li 670.784†	488218.6	6.94	mg/L	0.147	6.94	mg/L	0.147	2.13%

==========

Sequence No.: 31
Sample ID: CCV
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 6
Date Collected: 5/31/2013 2:26:55 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: CCV

Analyte	Back Pressure	Flow
All	165.0 kPa	0.48 L/min

Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2468043.8						65683.65	2.66%
YRADIAL	188347.4						4260.38	2.26%
Ga 417.206	957959.4						18712.76	1.95%
GaRADIAL	52548.9						780.12	1.48%
Ag 328.068†	94225.4	0.406	mg/L	0.0121	0.406	mg/L	0.0121	2.99%
QC value within limits for Ag 328.068 Recovery = 101.53%								
Al 396.153†	30929.1	10.1	mg/L	0.12	10.1	mg/L	0.12	1.24%

Approved: June 03, 2013

Lynn H. Rhoden

```
   QC value within limits for Al 396.153  Recovery = 100.64%
As 188.979†              828.4       0.405 mg/L        0.0071       0.405 mg/L        0.0071   1.75%
   QC value within limits for As 188.979  Recovery = 101.23%
Ba 233.527†            90358.2        1.01 mg/L         0.036        1.01 mg/L         0.036   3.55%
   QC value within limits for Ba 233.527  Recovery = 101.11%
Be 234.861†            34074.6      0.0501 mg/L       0.00147      0.0501 mg/L       0.00147   2.93%
   QC value within limits for Be 234.861  Recovery = 100.30%
B 249.677†             35103.3       0.495 mg/L        0.0157       0.495 mg/L        0.0157   3.18%
   QC value within limits for B 249.677  Recovery = 99.03%
Ca 227.546†             2139.4        10.7 mg/L          0.23        10.7 mg/L          0.23   2.16%
   QC value within limits for Ca 227.546  Recovery = 106.66%
Cd 228.802†             1619.4      0.0495 mg/L       0.00103      0.0495 mg/L       0.00103   2.08%
   QC value within limits for Cd 228.802  Recovery = 99.08%
Co 228.616†             4972.7       0.207 mg/L        0.0053       0.207 mg/L        0.0053   2.56%
   QC value within limits for Co 228.616  Recovery = 103.37%
Cr 267.716†            47099.1       0.504 mg/L        0.0150       0.504 mg/L        0.0150   2.98%
   QC value within limits for Cr 267.716  Recovery = 100.89%
Cu 327.393†            88546.4       0.507 mg/L        0.0153       0.507 mg/L        0.0153   3.01%
   QC value within limits for Cu 327.393  Recovery = 101.49%
Fe 239.562†            16876.0        4.13 mg/L         0.056        4.13 mg/L         0.056   1.34%
   QC value within limits for Fe 239.562  Recovery = 103.31%
Mg 279.077†            14211.9        10.2 mg/L          0.13        10.2 mg/L          0.13   1.25%
   QC value within limits for Mg 279.077  Recovery = 101.85%
Mn 257.610†           272934.8       0.514 mg/L        0.0183       0.514 mg/L        0.0183   3.56%
   QC value within limits for Mn 257.610  Recovery = 102.88%
Mo 202.031†            19842.8        1.01 mg/L         0.038        1.01 mg/L         0.038   3.71%
   QC value within limits for Mo 202.031  Recovery = 101.15%
Ni 231.604†            19998.1       0.511 mg/L        0.0204       0.511 mg/L        0.0204   3.99%
   QC value within limits for Ni 231.604  Recovery = 102.25%
Pb 220.353†             3963.4       0.518 mg/L        0.0139       0.518 mg/L        0.0139   2.67%
   QC value within limits for Pb 220.353  Recovery = 103.68%
Sb 206.836†             2958.1        1.23 mg/L         0.026        1.23 mg/L         0.026   2.08%
   QC value within limits for Sb 206.836  Recovery = 102.30%
Se 196.026†              426.8       0.413 mg/L        0.0074       0.413 mg/L        0.0074   1.80%
   QC value within limits for Se 196.026  Recovery = 103.28%
Si 251.611†           182219.6        5.01 mg/L         0.166        5.01 mg/L         0.166   3.31%
   QC value within limits for Si 251.611  Recovery = 100.26%
Sn 189.927†             7481.3       0.936 mg/L        0.0271       0.936 mg/L        0.0271   2.89%
   QC value within limits for Sn 189.927  Recovery = 93.59%
Ti 334.940†           747330.7        1.01 mg/L         0.010        1.01 mg/L         0.010   1.02%
   QC value within limits for Ti 334.940  Recovery = 101.10%
Tl 190.801†             1044.5       0.536 mg/L        0.0065       0.536 mg/L        0.0065   1.22%
   QC value within limits for Tl 190.801  Recovery = 107.20%
V 290.880†            198047.0        1.01 mg/L         0.037        1.01 mg/L         0.037   3.66%
   QC value within limits for V 290.880  Recovery = 100.64%
Zn 206.200†            34996.1        1.01 mg/L         0.034        1.01 mg/L         0.034   3.36%
   QC value within limits for Zn 206.200  Recovery = 101.03%
K 766.490†             77133.9        51.9 mg/L          0.66        51.9 mg/L          0.66   1.28%
   QC value within limits for K 766.490  Recovery = 103.72%
Na 589.592†           557247.2        50.5 mg/L          1.88        50.5 mg/L          1.88   3.73%
   QC value within limits for Na 589.592  Recovery = 101.01%
Sr 407.771†          1247198.9        1.03 mg/L         0.039        1.03 mg/L         0.039   3.80%
   QC value within limits for Sr 407.771  Recovery = 103.24%
Li 670.784†            73989.4        1.05 mg/L         0.014        1.05 mg/L         0.014   1.31%
   QC value within limits for Li 670.784  Recovery = 104.83%
All analyte(s) passed QC.

==========================================================================================
Sequence No.: 32                                  Autosampler Location: 1
Sample ID: CCB                                    Date Collected: 5/31/2013 2:29:00 PM
Analyst:                                          Data Type: Original
Initial Sample Wt:                                Initial Sample Vol:
Dilution:                                         Sample Prep Vol:

------------------------------------------------------------------------------------------
Nebulizer Parameters: CCB
Analyte                 Back Pressure    Flow
All                    164.0 kPa         0.48 L/min

------------------------------------------------------------------------------------------
Mean Data: CCB
                  Mean Corrected         Calib.                        Sample
```

Approved: June 03, 2013

Analyte	Intensity	Conc. Units	Std.Dev.	Conc. Units	Std.Dev.	RSD
Y 371.029	2576347.8				27408.76	1.06%
YRADIAL	185643.7				1508.40	0.81%
Ga 417.206	990811.3				8311.15	0.84%
GaRADIAL	50907.7				581.35	1.14%
Ag 328.068†	1.2	-0.00029 mg/L	0.000386	-0.00029 mg/L	0.000386	132.21%
QC value within limits for Ag 328.068 Recovery = Not calculated						
Al 396.153†	15.2	-0.00565 mg/L	0.003796	-0.00565 mg/L	0.003796	67.19%
QC value within limits for Al 396.153 Recovery = Not calculated						
As 188.979†	6.8	0.00417 mg/L	0.001973	0.00417 mg/L	0.001973	47.26%
QC value within limits for As 188.979 Recovery = Not calculated						
Ba 233.527†	-16.8	-0.00203 mg/L	0.000118	-0.00203 mg/L	0.000118	5.81%
QC value within limits for Ba 233.527 Recovery = Not calculated						
Be 234.861†	-49.7	-0.00005 mg/L	0.000038	-0.00005 mg/L	0.000038	79.51%
QC value within limits for Be 234.861 Recovery = Not calculated						
B 249.677†	582.6	0.00968 mg/L	0.001056	0.00968 mg/L	0.001056	10.91%
QC value within limits for B 249.677 Recovery = Not calculated						
Ca 227.546†	4.4	-0.0146 mg/L	0.02516	-0.0146 mg/L	0.02516	171.99%
QC value within limits for Ca 227.546 Recovery = Not calculated						
Cd 228.802†	-5.8	-0.00031 mg/L	0.000229	-0.00031 mg/L	0.000229	74.21%
QC value within limits for Cd 228.802 Recovery = Not calculated						
Co 228.616†	-6.7	-0.00119 mg/L	0.000230	-0.00119 mg/L	0.000230	19.39%
QC value within limits for Co 228.616 Recovery = Not calculated						
Cr 267.716†	1.3	-0.00120 mg/L	0.000077	-0.00120 mg/L	0.000077	6.43%
QC value within limits for Cr 267.716 Recovery = Not calculated						
Cu 327.393†	108.3	0.00037 mg/L	0.000410	0.00037 mg/L	0.000410	111.80%
QC value within limits for Cu 327.393 Recovery = Not calculated						
Fe 239.562†	10.1	-0.01000 mg/L	0.001582	-0.01000 mg/L	0.001582	15.83%
QC value within limits for Fe 239.562 Recovery = Not calculated						
Mg 279.077†	0.8	-0.0151 mg/L	0.00418	-0.0151 mg/L	0.00418	27.64%
QC value within limits for Mg 279.077 Recovery = Not calculated						
Mn 257.610†	45.6	-0.00246 mg/L	0.000026	-0.00246 mg/L	0.000026	1.06%
QC value within limits for Mn 257.610 Recovery = Not calculated						
Mo 202.031†	-3.4	-0.00223 mg/L	0.000410	-0.00223 mg/L	0.000410	18.42%
QC value within limits for Mo 202.031 Recovery = Not calculated						
Ni 231.604†	-16.3	-0.00218 mg/L	0.000126	-0.00218 mg/L	0.000126	5.78%
QC value within limits for Ni 231.604 Recovery = Not calculated						
Pb 220.353†	2.4	-0.00142 mg/L	0.001386	-0.00142 mg/L	0.001386	97.40%
QC value within limits for Pb 220.353 Recovery = Not calculated						
Sb 206.836†	4.1	-0.00071 mg/L	0.002151	-0.00071 mg/L	0.002151	304.72%
QC value within limits for Sb 206.836 Recovery = Not calculated						
Se 196.026†	-5.5	-0.00632 mg/L	0.006762	-0.00632 mg/L	0.006762	107.04%
QC value within limits for Se 196.026 Recovery = Not calculated						
Si 251.611†	67.8	-0.00020 mg/L	0.000315	-0.00020 mg/L	0.000315	161.31%
QC value within limits for Si 251.611 Recovery = Not calculated						
Sn 189.927†	20.0	-0.00006 mg/L	0.000689	-0.00006 mg/L	0.000689	>999.9%
QC value within limits for Sn 189.927 Recovery = Not calculated						
Ti 334.940†	-107.4	-0.00046 mg/L	0.000044	-0.00046 mg/L	0.000044	9.41%
QC value within limits for Ti 334.940 Recovery = Not calculated						
Tl 190.801†	-1.3	-0.00467 mg/L	0.000859	-0.00467 mg/L	0.000859	18.40%
QC value within limits for Tl 190.801 Recovery = Not calculated						
V 290.880†	69.8	-0.00097 mg/L	0.001066	-0.00097 mg/L	0.001066	109.65%
QC value within limits for V 290.880 Recovery = Not calculated						
Zn 206.200†	10.5	-0.00167 mg/L	0.000130	-0.00167 mg/L	0.000130	7.76%
QC value within limits for Zn 206.200 Recovery = Not calculated						
K 766.490†	110.4	0.0686 mg/L	0.03139	0.0686 mg/L	0.03139	45.73%
QC value within limits for K 766.490 Recovery = Not calculated						
Na 589.592†	1454.5	0.127 mg/L	0.0364	0.127 mg/L	0.0364	28.59%
QC value within limits for Na 589.592 Recovery = Not calculated						
Sr 407.771†	180.2	-0.00342 mg/L	0.000103	-0.00342 mg/L	0.000103	3.02%
QC value within limits for Sr 407.771 Recovery = Not calculated						
Li 670.784†	358.8	0.00137 mg/L	0.001767	0.00137 mg/L	0.001767	128.85%
QC value within limits for Li 670.784 Recovery = Not calculated						

All analyte(s) passed QC.
User canceled analysis.

Approved: June 03, 2013

==========

Analysis Begun

Start Time: 5/31/2013 2:32:33 PM **Plasma On Time: 5/31/2013 6:21:19 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\FRIDAY1.sif
Batch ID:
Results Data Set: 053113HR
Results Library: C:\pe\peicp2\Results\Results.mdb

==========

Sequence No.: 1 **Autosampler Location: 111**
Sample ID: PBW 01 WG432420-03 **Date Collected: 5/31/2013 2:32:36 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: PBW 01 WG432420-03

Analyte	Back Pressure	Flow
All	165.0 kPa	0.48 L/min

Mean Data: PBW 01 WG432420-03

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2555857.2						7407.06	0.29%
YRADIAL	186857.4						3654.94	1.96%
Ga 417.206	976500.9						11278.45	1.15%
GaRADIAL	50430.3						1607.33	3.19%
Ag 328.068†	-34.1	-0.00044	mg/L	0.000962	-0.00044	mg/L	0.000962	217.25%
Al 396.153†	1.5	-0.0101	mg/L	0.00135	-0.0101	mg/L	0.00135	13.36%
As 188.979†	1.0	0.00133	mg/L	0.002158	0.00133	mg/L	0.002158	162.00%
Ba 233.527†	-17.6	-0.00204	mg/L	0.000125	-0.00204	mg/L	0.000125	6.14%
Be 234.861†	-61.9	-0.00007	mg/L	0.000028	-0.00007	mg/L	0.000028	43.32%
B 249.677†	275.0	0.00532	mg/L	0.000530	0.00532	mg/L	0.000530	9.96%
Ca 227.546†	-3.2	-0.0508	mg/L	0.03613	-0.0508	mg/L	0.03613	71.12%
Cd 228.802†	-6.4	-0.00032	mg/L	0.000249	-0.00032	mg/L	0.000249	78.87%
Co 228.616†	-5.9	-0.00115	mg/L	0.000207	-0.00115	mg/L	0.000207	17.99%
Cr 267.716†	5.8	-0.00115	mg/L	0.000059	-0.00115	mg/L	0.000059	5.15%
Cu 327.393†	-84.5	-0.00074	mg/L	0.000350	-0.00074	mg/L	0.000350	47.53%
Fe 239.562†	-1.1	-0.0127	mg/L	0.00055	-0.0127	mg/L	0.00055	4.29%
Mg 279.077†	-3.0	-0.0178	mg/L	0.00335	-0.0178	mg/L	0.00335	18.81%
Mn 257.610†	-40.8	-0.00262	mg/L	0.000012	-0.00262	mg/L	0.000012	0.46%
Mo 202.031†	-2.4	-0.00217	mg/L	0.000307	-0.00217	mg/L	0.000307	14.11%
Ni 231.604†	-6.0	-0.00192	mg/L	0.000108	-0.00192	mg/L	0.000108	5.62%
Pb 220.353†	-3.5	-0.00220	mg/L	0.001018	-0.00220	mg/L	0.001018	46.19%
Sb 206.836†	4.4	-0.00058	mg/L	0.000434	-0.00058	mg/L	0.000434	74.51%
Se 196.026†	-2.4	-0.00334	mg/L	0.002657	-0.00334	mg/L	0.002657	79.55%
Si 251.611†	14.7	-0.00166	mg/L	0.000582	-0.00166	mg/L	0.000582	35.04%
Sn 189.927†	3.0	-0.00218	mg/L	0.001411	-0.00218	mg/L	0.001411	64.60%
Ti 334.940†	-61.0	-0.00041	mg/L	0.000070	-0.00041	mg/L	0.000070	17.09%
Tl 190.801†	-11.2	-0.00965	mg/L	0.002820	-0.00965	mg/L	0.002820	29.23%
V 290.880†	197.9	-0.00032	mg/L	0.000182	-0.00032	mg/L	0.000182	57.38%
Zn 206.200†	49.5	-0.00055	mg/L	0.000134	-0.00055	mg/L	0.000134	24.39%
K 766.490†	-88.5	-0.0627	mg/L	0.02517	-0.0627	mg/L	0.02517	40.13%
Na 589.592†	75.3	0.00554	mg/L	0.004056	0.00554	mg/L	0.004056	73.19%
Sr 407.771†	-40.6	-0.00360	mg/L	0.000012	-0.00360	mg/L	0.000012	0.34%
Li 670.784†	209.1	-0.00076	mg/L	0.000714	-0.00076	mg/L	0.000714	94.36%

==========

Sequence No.: 2 **Autosampler Location: 112**
Sample ID: LCSW 01 WG432420-04 **Date Collected: 5/31/2013 2:35:37 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: LCSW 01 WG432420-04

Approved: June 03, 2013

Kym H. Rhoden

Analyte	Back Pressure	Flow
All	164.0 kPa	0.48 L/min

Mean Data: LCSW 01 WG432420-04

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2485938.1						34610.71	1.39%
YRADIAL	175657.7						3227.90	1.84%
Ga 417.206	973092.8						22812.40	2.34%
GaRADIAL	50054.0						572.98	1.14%
Ag 328.068†	46148.5	0.199	mg/L	0.0047	0.199	mg/L	0.0047	2.35%
Al 396.153†	15160.5	4.93	mg/L	0.038	4.93	mg/L	0.038	0.78%
As 188.979†	407.9	0.200	mg/L	0.0057	0.200	mg/L	0.0057	2.83%
Ba 233.527†	44390.4	0.496	mg/L	0.0077	0.496	mg/L	0.0077	1.55%
Be 234.861†	16560.5	0.0244	mg/L	0.00053	0.0244	mg/L	0.00053	2.19%
B 249.677†	67294.1	0.954	mg/L	0.0194	0.954	mg/L	0.0194	2.04%
Ca 227.546†	1011.7	5.04	mg/L	0.120	5.04	mg/L	0.120	2.38%
Cd 228.802†	772.0	0.0235	mg/L	0.00058	0.0235	mg/L	0.00058	2.47%
Co 228.616†	2418.1	0.100	mg/L	0.0010	0.100	mg/L	0.0010	0.98%
Cr 267.716†	23297.0	0.249	mg/L	0.0051	0.249	mg/L	0.0051	2.06%
Cu 327.393†	43034.7	0.247	mg/L	0.0064	0.247	mg/L	0.0064	2.58%
Fe 239.562†	8548.3	2.09	mg/L	0.055	2.09	mg/L	0.055	2.62%
Mg 279.077†	7215.7	5.16	mg/L	0.108	5.16	mg/L	0.108	2.10%
Mn 257.610†	133977.6	0.251	mg/L	0.0042	0.251	mg/L	0.0042	1.66%
Mo 202.031†	9928.7	0.505	mg/L	0.0050	0.505	mg/L	0.0050	1.00%
Ni 231.604†	10147.7	0.259	mg/L	0.0021	0.259	mg/L	0.0021	0.82%
Pb 220.353†	1927.9	0.251	mg/L	0.0027	0.251	mg/L	0.0027	1.08%
Sb 206.836†	1431.9	0.593	mg/L	0.0136	0.593	mg/L	0.0136	2.30%
Se 196.026†	196.6	0.190	mg/L	0.0051	0.190	mg/L	0.0051	2.67%
Si 251.611†	87218.5	2.40	mg/L	0.053	2.40	mg/L	0.053	2.22%
Sn 189.927†	-41.6	-0.00778	mg/L	0.000603	-0.00778	mg/L	0.000603	7.75%
Ti 334.940†	370692.1	0.501	mg/L	0.0100	0.501	mg/L	0.0100	1.99%
Tl 190.801†	508.1	0.259	mg/L	0.0028	0.259	mg/L	0.0028	1.07%
V 290.880†	96906.2	0.492	mg/L	0.0101	0.492	mg/L	0.0101	2.06%
Zn 206.200†	17349.4	0.500	mg/L	0.0098	0.500	mg/L	0.0098	1.96%
K 766.490†	37923.1	25.3	mg/L	0.23	25.3	mg/L	0.23	0.91%
Na 589.592†	275164.1	24.6	mg/L	0.67	24.6	mg/L	0.67	2.73%
Sr 407.771†	636489.9	0.525	mg/L	0.0037	0.525	mg/L	0.0037	0.71%
Li 670.784†	36367.4	0.513	mg/L	0.0010	0.513	mg/L	0.0010	0.20%

Sequence No.: 3
Sample ID: L1305137101 WG432420-01
Analyst: KHR
Initial Sample Wt:
Dilution:

Autosampler Location: 113
Date Collected: 5/31/2013 2:37:41 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: L1305137101 WG432420-01

Analyte	Back Pressure	Flow
All	165.0 kPa	0.48 L/min

Mean Data: L1305137101 WG432420-01

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2522783.0						10521.18	0.42%
YRADIAL	178487.1						6325.61	3.54%
Ga 417.206	1013727.2						8552.75	0.84%
GaRADIAL	52712.8						2145.15	4.07%
Ag 328.068†	361.5	0.00118	mg/L	0.000201	0.00118	mg/L	0.000201	16.97%
Al 396.153†	270.9	0.0782	mg/L	0.00261	0.0782	mg/L	0.00261	3.34%
As 188.979†	1.1	0.00227	mg/L	0.001614	0.00227	mg/L	0.001614	71.18%
Ba 233.527†	2264.3	0.0235	mg/L	0.00007	0.0235	mg/L	0.00007	0.29%
Be 234.861†	8.7	0.00006	mg/L	0.000144	0.00006	mg/L	0.000144	248.41%
B 249.677†	1536.3	0.0230	mg/L	0.00200	0.0230	mg/L	0.00200	8.70%
Ca 227.546†	7653.6	36.6	mg/L	0.83	36.6	mg/L	0.83	2.27%
Cd 228.802†	-5.4	-0.00027	mg/L	0.000080	-0.00027	mg/L	0.000080	29.08%
Co 228.616†	47.3	0.00107	mg/L	0.000198	0.00107	mg/L	0.000198	18.50%
Cr 267.716†	79.3	-0.00039	mg/L	0.000249	-0.00039	mg/L	0.000249	64.51%
Cu 327.393†	124.1	0.00049	mg/L	0.000525	0.00049	mg/L	0.000525	107.36%

Approved: June 03, 2013

Kym H. Rhoden

Fe 239.562†	1822.1	0.435	mg/L	0.0155	0.435	mg/L	0.0155	3.56%
Mg 279.077†	21790.6	15.6	mg/L	0.53	15.6	mg/L	0.53	3.37%
Mn 257.610†	649121.3	1.23	mg/L	0.005	1.23	mg/L	0.005	0.39%
Mo 202.031†	20.0	-0.00075	mg/L	0.000392	-0.00075	mg/L	0.000392	52.50%
Ni 231.604†	206.1	0.00353	mg/L	0.000199	0.00353	mg/L	0.000199	5.65%
Pb 220.353†	30.8	0.00155	mg/L	0.001067	0.00155	mg/L	0.001067	68.84%
Sb 206.836†	1.6	-0.00170	mg/L	0.000425	-0.00170	mg/L	0.000425	25.02%
Se 196.026†	-3.3	-0.00446	mg/L	0.000995	-0.00446	mg/L	0.000995	22.32%
Si 251.611†	103989.0	2.87	mg/L	0.047	2.87	mg/L	0.047	1.62%
Sn 189.927†	-205.3	-0.0283	mg/L	0.00144	-0.0283	mg/L	0.00144	5.08%
Ti 334.940†	-2941.8	0.00119	mg/L	0.000404	0.00119	mg/L	0.000404	33.85%
Tl 190.801†	-22.7	-0.0167	mg/L	0.00074	-0.0167	mg/L	0.00074	4.45%
V 290.880†	1755.5	0.00710	mg/L	0.000607	0.00710	mg/L	0.000607	8.56%
Zn 206.200†	164.3	0.00276	mg/L	0.000188	0.00276	mg/L	0.000188	6.83%
K 766.490†	4324.5	2.85	mg/L	0.112	2.85	mg/L	0.112	3.93%
Na 589.592†	45177.0	4.00	mg/L	0.035	4.00	mg/L	0.035	0.88%
Sr 407.771†	611322.1	0.505	mg/L	0.0093	0.505	mg/L	0.0093	1.84%
Li 670.784†	848.8	0.00834	mg/L	0.000729	0.00834	mg/L	0.000729	8.74%

==========

Sequence No.: 4 **Autosampler Location: 114**
Sample ID: L1305137101DU WG432420-05 **Date Collected: 5/31/2013 2:40:43 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1305137101DU WG432420-05

Analyte	Back Pressure	Flow
All	165.0 kPa	0.48 L/min

Mean Data: L1305137101DU WG432420-05

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2528047.1						38051.41	1.51%
YRADIAL	179671.6						639.70	0.36%
Ga 417.206	1017467.7						9270.44	0.91%
GaRADIAL	52288.2						974.87	1.86%
Ag 328.068†	404.9	0.00137	mg/L	0.000464	0.00137	mg/L	0.000464	33.86%
Al 396.153†	304.8	0.0893	mg/L	0.00283	0.0893	mg/L	0.00283	3.17%
As 188.979†	4.2	0.00382	mg/L	0.001447	0.00382	mg/L	0.001447	37.84%
Ba 233.527†	2354.0	0.0245	mg/L	0.00033	0.0245	mg/L	0.00033	1.33%
Be 234.861†	93.3	0.00018	mg/L	0.000138	0.00018	mg/L	0.000138	76.14%
B 249.677†	1105.5	0.0169	mg/L	0.00104	0.0169	mg/L	0.00104	6.19%
Ca 227.546†	7847.8	37.5	mg/L	1.04	37.5	mg/L	1.04	2.76%
Cd 228.802†	-4.0	-0.00024	mg/L	0.000100	-0.00024	mg/L	0.000100	42.21%
Co 228.616†	52.2	0.00127	mg/L	0.000209	0.00127	mg/L	0.000209	16.44%
Cr 267.716†	90.1	-0.00027	mg/L	0.000123	-0.00027	mg/L	0.000123	45.25%
Cu 327.393†	58.0	0.00011	mg/L	0.000590	0.00011	mg/L	0.000590	517.98%
Fe 239.562†	1945.1	0.465	mg/L	0.0059	0.465	mg/L	0.0059	1.28%
Mg 279.077†	22804.1	16.3	mg/L	0.17	16.3	mg/L	0.17	1.07%
Mn 257.610†	672897.9	1.27	mg/L	0.007	1.27	mg/L	0.007	0.52%
Mo 202.031†	20.4	-0.00071	mg/L	0.000309	-0.00071	mg/L	0.000309	43.37%
Ni 231.604†	218.5	0.00385	mg/L	0.000366	0.00385	mg/L	0.000366	9.52%
Pb 220.353†	37.0	0.00234	mg/L	0.000916	0.00234	mg/L	0.000916	39.14%
Sb 206.836†	4.0	-0.00071	mg/L	0.001852	-0.00071	mg/L	0.001852	259.16%
Se 196.026†	-1.2	-0.00249	mg/L	0.004409	-0.00249	mg/L	0.004409	177.03%
Si 251.611†	107119.4	2.95	mg/L	0.076	2.95	mg/L	0.076	2.59%
Sn 189.927†	-214.9	-0.0295	mg/L	0.00093	-0.0295	mg/L	0.00093	3.17%
Ti 334.940†	-2795.1	0.00153	mg/L	0.000168	0.00153	mg/L	0.000168	11.01%
Tl 190.801†	-19.6	-0.0152	mg/L	0.00168	-0.0152	mg/L	0.00168	11.11%
V 290.880†	1719.3	0.00689	mg/L	0.000857	0.00689	mg/L	0.000857	12.44%
Zn 206.200†	231.5	0.00469	mg/L	0.000291	0.00469	mg/L	0.000291	6.21%
K 766.490†	4508.1	2.97	mg/L	0.050	2.97	mg/L	0.050	1.67%
Na 589.592†	47339.2	4.19	mg/L	0.071	4.19	mg/L	0.071	1.69%
Sr 407.771†	635469.6	0.525	mg/L	0.0078	0.525	mg/L	0.0078	1.48%
Li 670.784†	852.9	0.00840	mg/L	0.000265	0.00840	mg/L	0.000265	3.16%

==========

Sequence No.: 5 **Autosampler Location: 115**
Sample ID: L1305137101MS WG432420-06 **Date Collected: 5/31/2013 2:43:45 PM**

Approved: June 03, 2013

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

Nebulizer Parameters: L1305137101MS WG432420-06

Analyte	Back Pressure	Flow
All	165.0 kPa	0.48 L/min

Mean Data: L1305137101MS WG432420-06

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2443312.6						17222.96	0.70%
YRADIAL	181578.0						4118.91	2.27%
Ga 417.206	961276.1						11675.35	1.21%
GaRADIAL	51341.4						950.80	1.85%
Ag 328.068†	46090.5	0.198	mg/L	0.0009	0.198	mg/L	0.0009	0.46%
Al 396.153†	15233.2	4.95	mg/L	0.031	4.95	mg/L	0.031	0.63%
As 188.979†	413.1	0.203	mg/L	0.0014	0.203	mg/L	0.0014	0.71%
Ba 233.527†	46510.8	0.520	mg/L	0.0026	0.520	mg/L	0.0026	0.50%
Be 234.861†	16653.2	0.0245	mg/L	0.00017	0.0245	mg/L	0.00017	0.71%
B 249.677†	69090.0	0.979	mg/L	0.0060	0.979	mg/L	0.0060	0.61%
Ca 227.546†	9410.4	45.2	mg/L	0.48	45.2	mg/L	0.48	1.07%
Cd 228.802†	772.8	0.0235	mg/L	0.00025	0.0235	mg/L	0.00025	1.04%
Co 228.616†	2407.8	0.0996	mg/L	0.00087	0.0996	mg/L	0.00087	0.87%
Cr 267.716†	23195.8	0.248	mg/L	0.0029	0.248	mg/L	0.0029	1.16%
Cu 327.393†	41979.1	0.241	mg/L	0.0025	0.241	mg/L	0.0025	1.02%
Fe 239.562†	10157.7	2.48	mg/L	0.063	2.48	mg/L	0.063	2.54%
Mg 279.077†	28777.9	20.6	mg/L	0.63	20.6	mg/L	0.63	3.05%
Mn 257.610†	804100.4	1.52	mg/L	0.010	1.52	mg/L	0.010	0.68%
Mo 202.031†	10071.4	0.513	mg/L	0.0023	0.513	mg/L	0.0023	0.46%
Ni 231.604†	10038.9	0.256	mg/L	0.0017	0.256	mg/L	0.0017	0.67%
Pb 220.353†	1940.0	0.252	mg/L	0.0004	0.252	mg/L	0.0004	0.16%
Sb 206.836†	1455.1	0.603	mg/L	0.0037	0.603	mg/L	0.0037	0.62%
Se 196.026†	203.7	0.196	mg/L	0.0015	0.196	mg/L	0.0015	0.77%
Si 251.611†	198422.9	5.47	mg/L	0.051	5.47	mg/L	0.051	0.93%
Sn 189.927†	-228.2	-0.0312	mg/L	0.00066	-0.0312	mg/L	0.00066	2.11%
Ti 334.940†	370318.8	0.507	mg/L	0.0036	0.507	mg/L	0.0036	0.71%
Tl 190.801†	487.8	0.247	mg/L	0.0024	0.247	mg/L	0.0024	0.98%
V 290.880†	99597.4	0.505	mg/L	0.0018	0.505	mg/L	0.0018	0.36%
Zn 206.200†	17055.0	0.491	mg/L	0.0051	0.491	mg/L	0.0051	1.05%
K 766.490†	41674.3	27.8	mg/L	0.07	27.8	mg/L	0.07	0.26%
Na 589.592†	320919.6	28.8	mg/L	1.02	28.8	mg/L	1.02	3.54%
Sr 407.771†	1241844.5	1.03	mg/L	0.005	1.03	mg/L	0.005	0.52%
Li 670.784†	36542.4	0.516	mg/L	0.0055	0.516	mg/L	0.0055	1.06%

Sequence No.: 6 **Autosampler Location: 116**
Sample ID: L1305137102 **Date Collected: 5/31/2013 2:45:50 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1305137102

Analyte	Back Pressure	Flow
All	164.0 kPa	0.48 L/min

Mean Data: L1305137102

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2544758.3						21395.73	0.84%
YRADIAL	185811.1						6160.73	3.32%
Ga 417.206	1026218.8						11645.95	1.13%
GaRADIAL	53652.9						1267.04	2.36%
Ag 328.068†	378.1	0.00108	mg/L	0.000346	0.00108	mg/L	0.000346	32.05%
Al 396.153†	19.8	-0.00424	mg/L	0.002205	-0.00424	mg/L	0.002205	52.07%
As 188.979†	6.1	0.00467	mg/L	0.000443	0.00467	mg/L	0.000443	9.48%
Ba 233.527†	2271.7	0.0236	mg/L	0.00013	0.0236	mg/L	0.00013	0.54%
Be 234.861†	-21.3	0.00011	mg/L	0.000029	0.00011	mg/L	0.000029	25.90%

Approved: June 03, 2013

Lynn H. Rhoden

B 249.677†	1500.1	0.0227	mg/L	0.00266	0.0227	mg/L	0.00266	11.73%
Ca 227.546†	7992.0	38.2	mg/L	0.46	38.2	mg/L	0.46	1.21%
Cd 228.802†	-4.2	-0.00025	mg/L	0.000050	-0.00025	mg/L	0.000050	20.17%
Co 228.616†	55.7	0.00144	mg/L	0.000355	0.00144	mg/L	0.000355	24.66%
Cr 267.716†	89.2	-0.00025	mg/L	0.000079	-0.00025	mg/L	0.000079	31.40%
Cu 327.393†	19.5	-0.00014	mg/L	0.000549	-0.00014	mg/L	0.000549	379.58%
Fe 239.562†	120.5	0.0168	mg/L	0.00096	0.0168	mg/L	0.00096	5.75%
Mg 279.077†	22201.5	15.9	mg/L	0.14	15.9	mg/L	0.14	0.87%
Mn 257.610†	658232.4	1.24	mg/L	0.007	1.24	mg/L	0.007	0.60%
Mo 202.031†	24.0	-0.00056	mg/L	0.000250	-0.00056	mg/L	0.000250	44.63%
Ni 231.604†	209.0	0.00360	mg/L	0.000428	0.00360	mg/L	0.000428	11.87%
Pb 220.353†	31.4	0.00163	mg/L	0.001272	0.00163	mg/L	0.001272	78.19%
Sb 206.836†	0.3	-0.00226	mg/L	0.000572	-0.00226	mg/L	0.000572	25.32%
Se 196.026†	-3.4	-0.00467	mg/L	0.001753	-0.00467	mg/L	0.001753	37.52%
Si 251.611†	104153.3	2.87	mg/L	0.043	2.87	mg/L	0.043	1.50%
Sn 189.927†	-212.3	-0.0292	mg/L	0.00094	-0.0292	mg/L	0.00094	3.22%
Ti 334.940†	-4741.7	-0.00100	mg/L	0.000095	-0.00100	mg/L	0.000095	9.50%
Tl 190.801†	-17.8	-0.0143	mg/L	0.00490	-0.0143	mg/L	0.00490	34.33%
V 290.880†	1646.3	0.00664	mg/L	0.000770	0.00664	mg/L	0.000770	11.60%
Zn 206.200†	136.9	0.00198	mg/L	0.000181	0.00198	mg/L	0.000181	9.13%
K 766.490†	4167.9	2.75	mg/L	0.030	2.75	mg/L	0.030	1.07%
Na 589.592†	48384.5	4.28	mg/L	0.018	4.28	mg/L	0.018	0.41%
Sr 407.771†	640782.6	0.529	mg/L	0.0241	0.529	mg/L	0.0241	4.55%
Li 670.784†	861.4	0.00852	mg/L	0.000790	0.00852	mg/L	0.000790	9.28%

Sequence No.: 7
Sample ID: L1305137103
Analyst: KHR
Initial Sample Wt:
Dilution:

Autosampler Location: 117
Date Collected: 5/31/2013 2:48:55 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: L1305137103

Analyte	Back Pressure	Flow
All	164.0 kPa	0.48 L/min

Mean Data: L1305137103

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2519794.2						34920.96	1.39%
YRADIAL	182627.8						1750.68	0.96%
Ga 417.206	1057030.6						11913.71	1.13%
GaRADIAL	53221.0						1119.64	2.10%
Ag 328.068†	421.5	0.00134	mg/L	0.000112	0.00134	mg/L	0.000112	8.35%
Al 396.153†	20.8	-0.00385	mg/L	0.001130	-0.00385	mg/L	0.001130	29.32%
As 188.979†	7.6	0.00544	mg/L	0.003722	0.00544	mg/L	0.003722	68.42%
Ba 233.527†	910.8	0.00836	mg/L	0.000070	0.00836	mg/L	0.000070	0.84%
Be 234.861†	39.8	0.00019	mg/L	0.000023	0.00019	mg/L	0.000023	12.32%
B 249.677†	850.6	0.0134	mg/L	0.00134	0.0134	mg/L	0.00134	10.02%
Ca 227.546†	7625.3	36.4	mg/L	0.60	36.4	mg/L	0.60	1.65%
Cd 228.802†	-9.4	-0.00042	mg/L	0.000150	-0.00042	mg/L	0.000150	35.53%
Co 228.616†	25.8	0.00018	mg/L	0.000094	0.00018	mg/L	0.000094	51.42%
Cr 267.716†	79.6	-0.00037	mg/L	0.000282	-0.00037	mg/L	0.000282	76.67%
Cu 327.393†	-121.3	-0.00093	mg/L	0.000468	-0.00093	mg/L	0.000468	50.16%
Fe 239.562†	872.2	0.201	mg/L	0.0037	0.201	mg/L	0.0037	1.81%
Mg 279.077†	26246.4	18.8	mg/L	0.32	18.8	mg/L	0.32	1.70%
Mn 257.610†	811802.6	1.53	mg/L	0.008	1.53	mg/L	0.008	0.49%
Mo 202.031†	22.5	-0.00057	mg/L	0.000104	-0.00057	mg/L	0.000104	18.26%
Ni 231.604†	176.7	0.00278	mg/L	0.000277	0.00278	mg/L	0.000277	9.98%
Pb 220.353†	38.1	0.00233	mg/L	0.001310	0.00233	mg/L	0.001310	56.33%
Sb 206.836†	3.4	-0.00096	mg/L	0.000953	-0.00096	mg/L	0.000953	99.41%
Se 196.026†	1.5	0.00000	mg/L	0.002623	0.00000	mg/L	0.002623	>999.9%
Si 251.611†	63123.6	1.74	mg/L	0.031	1.74	mg/L	0.031	1.78%
Sn 189.927†	-215.5	-0.0296	mg/L	0.00045	-0.0296	mg/L	0.00045	1.54%
Ti 334.940†	-4514.1	-0.00095	mg/L	0.000167	-0.00095	mg/L	0.000167	17.54%
Tl 190.801†	-24.1	-0.0178	mg/L	0.00168	-0.0178	mg/L	0.00168	9.47%
V 290.880†	2101.4	0.00884	mg/L	0.000844	0.00884	mg/L	0.000844	9.55%
Zn 206.200†	123.8	0.00159	mg/L	0.000244	0.00159	mg/L	0.000244	15.30%
K 766.490†	3717.8	2.45	mg/L	0.042	2.45	mg/L	0.042	1.71%
Na 589.592†	53650.3	4.75	mg/L	0.107	4.75	mg/L	0.107	2.24%

Approved: June 03, 2013

Sr 407.771†	410193.2	0.338 mg/L	0.0033	0.338 mg/L	0.0033	0.97%
Li 670.784†	741.8	0.00682 mg/L	0.001878	0.00682 mg/L	0.001878	27.55%

Sequence No.: 8 **Autosampler Location: 118**
Sample ID: L1305137104 **Date Collected: 5/31/2013 2:51:57 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1305137104

Analyte	Back Pressure	Flow
All	164.0 kPa	0.48 L/min

Mean Data: L1305137104

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	2564430.4						37108.37	1.45%
YRADIAL	187426.5						7015.41	3.74%
Ga 417.206	1045490.6						7191.85	0.69%
GaRADIAL	53029.7						1141.29	2.15%
Ag 328.068†	433.9	0.00133	mg/L	0.000479	0.00133	mg/L	0.000479	35.89%
Al 396.153†	-4.0	-0.0120	mg/L	0.00094	-0.0120	mg/L	0.00094	7.83%
As 188.979†	3.2	0.00317	mg/L	0.002669	0.00317	mg/L	0.002669	84.31%
Ba 233.527†	793.6	0.00705	mg/L	0.000093	0.00705	mg/L	0.000093	1.32%
Be 234.861†	-8.7	0.00015	mg/L	0.000037	0.00015	mg/L	0.000037	24.44%
B 249.677†	644.0	0.0105	mg/L	0.00027	0.0105	mg/L	0.00027	2.58%
Ca 227.546†	7316.1	35.0	mg/L	0.95	35.0	mg/L	0.95	2.71%
Cd 228.802†	-7.9	-0.00036	mg/L	0.000079	-0.00036	mg/L	0.000079	21.65%
Co 228.616†	19.5	-0.00008	mg/L	0.000095	-0.00008	mg/L	0.000095	126.25%
Cr 267.716†	86.6	-0.00028	mg/L	0.000119	-0.00028	mg/L	0.000119	42.57%
Cu 327.393†	-7.4	-0.00030	mg/L	0.000143	-0.00030	mg/L	0.000143	47.91%
Fe 239.562†	20.6	-0.00779	mg/L	0.000172	-0.00779	mg/L	0.000172	2.21%
Mg 279.077†	25437.4	18.2	mg/L	0.04	18.2	mg/L	0.04	0.21%
Mn 257.610†	727547.5	1.37	mg/L	0.007	1.37	mg/L	0.007	0.54%
Mo 202.031†	17.4	-0.00087	mg/L	0.000540	-0.00087	mg/L	0.000540	61.84%
Ni 231.604†	171.1	0.00263	mg/L	0.000125	0.00263	mg/L	0.000125	4.74%
Pb 220.353†	31.8	0.00160	mg/L	0.001675	0.00160	mg/L	0.001675	104.56%
Sb 206.836†	-1.2	-0.00289	mg/L	0.000341	-0.00289	mg/L	0.000341	11.79%
Se 196.026†	-3.0	-0.00427	mg/L	0.004646	-0.00427	mg/L	0.004646	108.76%
Si 251.611†	60170.1	1.66	mg/L	0.041	1.66	mg/L	0.041	2.45%
Sn 189.927†	-204.1	-0.0282	mg/L	0.00067	-0.0282	mg/L	0.00067	2.37%
Ti 334.940†	-4426.5	-0.00106	mg/L	0.000061	-0.00106	mg/L	0.000061	5.74%
Tl 190.801†	-31.2	-0.0211	mg/L	0.00079	-0.0211	mg/L	0.00079	3.73%
V 290.880†	1727.4	0.00700	mg/L	0.000981	0.00700	mg/L	0.000981	14.01%
Zn 206.200†	179.5	0.00320	mg/L	0.000265	0.00320	mg/L	0.000265	8.27%
K 766.490†	3446.3	2.27	mg/L	0.041	2.27	mg/L	0.041	1.80%
Na 589.592†	52677.7	4.66	mg/L	0.135	4.66	mg/L	0.135	2.90%
Sr 407.771†	388817.1	0.320	mg/L	0.0146	0.320	mg/L	0.0146	4.55%
Li 670.784†	644.9	0.00544	mg/L	0.000258	0.00544	mg/L	0.000258	4.73%

Sequence No.: 9 **Autosampler Location: 119**
Sample ID: L1305137104PS WG432459-01 **Date Collected: 5/31/2013 2:55:02 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1305137104PS WG432459-01

Analyte	Back Pressure	Flow
All	165.0 kPa	0.48 L/min

Mean Data: L1305137104PS WG432459-01

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	2490522.9						45643.66	1.83%
YRADIAL	188058.0						792.68	0.42%
Ga 417.206	979073.6						26811.88	2.74%

Approved: June 03, 2013

Kym H. Rhoden

GaRADIAL	51756.9					169.47	0.33%
Ag 328.068†	46107.1	0.198	mg/L	0.0079	0.198 mg/L	0.0079	3.98%
Al 396.153†	15347.2	4.99	mg/L	0.035	4.99 mg/L	0.035	0.70%
As 188.979†	409.9	0.201	mg/L	0.0087	0.201 mg/L	0.0087	4.32%
Ba 233.527†	44774.8	0.500	mg/L	0.0167	0.500 mg/L	0.0167	3.35%
Be 234.861†	16594.7	0.0246	mg/L	0.00091	0.0246 mg/L	0.00091	3.69%
B 249.677†	68589.2	0.972	mg/L	0.0450	0.972 mg/L	0.0450	4.63%
Ca 227.546†	8283.5	39.8	mg/L	1.46	39.8 mg/L	1.46	3.68%
Cd 228.802†	769.4	0.0234	mg/L	0.00105	0.0234 mg/L	0.00105	4.47%
Co 228.616†	2373.4	0.0982	mg/L	0.00245	0.0982 mg/L	0.00245	2.50%
Cr 267.716†	23129.0	0.247	mg/L	0.0084	0.247 mg/L	0.0084	3.42%
Cu 327.393†	42195.6	0.242	mg/L	0.0104	0.242 mg/L	0.0104	4.30%
Fe 239.562†	8282.0	2.02	mg/L	0.016	2.02 mg/L	0.016	0.81%
Mg 279.077†	29741.2	21.3	mg/L	0.18	21.3 mg/L	0.18	0.85%
Mn 257.610†	789751.0	1.49	mg/L	0.012	1.49 mg/L	0.012	0.81%
Mo 202.031†	10055.3	0.512	mg/L	0.0127	0.512 mg/L	0.0127	2.48%
Ni 231.604†	10009.5	0.255	mg/L	0.0061	0.255 mg/L	0.0061	2.38%
Pb 220.353†	1946.8	0.253	mg/L	0.0087	0.253 mg/L	0.0087	3.46%
Sb 206.836†	1462.0	0.606	mg/L	0.0218	0.606 mg/L	0.0218	3.59%
Se 196.026†	202.1	0.195	mg/L	0.0095	0.195 mg/L	0.0095	4.86%
Si 251.611†	145791.1	4.01	mg/L	0.154	4.01 mg/L	0.154	3.83%
Sn 189.927†	-198.4	-0.0274	mg/L	0.00189	-0.0274 mg/L	0.00189	6.90%
Ti 334.940†	368794.3	0.504	mg/L	0.0180	0.504 mg/L	0.0180	3.58%
Tl 190.801†	492.3	0.250	mg/L	0.0050	0.250 mg/L	0.0050	1.99%
V 290.880†	99484.4	0.504	mg/L	0.0189	0.504 mg/L	0.0189	3.75%
Zn 206.200†	16911.0	0.487	mg/L	0.0183	0.487 mg/L	0.0183	3.75%
K 766.490†	41741.5	27.8	mg/L	0.08	27.8 mg/L	0.08	0.30%
Na 589.592†	323216.0	29.0	mg/L	0.77	29.0 mg/L	0.77	2.65%
Sr 407.771†	949094.1	0.785	mg/L	0.0220	0.785 mg/L	0.0220	2.81%
Li 670.784†	37522.4	0.530	mg/L	0.0034	0.530 mg/L	0.0034	0.64%

Sequence No.: 10 **Autosampler Location: 120**
Sample ID: L1305137104DL WG432459-02 **Date Collected: 5/31/2013 2:57:07 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1305137104DL WG432459-02

Analyte	Back Pressure	Flow
All	165.0 kPa	0.48 L/min

Mean Data: L1305137104DL WG432459-02

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2520351.6						43168.82	1.71%
YRADIAL	177162.5						5635.10	3.18%
Ga 417.206	980795.2						17308.54	1.76%
GaRADIAL	50102.7						710.36	1.42%
Ag 328.068†	78.8	0.00000	mg/L	0.000396	0.00000	mg/L	0.000396	>999.9%
Al 396.153†	6.9	-0.00839	mg/L	0.002872	-0.00839	mg/L	0.002872	34.22%
As 188.979†	-0.2	0.00088	mg/L	0.001726	0.00088	mg/L	0.001726	195.37%
Ba 233.527†	142.0	-0.00025	mg/L	0.000060	-0.00025	mg/L	0.000060	24.14%
Be 234.861†	-63.3	-0.00004	mg/L	0.000044	-0.00004	mg/L	0.000044	112.87%
B 249.677†	828.0	0.0132	mg/L	0.00174	0.0132	mg/L	0.00174	13.20%
Ca 227.546†	1585.2	7.54	mg/L	0.121	7.54	mg/L	0.121	1.60%
Cd 228.802†	-5.8	-0.00029	mg/L	0.000062	-0.00029	mg/L	0.000062	21.21%
Co 228.616†	-3.4	-0.00104	mg/L	0.000397	-0.00104	mg/L	0.000397	38.00%
Cr 267.716†	32.0	-0.00087	mg/L	0.000171	-0.00087	mg/L	0.000171	19.69%
Cu 327.393†	63.0	0.00011	mg/L	0.000231	0.00011	mg/L	0.000231	214.88%
Fe 239.562†	7.0	-0.0108	mg/L	0.00053	-0.0108	mg/L	0.00053	4.88%
Mg 279.077†	5423.6	3.87	mg/L	0.091	3.87	mg/L	0.091	2.34%
Mn 257.610†	152143.9	0.285	mg/L	0.0012	0.285	mg/L	0.0012	0.44%
Mo 202.031†	7.7	-0.00160	mg/L	0.000239	-0.00160	mg/L	0.000239	14.98%
Ni 231.604†	20.3	-0.00124	mg/L	0.000279	-0.00124	mg/L	0.000279	22.49%
Pb 220.353†	21.7	0.00092	mg/L	0.000558	0.00092	mg/L	0.000558	60.52%
Sb 206.836†	4.0	-0.00075	mg/L	0.001499	-0.00075	mg/L	0.001499	199.47%
Se 196.026†	0.5	-0.00060	mg/L	0.000122	-0.00060	mg/L	0.000122	20.23%
Si 251.611†	12858.1	0.353	mg/L	0.0023	0.353	mg/L	0.0023	0.66%
Sn 189.927†	-64.8	-0.0107	mg/L	0.00041	-0.0107	mg/L	0.00041	3.83%

Approved: June 03, 2013

Ti 334.940†	-951.2	-0.00047 mg/L	0.000100	-0.00047 mg/L	0.000100	21.23%
Tl 190.801†	-14.8	-0.0118 mg/L	0.00432	-0.0118 mg/L	0.00432	36.74%
V 290.880†	603.3	0.00165 mg/L	0.000152	0.00165 mg/L	0.000152	9.21%
Zn 206.200†	144.3	0.00219 mg/L	0.000077	0.00219 mg/L	0.000077	3.51%
K 766.490†	675.2	0.441 mg/L	0.0242	0.441 mg/L	0.0242	5.48%
Na 589.592†	10909.3	0.963 mg/L	0.0099	0.963 mg/L	0.0099	1.03%
Sr 407.771†	78412.5	0.0617 mg/L	0.00114	0.0617 mg/L	0.00114	1.85%
Li 670.784†	119.8	-0.00203 mg/L	0.000722	-0.00203 mg/L	0.000722	35.61%

Sequence No.: 11 **Autosampler Location: 6**
Sample ID: CCV **Date Collected: 5/31/2013 3:00:08 PM**
Analyst: **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: CCV

Analyte	Back Pressure	Flow
All	165.0 kPa	0.48 L/min

Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2484533.9						54641.90	2.20%
YRADIAL	186077.0						6326.84	3.40%
Ga 417.206	956756.8						17707.14	1.85%
GaRADIAL	51070.7						1482.91	2.90%
Ag 328.068†	93628.1	0.403	mg/L	0.0072	0.403	mg/L	0.0072	1.79%
QC value within limits for Ag 328.068 Recovery = 100.87%								
Al 396.153†	30722.2	10.00	mg/L	0.030	10.00	mg/L	0.030	0.30%
QC value within limits for Al 396.153 Recovery = 99.97%								
As 188.979†	826.5	0.404	mg/L	0.0077	0.404	mg/L	0.0077	1.91%
QC value within limits for As 188.979 Recovery = 101.01%								
Ba 233.527†	89399.1	1.00	mg/L	0.026	1.00	mg/L	0.026	2.56%
QC value within limits for Ba 233.527 Recovery = 100.03%								
Be 234.861†	33843.7	0.0498	mg/L	0.00106	0.0498	mg/L	0.00106	2.13%
QC value within limits for Be 234.861 Recovery = 99.66%								
B 249.677†	34845.3	0.492	mg/L	0.0123	0.492	mg/L	0.0123	2.51%
QC value within limits for B 249.677 Recovery = 98.32%								
Ca 227.546†	2114.5	10.5	mg/L	0.21	10.5	mg/L	0.21	1.95%
QC value within limits for Ca 227.546 Recovery = 105.38%								
Cd 228.802†	1597.1	0.0488	mg/L	0.00117	0.0488	mg/L	0.00117	2.39%
QC value within limits for Cd 228.802 Recovery = 97.66%								
Co 228.616†	4890.2	0.203	mg/L	0.0042	0.203	mg/L	0.0042	2.08%
QC value within limits for Co 228.616 Recovery = 101.64%								
Cr 267.716†	46432.4	0.497	mg/L	0.0094	0.497	mg/L	0.0094	1.90%
QC value within limits for Cr 267.716 Recovery = 99.46%								
Cu 327.393†	87935.5	0.504	mg/L	0.0099	0.504	mg/L	0.0099	1.97%
QC value within limits for Cu 327.393 Recovery = 100.78%								
Fe 239.562†	16326.9	4.00	mg/L	0.049	4.00	mg/L	0.049	1.24%
QC value within limits for Fe 239.562 Recovery = 99.94%								
Mg 279.077†	13934.7	9.99	mg/L	0.136	9.99	mg/L	0.136	1.36%
QC value within limits for Mg 279.077 Recovery = 99.87%								
Mn 257.610†	270542.3	0.510	mg/L	0.0134	0.510	mg/L	0.0134	2.63%
QC value within limits for Mn 257.610 Recovery = 101.98%								
Mo 202.031†	19529.5	0.996	mg/L	0.0285	0.996	mg/L	0.0285	2.86%
QC value within limits for Mo 202.031 Recovery = 99.55%								
Ni 231.604†	19671.4	0.503	mg/L	0.0134	0.503	mg/L	0.0134	2.66%
QC value within limits for Ni 231.604 Recovery = 100.57%								
Pb 220.353†	3904.2	0.511	mg/L	0.0118	0.511	mg/L	0.0118	2.31%
QC value within limits for Pb 220.353 Recovery = 102.13%								
Sb 206.836†	2915.9	1.21	mg/L	0.025	1.21	mg/L	0.025	2.04%
QC value within limits for Sb 206.836 Recovery = 100.84%								
Se 196.026†	424.1	0.410	mg/L	0.0177	0.410	mg/L	0.0177	4.31%
QC value within limits for Se 196.026 Recovery = 102.61%								
Si 251.611†	181373.5	4.99	mg/L	0.116	4.99	mg/L	0.116	2.32%
QC value within limits for Si 251.611 Recovery = 99.80%								
Sn 189.927†	7323.0	0.916	mg/L	0.0223	0.916	mg/L	0.0223	2.43%
QC value within limits for Sn 189.927 Recovery = 91.60%								
Ti 334.940†	738139.2	0.999	mg/L	0.0013	0.999	mg/L	0.0013	0.13%

Approved: June 03, 2013

Lynn H. Rhoden

```
   QC value within limits for Ti 334.940  Recovery = 99.86%
Tl 190.801†            1024.5       0.526 mg/L        0.0107       0.526 mg/L        0.0107   2.03%
   QC value within limits for Tl 190.801  Recovery = 105.15%
V 290.880†           195705.7       0.994 mg/L        0.0323       0.994 mg/L        0.0323   3.24%
   QC value within limits for V 290.880  Recovery = 99.45%
Zn 206.200†           34663.4        1.00 mg/L         0.025        1.00 mg/L         0.025   2.49%
   QC value within limits for Zn 206.200  Recovery = 100.06%
K 766.490†            75985.5        51.1 mg/L          0.21        51.1 mg/L          0.21   0.41%
   QC value within limits for K 766.490  Recovery = 102.14%
Na 589.592†          549667.9        49.8 mg/L          2.52        49.8 mg/L          2.52   5.06%
   QC value within limits for Na 589.592  Recovery = 99.60%
Sr 407.771†         1231285.6        1.02 mg/L         0.055        1.02 mg/L         0.055   5.44%
   QC value within limits for Sr 407.771  Recovery = 101.91%
Li 670.784†           72173.5        1.02 mg/L         0.002        1.02 mg/L         0.002   0.21%
   QC value within limits for Li 670.784  Recovery = 102.25%
All analyte(s) passed QC.

==========================================================================================
Sequence No.: 12                                    Autosampler Location: 1
Sample ID: CCB                                      Date Collected: 5/31/2013 3:02:13 PM
Analyst:                                            Data Type: Original
Initial Sample Wt:                                  Initial Sample Vol:
Dilution:                                           Sample Prep Vol:

------------------------------------------------------------------------------------------
Nebulizer Parameters: CCB
Analyte                 Back Pressure    Flow
All                     165.0 kPa        0.48 L/min

------------------------------------------------------------------------------------------
Mean Data: CCB
                   Mean Corrected         Calib.                          Sample
Analyte               Intensity     Conc. Units      Std.Dev.     Conc. Units      Std.Dev.   RSD
Y 371.029            2576201.7                                                    24741.69   0.96%
YRADIAL               184638.9                                                      532.45   0.29%
Ga 417.206            987278.9                                                     8712.19   0.88%
GaRADIAL               51460.0                                                      913.49   1.78%
Ag 328.068†              -40.7    -0.00047 mg/L      0.000300    -0.00047 mg/L      0.000300  63.88%
   QC value within limits for Ag 328.068  Recovery = Not calculated
Al 396.153†               5.8    -0.00872 mg/L      0.000567    -0.00872 mg/L      0.000567   6.50%
   QC value within limits for Al 396.153  Recovery = Not calculated
As 188.979†               0.1     0.00089 mg/L      0.003544     0.00089 mg/L      0.003544 398.52%
   QC value within limits for As 188.979  Recovery = Not calculated
Ba 233.527†              -18.4    -0.00205 mg/L      0.000074    -0.00205 mg/L      0.000074   3.62%
   QC value within limits for Ba 233.527  Recovery = Not calculated
Be 234.861†              -36.1    -0.00003 mg/L      0.000014    -0.00003 mg/L      0.000014  50.79%
   QC value within limits for Be 234.861  Recovery = Not calculated
B 249.677†               586.8     0.00974 mg/L      0.001065     0.00974 mg/L      0.001065  10.94%
   QC value within limits for B 249.677  Recovery = Not calculated
Ca 227.546†               10.7      0.0154 mg/L       0.01809      0.0154 mg/L       0.01809 117.42%
   QC value within limits for Ca 227.546  Recovery = Not calculated
Cd 228.802†               -5.0    -0.00027 mg/L      0.000058    -0.00027 mg/L      0.000058  21.48%
   QC value within limits for Cd 228.802  Recovery = Not calculated
Co 228.616†               -6.7    -0.00119 mg/L      0.000327    -0.00119 mg/L      0.000327  27.59%
   QC value within limits for Co 228.616  Recovery = Not calculated
Cr 267.716†               -8.5    -0.00130 mg/L      0.000126    -0.00130 mg/L      0.000126   9.67%
   QC value within limits for Cr 267.716  Recovery = Not calculated
Cu 327.393†               93.7     0.00028 mg/L      0.000188     0.00028 mg/L      0.000188  66.37%
   QC value within limits for Cu 327.393  Recovery = Not calculated
Fe 239.562†                5.3     -0.0112 mg/L       0.00038     -0.0112 mg/L       0.00038   3.41%
   QC value within limits for Fe 239.562  Recovery = Not calculated
Mg 279.077†                2.3     -0.0140 mg/L       0.00120     -0.0140 mg/L       0.00120   8.56%
   QC value within limits for Mg 279.077  Recovery = Not calculated
Mn 257.610†              144.2    -0.00227 mg/L      0.000011    -0.00227 mg/L      0.000011   0.49%
   QC value within limits for Mn 257.610  Recovery = Not calculated
Mo 202.031†               -4.7    -0.00229 mg/L      0.000151    -0.00229 mg/L      0.000151   6.61%
   QC value within limits for Mo 202.031  Recovery = Not calculated
Ni 231.604†              -21.2    -0.00231 mg/L      0.000225    -0.00231 mg/L      0.000225   9.74%
   QC value within limits for Ni 231.604  Recovery = Not calculated
Pb 220.353†               21.7     0.00109 mg/L      0.000942     0.00109 mg/L      0.000942  86.06%
   QC value within limits for Pb 220.353  Recovery = Not calculated
Sb 206.836†                5.1    -0.00028 mg/L      0.000702    -0.00028 mg/L      0.000702 248.14%
```

Approved: June 03, 2013

Lynn H. Rhoden

```
   QC value within limits for Sb 206.836  Recovery = Not calculated
Se 196.026†               -1.5    -0.00248 mg/L      0.006649    -0.00248 mg/L      0.006649 268.34%
   QC value within limits for Se 196.026  Recovery = Not calculated
Si 251.611†               -5.4    -0.00221 mg/L      0.001111    -0.00221 mg/L      0.001111  50.19%
   QC value within limits for Si 251.611  Recovery = Not calculated
Sn 189.927†               14.0    -0.00080 mg/L      0.000370    -0.00080 mg/L      0.000370  45.96%
   QC value within limits for Sn 189.927  Recovery = Not calculated
Ti 334.940†              -12.6    -0.00033 mg/L      0.000137    -0.00033 mg/L      0.000137  41.26%
   QC value within limits for Ti 334.940  Recovery = Not calculated
Tl 190.801†               -2.6    -0.00535 mg/L      0.005977    -0.00535 mg/L      0.005977 111.62%
   QC value within limits for Tl 190.801  Recovery = Not calculated
V 290.880†               191.2    -0.00035 mg/L      0.000576    -0.00035 mg/L      0.000576 163.66%
   QC value within limits for V 290.880  Recovery = Not calculated
Zn 206.200†                7.8    -0.00175 mg/L      0.000121    -0.00175 mg/L      0.000121   6.93%
   QC value within limits for Zn 206.200  Recovery = Not calculated
K 766.490†                74.1      0.0447 mg/L       0.06809      0.0447 mg/L       0.06809 152.25%
   QC value within limits for K 766.490  Recovery = Not calculated
Na 589.592†              379.9      0.0324 mg/L       0.02627      0.0324 mg/L       0.02627  80.96%
   QC value within limits for Na 589.592  Recovery = Not calculated
Sr 407.771†              202.8    -0.00340 mg/L      0.000092    -0.00340 mg/L      0.000092   2.69%
   QC value within limits for Sr 407.771  Recovery = Not calculated
Li 670.784†              144.8    -0.00167 mg/L      0.001022    -0.00167 mg/L      0.001022  61.16%
   QC value within limits for Li 670.784  Recovery = Not calculated
All analyte(s) passed QC.
User canceled analysis.
```

Approved: June 03, 2013

==========

Analysis Begun

Start Time: 5/31/2013 3:05:47 PM **Plasma On Time: 5/31/2013 6:21:19 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\FRIDAY1.sif
Batch ID:
Results Data Set: 053113HR
Results Library: C:\pe\peicp2\Results\Results.mdb

==========

Sequence No.: 1 **Autosampler Location: 121**
Sample ID: L1305137105 **Date Collected: 5/31/2013 3:05:50 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1305137105

Analyte	Back Pressure	Flow
All	164.0 kPa	0.48 L/min

Mean Data: L1305137105

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2482355.5						36900.38	1.49%
YRADIAL	178783.1						2716.38	1.52%
Ga 417.206	1005593.7						12889.63	1.28%
GaRADIAL	51983.3						808.21	1.55%
Ag 328.068†	193.0	0.00058	mg/L	0.000178	0.00058	mg/L	0.000178	30.50%
Al 396.153†	1077.0	0.343	mg/L	0.0127	0.343	mg/L	0.0127	3.72%
As 188.979†	1.2	0.00246	mg/L	0.002125	0.00246	mg/L	0.002125	86.23%
Ba 233.527†	2866.3	0.0303	mg/L	0.00040	0.0303	mg/L	0.00040	1.34%
Be 234.861†	113.1	0.00008	mg/L	0.000118	0.00008	mg/L	0.000118	152.57%
B 249.677†	1167.2	0.0177	mg/L	0.00099	0.0177	mg/L	0.00099	5.59%
Ca 227.546†	9050.9	43.3	mg/L	1.34	43.3	mg/L	1.34	3.11%
Cd 228.802†	-3.4	-0.00022	mg/L	0.000117	-0.00022	mg/L	0.000117	52.93%
Co 228.616†	-8.5	-0.00128	mg/L	0.000613	-0.00128	mg/L	0.000613	47.83%
Cr 267.716†	107.8	-0.00008	mg/L	0.000093	-0.00008	mg/L	0.000093	119.40%
Cu 327.393†	3.6	-0.00019	mg/L	0.000543	-0.00019	mg/L	0.000543	291.43%
Fe 239.562†	2209.3	0.530	mg/L	0.0062	0.530	mg/L	0.0062	1.18%
Mg 279.077†	24490.6	17.5	mg/L	0.09	17.5	mg/L	0.09	0.53%
Mn 257.610†	49649.3	0.0914	mg/L	0.00247	0.0914	mg/L	0.00247	2.70%
Mo 202.031†	27.6	-0.00059	mg/L	0.000121	-0.00059	mg/L	0.000121	20.47%
Ni 231.604†	33.1	-0.00091	mg/L	0.000292	-0.00091	mg/L	0.000292	32.10%
Pb 220.353†	29.0	0.00203	mg/L	0.001953	0.00203	mg/L	0.001953	96.22%
Sb 206.836†	0.2	-0.00230	mg/L	0.003658	-0.00230	mg/L	0.003658	159.07%
Se 196.026†	2.1	0.00110	mg/L	0.003334	0.00110	mg/L	0.003334	303.35%
Si 251.611†	124875.5	3.44	mg/L	0.124	3.44	mg/L	0.124	3.60%
Sn 189.927†	-223.6	-0.0306	mg/L	0.00072	-0.0306	mg/L	0.00072	2.36%
Ti 334.940†	300.6	0.00658	mg/L	0.000900	0.00658	mg/L	0.000900	13.69%
Tl 190.801†	-28.5	-0.0184	mg/L	0.00214	-0.0184	mg/L	0.00214	11.60%
V 290.880†	2101.0	0.00878	mg/L	0.001655	0.00878	mg/L	0.001655	18.84%
Zn 206.200†	195.1	0.00364	mg/L	0.000154	0.00364	mg/L	0.000154	4.24%
K 766.490†	4422.4	2.90	mg/L	0.033	2.90	mg/L	0.033	1.13%
Na 589.592†	202273.0	18.0	mg/L	0.14	18.0	mg/L	0.14	0.75%
Sr 407.771†	1024234.2	0.848	mg/L	0.0293	0.848	mg/L	0.0293	3.46%
Li 670.784†	1336.2	0.0153	mg/L	0.00009	0.0153	mg/L	0.00009	0.62%

==========

Sequence No.: 2 **Autosampler Location: 122**
Sample ID: L1305137106 **Date Collected: 5/31/2013 3:08:52 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1305137106

Approved: June 03, 2013
Kym H. Rhoden

Analyte	Back Pressure	Flow
All	165.0 kPa	0.48 L/min

Mean Data: L1305137106

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2501392.7						58435.59	2.34%
YRADIAL	182841.8						2157.60	1.18%
Ga 417.206	1016247.9						26642.42	2.62%
GaRADIAL	51666.0						999.58	1.93%
Ag 328.068†	394.3	0.00124	mg/L	0.000293	0.00124	mg/L	0.000293	23.58%
Al 396.153†	-2.6	-0.0116	mg/L	0.00064	-0.0116	mg/L	0.00064	5.51%
As 188.979†	2.2	0.00287	mg/L	0.003961	0.00287	mg/L	0.003961	137.78%
Ba 233.527†	2499.0	0.0262	mg/L	0.00068	0.0262	mg/L	0.00068	2.61%
Be 234.861†	0.9	0.00003	mg/L	0.000056	0.00003	mg/L	0.000056	203.70%
B 249.677†	1017.9	0.0158	mg/L	0.00133	0.0158	mg/L	0.00133	8.41%
Ca 227.546†	9093.5	43.4	mg/L	1.78	43.4	mg/L	1.78	4.10%
Cd 228.802†	-7.9	-0.00036	mg/L	0.000049	-0.00036	mg/L	0.000049	13.41%
Co 228.616†	-7.0	-0.00119	mg/L	0.000233	-0.00119	mg/L	0.000233	19.59%
Cr 267.716†	79.5	-0.00036	mg/L	0.000197	-0.00036	mg/L	0.000197	55.34%
Cu 327.393†	-74.0	-0.00068	mg/L	0.000159	-0.00068	mg/L	0.000159	23.37%
Fe 239.562†	56.0	0.00094	mg/L	0.000588	0.00094	mg/L	0.000588	62.41%
Mg 279.077†	23998.2	17.2	mg/L	0.15	17.2	mg/L	0.15	0.88%
Mn 257.610†	10082.3	0.0165	mg/L	0.00061	0.0165	mg/L	0.00061	3.66%
Mo 202.031†	33.7	-0.00032	mg/L	0.000426	-0.00032	mg/L	0.000426	132.66%
Ni 231.604†	22.5	-0.00118	mg/L	0.000240	-0.00118	mg/L	0.000240	20.33%
Pb 220.353†	40.6	0.00356	mg/L	0.000279	0.00356	mg/L	0.000279	7.84%
Sb 206.836†	-0.1	-0.00243	mg/L	0.001099	-0.00243	mg/L	0.001099	45.19%
Se 196.026†	-0.8	-0.00180	mg/L	0.001893	-0.00180	mg/L	0.001893	104.93%
Si 251.611†	106145.2	2.93	mg/L	0.100	2.93	mg/L	0.100	3.42%
Sn 189.927†	-221.6	-0.0304	mg/L	0.00040	-0.0304	mg/L	0.00040	1.32%
Ti 334.940†	-5193.8	-0.00082	mg/L	0.000084	-0.00082	mg/L	0.000084	10.29%
Tl 190.801†	-30.7	-0.0195	mg/L	0.00136	-0.0195	mg/L	0.00136	6.96%
V 290.880†	1899.4	0.00790	mg/L	0.001069	0.00790	mg/L	0.001069	13.53%
Zn 206.200†	80.7	0.00036	mg/L	0.000214	0.00036	mg/L	0.000214	59.68%
K 766.490†	4321.6	2.84	mg/L	0.027	2.84	mg/L	0.027	0.95%
Na 589.592†	206821.2	18.4	mg/L	0.41	18.4	mg/L	0.41	2.23%
Sr 407.771†	1024112.1	0.848	mg/L	0.0110	0.848	mg/L	0.0110	1.30%
Li 670.784†	1284.9	0.0145	mg/L	0.00125	0.0145	mg/L	0.00125	8.62%

Sequence No.: 3
Sample ID: L1305137107
Analyst: KHR
Initial Sample Wt:
Dilution:

Autosampler Location: 123
Date Collected: 5/31/2013 3:11:56 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: L1305137107

Analyte	Back Pressure	Flow
All	165.0 kPa	0.48 L/min

Mean Data: L1305137107

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2458143.7						32826.67	1.34%
YRADIAL	176526.9						6102.12	3.46%
Ga 417.206	995769.1						8835.67	0.89%
GaRADIAL	51981.1						2099.18	4.04%
Ag 328.068†	410.1	0.00140	mg/L	0.000112	0.00140	mg/L	0.000112	8.00%
Al 396.153†	551.5	0.170	mg/L	0.0100	0.170	mg/L	0.0100	5.88%
As 188.979†	0.5	0.00205	mg/L	0.001061	0.00205	mg/L	0.001061	51.79%
Ba 233.527†	2514.5	0.0263	mg/L	0.00038	0.0263	mg/L	0.00038	1.45%
Be 234.861†	81.4	0.00016	mg/L	0.000117	0.00016	mg/L	0.000117	73.54%
B 249.677†	826.9	0.0129	mg/L	0.00067	0.0129	mg/L	0.00067	5.18%
Ca 227.546†	8223.0	39.3	mg/L	0.15	39.3	mg/L	0.15	0.38%
Cd 228.802†	-5.1	-0.00026	mg/L	0.000181	-0.00026	mg/L	0.000181	68.82%
Co 228.616†	51.8	0.00125	mg/L	0.000264	0.00125	mg/L	0.000264	21.09%
Cr 267.716†	94.3	-0.00023	mg/L	0.000153	-0.00023	mg/L	0.000153	67.41%
Cu 327.393†	77.8	0.00023	mg/L	0.000603	0.00023	mg/L	0.000603	257.97%

Approved: June 03, 2013

Fe 239.562†	2157.9	0.517	mg/L	0.0217	0.517	mg/L	0.0217	4.20%
Mg 279.077†	23650.4	16.9	mg/L	0.59	16.9	mg/L	0.59	3.48%
Mn 257.610†	712614.1	1.35	mg/L	0.010	1.35	mg/L	0.010	0.71%
Mo 202.031†	24.4	-0.00049	mg/L	0.000179	-0.00049	mg/L	0.000179	36.46%
Ni 231.604†	222.0	0.00394	mg/L	0.000285	0.00394	mg/L	0.000285	7.24%
Pb 220.353†	37.2	0.00233	mg/L	0.000887	0.00233	mg/L	0.000887	38.10%
Sb 206.836†	2.5	-0.00135	mg/L	0.001020	-0.00135	mg/L	0.001020	75.28%
Se 196.026†	-2.8	-0.00404	mg/L	0.001500	-0.00404	mg/L	0.001500	37.16%
Si 251.611†	117131.1	3.23	mg/L	0.023	3.23	mg/L	0.023	0.71%
Sn 189.927†	-225.0	-0.0308	mg/L	0.00016	-0.0308	mg/L	0.00016	0.52%
Ti 334.940†	-1453.8	0.00361	mg/L	0.000892	0.00361	mg/L	0.000892	24.69%
Tl 190.801†	-29.4	-0.0202	mg/L	0.00587	-0.0202	mg/L	0.00587	29.14%
V 290.880†	1890.2	0.00773	mg/L	0.001273	0.00773	mg/L	0.001273	16.47%
Zn 206.200†	203.4	0.00388	mg/L	0.000220	0.00388	mg/L	0.000220	5.67%
K 766.490†	4678.3	3.09	mg/L	0.108	3.09	mg/L	0.108	3.48%
Na 589.592†	48942.8	4.33	mg/L	0.063	4.33	mg/L	0.063	1.45%
Sr 407.771†	668591.3	0.552	mg/L	0.0046	0.552	mg/L	0.0046	0.84%
Li 670.784†	852.5	0.00839	mg/L	0.000302	0.00839	mg/L	0.000302	3.60%

Sequence No.: 4 **Autosampler Location: 124**
Sample ID: L1305137108 **Date Collected: 5/31/2013 3:14:58 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1305137108

Analyte	Back Pressure	Flow
All	165.0 kPa	0.48 L/min

Mean Data: L1305137108

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2488690.5						33288.15	1.34%
YRADIAL	175669.2						2408.01	1.37%
Ga 417.206	1006475.2						16539.56	1.64%
GaRADIAL	51102.8						435.14	0.85%
Ag 328.068†	424.3	0.00128	mg/L	0.000452	0.00128	mg/L	0.000452	35.27%
Al 396.153†	104.5	0.0236	mg/L	0.00125	0.0236	mg/L	0.00125	5.29%
As 188.979†	10.0	0.00666	mg/L	0.002814	0.00666	mg/L	0.002814	42.25%
Ba 233.527†	2409.6	0.0252	mg/L	0.00037	0.0252	mg/L	0.00037	1.48%
Be 234.861†	-29.6	0.00010	mg/L	0.000042	0.00010	mg/L	0.000042	44.36%
B 249.677†	827.5	0.0131	mg/L	0.00049	0.0131	mg/L	0.00049	3.76%
Ca 227.546†	8544.1	40.8	mg/L	0.66	40.8	mg/L	0.66	1.63%
Cd 228.802†	-10.2	-0.00045	mg/L	0.000159	-0.00045	mg/L	0.000159	35.39%
Co 228.616†	48.5	0.00113	mg/L	0.000261	0.00113	mg/L	0.000261	23.03%
Cr 267.716†	88.8	-0.00026	mg/L	0.000136	-0.00026	mg/L	0.000136	51.97%
Cu 327.393†	-86.2	-0.00074	mg/L	0.000311	-0.00074	mg/L	0.000311	41.84%
Fe 239.562†	358.0	0.0751	mg/L	0.00143	0.0751	mg/L	0.00143	1.90%
Mg 279.077†	23752.4	17.0	mg/L	0.17	17.0	mg/L	0.17	0.99%
Mn 257.610†	702580.7	1.33	mg/L	0.021	1.33	mg/L	0.021	1.59%
Mo 202.031†	25.1	-0.00048	mg/L	0.000488	-0.00048	mg/L	0.000488	101.18%
Ni 231.604†	209.0	0.00360	mg/L	0.000194	0.00360	mg/L	0.000194	5.37%
Pb 220.353†	28.2	0.00115	mg/L	0.001417	0.00115	mg/L	0.001417	122.86%
Sb 206.836†	0.9	-0.00202	mg/L	0.002284	-0.00202	mg/L	0.002284	113.32%
Se 196.026†	0.4	-0.00100	mg/L	0.005022	-0.00100	mg/L	0.005022	501.48%
Si 251.611†	107525.5	2.96	mg/L	0.060	2.96	mg/L	0.060	2.01%
Sn 189.927†	-213.4	-0.0293	mg/L	0.00136	-0.0293	mg/L	0.00136	4.64%
Ti 334.940†	-4590.1	-0.00040	mg/L	0.000216	-0.00040	mg/L	0.000216	54.55%
Tl 190.801†	-22.3	-0.0166	mg/L	0.00213	-0.0166	mg/L	0.00213	12.81%
V 290.880†	1719.5	0.00697	mg/L	0.001170	0.00697	mg/L	0.001170	16.78%
Zn 206.200†	198.1	0.00374	mg/L	0.000129	0.00374	mg/L	0.000129	3.46%
K 766.490†	4286.0	2.83	mg/L	0.021	2.83	mg/L	0.021	0.75%
Na 589.592†	51105.5	4.52	mg/L	0.038	4.52	mg/L	0.038	0.85%
Sr 407.771†	690405.6	0.570	mg/L	0.0008	0.570	mg/L	0.0008	0.14%
Li 670.784†	816.2	0.00787	mg/L	0.000500	0.00787	mg/L	0.000500	6.35%

Sequence No.: 5 **Autosampler Location: 125**
Sample ID: L1305137109 **Date Collected: 5/31/2013 3:18:03 PM**

Approved: June 03, 2013

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

Nebulizer Parameters: L1305137109

Analyte	Back Pressure	Flow
All	165.0 kPa	0.48 L/min

Mean Data: L1305137109

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2438249.2						20144.99	0.83%
YRADIAL	178548.6						3551.60	1.99%
Ga 417.206	991101.3						6450.81	0.65%
GaRADIAL	51990.4						758.71	1.46%
Ag 328.068†	197.5	0.00057	mg/L	0.000371	0.00057	mg/L	0.000371	65.29%
Al 396.153†	499.9	0.153	mg/L	0.0021	0.153	mg/L	0.0021	1.36%
As 188.979†	1.8	0.00263	mg/L	0.003429	0.00263	mg/L	0.003429	130.50%
Ba 233.527†	3302.6	0.0352	mg/L	0.00009	0.0352	mg/L	0.00009	0.27%
Be 234.861†	3.0	-0.00003	mg/L	0.000037	-0.00003	mg/L	0.000037	105.62%
B 249.677†	659.8	0.0106	mg/L	0.00030	0.0106	mg/L	0.00030	2.81%
Ca 227.546†	8163.9	39.0	mg/L	0.79	39.0	mg/L	0.79	2.02%
Cd 228.802†	-7.4	-0.00035	mg/L	0.000070	-0.00035	mg/L	0.000070	19.96%
Co 228.616†	-8.1	-0.00125	mg/L	0.000302	-0.00125	mg/L	0.000302	24.06%
Cr 267.716†	107.4	-0.00007	mg/L	0.000158	-0.00007	mg/L	0.000158	224.09%
Cu 327.393†	-122.2	-0.00093	mg/L	0.000464	-0.00093	mg/L	0.000464	50.10%
Fe 239.562†	1221.6	0.287	mg/L	0.0043	0.287	mg/L	0.0043	1.51%
Mg 279.077†	25810.8	18.5	mg/L	0.22	18.5	mg/L	0.22	1.20%
Mn 257.610†	20624.3	0.0365	mg/L	0.00021	0.0365	mg/L	0.00021	0.56%
Mo 202.031†	34.3	-0.00027	mg/L	0.000270	-0.00027	mg/L	0.000270	99.59%
Ni 231.604†	15.8	-0.00135	mg/L	0.000237	-0.00135	mg/L	0.000237	17.50%
Pb 220.353†	43.6	0.00395	mg/L	0.000986	0.00395	mg/L	0.000986	24.96%
Sb 206.836†	0.3	-0.00226	mg/L	0.001391	-0.00226	mg/L	0.001391	61.50%
Se 196.026†	-2.4	-0.00330	mg/L	0.005380	-0.00330	mg/L	0.005380	163.15%
Si 251.611†	100206.8	2.76	mg/L	0.049	2.76	mg/L	0.049	1.76%
Sn 189.927†	-220.6	-0.0302	mg/L	0.00031	-0.0302	mg/L	0.00031	1.02%
Ti 334.940†	-2017.9	0.00281	mg/L	0.000898	0.00281	mg/L	0.000898	32.01%
Tl 190.801†	-29.6	-0.0190	mg/L	0.00328	-0.0190	mg/L	0.00328	17.29%
V 290.880†	2261.9	0.00964	mg/L	0.002133	0.00964	mg/L	0.002133	22.13%
Zn 206.200†	126.5	0.00167	mg/L	0.000104	0.00167	mg/L	0.000104	6.24%
K 766.490†	3650.2	2.40	mg/L	0.028	2.40	mg/L	0.028	1.16%
Na 589.592†	122355.3	10.9	mg/L	0.13	10.9	mg/L	0.13	1.22%
Sr 407.771†	702337.5	0.580	mg/L	0.0066	0.580	mg/L	0.0066	1.13%
Li 670.784†	714.5	0.00643	mg/L	0.000314	0.00643	mg/L	0.000314	4.88%

Sequence No.: 6 **Autosampler Location: 126**
Sample ID: L1305137110 WG432420-02 **Date Collected: 5/31/2013 3:21:04 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1305137110 WG432420-02

Analyte	Back Pressure	Flow
All	165.0 kPa	0.48 L/min

Mean Data: L1305137110 WG432420-02

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2482473.6						22044.52	0.89%
YRADIAL	184089.9						2584.17	1.40%
Ga 417.206	1007480.4						11913.64	1.18%
GaRADIAL	52010.6						1177.28	2.26%
Ag 328.068†	337.4	0.00106	mg/L	0.000649	0.00106	mg/L	0.000649	61.26%
Al 396.153†	12.7	-0.00655	mg/L	0.001913	-0.00655	mg/L	0.001913	29.23%
As 188.979†	4.8	0.00401	mg/L	0.001175	0.00401	mg/L	0.001175	29.34%
Ba 233.527†	3117.7	0.0331	mg/L	0.00048	0.0331	mg/L	0.00048	1.44%
Be 234.861†	-17.4	0.00000	mg/L	0.000025	0.00000	mg/L	0.000025	>999.9%

Approved: June 03, 2013

Kym H. Rhoden

B 249.677†	646.2	0.0106	mg/L	0.00088	0.0106	mg/L	0.00088	8.29%
Ca 227.546†	8016.5	38.3	mg/L	0.28	38.3	mg/L	0.28	0.74%
Cd 228.802†	-7.3	-0.00036	mg/L	0.000134	-0.00036	mg/L	0.000134	37.84%
Co 228.616†	-13.0	-0.00144	mg/L	0.000336	-0.00144	mg/L	0.000336	23.31%
Cr 267.716†	80.0	-0.00035	mg/L	0.000197	-0.00035	mg/L	0.000197	56.38%
Cu 327.393†	-10.5	-0.00031	mg/L	0.000453	-0.00031	mg/L	0.000453	144.30%
Fe 239.562†	82.0	0.00730	mg/L	0.000590	0.00730	mg/L	0.000590	8.08%
Mg 279.077†	25269.8	18.1	mg/L	0.08	18.1	mg/L	0.08	0.45%
Mn 257.610†	6857.2	0.0104	mg/L	0.00029	0.0104	mg/L	0.00029	2.74%
Mo 202.031†	25.7	-0.00073	mg/L	0.000269	-0.00073	mg/L	0.000269	36.73%
Ni 231.604†	2.9	-0.00168	mg/L	0.000152	-0.00168	mg/L	0.000152	9.04%
Pb 220.353†	29.9	0.00217	mg/L	0.002228	0.00217	mg/L	0.002228	102.53%
Sb 206.836†	4.1	-0.00068	mg/L	0.002077	-0.00068	mg/L	0.002077	305.33%
Se 196.026†	-0.8	-0.00173	mg/L	0.002646	-0.00173	mg/L	0.002646	152.73%
Si 251.611†	91629.1	2.53	mg/L	0.036	2.53	mg/L	0.036	1.43%
Sn 189.927†	-219.5	-0.0301	mg/L	0.00095	-0.0301	mg/L	0.00095	3.16%
Ti 334.940†	-4565.3	-0.00074	mg/L	0.000293	-0.00074	mg/L	0.000293	39.46%
Tl 190.801†	-20.6	-0.0145	mg/L	0.00442	-0.0145	mg/L	0.00442	30.52%
V 290.880†	1962.6	0.00820	mg/L	0.000454	0.00820	mg/L	0.000454	5.54%
Zn 206.200†	216.5	0.00427	mg/L	0.000129	0.00427	mg/L	0.000129	3.02%
K 766.490†	3623.5	2.38	mg/L	0.027	2.38	mg/L	0.027	1.15%
Na 589.592†	121469.9	10.8	mg/L	0.31	10.8	mg/L	0.31	2.90%
Sr 407.771†	674677.7	0.557	mg/L	0.0117	0.557	mg/L	0.0117	2.11%
Li 670.784†	667.9	0.00577	mg/L	0.000861	0.00577	mg/L	0.000861	14.92%

Sequence No.: 7
Sample ID: L1305137110MS WG432420-07
Analyst: KHR
Initial Sample Wt:
Dilution:

Autosampler Location: 127
Date Collected: 5/31/2013 3:24:08 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: L1305137110MS WG432420-07

Analyte	Back Pressure	Flow
All	165.0 kPa	0.48 L/min

Mean Data: L1305137110MS WG432420-07

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	2413915.1						25223.61	1.04%
YRADIAL	181628.8						2343.55	1.29%
Ga 417.206	966436.0						6309.84	0.65%
GaRADIAL	50492.4						628.64	1.25%
Ag 328.068†	46344.5	0.200	mg/L	0.0031	0.200	mg/L	0.0031	1.58%
Al 396.153†	15414.0	5.01	mg/L	0.020	5.01	mg/L	0.020	0.40%
As 188.979†	420.0	0.207	mg/L	0.0012	0.207	mg/L	0.0012	0.57%
Ba 233.527†	48610.7	0.543	mg/L	0.0132	0.543	mg/L	0.0132	2.44%
Be 234.861†	16867.3	0.0248	mg/L	0.00041	0.0248	mg/L	0.00041	1.67%
B 249.677†	69260.5	0.982	mg/L	0.0125	0.982	mg/L	0.0125	1.28%
Ca 227.546†	9648.6	46.3	mg/L	0.43	46.3	mg/L	0.43	0.94%
Cd 228.802†	778.8	0.0237	mg/L	0.00046	0.0237	mg/L	0.00046	1.96%
Co 228.616†	2417.2	0.100	mg/L	0.0009	0.100	mg/L	0.0009	0.92%
Cr 267.716†	23754.6	0.254	mg/L	0.0046	0.254	mg/L	0.0046	1.79%
Cu 327.393†	42196.8	0.242	mg/L	0.0036	0.242	mg/L	0.0036	1.48%
Fe 239.562†	8418.7	2.05	mg/L	0.016	2.05	mg/L	0.016	0.76%
Mg 279.077†	31995.1	22.9	mg/L	0.17	22.9	mg/L	0.17	0.74%
Mn 257.610†	144773.0	0.272	mg/L	0.0062	0.272	mg/L	0.0062	2.28%
Mo 202.031†	10365.1	0.527	mg/L	0.0053	0.527	mg/L	0.0053	1.00%
Ni 231.604†	10121.8	0.258	mg/L	0.0024	0.258	mg/L	0.0024	0.93%
Pb 220.353†	1995.8	0.260	mg/L	0.0014	0.260	mg/L	0.0014	0.54%
Sb 206.836†	1477.0	0.612	mg/L	0.0067	0.612	mg/L	0.0067	1.10%
Se 196.026†	207.8	0.201	mg/L	0.0044	0.201	mg/L	0.0044	2.21%
Si 251.611†	182732.1	5.03	mg/L	0.109	5.03	mg/L	0.109	2.16%
Sn 189.927†	-239.3	-0.0326	mg/L	0.00021	-0.0326	mg/L	0.00021	0.65%
Ti 334.940†	378709.1	0.518	mg/L	0.0137	0.518	mg/L	0.0137	2.65%
Tl 190.801†	494.7	0.252	mg/L	0.0016	0.252	mg/L	0.0016	0.62%
V 290.880†	102813.0	0.521	mg/L	0.0105	0.521	mg/L	0.0105	2.02%
Zn 206.200†	17404.3	0.501	mg/L	0.0087	0.501	mg/L	0.0087	1.74%
K 766.490†	42741.0	28.5	mg/L	0.19	28.5	mg/L	0.19	0.66%
Na 589.592†	397425.8	35.7	mg/L	0.71	35.7	mg/L	0.71	1.99%

Approved: June 03, 2013

Sr 407.771†	1277980.5	1.06	mg/L	0.015	1.06	mg/L	0.015	1.46%
Li 670.784†	37850.7	0.534	mg/L	0.0057	0.534	mg/L	0.0057	1.06%

Sequence No.: 8 **Autosampler Location: 128**
Sample ID: L1305137111 **Date Collected: 5/31/2013 3:26:12 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1305137111

Analyte	Back Pressure	Flow
All	165.0 kPa	0.48 L/min

Mean Data: L1305137111

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2515310.6						26893.46	1.07%
YRADIAL	178663.5						825.44	0.46%
Ga 417.206	995732.9						9136.80	0.92%
GaRADIAL	51107.2						801.24	1.57%
Ag 328.068†	7.5	-0.00016	mg/L	0.000455	-0.00016	mg/L	0.000455	281.93%
Al 396.153†	1108.7	0.353	mg/L	0.0084	0.353	mg/L	0.0084	2.38%
As 188.979†	4.1	0.00294	mg/L	0.002977	0.00294	mg/L	0.002977	101.33%
Ba 233.527†	2191.8	0.0227	mg/L	0.00015	0.0227	mg/L	0.00015	0.65%
Be 234.861†	20.9	0.00000	mg/L	0.000023	0.00000	mg/L	0.000023	971.18%
B 249.677†	1304.0	0.0198	mg/L	0.00211	0.0198	mg/L	0.00211	10.67%
Ca 227.546†	847.2	4.02	mg/L	0.021	4.02	mg/L	0.021	0.51%
Cd 228.802†	-4.0	-0.00024	mg/L	0.000196	-0.00024	mg/L	0.000196	80.08%
Co 228.616†	-1.9	-0.00101	mg/L	0.000076	-0.00101	mg/L	0.000076	7.49%
Cr 267.716†	59.7	-0.00058	mg/L	0.000060	-0.00058	mg/L	0.000060	10.31%
Cu 327.393†	112.3	0.00042	mg/L	0.000137	0.00042	mg/L	0.000137	32.62%
Fe 239.562†	1074.7	0.251	mg/L	0.0047	0.251	mg/L	0.0047	1.89%
Mg 279.077†	3141.5	2.24	mg/L	0.025	2.24	mg/L	0.025	1.14%
Mn 257.610†	9110.9	0.0147	mg/L	0.00013	0.0147	mg/L	0.00013	0.90%
Mo 202.031†	1.6	-0.00195	mg/L	0.000231	-0.00195	mg/L	0.000231	11.87%
Ni 231.604†	15.8	-0.00136	mg/L	0.000279	-0.00136	mg/L	0.000279	20.54%
Pb 220.353†	11.4	-0.00022	mg/L	0.000408	-0.00022	mg/L	0.000408	186.57%
Sb 206.836†	0.8	-0.00206	mg/L	0.002040	-0.00206	mg/L	0.002040	99.25%
Se 196.026†	1.5	0.00051	mg/L	0.002470	0.00051	mg/L	0.002470	480.58%
Si 251.611†	120115.1	3.31	mg/L	0.060	3.31	mg/L	0.060	1.83%
Sn 189.927†	-40.6	-0.00766	mg/L	0.001105	-0.00766	mg/L	0.001105	14.43%
Ti 334.940†	5616.1	0.00788	mg/L	0.000659	0.00788	mg/L	0.000659	8.37%
Tl 190.801†	-13.1	-0.0105	mg/L	0.00165	-0.0105	mg/L	0.00165	15.71%
V 290.880†	825.1	0.00275	mg/L	0.000984	0.00275	mg/L	0.000984	35.75%
Zn 206.200†	280.9	0.00611	mg/L	0.000196	0.00611	mg/L	0.000196	3.21%
K 766.490†	1467.1	0.965	mg/L	0.0244	0.965	mg/L	0.0244	2.53%
Na 589.592†	12686.1	1.12	mg/L	0.030	1.12	mg/L	0.030	2.70%
Sr 407.771†	39579.3	0.0294	mg/L	0.00011	0.0294	mg/L	0.00011	0.39%
Li 670.784†	105.5	-0.00223	mg/L	0.001455	-0.00223	mg/L	0.001455	65.28%

Sequence No.: 9 **Autosampler Location: 129**
Sample ID: L1305137112 **Date Collected: 5/31/2013 3:29:13 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1305137112

Analyte	Back Pressure	Flow
All	165.0 kPa	0.48 L/min

Mean Data: L1305137112

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2510416.6						21362.33	0.85%
YRADIAL	182682.1						3053.43	1.67%
Ga 417.206	997110.6						10959.66	1.10%

Approved: June 03, 2013

Kym H. Rhoden

GaRADIAL	51306.8				1012.27	1.97%
Ag 328.068†	37.2	-0.00012 mg/L	0.000153	-0.00012 mg/L	0.000153	124.93%
Al 396.153†	80.8	0.0159 mg/L	0.00222	0.0159 mg/L	0.00222	14.00%
As 188.979†	-1.5	0.00017 mg/L	0.000694	0.00017 mg/L	0.000694	417.19%
Ba 233.527†	1883.9	0.0193 mg/L	0.00030	0.0193 mg/L	0.00030	1.57%
Be 234.861†	-23.8	-0.00002 mg/L	0.000018	-0.00002 mg/L	0.000018	97.40%
B 249.677†	836.9	0.0133 mg/L	0.00044	0.0133 mg/L	0.00044	3.30%
Ca 227.546†	845.4	4.01 mg/L	0.049	4.01 mg/L	0.049	1.22%
Cd 228.802†	0.5	-0.00009 mg/L	0.000185	-0.00009 mg/L	0.000185	201.22%
Co 228.616†	-5.9	-0.00116 mg/L	0.000466	-0.00116 mg/L	0.000466	40.18%
Cr 267.716†	11.4	-0.00109 mg/L	0.000062	-0.00109 mg/L	0.000062	5.66%
Cu 327.393†	-80.4	-0.00071 mg/L	0.000322	-0.00071 mg/L	0.000322	45.57%
Fe 239.562†	185.5	0.0330 mg/L	0.00124	0.0330 mg/L	0.00124	3.76%
Mg 279.077†	3040.7	2.16 mg/L	0.045	2.16 mg/L	0.045	2.08%
Mn 257.610†	4494.0	0.00596 mg/L	0.000098	0.00596 mg/L	0.000098	1.64%
Mo 202.031†	4.7	-0.00181 mg/L	0.000142	-0.00181 mg/L	0.000142	7.87%
Ni 231.604†	-9.4	-0.00200 mg/L	0.000276	-0.00200 mg/L	0.000276	13.75%
Pb 220.353†	14.6	0.00017 mg/L	0.000362	0.00017 mg/L	0.000362	209.94%
Sb 206.836†	3.0	-0.00115 mg/L	0.002154	-0.00115 mg/L	0.002154	187.90%
Se 196.026†	-4.5	-0.00539 mg/L	0.001531	-0.00539 mg/L	0.001531	28.41%
Si 251.611†	97666.6	2.69 mg/L	0.029	2.69 mg/L	0.029	1.06%
Sn 189.927†	-42.3	-0.00787 mg/L	0.000051	-0.00787 mg/L	0.000051	0.65%
Ti 334.940†	267.3	0.00065 mg/L	0.000180	0.00065 mg/L	0.000180	27.96%
Tl 190.801†	-11.1	-0.00962 mg/L	0.002918	-0.00962 mg/L	0.002918	30.34%
V 290.880†	619.4	0.00176 mg/L	0.000967	0.00176 mg/L	0.000967	54.88%
Zn 206.200†	96.2	0.00080 mg/L	0.000376	0.00080 mg/L	0.000376	47.13%
K 766.490†	1391.4	0.915 mg/L	0.0689	0.915 mg/L	0.0689	7.54%
Na 589.592†	12219.6	1.08 mg/L	0.014	1.08 mg/L	0.014	1.32%
Sr 407.771†	40669.1	0.0303 mg/L	0.00021	0.0303 mg/L	0.00021	0.71%
Li 670.784†	68.0	-0.00276 mg/L	0.000234	-0.00276 mg/L	0.000234	8.46%

==========

Sequence No.: 10 **Autosampler Location: 6**
Sample ID: CCV **Date Collected: 5/31/2013 3:32:14 PM**
Analyst: **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: CCV

Analyte	Back Pressure	Flow
All	165.0 kPa	0.48 L/min

Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2426443.6						33310.66	1.37%
YRADIAL	182338.3						2588.57	1.42%
Ga 417.206	943526.2						6989.31	0.74%
GaRADIAL	50289.8						924.29	1.84%
Ag 328.068†	96309.3	0.415	mg/L	0.0087	0.415	mg/L	0.0087	2.09%
QC value within limits for Ag 328.068 Recovery = 103.78%								
Al 396.153†	31947.6	10.4	mg/L	0.12	10.4	mg/L	0.12	1.17%
QC value within limits for Al 396.153 Recovery = 103.96%								
As 188.979†	846.6	0.414	mg/L	0.0061	0.414	mg/L	0.0061	1.48%
QC value within limits for As 188.979 Recovery = 103.44%								
Ba 233.527†	93173.7	1.04	mg/L	0.033	1.04	mg/L	0.033	3.21%
QC value within limits for Ba 233.527 Recovery = 104.26%								
Be 234.861†	34864.7	0.0513	mg/L	0.00132	0.0513	mg/L	0.00132	2.56%
QC value within limits for Be 234.861 Recovery = 102.65%								
B 249.677†	35743.0	0.504	mg/L	0.0134	0.504	mg/L	0.0134	2.66%
QC value within limits for B 249.677 Recovery = 100.83%								
Ca 227.546†	2177.2	10.9	mg/L	0.10	10.9	mg/L	0.10	0.89%
QC value within limits for Ca 227.546 Recovery = 108.58%								
Cd 228.802†	1645.7	0.0503	mg/L	0.00066	0.0503	mg/L	0.00066	1.32%
QC value within limits for Cd 228.802 Recovery = 100.68%								
Co 228.616†	5089.1	0.212	mg/L	0.0025	0.212	mg/L	0.0025	1.17%
QC value within limits for Co 228.616 Recovery = 105.80%								
Cr 267.716†	48307.1	0.517	mg/L	0.0163	0.517	mg/L	0.0163	3.15%
QC value within limits for Cr 267.716 Recovery = 103.49%								
Cu 327.393†	90394.9	0.518	mg/L	0.0138	0.518	mg/L	0.0138	2.66%

Approved: June 03, 2013

```
   QC value within limits for Cu 327.393  Recovery = 103.61%
Fe 239.562†          17054.7        4.18 mg/L        0.059        4.18 mg/L        0.059   1.41%
   QC value within limits for Fe 239.562  Recovery = 104.41%
Mg 279.077†          14528.7        10.4 mg/L         0.08        10.4 mg/L         0.08   0.73%
   QC value within limits for Mg 279.077  Recovery = 104.13%
Mn 257.610†         281135.5       0.530 mg/L       0.0184       0.530 mg/L       0.0184   3.48%
   QC value within limits for Mn 257.610  Recovery = 105.99%
Mo 202.031†          20353.2        1.04 mg/L        0.035        1.04 mg/L        0.035   3.40%
   QC value within limits for Mo 202.031  Recovery = 103.76%
Ni 231.604†          20516.7       0.525 mg/L       0.0153       0.525 mg/L       0.0153   2.91%
   QC value within limits for Ni 231.604  Recovery = 104.91%
Pb 220.353†           4056.4       0.531 mg/L       0.0068       0.531 mg/L       0.0068   1.29%
   QC value within limits for Pb 220.353  Recovery = 106.12%
Sb 206.836†           3013.3        1.25 mg/L        0.011        1.25 mg/L        0.011   0.90%
   QC value within limits for Sb 206.836  Recovery = 104.21%
Se 196.026†            433.3       0.419 mg/L       0.0054       0.419 mg/L       0.0054   1.28%
   QC value within limits for Se 196.026  Recovery = 104.84%
Si 251.611†         186938.0        5.14 mg/L        0.137        5.14 mg/L        0.137   2.66%
   QC value within limits for Si 251.611  Recovery = 102.86%
Sn 189.927†           7655.8       0.958 mg/L       0.0126       0.958 mg/L       0.0126   1.31%
   QC value within limits for Sn 189.927  Recovery = 95.77%
Ti 334.940†         765663.7        1.04 mg/L        0.004        1.04 mg/L        0.004   0.34%
   QC value within limits for Ti 334.940  Recovery = 103.58%
Tl 190.801†           1062.0       0.545 mg/L       0.0058       0.545 mg/L       0.0058   1.07%
   QC value within limits for Tl 190.801  Recovery = 109.03%
V 290.880†           203798.0        1.04 mg/L        0.039        1.04 mg/L        0.039   3.73%
   QC value within limits for V 290.880  Recovery = 103.56%
Zn 206.200†           35994.9        1.04 mg/L        0.031        1.04 mg/L        0.031   2.99%
   QC value within limits for Zn 206.200  Recovery = 103.92%
K 766.490†            79912.5        53.8 mg/L         0.66        53.8 mg/L         0.66   1.22%
   QC value within limits for K 766.490  Recovery = 107.53%
Na 589.592†          567656.1        51.5 mg/L         1.89        51.5 mg/L         1.89   3.68%
   QC value within limits for Na 589.592  Recovery = 102.95%
Sr 407.771†         1273363.0        1.05 mg/L        0.030        1.05 mg/L        0.030   2.81%
   QC value within limits for Sr 407.771  Recovery = 105.41%
Li 670.784†           75432.5        1.07 mg/L        0.018        1.07 mg/L        0.018   1.70%
   QC value within limits for Li 670.784  Recovery = 106.88%
All analyte(s) passed QC.

==========================================================================================
Sequence No.: 11                                    Autosampler Location: 1
Sample ID: CCB                                      Date Collected: 5/31/2013 3:34:19 PM
Analyst:                                            Data Type: Original
Initial Sample Wt:                                  Initial Sample Vol:
Dilution:                                           Sample Prep Vol:

------------------------------------------------------------------------------------------
Nebulizer Parameters: CCB
Analyte                 Back Pressure    Flow
All                    165.0 kPa        0.48 L/min

------------------------------------------------------------------------------------------
Mean Data: CCB
                   Mean Corrected         Calib.                          Sample
Analyte               Intensity     Conc. Units      Std.Dev.      Conc. Units      Std.Dev.   RSD
Y 371.029            2458119.0                                                     8430.77   0.34%
YRADIAL               174755.7                                                     4747.43   2.72%
Ga 417.206            943707.1                                                     6228.63   0.66%
GaRADIAL               49077.9                                                      726.78   1.48%
Ag 328.068†              -38.5    -0.00046 mg/L      0.000364    -0.00046 mg/L      0.000364  79.29%
   QC value within limits for Ag 328.068  Recovery = Not calculated
Al 396.153†               14.7    -0.00584 mg/L      0.002467    -0.00584 mg/L      0.002467  42.26%
   QC value within limits for Al 396.153  Recovery = Not calculated
As 188.979†                2.4     0.00200 mg/L      0.000229     0.00200 mg/L      0.000229  11.45%
   QC value within limits for As 188.979  Recovery = Not calculated
Ba 233.527†              -29.5    -0.00217 mg/L      0.000124    -0.00217 mg/L      0.000124   5.69%
   QC value within limits for Ba 233.527  Recovery = Not calculated
Be 234.861†             -119.2    -0.00015 mg/L      0.000000    -0.00015 mg/L      0.000000   0.22%
   QC value within limits for Be 234.861  Recovery = Not calculated
B 249.677†               501.9     0.00853 mg/L      0.000910     0.00853 mg/L      0.000910  10.66%
   QC value within limits for B 249.677  Recovery = Not calculated
Ca 227.546†                7.5     0.00037 mg/L      0.084252     0.00037 mg/L      0.084252 >999.9%
```

Approved: June 03, 2013

Lynn H. Rhoden

```
   QC value within limits for Ca 227.546  Recovery = Not calculated
Cd 228.802†                -3.4    -0.00022 mg/L      0.000063    -0.00022 mg/L      0.000063  28.14%
   QC value within limits for Cd 228.802  Recovery = Not calculated
Co 228.616†               -11.8    -0.00140 mg/L      0.000389    -0.00140 mg/L      0.000389  27.87%
   QC value within limits for Co 228.616  Recovery = Not calculated
Cr 267.716†                 5.5    -0.00115 mg/L      0.000060    -0.00115 mg/L      0.000060   5.22%
   QC value within limits for Cr 267.716  Recovery = Not calculated
Cu 327.393†                -6.0    -0.00029 mg/L      0.000617    -0.00029 mg/L      0.000617 216.19%
   QC value within limits for Cu 327.393  Recovery = Not calculated
Fe 239.562†                 4.7     -0.0113 mg/L       0.00182     -0.0113 mg/L       0.00182  16.03%
   QC value within limits for Fe 239.562  Recovery = Not calculated
Mg 279.077†                -1.2     -0.0165 mg/L       0.00357     -0.0165 mg/L       0.00357  21.62%
   QC value within limits for Mg 279.077  Recovery = Not calculated
Mn 257.610†                81.4    -0.00239 mg/L      0.000017    -0.00239 mg/L      0.000017   0.71%
   QC value within limits for Mn 257.610  Recovery = Not calculated
Mo 202.031†                 5.1    -0.00179 mg/L      0.000352    -0.00179 mg/L      0.000352  19.66%
   QC value within limits for Mo 202.031  Recovery = Not calculated
Ni 231.604†               -14.2    -0.00213 mg/L      0.000399    -0.00213 mg/L      0.000399  18.75%
   QC value within limits for Ni 231.604  Recovery = Not calculated
Pb 220.353†                 5.7    -0.00100 mg/L      0.001064    -0.00100 mg/L      0.001064 106.76%
   QC value within limits for Pb 220.353  Recovery = Not calculated
Sb 206.836†                 4.2    -0.00064 mg/L      0.001124    -0.00064 mg/L      0.001124 175.55%
   QC value within limits for Sb 206.836  Recovery = Not calculated
Se 196.026†                -2.9    -0.00384 mg/L      0.006145    -0.00384 mg/L      0.006145 160.14%
   QC value within limits for Se 196.026  Recovery = Not calculated
Si 251.611†                15.0    -0.00166 mg/L      0.000573    -0.00166 mg/L      0.000573  34.62%
   QC value within limits for Si 251.611  Recovery = Not calculated
Sn 189.927†                22.4     0.00025 mg/L      0.000631     0.00025 mg/L      0.000631 254.57%
   QC value within limits for Sn 189.927  Recovery = Not calculated
Ti 334.940†                33.8    -0.00027 mg/L      0.000020    -0.00027 mg/L      0.000020   7.42%
   QC value within limits for Ti 334.940  Recovery = Not calculated
Tl 190.801†               -10.6    -0.00938 mg/L      0.004732    -0.00938 mg/L      0.004732  50.45%
   QC value within limits for Tl 190.801  Recovery = Not calculated
V 290.880†                416.0     0.00079 mg/L      0.000718     0.00079 mg/L      0.000718  90.52%
   QC value within limits for V 290.880  Recovery = Not calculated
Zn 206.200†                 5.4    -0.00182 mg/L      0.000061    -0.00182 mg/L      0.000061   3.37%
   QC value within limits for Zn 206.200  Recovery = Not calculated
K 766.490†                 69.8      0.0419 mg/L       0.04393      0.0419 mg/L       0.04393 104.85%
   QC value within limits for K 766.490  Recovery = Not calculated
Na 589.592†               325.6      0.0276 mg/L       0.02196      0.0276 mg/L       0.02196  79.43%
   QC value within limits for Na 589.592  Recovery = Not calculated
Sr 407.771†               193.7    -0.00341 mg/L      0.000119    -0.00341 mg/L      0.000119   3.48%
   QC value within limits for Sr 407.771  Recovery = Not calculated
Li 670.784†                84.4    -0.00253 mg/L      0.000828    -0.00253 mg/L      0.000828  32.74%
   QC value within limits for Li 670.784  Recovery = Not calculated
All analyte(s) passed QC.

==========================================================================================
Sequence No.: 12                                    Autosampler Location: 130
Sample ID: L1305137113                              Date Collected: 5/31/2013 3:37:19 PM
Analyst: KHR                                        Data Type: Original
Initial Sample Wt:                                  Initial Sample Vol:
Dilution:                                           Sample Prep Vol:

------------------------------------------------------------------------------------------
Nebulizer Parameters: L1305137113
Analyte                 Back Pressure     Flow
All                    165.0 kPa         0.48 L/min

------------------------------------------------------------------------------------------
Mean Data: L1305137113
                   Mean Corrected          Calib.                          Sample
Analyte               Intensity      Conc. Units      Std.Dev.      Conc. Units      Std.Dev.   RSD
Y 371.029            2433536.9                                                       5288.66   0.22%
YRADIAL               177650.3                                                       6758.59   3.80%
Ga 417.206            996243.3                                                      10251.61   1.03%
GaRADIAL               52154.8                                                        853.50   1.64%
Ag 328.068†              369.3     0.00131 mg/L      0.000127     0.00131 mg/L      0.000127   9.74%
Al 396.153†              192.7      0.0525 mg/L       0.00256      0.0525 mg/L       0.00256   4.88%
As 188.979†                0.5     0.00195 mg/L      0.000670     0.00195 mg/L      0.000670  34.42%
Ba 233.527†             3879.4      0.0416 mg/L       0.00020      0.0416 mg/L       0.00020   0.49%
Be 234.861†               -1.4    -0.00001 mg/L      0.000016    -0.00001 mg/L      0.000016 121.92%
```

Approved: June 03, 2013

Kym H. Rhoden

B 249.677†	704.3	0.0113	mg/L	0.00039	0.0113	mg/L	0.00039	3.45%
Ca 227.546†	8048.5	38.5	mg/L	0.34	38.5	mg/L	0.34	0.89%
Cd 228.802†	-8.3	-0.00037	mg/L	0.000063	-0.00037	mg/L	0.000063	16.73%
Co 228.616†	-8.9	-0.00128	mg/L	0.000348	-0.00128	mg/L	0.000348	27.13%
Cr 267.716†	90.3	-0.00025	mg/L	0.000206	-0.00025	mg/L	0.000206	83.19%
Cu 327.393†	-87.4	-0.00074	mg/L	0.000680	-0.00074	mg/L	0.000680	92.16%
Fe 239.562†	743.4	0.170	mg/L	0.0062	0.170	mg/L	0.0062	3.68%
Mg 279.077†	30916.2	22.1	mg/L	0.20	22.1	mg/L	0.20	0.92%
Mn 257.610†	23661.2	0.0422	mg/L	0.00074	0.0422	mg/L	0.00074	1.75%
Mo 202.031†	23.6	-0.00082	mg/L	0.000690	-0.00082	mg/L	0.000690	84.01%
Ni 231.604†	13.4	-0.00142	mg/L	0.000040	-0.00142	mg/L	0.000040	2.86%
Pb 220.353†	31.5	0.00237	mg/L	0.001723	0.00237	mg/L	0.001723	72.79%
Sb 206.836†	-0.6	-0.00263	mg/L	0.001739	-0.00263	mg/L	0.001739	66.17%
Se 196.026†	2.9	0.00181	mg/L	0.001440	0.00181	mg/L	0.001440	79.60%
Si 251.611†	84730.1	2.34	mg/L	0.020	2.34	mg/L	0.020	0.87%
Sn 189.927†	-217.9	-0.0299	mg/L	0.00088	-0.0299	mg/L	0.00088	2.95%
Ti 334.940†	-3896.7	0.00018	mg/L	0.000088	0.00018	mg/L	0.000088	47.60%
Tl 190.801†	-26.0	-0.0172	mg/L	0.00184	-0.0172	mg/L	0.00184	10.73%
V 290.880†	2440.5	0.0105	mg/L	0.00109	0.0105	mg/L	0.00109	10.37%
Zn 206.200†	211.1	0.00411	mg/L	0.000225	0.00411	mg/L	0.000225	5.47%
K 766.490†	3267.9	2.15	mg/L	0.080	2.15	mg/L	0.080	3.70%
Na 589.592†	42939.3	3.80	mg/L	0.044	3.80	mg/L	0.044	1.15%
Sr 407.771†	395981.4	0.326	mg/L	0.0072	0.326	mg/L	0.0072	2.21%
Li 670.784†	305.6	0.00061	mg/L	0.000599	0.00061	mg/L	0.000599	97.45%

Sequence No.: 13 **Autosampler Location: 131**
Sample ID: L1305137114 **Date Collected: 5/31/2013 3:40:20 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1305137114

Analyte	Back Pressure	Flow
All	165.0 kPa	0.48 L/min

Mean Data: L1305137114

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2435374.7						33867.19	1.39%
YRADIAL	177372.1						6221.25	3.51%
Ga 417.206	995607.1						9106.79	0.91%
GaRADIAL	52025.9						1197.74	2.30%
Ag 328.068†	367.5	0.00126	mg/L	0.001245	0.00126	mg/L	0.001245	98.79%
Al 396.153†	62.7	0.00986	mg/L	0.001414	0.00986	mg/L	0.001414	14.34%
As 188.979†	5.8	0.00455	mg/L	0.001666	0.00455	mg/L	0.001666	36.58%
Ba 233.527†	3843.1	0.0412	mg/L	0.00046	0.0412	mg/L	0.00046	1.12%
Be 234.861†	-12.9	-0.00001	mg/L	0.000027	-0.00001	mg/L	0.000027	359.50%
B 249.677†	611.7	0.0101	mg/L	0.00010	0.0101	mg/L	0.00010	0.97%
Ca 227.546†	8266.2	39.5	mg/L	0.17	39.5	mg/L	0.17	0.44%
Cd 228.802†	-8.0	-0.00038	mg/L	0.000113	-0.00038	mg/L	0.000113	29.87%
Co 228.616†	-4.4	-0.00109	mg/L	0.000109	-0.00109	mg/L	0.000109	9.97%
Cr 267.716†	89.3	-0.00025	mg/L	0.000109	-0.00025	mg/L	0.000109	43.11%
Cu 327.393†	-18.1	-0.00035	mg/L	0.000352	-0.00035	mg/L	0.000352	100.45%
Fe 239.562†	337.7	0.0700	mg/L	0.00332	0.0700	mg/L	0.00332	4.74%
Mg 279.077†	31523.8	22.6	mg/L	0.15	22.6	mg/L	0.15	0.68%
Mn 257.610†	20743.0	0.0367	mg/L	0.00070	0.0367	mg/L	0.00070	1.91%
Mo 202.031†	18.3	-0.00110	mg/L	0.000315	-0.00110	mg/L	0.000315	28.62%
Ni 231.604†	36.5	-0.00082	mg/L	0.000149	-0.00082	mg/L	0.000149	18.15%
Pb 220.353†	58.5	0.00590	mg/L	0.001022	0.00590	mg/L	0.001022	17.31%
Sb 206.836†	1.7	-0.00170	mg/L	0.000962	-0.00170	mg/L	0.000962	56.57%
Se 196.026†	-3.6	-0.00448	mg/L	0.002496	-0.00448	mg/L	0.002496	55.66%
Si 251.611†	84109.2	2.32	mg/L	0.038	2.32	mg/L	0.038	1.65%
Sn 189.927†	-220.9	-0.0303	mg/L	0.00109	-0.0303	mg/L	0.00109	3.61%
Ti 334.940†	-4597.0	-0.00061	mg/L	0.000182	-0.00061	mg/L	0.000182	30.11%
Tl 190.801†	-31.8	-0.0201	mg/L	0.00584	-0.0201	mg/L	0.00584	29.06%
V 290.880†	2427.7	0.0104	mg/L	0.00128	0.0104	mg/L	0.00128	12.30%
Zn 206.200†	235.4	0.00481	mg/L	0.000153	0.00481	mg/L	0.000153	3.18%
K 766.490†	3278.1	2.16	mg/L	0.038	2.16	mg/L	0.038	1.75%
Na 589.592†	44372.7	3.93	mg/L	0.029	3.93	mg/L	0.029	0.75%

Approved: June 03, 2013

Sr 407.771†	401466.4	0.330	mg/L	0.0064	0.330	mg/L	0.0064 1.94%
Li 670.784†	227.3	-0.00050	mg/L	0.000557	-0.00050	mg/L	0.000557 111.89%

==========

Sequence No.: 14 **Autosampler Location: 132**
Sample ID: L1305137209 **Date Collected: 5/31/2013 3:43:21 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1305137209

Analyte	Back Pressure	Flow
All	165.0 kPa	0.48 L/min

Mean Data: L1305137209

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2488051.8						37919.08	1.52%
YRADIAL	178623.9						2567.03	1.44%
Ga 417.206	984299.4						19774.42	2.01%
GaRADIAL	51616.5						1015.56	1.97%
Ag 328.068†	-74.4	-0.00061	mg/L	0.000543	-0.00061	mg/L	0.000543	89.06%
Al 396.153†	245.7	0.0700	mg/L	0.00266	0.0700	mg/L	0.00266	3.80%
As 188.979†	2.6	0.00222	mg/L	0.003897	0.00222	mg/L	0.003897	175.87%
Ba 233.527†	3477.9	0.0371	mg/L	0.00078	0.0371	mg/L	0.00078	2.10%
Be 234.861†	28.4	0.00007	mg/L	0.000031	0.00007	mg/L	0.000031	46.95%
B 249.677†	431.5	0.00752	mg/L	0.000280	0.00752	mg/L	0.000280	3.72%
Ca 227.546†	1201.6	5.71	mg/L	0.142	5.71	mg/L	0.142	2.49%
Cd 228.802†	-3.7	-0.00023	mg/L	0.000106	-0.00023	mg/L	0.000106	45.10%
Co 228.616†	-5.5	-0.00115	mg/L	0.000183	-0.00115	mg/L	0.000183	15.84%
Cr 267.716†	32.6	-0.00086	mg/L	0.000116	-0.00086	mg/L	0.000116	13.44%
Cu 327.393†	-5.8	-0.00028	mg/L	0.000334	-0.00028	mg/L	0.000334	119.77%
Fe 239.562†	157.1	0.0261	mg/L	0.00112	0.0261	mg/L	0.00112	4.31%
Mg 279.077†	4601.9	3.28	mg/L	0.077	3.28	mg/L	0.077	2.36%
Mn 257.610†	34454.6	0.0626	mg/L	0.00161	0.0626	mg/L	0.00161	2.56%
Mo 202.031†	-5.7	-0.00233	mg/L	0.000366	-0.00233	mg/L	0.000366	15.74%
Ni 231.604†	112.3	0.00112	mg/L	0.000049	0.00112	mg/L	0.000049	4.33%
Pb 220.353†	12.0	-0.00020	mg/L	0.001698	-0.00020	mg/L	0.001698	868.44%
Sb 206.836†	1.9	-0.00160	mg/L	0.000482	-0.00160	mg/L	0.000482	30.13%
Se 196.026†	2.5	0.00136	mg/L	0.003962	0.00136	mg/L	0.003962	290.78%
Si 251.611†	81379.5	2.24	mg/L	0.067	2.24	mg/L	0.067	3.00%
Sn 189.927†	-54.4	-0.00939	mg/L	0.001088	-0.00939	mg/L	0.001088	11.59%
Ti 334.940†	1877.4	0.00308	mg/L	0.004783	0.00308	mg/L	0.004783	155.46%
Tl 190.801†	-10.0	-0.00910	mg/L	0.002654	-0.00910	mg/L	0.002654	29.16%
V 290.880†	678.8	0.00204	mg/L	0.000158	0.00204	mg/L	0.000158	7.76%
Zn 206.200†	349.1	0.00808	mg/L	0.000457	0.00808	mg/L	0.000457	5.66%
K 766.490†	1350.4	0.885	mg/L	0.0099	0.885	mg/L	0.0099	1.12%
Na 589.592†	38221.0	3.38	mg/L	0.004	3.38	mg/L	0.004	0.13%
Sr 407.771†	38564.3	0.0285	mg/L	0.00048	0.0285	mg/L	0.00048	1.67%
Li 670.784†	88.2	-0.00248	mg/L	0.000473	-0.00248	mg/L	0.000473	19.09%

==========

Sequence No.: 15 **Autosampler Location: 133**
Sample ID: L1305137210 **Date Collected: 5/31/2013 3:46:22 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1305137210

Analyte	Back Pressure	Flow
All	165.0 kPa	0.48 L/min

Mean Data: L1305137210

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2549327.4						67905.39	2.66%
YRADIAL	182050.9						4588.42	2.52%
Ga 417.206	1012732.4						28524.26	2.82%

Approved: June 03, 2013

Kym H. Rhoden

GaRADIAL	52037.7					1477.54	2.84%
Ag 328.068†	68.3	-0.00001	mg/L	0.000215	-0.00001 mg/L	0.000215	>999.9%
Al 396.153†	54.8	0.00732	mg/L	0.002125	0.00732 mg/L	0.002125	29.04%
As 188.979†	4.4	0.00312	mg/L	0.000397	0.00312 mg/L	0.000397	12.73%
Ba 233.527†	3246.9	0.0345	mg/L	0.00082	0.0345 mg/L	0.00082	2.37%
Be 234.861†	51.1	0.00011	mg/L	0.000052	0.00011 mg/L	0.000052	48.32%
B 249.677†	403.0	0.00713	mg/L	0.000408	0.00713 mg/L	0.000408	5.73%
Ca 227.546†	1181.7	5.62	mg/L	0.126	5.62 mg/L	0.126	2.24%
Cd 228.802†	-4.3	-0.00026	mg/L	0.000130	-0.00026 mg/L	0.000130	50.31%
Co 228.616†	-5.2	-0.00113	mg/L	0.000261	-0.00113 mg/L	0.000261	23.03%
Cr 267.716†	24.7	-0.00095	mg/L	0.000303	-0.00095 mg/L	0.000303	32.07%
Cu 327.393†	103.2	0.00034	mg/L	0.000247	0.00034 mg/L	0.000247	73.20%
Fe 239.562†	10.2	-0.0100	mg/L	0.00148	-0.0100 mg/L	0.00148	14.75%
Mg 279.077†	4687.1	3.34	mg/L	0.075	3.34 mg/L	0.075	2.25%
Mn 257.610†	30158.0	0.0545	mg/L	0.00178	0.0545 mg/L	0.00178	3.27%
Mo 202.031†	1.5	-0.00196	mg/L	0.000200	-0.00196 mg/L	0.000200	10.19%
Ni 231.604†	107.4	0.00100	mg/L	0.000106	0.00100 mg/L	0.000106	10.69%
Pb 220.353†	11.2	-0.00031	mg/L	0.001057	-0.00031 mg/L	0.001057	342.48%
Sb 206.836†	1.8	-0.00163	mg/L	0.000975	-0.00163 mg/L	0.000975	59.99%
Se 196.026†	-2.3	-0.00328	mg/L	0.002209	-0.00328 mg/L	0.002209	67.27%
Si 251.611†	78254.6	2.16	mg/L	0.062	2.16 mg/L	0.062	2.87%
Sn 189.927†	-52.6	-0.00916	mg/L	0.000329	-0.00916 mg/L	0.000329	3.60%
Ti 334.940†	-597.7	-0.00028	mg/L	0.000210	-0.00028 mg/L	0.000210	74.52%
Tl 190.801†	-15.1	-0.0117	mg/L	0.00280	-0.0117 mg/L	0.00280	24.00%
V 290.880†	467.1	0.00096	mg/L	0.001337	0.00096 mg/L	0.001337	138.64%
Zn 206.200†	329.3	0.00751	mg/L	0.000205	0.00751 mg/L	0.000205	2.73%
K 766.490†	1347.8	0.883	mg/L	0.0300	0.883 mg/L	0.0300	3.40%
Na 589.592†	38359.9	3.39	mg/L	0.030	3.39 mg/L	0.030	0.88%
Sr 407.771†	39905.7	0.0297	mg/L	0.00034	0.0297 mg/L	0.00034	1.13%
Li 670.784†	113.7	-0.00211	mg/L	0.001067	-0.00211 mg/L	0.001067	50.49%

==========

Sequence No.: 16 **Autosampler Location: 134**
Sample ID: L1305137211 **Date Collected: 5/31/2013 3:49:23 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1305137211

Analyte	Back Pressure	Flow
All	165.0 kPa	0.48 L/min

Mean Data: L1305137211

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2502460.9						76034.08	3.04%
YRADIAL	178156.2						7197.45	4.04%
Ga 417.206	1002840.3						27301.98	2.72%
GaRADIAL	51357.1						2531.26	4.93%
Ag 328.068†	-4.1	-0.00025	mg/L	0.000257	-0.00025	mg/L	0.000257	101.16%
Al 396.153†	230.0	0.0648	mg/L	0.00508	0.0648	mg/L	0.00508	7.84%
As 188.979†	5.1	0.00360	mg/L	0.001407	0.00360	mg/L	0.001407	39.10%
Ba 233.527†	4321.5	0.0466	mg/L	0.00141	0.0466	mg/L	0.00141	3.04%
Be 234.861†	13.3	0.00001	mg/L	0.000064	0.00001	mg/L	0.000064	631.63%
B 249.677†	456.2	0.00781	mg/L	0.000134	0.00781	mg/L	0.000134	1.72%
Ca 227.546†	1979.2	9.43	mg/L	0.239	9.43	mg/L	0.239	2.53%
Cd 228.802†	-8.8	-0.00040	mg/L	0.000109	-0.00040	mg/L	0.000109	27.27%
Co 228.616†	-3.0	-0.00105	mg/L	0.000314	-0.00105	mg/L	0.000314	29.85%
Cr 267.716†	39.5	-0.00080	mg/L	0.000051	-0.00080	mg/L	0.000051	6.46%
Cu 327.393†	89.6	0.00028	mg/L	0.000017	0.00028	mg/L	0.000017	6.00%
Fe 239.562†	705.6	0.161	mg/L	0.0086	0.161	mg/L	0.0086	5.33%
Mg 279.077†	13117.3	9.38	mg/L	0.447	9.38	mg/L	0.447	4.76%
Mn 257.610†	21572.0	0.0383	mg/L	0.00210	0.0383	mg/L	0.00210	5.48%
Mo 202.031†	7.5	-0.00165	mg/L	0.000608	-0.00165	mg/L	0.000608	36.92%
Ni 231.604†	20.5	-0.00124	mg/L	0.000278	-0.00124	mg/L	0.000278	22.46%
Pb 220.353†	35.8	0.00293	mg/L	0.000996	0.00293	mg/L	0.000996	33.98%
Sb 206.836†	1.1	-0.00193	mg/L	0.001248	-0.00193	mg/L	0.001248	64.59%
Se 196.026†	-0.5	-0.00142	mg/L	0.003098	-0.00142	mg/L	0.003098	217.72%
Si 251.611†	72702.5	2.00	mg/L	0.084	2.00	mg/L	0.084	4.18%
Sn 189.927†	-78.2	-0.0124	mg/L	0.00051	-0.0124	mg/L	0.00051	4.13%

Approved: June 03, 2013

Kym H. Rhoden

Ti 334.940†	501.5	0.00178 mg/L	0.001946	0.00178 mg/L	0.001946	109.61%
Tl 190.801†	-12.8	-0.0105 mg/L	0.00591	-0.0105 mg/L	0.00591	56.33%
V 290.880†	1186.1	0.00443 mg/L	0.001590	0.00443 mg/L	0.001590	35.90%
Zn 206.200†	168.0	0.00287 mg/L	0.000143	0.00287 mg/L	0.000143	4.99%
K 766.490†	2158.3	1.42 mg/L	0.011	1.42 mg/L	0.011	0.76%
Na 589.592†	6624.4	0.584 mg/L	0.0304	0.584 mg/L	0.0304	5.21%
Sr 407.771†	84801.2	0.0670 mg/L	0.00095	0.0670 mg/L	0.00095	1.42%
Li 670.784†	134.7	-0.00182 mg/L	0.000900	-0.00182 mg/L	0.000900	49.59%

Sequence No.: 17 **Autosampler Location: 135**
Sample ID: L1305137212 **Date Collected: 5/31/2013 3:52:24 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1305137212

Analyte	Back Pressure	Flow
All	165.0 kPa	0.48 L/min

Mean Data: L1305137212

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2467997.6						19732.09	0.80%
YRADIAL	174744.7						2768.66	1.58%
Ga 417.206	994282.6						626.28	0.06%
GaRADIAL	50531.0						314.71	0.62%
Ag 328.068†	137.3	0.00030	mg/L	0.000433	0.00030	mg/L	0.000433	145.90%
Al 396.153†	20.7	-0.00385	mg/L	0.002387	-0.00385	mg/L	0.002387	62.01%
As 188.979†	6.2	0.00411	mg/L	0.001410	0.00411	mg/L	0.001410	34.34%
Ba 233.527†	4229.2	0.0456	mg/L	0.00055	0.0456	mg/L	0.00055	1.20%
Be 234.861†	-35.0	-0.00003	mg/L	0.000005	-0.00003	mg/L	0.000005	15.29%
B 249.677†	450.0	0.00778	mg/L	0.000096	0.00778	mg/L	0.000096	1.23%
Ca 227.546†	2068.2	9.85	mg/L	0.024	9.85	mg/L	0.024	0.24%
Cd 228.802†	-2.3	-0.00020	mg/L	0.000151	-0.00020	mg/L	0.000151	76.29%
Co 228.616†	-4.8	-0.00112	mg/L	0.000375	-0.00112	mg/L	0.000375	33.56%
Cr 267.716†	51.6	-0.00066	mg/L	0.000110	-0.00066	mg/L	0.000110	16.81%
Cu 327.393†	-7.4	-0.00029	mg/L	0.000281	-0.00029	mg/L	0.000281	96.75%
Fe 239.562†	141.0	0.0220	mg/L	0.00258	0.0220	mg/L	0.00258	11.74%
Mg 279.077†	13020.3	9.32	mg/L	0.146	9.32	mg/L	0.146	1.56%
Mn 257.610†	15776.2	0.0273	mg/L	0.00026	0.0273	mg/L	0.00026	0.95%
Mo 202.031†	4.8	-0.00179	mg/L	0.000359	-0.00179	mg/L	0.000359	20.00%
Ni 231.604†	9.8	-0.00151	mg/L	0.000245	-0.00151	mg/L	0.000245	16.23%
Pb 220.353†	2.6	-0.00142	mg/L	0.001458	-0.00142	mg/L	0.001458	102.63%
Sb 206.836†	3.9	-0.00077	mg/L	0.002385	-0.00077	mg/L	0.002385	310.39%
Se 196.026†	-1.9	-0.00286	mg/L	0.003131	-0.00286	mg/L	0.003131	109.47%
Si 251.611†	73408.7	2.02	mg/L	0.033	2.02	mg/L	0.033	1.64%
Sn 189.927†	-83.2	-0.0130	mg/L	0.00046	-0.0130	mg/L	0.00046	3.53%
Ti 334.940†	-1279.3	-0.00057	mg/L	0.000150	-0.00057	mg/L	0.000150	26.41%
Tl 190.801†	-11.0	-0.00960	mg/L	0.003902	-0.00960	mg/L	0.003902	40.64%
V 290.880†	1248.0	0.00478	mg/L	0.000654	0.00478	mg/L	0.000654	13.67%
Zn 206.200†	221.8	0.00442	mg/L	0.000041	0.00442	mg/L	0.000041	0.93%
K 766.490†	2679.9	1.77	mg/L	0.014	1.77	mg/L	0.014	0.79%
Na 589.592†	8312.0	0.733	mg/L	0.0126	0.733	mg/L	0.0126	1.71%
Sr 407.771†	87116.3	0.0689	mg/L	0.00081	0.0689	mg/L	0.00081	1.17%
Li 670.784†	105.9	-0.00222	mg/L	0.000693	-0.00222	mg/L	0.000693	31.14%

Sequence No.: 18 **Autosampler Location: 136**
Sample ID: L1305137213 **Date Collected: 5/31/2013 3:55:25 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1305137213

Analyte	Back Pressure	Flow
All	165.0 kPa	0.48 L/min

Approved: June 03, 2013

Kym H. Rhoden

Mean Data: L1305137213

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	2502246.7						16118.95	0.64%
YRADIAL	178475.1						2817.92	1.58%
Ga 417.206	998486.2						3667.08	0.37%
GaRADIAL	51090.5						230.25	0.45%
Ag 328.068†	-38.2	-0.00045	mg/L	0.000283	-0.00045	mg/L	0.000283	62.29%
Al 396.153†	196.9	0.0539	mg/L	0.00176	0.0539	mg/L	0.00176	3.25%
As 188.979†	0.7	0.00127	mg/L	0.000516	0.00127	mg/L	0.000516	40.66%
Ba 233.527†	3234.6	0.0344	mg/L	0.00030	0.0344	mg/L	0.00030	0.88%
Be 234.861†	55.3	0.00011	mg/L	0.000021	0.00011	mg/L	0.000021	19.97%
B 249.677†	351.5	0.00639	mg/L	0.000357	0.00639	mg/L	0.000357	5.59%
Ca 227.546†	1136.2	5.40	mg/L	0.032	5.40	mg/L	0.032	0.60%
Cd 228.802†	-8.1	-0.00037	mg/L	0.000122	-0.00037	mg/L	0.000122	33.17%
Co 228.616†	-4.1	-0.00109	mg/L	0.000389	-0.00109	mg/L	0.000389	35.80%
Cr 267.716†	26.8	-0.00092	mg/L	0.000018	-0.00092	mg/L	0.000018	1.90%
Cu 327.393†	38.3	-0.00003	mg/L	0.000697	-0.00003	mg/L	0.000697	>999.9%
Fe 239.562†	144.7	0.0230	mg/L	0.00019	0.0230	mg/L	0.00019	0.84%
Mg 279.077†	4373.1	3.12	mg/L	0.037	3.12	mg/L	0.037	1.20%
Mn 257.610†	32238.4	0.0584	mg/L	0.00034	0.0584	mg/L	0.00034	0.59%
Mo 202.031†	0.1	-0.00203	mg/L	0.000247	-0.00203	mg/L	0.000247	12.15%
Ni 231.604†	94.8	0.00067	mg/L	0.000217	0.00067	mg/L	0.000217	32.40%
Pb 220.353†	10.5	-0.00039	mg/L	0.001602	-0.00039	mg/L	0.001602	409.40%
Sb 206.836†	3.7	-0.00086	mg/L	0.002134	-0.00086	mg/L	0.002134	249.38%
Se 196.026†	-1.0	-0.00196	mg/L	0.002467	-0.00196	mg/L	0.002467	126.17%
Si 251.611†	75961.7	2.09	mg/L	0.015	2.09	mg/L	0.015	0.72%
Sn 189.927†	-56.2	-0.00961	mg/L	0.000293	-0.00961	mg/L	0.000293	3.05%
Ti 334.940†	-386.8	-0.00003	mg/L	0.000271	-0.00003	mg/L	0.000271	908.74%
Tl 190.801†	-11.8	-0.0100	mg/L	0.00125	-0.0100	mg/L	0.00125	12.52%
V 290.880†	698.4	0.00214	mg/L	0.000086	0.00214	mg/L	0.000086	4.00%
Zn 206.200†	299.0	0.00664	mg/L	0.000184	0.00664	mg/L	0.000184	2.77%
K 766.490†	1319.8	0.865	mg/L	0.0144	0.865	mg/L	0.0144	1.66%
Na 589.592†	36706.6	3.25	mg/L	0.029	3.25	mg/L	0.029	0.91%
Sr 407.771†	36998.2	0.0272	mg/L	0.00013	0.0272	mg/L	0.00013	0.48%
Li 670.784†	88.6	-0.00247	mg/L	0.000991	-0.00247	mg/L	0.000991	40.13%

==========

Sequence No.: 19 **Autosampler Location: 6**
Sample ID: CCV **Date Collected: 5/31/2013 3:58:26 PM**
Analyst: **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: CCV

Analyte	Back Pressure	Flow
All	165.0 kPa	0.48 L/min

Mean Data: CCV

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	2416402.6						39128.06	1.62%
YRADIAL	176978.1						3386.11	1.91%
Ga 417.206	943117.0						11604.20	1.23%
GaRADIAL	51235.4						3419.70	6.67%
Ag 328.068†	96411.3	0.416	mg/L	0.0061	0.416	mg/L	0.0061	1.46%
QC value within limits for Ag 328.068 Recovery = 103.90%								
Al 396.153†	31613.6	10.3	mg/L	0.55	10.3	mg/L	0.55	5.36%
QC value within limits for Al 396.153 Recovery = 102.86%								
As 188.979†	846.7	0.414	mg/L	0.0059	0.414	mg/L	0.0059	1.44%
QC value within limits for As 188.979 Recovery = 103.45%								
Ba 233.527†	93655.2	1.05	mg/L	0.019	1.05	mg/L	0.019	1.85%
QC value within limits for Ba 233.527 Recovery = 104.80%								
Be 234.861†	34850.6	0.0513	mg/L	0.00080	0.0513	mg/L	0.00080	1.56%
QC value within limits for Be 234.861 Recovery = 102.53%								
B 249.677†	35563.0	0.502	mg/L	0.0099	0.502	mg/L	0.0099	1.97%
QC value within limits for B 249.677 Recovery = 100.30%								
Ca 227.546†	2195.5	11.0	mg/L	0.10	11.0	mg/L	0.10	0.90%
QC value within limits for Ca 227.546 Recovery = 109.51%								
Cd 228.802†	1652.1	0.0505	mg/L	0.00035	0.0505	mg/L	0.00035	0.70%

Approved: June 03, 2013

```
   QC value within limits for Cd 228.802  Recovery = 101.09%
Co 228.616†            5120.0       0.213 mg/L        0.0039       0.213 mg/L        0.0039   1.82%
   QC value within limits for Co 228.616  Recovery = 106.45%
Cr 267.716†           48445.4       0.519 mg/L        0.0095       0.519 mg/L        0.0095   1.83%
   QC value within limits for Cr 267.716  Recovery = 103.78%
Cu 327.393†           90785.8       0.520 mg/L        0.0080       0.520 mg/L        0.0080   1.54%
   QC value within limits for Cu 327.393  Recovery = 104.06%
Fe 239.562†           17760.9        4.35 mg/L         0.152        4.35 mg/L         0.152   3.50%
   QC value within limits for Fe 239.562  Recovery = 108.74%
Mg 279.077†           15034.4        10.8 mg/L          0.36        10.8 mg/L          0.36   3.30%
   QC value within limits for Mg 279.077  Recovery = 107.75%
Mn 257.610†          282967.3       0.533 mg/L        0.0093       0.533 mg/L        0.0093   1.74%
   QC value within limits for Mn 257.610  Recovery = 106.69%
Mo 202.031†           20502.9        1.05 mg/L         0.017        1.05 mg/L         0.017   1.62%
   QC value within limits for Mo 202.031  Recovery = 104.53%
Ni 231.604†           20601.7       0.527 mg/L        0.0085       0.527 mg/L        0.0085   1.61%
   QC value within limits for Ni 231.604  Recovery = 105.34%
Pb 220.353†            4074.8       0.533 mg/L        0.0117       0.533 mg/L        0.0117   2.19%
   QC value within limits for Pb 220.353  Recovery = 106.60%
Sb 206.836†            3028.3        1.26 mg/L         0.013        1.26 mg/L         0.013   1.07%
   QC value within limits for Sb 206.836  Recovery = 104.73%
Se 196.026†             431.4       0.418 mg/L        0.0081       0.418 mg/L        0.0081   1.94%
   QC value within limits for Se 196.026  Recovery = 104.41%
Si 251.611†          187307.0        5.15 mg/L         0.079        5.15 mg/L         0.079   1.54%
   QC value within limits for Si 251.611  Recovery = 103.06%
Sn 189.927†            7694.1       0.963 mg/L        0.0200       0.963 mg/L        0.0200   2.08%
   QC value within limits for Sn 189.927  Recovery = 96.25%
Ti 334.940†          765847.2        1.04 mg/L         0.024        1.04 mg/L         0.024   2.28%
   QC value within limits for Ti 334.940  Recovery = 103.61%
Tl 190.801†            1071.0       0.550 mg/L        0.0052       0.550 mg/L        0.0052   0.94%
   QC value within limits for Tl 190.801  Recovery = 109.93%
V 290.880†           205659.7        1.05 mg/L         0.022        1.05 mg/L         0.022   2.07%
   QC value within limits for V 290.880  Recovery = 104.51%
Zn 206.200†           36137.8        1.04 mg/L         0.019        1.04 mg/L         0.019   1.80%
   QC value within limits for Zn 206.200  Recovery = 104.33%
K 766.490†            78622.8        52.9 mg/L          2.65        52.9 mg/L          2.65   5.00%
   QC value within limits for K 766.490  Recovery = 105.76%
Na 589.592†          567647.9        51.5 mg/L          4.75        51.5 mg/L          4.75   9.22%
   QC value within limits for Na 589.592  Recovery = 102.96%
Sr 407.771†         1341378.2        1.11 mg/L         0.007        1.11 mg/L         0.007   0.66%
   QC value greater than the upper limit for Sr 407.771  Recovery = 111.06%
Li 670.784†           74484.2        1.06 mg/L         0.052        1.06 mg/L         0.052   4.96%
   QC value within limits for Li 670.784  Recovery = 105.53%
QC Failed.  Continue with analysis.

==========================================================================================================
Sequence No.: 20                                    Autosampler Location: 1
Sample ID: CCB                                      Date Collected: 5/31/2013 4:00:31 PM
Analyst:                                            Data Type: Original
Initial Sample Wt:                                  Initial Sample Vol:
Dilution:                                           Sample Prep Vol:

----------------------------------------------------------------------------------------------------------
Nebulizer Parameters: CCB
Analyte                 Back Pressure    Flow
All                    165.0 kPa        0.48 L/min

----------------------------------------------------------------------------------------------------------
Mean Data: CCB
                   Mean Corrected         Calib.                          Sample
Analyte               Intensity      Conc. Units      Std.Dev.      Conc. Units      Std.Dev.   RSD
Y 371.029            2468426.9                                                      51724.76   2.10%
YRADIAL               177600.7                                                       4610.07   2.60%
Ga 417.206            949369.9                                                      15854.26   1.67%
GaRADIAL               49995.5                                                        940.46   1.88%
Ag 328.068†               13.5    -0.00024 mg/L      0.000473    -0.00024 mg/L      0.000473 199.43%
   QC value within limits for Ag 328.068  Recovery = Not calculated
Al 396.153†                7.7    -0.00810 mg/L      0.004239    -0.00810 mg/L      0.004239  52.36%
   QC value within limits for Al 396.153  Recovery = Not calculated
As 188.979†                3.7     0.00265 mg/L      0.000944     0.00265 mg/L      0.000944  35.65%
   QC value within limits for As 188.979  Recovery = Not calculated
Ba 233.527†              -23.1    -0.00210 mg/L      0.000072    -0.00210 mg/L      0.000072   3.45%
```

Approved: June 03, 2013

Lynn H. Rhoden

```
   QC value within limits for Ba 233.527  Recovery = Not calculated
Be 234.861†            -111.3    -0.00014 mg/L      0.000031    -0.00014 mg/L      0.000031  22.24%
   QC value within limits for Be 234.861  Recovery = Not calculated
B 249.677†              387.3     0.00691 mg/L      0.001223     0.00691 mg/L      0.001223  17.70%
   QC value within limits for B 249.677  Recovery = Not calculated
Ca 227.546†               6.3    -0.00584 mg/L      0.034351    -0.00584 mg/L      0.034351 588.11%
   QC value within limits for Ca 227.546  Recovery = Not calculated
Cd 228.802†              -5.9    -0.00031 mg/L      0.000250    -0.00031 mg/L      0.000250  81.13%
   QC value within limits for Cd 228.802  Recovery = Not calculated
Co 228.616†              -9.5    -0.00130 mg/L      0.000271    -0.00130 mg/L      0.000271  20.85%
   QC value within limits for Co 228.616  Recovery = Not calculated
Cr 267.716†              -3.9    -0.00125 mg/L      0.000194    -0.00125 mg/L      0.000194  15.49%
   QC value within limits for Cr 267.716  Recovery = Not calculated
Cu 327.393†               0.5    -0.00025 mg/L      0.000363    -0.00025 mg/L      0.000363 145.37%
   QC value within limits for Cu 327.393  Recovery = Not calculated
Fe 239.562†               2.9     -0.0118 mg/L       0.00191     -0.0118 mg/L       0.00191  16.26%
   QC value within limits for Fe 239.562  Recovery = Not calculated
Mg 279.077†               4.1     -0.0128 mg/L       0.00499     -0.0128 mg/L       0.00499  39.15%
   QC value within limits for Mg 279.077  Recovery = Not calculated
Mn 257.610†              34.5    -0.00248 mg/L      0.000032    -0.00248 mg/L      0.000032   1.30%
   QC value within limits for Mn 257.610  Recovery = Not calculated
Mo 202.031†              -3.5    -0.00223 mg/L      0.000329    -0.00223 mg/L      0.000329  14.78%
   QC value within limits for Mo 202.031  Recovery = Not calculated
Ni 231.604†             -23.7    -0.00237 mg/L      0.000326    -0.00237 mg/L      0.000326  13.74%
   QC value within limits for Ni 231.604  Recovery = Not calculated
Pb 220.353†              -0.3    -0.00178 mg/L      0.000711    -0.00178 mg/L      0.000711  39.90%
   QC value within limits for Pb 220.353  Recovery = Not calculated
Sb 206.836†               8.1     0.00097 mg/L      0.003286     0.00097 mg/L      0.003286 339.10%
   QC value within limits for Sb 206.836  Recovery = Not calculated
Se 196.026†               0.7    -0.00033 mg/L      0.004352    -0.00033 mg/L      0.004352 >999.9%
   QC value within limits for Se 196.026  Recovery = Not calculated
Si 251.611†               4.1    -0.00195 mg/L      0.000687    -0.00195 mg/L      0.000687  35.23%
   QC value within limits for Si 251.611  Recovery = Not calculated
Sn 189.927†              12.2    -0.00103 mg/L      0.000249    -0.00103 mg/L      0.000249  24.04%
   QC value within limits for Sn 189.927  Recovery = Not calculated
Ti 334.940†             -29.3    -0.00036 mg/L      0.000144    -0.00036 mg/L      0.000144  40.44%
   QC value within limits for Ti 334.940  Recovery = Not calculated
Tl 190.801†             -11.8    -0.00998 mg/L      0.002319    -0.00998 mg/L      0.002319  23.23%
   QC value within limits for Tl 190.801  Recovery = Not calculated
V 290.880†              337.4     0.00039 mg/L      0.002219     0.00039 mg/L      0.002219 565.30%
   QC value within limits for V 290.880  Recovery = Not calculated
Zn 206.200†               1.2    -0.00194 mg/L      0.000149    -0.00194 mg/L      0.000149   7.68%
   QC value within limits for Zn 206.200  Recovery = Not calculated
K 766.490†               89.8      0.0551 mg/L       0.05024      0.0551 mg/L       0.05024  91.24%
   QC value within limits for K 766.490  Recovery = Not calculated
Na 589.592†             331.8      0.0282 mg/L       0.02774      0.0282 mg/L       0.02774  98.37%
   QC value within limits for Na 589.592  Recovery = Not calculated
Sr 407.771†             179.2    -0.00342 mg/L      0.000133    -0.00342 mg/L      0.000133   3.88%
   QC value within limits for Sr 407.771  Recovery = Not calculated
Li 670.784†             132.3    -0.00185 mg/L      0.000666    -0.00185 mg/L      0.000666  36.03%
   QC value within limits for Li 670.784  Recovery = Not calculated
All analyte(s) passed QC.

==========================================================================================
Sequence No.: 21                                    Autosampler Location: 137
Sample ID: PBW 44 WG432128-02                       Date Collected: 5/31/2013 4:03:31 PM
Analyst: KHR                                        Data Type: Original
Initial Sample Wt:                                  Initial Sample Vol:
Dilution:                                           Sample Prep Vol:

------------------------------------------------------------------------------------------
Nebulizer Parameters: PBW 44 WG432128-02
Analyte                 Back Pressure    Flow
All                     164.0 kPa        0.48 L/min

------------------------------------------------------------------------------------------
Mean Data: PBW 44 WG432128-02
                  Mean Corrected        Calib.                        Sample
Analyte              Intensity     Conc. Units     Std.Dev.     Conc. Units     Std.Dev.   RSD
Y 371.029            2513337.9                                                 14142.48   0.56%
YRADIAL               178962.2                                                  3863.00   2.16%
Ga 417.206            975155.3                                                  9683.58   0.99%
```

Approved: June 03, 2013

Lynn H. Rhoden

GaRADIAL	49707.4					1603.11	3.23%
Ag 328.068†	-18.6	-0.00037	mg/L	0.000120	-0.00037 mg/L	0.000120	31.93%
Al 396.153†	10.7	-0.00712	mg/L	0.000963	-0.00712 mg/L	0.000963	13.53%
As 188.979†	0.7	0.00117	mg/L	0.002318	0.00117 mg/L	0.002318	197.34%
Ba 233.527†	-22.1	-0.00209	mg/L	0.000065	-0.00209 mg/L	0.000065	3.10%
Be 234.861†	-65.9	-0.00007	mg/L	0.000040	-0.00007 mg/L	0.000040	55.34%
B 249.677†	152.0	0.00357	mg/L	0.000134	0.00357 mg/L	0.000134	3.76%
Ca 227.546†	8.0	0.00266	mg/L	0.026521	0.00266 mg/L	0.026521	998.37%
Cd 228.802†	-4.2	-0.00025	mg/L	0.000145	-0.00025 mg/L	0.000145	59.25%
Co 228.616†	-4.7	-0.00110	mg/L	0.000318	-0.00110 mg/L	0.000318	28.88%
Cr 267.716†	10.2	-0.00110	mg/L	0.000216	-0.00110 mg/L	0.000216	19.57%
Cu 327.393†	-53.0	-0.00055	mg/L	0.001037	-0.00055 mg/L	0.001037	186.95%
Fe 239.562†	8.6	-0.0104	mg/L	0.00073	-0.0104 mg/L	0.00073	7.07%
Mg 279.077†	2.3	-0.0140	mg/L	0.00215	-0.0140 mg/L	0.00215	15.31%
Mn 257.610†	59.3	-0.00243	mg/L	0.000031	-0.00243 mg/L	0.000031	1.28%
Mo 202.031†	-6.5	-0.00239	mg/L	0.000195	-0.00239 mg/L	0.000195	8.17%
Ni 231.604†	-14.6	-0.00214	mg/L	0.000634	-0.00214 mg/L	0.000634	29.68%
Pb 220.353†	12.3	-0.00013	mg/L	0.002813	-0.00013 mg/L	0.002813	>999.9%
Sb 206.836†	2.8	-0.00123	mg/L	0.002057	-0.00123 mg/L	0.002057	167.53%
Se 196.026†	-1.4	-0.00232	mg/L	0.003184	-0.00232 mg/L	0.003184	137.32%
Si 251.611†	-8.0	-0.00228	mg/L	0.000091	-0.00228 mg/L	0.000091	3.98%
Sn 189.927†	-1.6	-0.00276	mg/L	0.000548	-0.00276 mg/L	0.000548	19.82%
Ti 334.940†	-82.0	-0.00043	mg/L	0.000195	-0.00043 mg/L	0.000195	45.64%
Tl 190.801†	-13.8	-0.0110	mg/L	0.00135	-0.0110 mg/L	0.00135	12.36%
V 290.880†	218.6	-0.00021	mg/L	0.000479	-0.00021 mg/L	0.000479	225.06%
Zn 206.200†	112.0	0.00125	mg/L	0.000110	0.00125 mg/L	0.000110	8.80%
K 766.490†	8.5	0.00144	mg/L	0.030749	0.00144 mg/L	0.030749	>999.9%
Na 589.592†	-302.2	-0.0278	mg/L	0.00364	-0.0278 mg/L	0.00364	13.10%
Sr 407.771†	-72.7	-0.00363	mg/L	0.000043	-0.00363 mg/L	0.000043	1.19%
Li 670.784†	77.0	-0.00263	mg/L	0.001111	-0.00263 mg/L	0.001111	42.16%

Sequence No.: 22 **Autosampler Location: 138**
Sample ID: LCSW 44 WG432128-03 **Date Collected: 5/31/2013 4:06:32 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: LCSW 44 WG432128-03

Analyte	Back Pressure	Flow
All	165.0 kPa	0.48 L/min

Mean Data: LCSW 44 WG432128-03

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2461008.5						68090.43	2.77%
YRADIAL	178452.6						2317.84	1.30%
Ga 417.206	971301.5						33134.96	3.41%
GaRADIAL	49766.7						615.02	1.24%
Ag 328.068†	46393.6	0.200	mg/L	0.0080	0.200	mg/L	0.0080	3.99%
Al 396.153†	15300.1	4.97	mg/L	0.013	4.97	mg/L	0.013	0.26%
As 188.979†	409.2	0.200	mg/L	0.0062	0.200	mg/L	0.0062	3.08%
Ba 233.527†	45138.5	0.504	mg/L	0.0207	0.504	mg/L	0.0207	4.11%
Be 234.861†	16605.1	0.0245	mg/L	0.00113	0.0245	mg/L	0.00113	4.63%
B 249.677†	67681.7	0.959	mg/L	0.0385	0.959	mg/L	0.0385	4.01%
Ca 227.546†	1033.5	5.15	mg/L	0.182	5.15	mg/L	0.182	3.54%
Cd 228.802†	787.6	0.0240	mg/L	0.00112	0.0240	mg/L	0.00112	4.68%
Co 228.616†	2460.4	0.102	mg/L	0.0028	0.102	mg/L	0.0028	2.70%
Cr 267.716†	23387.1	0.250	mg/L	0.0100	0.250	mg/L	0.0100	4.01%
Cu 327.393†	43642.0	0.250	mg/L	0.0116	0.250	mg/L	0.0116	4.66%
Fe 239.562†	8284.4	2.02	mg/L	0.023	2.02	mg/L	0.023	1.13%
Mg 279.077†	7028.7	5.03	mg/L	0.076	5.03	mg/L	0.076	1.52%
Mn 257.610†	136069.5	0.255	mg/L	0.0104	0.255	mg/L	0.0104	4.09%
Mo 202.031†	10106.3	0.514	mg/L	0.0147	0.514	mg/L	0.0147	2.85%
Ni 231.604†	10322.0	0.263	mg/L	0.0075	0.263	mg/L	0.0075	2.86%
Pb 220.353†	1966.6	0.256	mg/L	0.0061	0.256	mg/L	0.0061	2.38%
Sb 206.836†	1438.5	0.596	mg/L	0.0204	0.596	mg/L	0.0204	3.43%
Se 196.026†	204.6	0.197	mg/L	0.0040	0.197	mg/L	0.0040	2.05%
Si 251.611†	88221.2	2.43	mg/L	0.109	2.43	mg/L	0.109	4.50%
Sn 189.927†	4079.2	0.509	mg/L	0.0137	0.509	mg/L	0.0137	2.70%

Approved: June 03, 2013

Kym H. Rhoden

Ti 334.940†	376322.5	0.509	mg/L	0.0213	0.509	mg/L	0.0213	4.19%
Tl 190.801†	526.1	0.268	mg/L	0.0092	0.268	mg/L	0.0092	3.42%
V 290.880†	98634.3	0.501	mg/L	0.0176	0.501	mg/L	0.0176	3.52%
Zn 206.200†	17444.4	0.503	mg/L	0.0236	0.503	mg/L	0.0236	4.69%
K 766.490†	38684.3	25.8	mg/L	0.11	25.8	mg/L	0.11	0.41%
Na 589.592†	285382.6	25.5	mg/L	0.42	25.5	mg/L	0.42	1.63%
Sr 407.771†	649473.1	0.536	mg/L	0.0116	0.536	mg/L	0.0116	2.17%
Li 670.784†	36969.7	0.522	mg/L	0.0017	0.522	mg/L	0.0017	0.33%

Sequence No.: 23 **Autosampler Location: 139**
Sample ID: L1305122101 WG432128-01 **Date Collected: 5/31/2013 4:08:36 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1305122101 WG432128-01

Analyte	Back Pressure	Flow
All	165.0 kPa	0.48 L/min

Mean Data: L1305122101 WG432128-01

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2453351.4						14069.74	0.57%
YRADIAL	177442.5						3091.16	1.74%
Ga 417.206	996203.3						7854.91	0.79%
GaRADIAL	51116.0						297.45	0.58%
Ag 328.068†	213.9	0.00078	mg/L	0.000402	0.00078	mg/L	0.000402	51.64%
Al 396.153†	201.6	0.0555	mg/L	0.00293	0.0555	mg/L	0.00293	5.28%
As 188.979†	-2.6	0.00028	mg/L	0.003783	0.00028	mg/L	0.003783	>999.9%
Ba 233.527†	1503.0	0.0150	mg/L	0.00014	0.0150	mg/L	0.00014	0.96%
Be 234.861†	44.2	-0.00001	mg/L	0.000047	-0.00001	mg/L	0.000047	726.68%
B 249.677†	1328.1	0.0200	mg/L	0.00163	0.0200	mg/L	0.00163	8.13%
Ca 227.546†	6174.2	29.5	mg/L	0.17	29.5	mg/L	0.17	0.57%
Cd 228.802†	0.1	-0.00010	mg/L	0.000103	-0.00010	mg/L	0.000103	102.29%
Co 228.616†	-5.1	-0.00113	mg/L	0.000385	-0.00113	mg/L	0.000385	34.15%
Cr 267.716†	75.1	-0.00043	mg/L	0.000074	-0.00043	mg/L	0.000074	16.97%
Cu 327.393†	243.0	0.00117	mg/L	0.000602	0.00117	mg/L	0.000602	51.30%
Fe 239.562†	1910.4	0.457	mg/L	0.0048	0.457	mg/L	0.0048	1.04%
Mg 279.077†	5715.4	4.08	mg/L	0.058	4.08	mg/L	0.058	1.42%
Mn 257.610†	57811.7	0.107	mg/L	0.0018	0.107	mg/L	0.0018	1.68%
Mo 202.031†	18.9	-0.00104	mg/L	0.000392	-0.00104	mg/L	0.000392	37.69%
Ni 231.604†	-6.2	-0.00192	mg/L	0.000112	-0.00192	mg/L	0.000112	5.82%
Pb 220.353†	38.0	0.00316	mg/L	0.000569	0.00316	mg/L	0.000569	18.01%
Sb 206.836†	1.5	-0.00174	mg/L	0.001745	-0.00174	mg/L	0.001745	100.03%
Se 196.026†	-2.7	-0.00354	mg/L	0.001967	-0.00354	mg/L	0.001967	55.49%
Si 251.611†	76522.1	2.11	mg/L	0.039	2.11	mg/L	0.039	1.84%
Sn 189.927†	-180.7	-0.0252	mg/L	0.00145	-0.0252	mg/L	0.00145	5.75%
Ti 334.940†	-1744.1	0.00175	mg/L	0.000301	0.00175	mg/L	0.000301	17.19%
Tl 190.801†	-27.7	-0.0181	mg/L	0.00375	-0.0181	mg/L	0.00375	20.75%
V 290.880†	1013.5	0.00361	mg/L	0.000508	0.00361	mg/L	0.000508	14.06%
Zn 206.200†	403.0	0.00962	mg/L	0.000120	0.00962	mg/L	0.000120	1.25%
K 766.490†	3199.6	2.11	mg/L	0.002	2.11	mg/L	0.002	0.12%
Na 589.592†	35402.2	3.13	mg/L	0.013	3.13	mg/L	0.013	0.42%
Sr 407.771†	131629.3	0.106	mg/L	0.0019	0.106	mg/L	0.0019	1.80%
Li 670.784†	110.8	-0.00215	mg/L	0.000050	-0.00215	mg/L	0.000050	2.32%

Sequence No.: 24 **Autosampler Location: 140**
Sample ID: L1305122102MS WG432128-04 **Date Collected: 5/31/2013 4:11:37 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1305122102MS WG432128-04

Analyte	Back Pressure	Flow
All	165.0 kPa	0.48 L/min

Approved: June 03, 2013

Mean Data: L1305122102MS WG432128-04

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	2480154.5						58511.01	2.36%
YRADIAL	184402.1						5146.61	2.79%
Ga 417.206	988938.0						25159.28	2.54%
GaRADIAL	51125.4						1230.18	2.41%
Ag 328.068†	45139.4	0.195	mg/L	0.0078	0.195	mg/L	0.0078	4.02%
Al 396.153†	15199.2	4.94	mg/L	0.069	4.94	mg/L	0.069	1.39%
As 188.979†	399.9	0.196	mg/L	0.0057	0.196	mg/L	0.0057	2.88%
Ba 233.527†	45155.3	0.504	mg/L	0.0171	0.504	mg/L	0.0171	3.39%
Be 234.861†	16400.0	0.0241	mg/L	0.00080	0.0241	mg/L	0.00080	3.34%
B 249.677†	67517.2	0.957	mg/L	0.0398	0.957	mg/L	0.0398	4.16%
Ca 227.546†	6960.0	33.5	mg/L	0.83	33.5	mg/L	0.83	2.48%
Cd 228.802†	747.1	0.0228	mg/L	0.00048	0.0228	mg/L	0.00048	2.09%
Co 228.616†	2348.5	0.0971	mg/L	0.00251	0.0971	mg/L	0.00251	2.58%
Cr 267.716†	22993.5	0.246	mg/L	0.0090	0.246	mg/L	0.0090	3.64%
Cu 327.393†	42009.8	0.241	mg/L	0.0105	0.241	mg/L	0.0105	4.34%
Fe 239.562†	9693.8	2.37	mg/L	0.043	2.37	mg/L	0.043	1.83%
Mg 279.077†	12022.0	8.61	mg/L	0.116	8.61	mg/L	0.116	1.35%
Mn 257.610†	181422.9	0.341	mg/L	0.0131	0.341	mg/L	0.0131	3.84%
Mo 202.031†	9900.1	0.504	mg/L	0.0125	0.504	mg/L	0.0125	2.48%
Ni 231.604†	9800.6	0.250	mg/L	0.0063	0.250	mg/L	0.0063	2.52%
Pb 220.353†	1925.9	0.251	mg/L	0.0070	0.251	mg/L	0.0070	2.78%
Sb 206.836†	1392.6	0.577	mg/L	0.0128	0.577	mg/L	0.0128	2.22%
Se 196.026†	197.4	0.191	mg/L	0.0074	0.191	mg/L	0.0074	3.87%
Si 251.611†	158692.1	4.37	mg/L	0.184	4.37	mg/L	0.184	4.21%
Sn 189.927†	3876.6	0.484	mg/L	0.0112	0.484	mg/L	0.0112	2.31%
Ti 334.940†	369134.1	0.503	mg/L	0.0199	0.503	mg/L	0.0199	3.95%
Tl 190.801†	479.8	0.244	mg/L	0.0027	0.244	mg/L	0.0027	1.10%
V 290.880†	97899.9	0.497	mg/L	0.0207	0.497	mg/L	0.0207	4.17%
Zn 206.200†	16830.6	0.485	mg/L	0.0165	0.485	mg/L	0.0165	3.41%
K 766.490†	40796.4	27.2	mg/L	0.46	27.2	mg/L	0.46	1.69%
Na 589.592†	304563.8	27.3	mg/L	0.21	27.3	mg/L	0.21	0.76%
Sr 407.771†	734912.4	0.607	mg/L	0.0074	0.607	mg/L	0.0074	1.22%
Li 670.784†	36300.3	0.512	mg/L	0.0046	0.512	mg/L	0.0046	0.90%

==========

Sequence No.: 25
Sample ID: L1305122103SD WG432128-05
Analyst: KHR
Initial Sample Wt:
Dilution:

Autosampler Location: 141
Date Collected: 5/31/2013 4:13:41 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: L1305122103SD WG432128-05

Analyte	Back Pressure	Flow
All	165.0 kPa	0.48 L/min

Mean Data: L1305122103SD WG432128-05

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	2415466.5						22489.17	0.93%
YRADIAL	183767.7						1911.40	1.04%
Ga 417.206	957652.9						1918.23	0.20%
GaRADIAL	50488.8						455.17	0.90%
Ag 328.068†	46391.0	0.200	mg/L	0.0014	0.200	mg/L	0.0014	0.68%
Al 396.153†	15452.8	5.02	mg/L	0.030	5.02	mg/L	0.030	0.59%
As 188.979†	412.3	0.203	mg/L	0.0012	0.203	mg/L	0.0012	0.58%
Ba 233.527†	46181.0	0.516	mg/L	0.0025	0.516	mg/L	0.0025	0.49%
Be 234.861†	16674.2	0.0245	mg/L	0.00014	0.0245	mg/L	0.00014	0.57%
B 249.677†	70283.6	0.996	mg/L	0.0107	0.996	mg/L	0.0107	1.07%
Ca 227.546†	7322.4	35.2	mg/L	0.02	35.2	mg/L	0.02	0.06%
Cd 228.802†	770.1	0.0235	mg/L	0.00025	0.0235	mg/L	0.00025	1.09%
Co 228.616†	2429.7	0.101	mg/L	0.0010	0.101	mg/L	0.0010	1.02%
Cr 267.716†	23557.4	0.252	mg/L	0.0022	0.252	mg/L	0.0022	0.87%
Cu 327.393†	43118.0	0.247	mg/L	0.0020	0.247	mg/L	0.0020	0.81%
Fe 239.562†	9721.5	2.38	mg/L	0.025	2.38	mg/L	0.025	1.06%
Mg 279.077†	12418.0	8.89	mg/L	0.019	8.89	mg/L	0.019	0.21%
Mn 257.610†	182394.8	0.343	mg/L	0.0033	0.343	mg/L	0.0033	0.95%
Mo 202.031†	10229.7	0.521	mg/L	0.0053	0.521	mg/L	0.0053	1.03%

Approved: June 03, 2013

Ni 231.604†	10121.1	0.258 mg/L	0.0029	0.258 mg/L	0.0029	1.11%
Pb 220.353†	1961.8	0.256 mg/L	0.0032	0.256 mg/L	0.0032	1.26%
Sb 206.836†	1439.4	0.596 mg/L	0.0016	0.596 mg/L	0.0016	0.27%
Se 196.026†	203.3	0.196 mg/L	0.0029	0.196 mg/L	0.0029	1.46%
Si 251.611†	164080.9	4.52 mg/L	0.020	4.52 mg/L	0.020	0.45%
Sn 189.927†	4084.6	0.510 mg/L	0.0066	0.510 mg/L	0.0066	1.29%
Ti 334.940†	376307.1	0.513 mg/L	0.0035	0.513 mg/L	0.0035	0.68%
Tl 190.801†	495.1	0.252 mg/L	0.0068	0.252 mg/L	0.0068	2.68%
V 290.880†	100018.4	0.507 mg/L	0.0072	0.507 mg/L	0.0072	1.41%
Zn 206.200†	17304.5	0.499 mg/L	0.0025	0.499 mg/L	0.0025	0.50%
K 766.490†	41626.9	27.7 mg/L	0.13	27.7 mg/L	0.13	0.47%
Na 589.592†	317532.4	28.5 mg/L	0.27	28.5 mg/L	0.27	0.95%
Sr 407.771†	758725.0	0.627 mg/L	0.0078	0.627 mg/L	0.0078	1.24%
Li 670.784†	36771.7	0.519 mg/L	0.0014	0.519 mg/L	0.0014	0.28%

Sequence No.: 26 **Autosampler Location: 142**
Sample ID: L1305122101PS WG432277-03 **Date Collected: 5/31/2013 4:15:46 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1305122101PS WG432277-03

Analyte	Back Pressure	Flow
All	165.0 kPa	0.48 L/min

Mean Data: L1305122101PS WG432277-03

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2440966.2						17929.16	0.73%
YRADIAL	185253.7						1708.93	0.92%
Ga 417.206	967442.7						14678.91	1.52%
GaRADIAL	51488.6						656.14	1.27%
Ag 328.068†	47754.7	0.206	mg/L	0.0040	0.206	mg/L	0.0040	1.95%
Al 396.153†	15562.8	5.06	mg/L	0.059	5.06	mg/L	0.059	1.17%
As 188.979†	424.1	0.208	mg/L	0.0020	0.208	mg/L	0.0020	0.94%
Ba 233.527†	47339.0	0.529	mg/L	0.0083	0.529	mg/L	0.0083	1.56%
Be 234.861†	17274.6	0.0254	mg/L	0.00040	0.0254	mg/L	0.00040	1.57%
B 249.677†	72649.2	1.03	mg/L	0.021	1.03	mg/L	0.021	2.05%
Ca 227.546†	6737.7	32.4	mg/L	0.56	32.4	mg/L	0.56	1.72%
Cd 228.802†	807.7	0.0246	mg/L	0.00089	0.0246	mg/L	0.00089	3.59%
Co 228.616†	2495.0	0.103	mg/L	0.0006	0.103	mg/L	0.0006	0.61%
Cr 267.716†	24178.2	0.258	mg/L	0.0044	0.258	mg/L	0.0044	1.72%
Cu 327.393†	44555.3	0.255	mg/L	0.0060	0.255	mg/L	0.0060	2.36%
Fe 239.562†	9906.8	2.42	mg/L	0.039	2.42	mg/L	0.039	1.61%
Mg 279.077†	11871.7	8.50	mg/L	0.092	8.50	mg/L	0.092	1.08%
Mn 257.610†	189435.4	0.356	mg/L	0.0053	0.356	mg/L	0.0053	1.49%
Mo 202.031†	10494.9	0.534	mg/L	0.0037	0.534	mg/L	0.0037	0.69%
Ni 231.604†	10445.9	0.266	mg/L	0.0021	0.266	mg/L	0.0021	0.79%
Pb 220.353†	2033.8	0.265	mg/L	0.0038	0.265	mg/L	0.0038	1.42%
Sb 206.836†	1490.4	0.617	mg/L	0.0139	0.617	mg/L	0.0139	2.26%
Se 196.026†	213.3	0.206	mg/L	0.0063	0.206	mg/L	0.0063	3.05%
Si 251.611†	159945.1	4.40	mg/L	0.086	4.40	mg/L	0.086	1.94%
Sn 189.927†	-163.6	-0.0231	mg/L	0.00079	-0.0231	mg/L	0.00079	3.40%
Ti 334.940†	387047.2	0.527	mg/L	0.0077	0.527	mg/L	0.0077	1.46%
Tl 190.801†	525.4	0.268	mg/L	0.0043	0.268	mg/L	0.0043	1.61%
V 290.880†	102674.2	0.521	mg/L	0.0083	0.521	mg/L	0.0083	1.59%
Zn 206.200†	17990.1	0.518	mg/L	0.0060	0.518	mg/L	0.0060	1.15%
K 766.490†	41724.8	27.8	mg/L	0.29	27.8	mg/L	0.29	1.05%
Na 589.592†	314548.4	28.2	mg/L	0.37	28.2	mg/L	0.37	1.30%
Sr 407.771†	755335.4	0.624	mg/L	0.0070	0.624	mg/L	0.0070	1.12%
Li 670.784†	36932.7	0.521	mg/L	0.0037	0.521	mg/L	0.0037	0.72%

Sequence No.: 27 **Autosampler Location: 143**
Sample ID: L1305122101DL WG432277-04 **Date Collected: 5/31/2013 4:17:50 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Approved: June 03, 2013

Nebulizer Parameters: L1305122101DL WG432277-04

Analyte	Back Pressure	Flow
All	165.0 kPa	0.48 L/min

Mean Data: L1305122101DL WG432277-04

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2507872.9						20374.88	0.81%
YRADIAL	178254.3						6984.96	3.92%
Ga 417.206	974188.5						10084.21	1.04%
GaRADIAL	48191.7						2909.75	6.04%
Ag 328.068†	-117.9	-0.00077	mg/L	0.000209	-0.00077	mg/L	0.000209	27.28%
Al 396.153†	80.6	0.0158	mg/L	0.00242	0.0158	mg/L	0.00242	15.31%
As 188.979†	2.3	0.00212	mg/L	0.001922	0.00212	mg/L	0.001922	90.50%
Ba 233.527†	277.0	0.00126	mg/L	0.000102	0.00126	mg/L	0.000102	8.05%
Be 234.861†	-39.8	-0.00005	mg/L	0.000016	-0.00005	mg/L	0.000016	29.95%
B 249.677†	1346.7	0.0205	mg/L	0.00391	0.0205	mg/L	0.00391	19.10%
Ca 227.546†	1234.6	5.87	mg/L	0.046	5.87	mg/L	0.046	0.79%
Cd 228.802†	-5.8	-0.00030	mg/L	0.000151	-0.00030	mg/L	0.000151	50.20%
Co 228.616†	-10.4	-0.00134	mg/L	0.000280	-0.00134	mg/L	0.000280	20.88%
Cr 267.716†	31.0	-0.00088	mg/L	0.000090	-0.00088	mg/L	0.000090	10.17%
Cu 327.393†	139.9	0.00056	mg/L	0.000476	0.00056	mg/L	0.000476	85.69%
Fe 239.562†	399.3	0.0856	mg/L	0.00623	0.0856	mg/L	0.00623	7.28%
Mg 279.077†	1170.2	0.823	mg/L	0.0528	0.823	mg/L	0.0528	6.41%
Mn 257.610†	11249.7	0.0187	mg/L	0.00011	0.0187	mg/L	0.00011	0.59%
Mo 202.031†	-0.9	-0.00209	mg/L	0.000164	-0.00209	mg/L	0.000164	7.87%
Ni 231.604†	-8.7	-0.00198	mg/L	0.000147	-0.00198	mg/L	0.000147	7.39%
Pb 220.353†	14.8	0.00018	mg/L	0.000543	0.00018	mg/L	0.000543	307.16%
Sb 206.836†	7.9	0.00089	mg/L	0.001761	0.00089	mg/L	0.001761	197.54%
Se 196.026†	-2.8	-0.00374	mg/L	0.002298	-0.00374	mg/L	0.002298	61.38%
Si 251.611†	15247.4	0.419	mg/L	0.0050	0.419	mg/L	0.0050	1.19%
Sn 189.927†	1.2	-0.00241	mg/L	0.000920	-0.00241	mg/L	0.000920	38.25%
Ti 334.940†	-420.2	0.00000	mg/L	0.000165	0.00000	mg/L	0.000165	>999.9%
Tl 190.801†	-13.9	-0.0111	mg/L	0.00410	-0.0111	mg/L	0.00410	37.11%
V 290.880†	390.3	0.00062	mg/L	0.000284	0.00062	mg/L	0.000284	46.09%
Zn 206.200†	128.8	0.00174	mg/L	0.000191	0.00174	mg/L	0.000191	10.99%
K 766.490†	752.7	0.493	mg/L	0.0133	0.493	mg/L	0.0133	2.70%
Na 589.592†	7689.1	0.678	mg/L	0.0707	0.678	mg/L	0.0707	10.43%
Sr 407.771†	26833.4	0.0188	mg/L	0.00110	0.0188	mg/L	0.00110	5.84%
Li 670.784†	123.1	-0.00198	mg/L	0.000260	-0.00198	mg/L	0.000260	13.13%

Sequence No.: 28
Sample ID: L1305118205 0.01
Analyst: KHR
Initial Sample Wt:
Dilution:

Autosampler Location: 144
Date Collected: 5/31/2013 4:21:27 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: L1305118205 0.01

Analyte	Back Pressure	Flow
All	165.0 kPa	0.48 L/min

Mean Data: L1305118205 0.01

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2526759.2						31077.71	1.23%
YRADIAL	182721.8						7003.33	3.83%
Ga 417.206	1016322.8						8198.50	0.81%
GaRADIAL	52974.9						1168.26	2.21%
Ag 328.068†	-16.7	-0.00037	mg/L	0.000664	-0.00037	mg/L	0.000664	181.89%
Al 396.153†	3.0	-0.00964	mg/L	0.001145	-0.00964	mg/L	0.001145	11.88%
As 188.979†	-1.0	0.00037	mg/L	0.001554	0.00037	mg/L	0.001554	423.64%
Ba 233.527†	51.0	-0.00127	mg/L	0.000082	-0.00127	mg/L	0.000082	6.46%
Be 234.861†	59.1	0.00011	mg/L	0.000006	0.00011	mg/L	0.000006	4.93%
B 249.677†	660.3	0.0108	mg/L	0.00036	0.0108	mg/L	0.00036	3.33%
Ca 227.546†	463.3	2.18	mg/L	0.042	2.18	mg/L	0.042	1.92%
Cd 228.802†	-8.7	-0.00038	mg/L	0.000079	-0.00038	mg/L	0.000079	20.84%
Co 228.616†	-1.5	-0.00097	mg/L	0.000362	-0.00097	mg/L	0.000362	37.39%

Approved: June 03, 2013

Cr 267.716†	-4.1	-0.00126	mg/L	0.000093	-0.00126	mg/L	0.000093	7.43%
Cu 327.393†	26.9	-0.00010	mg/L	0.000089	-0.00010	mg/L	0.000089	91.58%
Fe 239.562†	34.6	-0.00400	mg/L	0.001860	-0.00400	mg/L	0.001860	46.55%
Mg 279.077†	618.3	0.427	mg/L	0.0292	0.427	mg/L	0.0292	6.82%
Mn 257.610†	6759.3	0.0102	mg/L	0.00029	0.0102	mg/L	0.00029	2.87%
Mo 202.031†	-5.6	-0.00233	mg/L	0.000133	-0.00233	mg/L	0.000133	5.71%
Ni 231.604†	-15.4	-0.00216	mg/L	0.000250	-0.00216	mg/L	0.000250	11.57%
Pb 220.353†	22.2	0.00116	mg/L	0.001255	0.00116	mg/L	0.001255	108.25%
Sb 206.836†	-0.8	-0.00271	mg/L	0.000959	-0.00271	mg/L	0.000959	35.35%
Se 196.026†	-6.2	-0.00697	mg/L	0.003767	-0.00697	mg/L	0.003767	54.07%
Si 251.611†	2011.3	0.0534	mg/L	0.00008	0.0534	mg/L	0.00008	0.14%
Sn 189.927†	-13.2	-0.00422	mg/L	0.001483	-0.00422	mg/L	0.001483	35.14%
Ti 334.940†	-368.5	-0.00049	mg/L	0.000194	-0.00049	mg/L	0.000194	39.85%
Tl 190.801†	-5.2	-0.00666	mg/L	0.002933	-0.00666	mg/L	0.002933	44.02%
V 290.880†	488.0	0.00115	mg/L	0.000715	0.00115	mg/L	0.000715	62.33%
Zn 206.200†	34.7	-0.00097	mg/L	0.000073	-0.00097	mg/L	0.000073	7.51%
K 766.490†	7.0	-0.00273	mg/L	0.050353	-0.00273	mg/L	0.050353	>999.9%
Na 589.592†	34897.7	3.09	mg/L	0.039	3.09	mg/L	0.039	1.27%
Sr 407.771†	11847.4	0.00630	mg/L	0.000300	0.00630	mg/L	0.000300	4.77%
Li 670.784†	43.7	-0.00311	mg/L	0.000705	-0.00311	mg/L	0.000705	22.70%

Sequence No.: 29
Sample ID: L1305118206 0.01
Analyst: KHR
Initial Sample Wt:
Dilution:

Autosampler Location: 145
Date Collected: 5/31/2013 4:24:28 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: L1305118206 0.01

Analyte	Back Pressure	Flow
All	165.0 kPa	0.48 L/min

Mean Data: L1305118206 0.01

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2509179.2						16297.63	0.65%
YRADIAL	173555.5						261.45	0.15%
Ga 417.206	1006150.2						15353.66	1.53%
GaRADIAL	50691.2						753.58	1.49%
Ag 328.068†	-2.2	-0.00030	mg/L	0.000488	-0.00030	mg/L	0.000488	160.29%
Al 396.153†	-3.9	-0.0119	mg/L	0.00151	-0.0119	mg/L	0.00151	12.67%
As 188.979†	3.0	0.00235	mg/L	0.001930	0.00235	mg/L	0.001930	82.17%
Ba 233.527†	43.2	-0.00136	mg/L	0.000078	-0.00136	mg/L	0.000078	5.73%
Be 234.861†	41.0	0.00009	mg/L	0.000037	0.00009	mg/L	0.000037	41.97%
B 249.677†	419.1	0.00736	mg/L	0.000548	0.00736	mg/L	0.000548	7.44%
Ca 227.546†	473.9	2.23	mg/L	0.069	2.23	mg/L	0.069	3.08%
Cd 228.802†	-11.4	-0.00048	mg/L	0.000229	-0.00048	mg/L	0.000229	47.79%
Co 228.616†	-9.2	-0.00129	mg/L	0.000303	-0.00129	mg/L	0.000303	23.48%
Cr 267.716†	-10.6	-0.00132	mg/L	0.000101	-0.00132	mg/L	0.000101	7.63%
Cu 327.393†	-8.0	-0.00030	mg/L	0.000316	-0.00030	mg/L	0.000316	106.43%
Fe 239.562†	8.6	-0.0104	mg/L	0.00073	-0.0104	mg/L	0.00073	7.07%
Mg 279.077†	672.0	0.466	mg/L	0.0112	0.466	mg/L	0.0112	2.41%
Mn 257.610†	3338.9	0.00377	mg/L	0.000079	0.00377	mg/L	0.000079	2.09%
Mo 202.031†	-5.7	-0.00234	mg/L	0.000316	-0.00234	mg/L	0.000316	13.50%
Ni 231.604†	-12.9	-0.00209	mg/L	0.000082	-0.00209	mg/L	0.000082	3.89%
Pb 220.353†	8.0	-0.00069	mg/L	0.000684	-0.00069	mg/L	0.000684	98.60%
Sb 206.836†	-1.6	-0.00307	mg/L	0.003875	-0.00307	mg/L	0.003875	126.41%
Se 196.026†	-3.8	-0.00472	mg/L	0.003811	-0.00472	mg/L	0.003811	80.71%
Si 251.611†	2183.7	0.0582	mg/L	0.00389	0.0582	mg/L	0.00389	6.68%
Sn 189.927†	-20.4	-0.00513	mg/L	0.000892	-0.00513	mg/L	0.000892	17.40%
Ti 334.940†	-319.7	-0.00041	mg/L	0.000031	-0.00041	mg/L	0.000031	7.54%
Tl 190.801†	-4.8	-0.00647	mg/L	0.002465	-0.00647	mg/L	0.002465	38.11%
V 290.880†	538.1	0.00140	mg/L	0.000828	0.00140	mg/L	0.000828	59.03%
Zn 206.200†	100.0	0.00091	mg/L	0.000260	0.00091	mg/L	0.000260	28.70%
K 766.490†	-18.2	-0.0196	mg/L	0.03126	-0.0196	mg/L	0.03126	159.63%
Na 589.592†	37247.8	3.29	mg/L	0.032	3.29	mg/L	0.032	0.97%
Sr 407.771†	12667.5	0.00698	mg/L	0.000459	0.00698	mg/L	0.000459	6.57%
Li 670.784†	-69.4	-0.00472	mg/L	0.001539	-0.00472	mg/L	0.001539	32.61%

Approved: June 03, 2013

Sequence No.: 30
Sample ID: L1305130401 0.1
Analyst: KHR
Initial Sample Wt:
Dilution:

Autosampler Location: 146
Date Collected: 5/31/2013 4:27:29 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: L1305130401 0.1

Analyte	Back Pressure	Flow
All	165.0 kPa	0.48 L/min

Mean Data: L1305130401 0.1

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2503759.2						35727.37	1.43%
YRADIAL	179093.6						1990.50	1.11%
Ga 417.206	1005718.5						15687.02	1.56%
GaRADIAL	52068.3						893.50	1.72%
Ag 328.068†	-12.1	-0.00035	mg/L	0.000365	-0.00035	mg/L	0.000365	104.79%
Al 396.153†	-3.2	-0.0117	mg/L	0.00060	-0.0117	mg/L	0.00060	5.16%
As 188.979†	4.3	0.00302	mg/L	0.003163	0.00302	mg/L	0.003163	104.87%
Ba 233.527†	528.7	0.00408	mg/L	0.000176	0.00408	mg/L	0.000176	4.31%
Be 234.861†	26.9	0.00007	mg/L	0.000046	0.00007	mg/L	0.000046	68.56%
B 249.677†	241.1	0.00484	mg/L	0.000364	0.00484	mg/L	0.000364	7.53%
Ca 227.546†	540.6	2.55	mg/L	0.045	2.55	mg/L	0.045	1.76%
Cd 228.802†	-9.7	-0.00043	mg/L	0.000061	-0.00043	mg/L	0.000061	14.29%
Co 228.616†	-9.6	-0.00131	mg/L	0.000148	-0.00131	mg/L	0.000148	11.36%
Cr 267.716†	-3.1	-0.00124	mg/L	0.000180	-0.00124	mg/L	0.000180	14.45%
Cu 327.393†	-63.3	-0.00061	mg/L	0.000270	-0.00061	mg/L	0.000270	44.05%
Fe 239.562†	4.3	-0.0114	mg/L	0.00087	-0.0114	mg/L	0.00087	7.63%
Mg 279.077†	946.7	0.663	mg/L	0.0095	0.663	mg/L	0.0095	1.44%
Mn 257.610†	-83.3	-0.00270	mg/L	0.000020	-0.00270	mg/L	0.000020	0.74%
Mo 202.031†	1.0	-0.00200	mg/L	0.000191	-0.00200	mg/L	0.000191	9.54%
Ni 231.604†	-16.2	-0.00218	mg/L	0.000146	-0.00218	mg/L	0.000146	6.71%
Pb 220.353†	13.6	0.00004	mg/L	0.000673	0.00004	mg/L	0.000673	>999.9%
Sb 206.836†	0.7	-0.00209	mg/L	0.001313	-0.00209	mg/L	0.001313	62.97%
Se 196.026†	-5.3	-0.00616	mg/L	0.004277	-0.00616	mg/L	0.004277	69.48%
Si 251.611†	57587.0	1.59	mg/L	0.020	1.59	mg/L	0.020	1.25%
Sn 189.927†	-28.8	-0.00618	mg/L	0.001233	-0.00618	mg/L	0.001233	19.97%
Ti 334.940†	-380.3	-0.00045	mg/L	0.000023	-0.00045	mg/L	0.000023	5.24%
Tl 190.801†	-6.6	-0.00736	mg/L	0.001662	-0.00736	mg/L	0.001662	22.57%
V 290.880†	611.9	0.00177	mg/L	0.000293	0.00177	mg/L	0.000293	16.51%
Zn 206.200†	81.4	0.00037	mg/L	0.000183	0.00037	mg/L	0.000183	49.46%
K 766.490†	220.8	0.140	mg/L	0.0179	0.140	mg/L	0.0179	12.81%
Na 589.592†	21708.6	1.92	mg/L	0.047	1.92	mg/L	0.047	2.43%
Sr 407.771†	27224.0	0.0191	mg/L	0.00025	0.0191	mg/L	0.00025	1.29%
Li 670.784†	14.7	-0.00352	mg/L	0.000295	-0.00352	mg/L	0.000295	8.39%

==========

Sequence No.: 31
Sample ID: CCV
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 6
Date Collected: 5/31/2013 4:30:30 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: CCV

Analyte	Back Pressure	Flow
All	164.0 kPa	0.48 L/min

Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2424655.4						10820.00	0.45%
YRADIAL	183493.0						3294.05	1.80%
Ga 417.206	950260.1						12648.98	1.33%
GaRADIAL	50453.8						784.22	1.55%
Ag 328.068†	95018.8	0.410	mg/L	0.0087	0.410	mg/L	0.0087	2.12%
QC value within limits for Ag 328.068 Recovery = 102.39%								
Al 396.153†	31649.1	10.3	mg/L	0.08	10.3	mg/L	0.08	0.79%

Approved: June 03, 2013

Kym H. Rhoden

```
   QC value within limits for Al 396.153  Recovery = 102.98%
As 188.979†              827.4       0.404 mg/L        0.0105       0.404 mg/L        0.0105   2.60%
   QC value within limits for As 188.979  Recovery = 101.07%
Ba 233.527†            92496.9        1.04 mg/L         0.011        1.04 mg/L         0.011   1.02%
   QC value within limits for Ba 233.527  Recovery = 103.51%
Be 234.861†            34350.5      0.0506 mg/L       0.00093      0.0506 mg/L       0.00093   1.84%
   QC value within limits for Be 234.861  Recovery = 101.13%
B 249.677†             35348.3       0.499 mg/L        0.0103       0.499 mg/L        0.0103   2.06%
   QC value within limits for B 249.677  Recovery = 99.72%
Ca 227.546†             2151.9        10.7 mg/L          0.19        10.7 mg/L          0.19   1.77%
   QC value within limits for Ca 227.546  Recovery = 107.34%
Cd 228.802†             1622.3      0.0496 mg/L       0.00097      0.0496 mg/L       0.00097   1.95%
   QC value within limits for Cd 228.802  Recovery = 99.28%
Co 228.616†             5035.4       0.209 mg/L        0.0024       0.209 mg/L        0.0024   1.16%
   QC value within limits for Co 228.616  Recovery = 104.67%
Cr 267.716†            47930.0       0.513 mg/L        0.0076       0.513 mg/L        0.0076   1.48%
   QC value within limits for Cr 267.716  Recovery = 102.68%
Cu 327.393†            89509.6       0.513 mg/L        0.0132       0.513 mg/L        0.0132   2.57%
   QC value within limits for Cu 327.393  Recovery = 102.59%
Fe 239.562†            16935.9        4.15 mg/L         0.033        4.15 mg/L         0.033   0.79%
   QC value within limits for Fe 239.562  Recovery = 103.68%
Mg 279.077†            14299.8        10.2 mg/L          0.17        10.2 mg/L          0.17   1.67%
   QC value within limits for Mg 279.077  Recovery = 102.49%
Mn 257.610†           279738.5       0.527 mg/L        0.0057       0.527 mg/L        0.0057   1.07%
   QC value within limits for Mn 257.610  Recovery = 105.46%
Mo 202.031†            20227.4        1.03 mg/L         0.010        1.03 mg/L         0.010   1.01%
   QC value within limits for Mo 202.031  Recovery = 103.12%
Ni 231.604†            20370.6       0.521 mg/L        0.0045       0.521 mg/L        0.0045   0.87%
   QC value within limits for Ni 231.604  Recovery = 104.16%
Pb 220.353†             4028.6       0.527 mg/L        0.0049       0.527 mg/L        0.0049   0.94%
   QC value within limits for Pb 220.353  Recovery = 105.39%
Sb 206.836†             2969.7        1.23 mg/L         0.018        1.23 mg/L         0.018   1.44%
   QC value within limits for Sb 206.836  Recovery = 102.70%
Se 196.026†              420.4       0.407 mg/L        0.0082       0.407 mg/L        0.0082   2.01%
   QC value within limits for Se 196.026  Recovery = 101.72%
Si 251.611†           184452.9        5.07 mg/L         0.095        5.07 mg/L         0.095   1.88%
   QC value within limits for Si 251.611  Recovery = 101.49%
Sn 189.927†             7551.6       0.945 mg/L        0.0097       0.945 mg/L        0.0097   1.02%
   QC value within limits for Sn 189.927  Recovery = 94.47%
Ti 334.940†           762348.1        1.03 mg/L         0.006        1.03 mg/L         0.006   0.57%
   QC value within limits for Ti 334.940  Recovery = 103.13%
Tl 190.801†             1062.9       0.546 mg/L        0.0060       0.546 mg/L        0.0060   1.10%
   QC value within limits for Tl 190.801  Recovery = 109.10%
V 290.880†            203053.4        1.03 mg/L         0.006        1.03 mg/L         0.006   0.54%
   QC value within limits for V 290.880  Recovery = 103.19%
Zn 206.200†            35707.0        1.03 mg/L         0.010        1.03 mg/L         0.010   0.94%
   QC value within limits for Zn 206.200  Recovery = 103.08%
K 766.490†             79321.0        53.4 mg/L          0.41        53.4 mg/L          0.41   0.77%
   QC value within limits for K 766.490  Recovery = 106.72%
Na 589.592†           558772.0        50.6 mg/L          0.52        50.6 mg/L          0.52   1.02%
   QC value within limits for Na 589.592  Recovery = 101.29%
Sr 407.771†          1262107.2        1.04 mg/L         0.015        1.04 mg/L         0.015   1.48%
   QC value within limits for Sr 407.771  Recovery = 104.47%
Li 670.784†            74412.4        1.05 mg/L         0.008        1.05 mg/L         0.008   0.72%
   QC value within limits for Li 670.784  Recovery = 105.43%
All analyte(s) passed QC.

==========================================================================================
Sequence No.: 32                                  Autosampler Location: 1
Sample ID: CCB                                    Date Collected: 5/31/2013 4:32:35 PM
Analyst:                                          Data Type: Original
Initial Sample Wt:                                Initial Sample Vol:
Dilution:                                         Sample Prep Vol:

------------------------------------------------------------------------------------------
Nebulizer Parameters: CCB
Analyte                 Back Pressure    Flow
All                    165.0 kPa         0.48 L/min

------------------------------------------------------------------------------------------
Mean Data: CCB
                  Mean Corrected         Calib.                        Sample
```

Approved: June 03, 2013

Analyte	Intensity	Conc. Units	Std.Dev.	Conc. Units	Std.Dev.	RSD
Y 371.029	2456739.1				47662.69	1.94%
YRADIAL	180137.8				3101.83	1.72%
Ga 417.206	959081.8				16975.89	1.77%
GaRADIAL	50586.7				299.95	0.59%
Ag 328.068†	74.5	0.00003 mg/L	0.000342	0.00003 mg/L	0.000342	>999.9%
QC value within limits for Ag 328.068 Recovery = Not calculated						
Al 396.153†	13.9	-0.00606 mg/L	0.001458	-0.00606 mg/L	0.001458	24.04%
QC value within limits for Al 396.153 Recovery = Not calculated						
As 188.979†	0.3	0.00096 mg/L	0.001856	0.00096 mg/L	0.001856	192.86%
QC value within limits for As 188.979 Recovery = Not calculated						
Ba 233.527†	-22.7	-0.00209 mg/L	0.000072	-0.00209 mg/L	0.000072	3.45%
QC value within limits for Ba 233.527 Recovery = Not calculated						
Be 234.861†	-81.9	-0.00010 mg/L	0.000052	-0.00010 mg/L	0.000052	54.47%
QC value within limits for Be 234.861 Recovery = Not calculated						
B 249.677†	463.8	0.00799 mg/L	0.000812	0.00799 mg/L	0.000812	10.16%
QC value within limits for B 249.677 Recovery = Not calculated						
Ca 227.546†	6.9	-0.00287 mg/L	0.030965	-0.00287 mg/L	0.030965	>999.9%
QC value within limits for Ca 227.546 Recovery = Not calculated						
Cd 228.802†	-5.4	-0.00028 mg/L	0.000150	-0.00028 mg/L	0.000150	52.85%
QC value within limits for Cd 228.802 Recovery = Not calculated						
Co 228.616†	-8.6	-0.00126 mg/L	0.000410	-0.00126 mg/L	0.000410	32.44%
QC value within limits for Co 228.616 Recovery = Not calculated						
Cr 267.716†	12.7	-0.00108 mg/L	0.000061	-0.00108 mg/L	0.000061	5.66%
QC value within limits for Cr 267.716 Recovery = Not calculated						
Cu 327.393†	20.8	-0.00013 mg/L	0.000517	-0.00013 mg/L	0.000517	389.79%
QC value within limits for Cu 327.393 Recovery = Not calculated						
Fe 239.562†	12.5	-0.00941 mg/L	0.000221	-0.00941 mg/L	0.000221	2.35%
QC value within limits for Fe 239.562 Recovery = Not calculated						
Mg 279.077†	-3.3	-0.0180 mg/L	0.00381	-0.0180 mg/L	0.00381	21.14%
QC value within limits for Mg 279.077 Recovery = Not calculated						
Mn 257.610†	48.4	-0.00245 mg/L	0.000022	-0.00245 mg/L	0.000022	0.90%
QC value within limits for Mn 257.610 Recovery = Not calculated						
Mo 202.031†	0.6	-0.00202 mg/L	0.000211	-0.00202 mg/L	0.000211	10.41%
QC value within limits for Mo 202.031 Recovery = Not calculated						
Ni 231.604†	-30.2	-0.00254 mg/L	0.000131	-0.00254 mg/L	0.000131	5.18%
QC value within limits for Ni 231.604 Recovery = Not calculated						
Pb 220.353†	15.8	0.00033 mg/L	0.000627	0.00033 mg/L	0.000627	190.91%
QC value within limits for Pb 220.353 Recovery = Not calculated						
Sb 206.836†	6.2	0.00017 mg/L	0.001007	0.00017 mg/L	0.001007	593.28%
QC value within limits for Sb 206.836 Recovery = Not calculated						
Se 196.026†	-0.3	-0.00133 mg/L	0.007104	-0.00133 mg/L	0.007104	534.23%
QC value within limits for Se 196.026 Recovery = Not calculated						
Si 251.611†	-21.2	-0.00265 mg/L	0.000572	-0.00265 mg/L	0.000572	21.56%
QC value within limits for Si 251.611 Recovery = Not calculated						
Sn 189.927†	18.1	-0.00029 mg/L	0.000511	-0.00029 mg/L	0.000511	175.65%
QC value within limits for Sn 189.927 Recovery = Not calculated						
Ti 334.940†	80.5	-0.00021 mg/L	0.000139	-0.00021 mg/L	0.000139	66.89%
QC value within limits for Ti 334.940 Recovery = Not calculated						
Tl 190.801†	-6.7	-0.00740 mg/L	0.001485	-0.00740 mg/L	0.001485	20.08%
QC value within limits for Tl 190.801 Recovery = Not calculated						
V 290.880†	403.5	0.00073 mg/L	0.000488	0.00073 mg/L	0.000488	66.87%
QC value within limits for V 290.880 Recovery = Not calculated						
Zn 206.200†	-1.3	-0.00201 mg/L	0.000288	-0.00201 mg/L	0.000288	14.34%
QC value within limits for Zn 206.200 Recovery = Not calculated						
K 766.490†	98.7	0.0610 mg/L	0.06215	0.0610 mg/L	0.06215	101.95%
QC value within limits for K 766.490 Recovery = Not calculated						
Na 589.592†	267.0	0.0225 mg/L	0.02916	0.0225 mg/L	0.02916	129.75%
QC value within limits for Na 589.592 Recovery = Not calculated						
Sr 407.771†	236.9	-0.00337 mg/L	0.000164	-0.00337 mg/L	0.000164	4.87%
QC value within limits for Sr 407.771 Recovery = Not calculated						
Li 670.784†	194.3	-0.00097 mg/L	0.000973	-0.00097 mg/L	0.000973	100.59%
QC value within limits for Li 670.784 Recovery = Not calculated						

All analyte(s) passed QC.

==========

Sequence No.: 33
Sample ID: L1305130402 0.1
Analyst: KHR
Initial Sample Wt:
Dilution:

Autosampler Location: 147
Date Collected: 5/31/2013 4:35:35 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Approved: June 03, 2013

Nebulizer Parameters: L1305130402 0.1

Analyte	Back Pressure	Flow
All	165.0 kPa	0.48 L/min

Mean Data: L1305130402 0.1

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2539468.2						49598.92	1.95%
YRADIAL	177162.0						726.71	0.41%
Ga 417.206	1015957.0						26482.90	2.61%
GaRADIAL	51506.7						655.61	1.27%
Ag 328.068†	21.1	-0.00021	mg/L	0.000295	-0.00021	mg/L	0.000295	142.97%
Al 396.153†	0.4	-0.0105	mg/L	0.00287	-0.0105	mg/L	0.00287	27.32%
As 188.979†	5.2	0.00348	mg/L	0.004017	0.00348	mg/L	0.004017	115.55%
Ba 233.527†	581.2	0.00467	mg/L	0.000196	0.00467	mg/L	0.000196	4.18%
Be 234.861†	63.6	0.00012	mg/L	0.000064	0.00012	mg/L	0.000064	53.49%
B 249.677†	265.1	0.00517	mg/L	0.000503	0.00517	mg/L	0.000503	9.73%
Ca 227.546†	592.6	2.80	mg/L	0.065	2.80	mg/L	0.065	2.31%
Cd 228.802†	-8.6	-0.00040	mg/L	0.000349	-0.00040	mg/L	0.000349	88.15%
Co 228.616†	-4.4	-0.00109	mg/L	0.000162	-0.00109	mg/L	0.000162	14.90%
Cr 267.716†	84.5	-0.00031	mg/L	0.000247	-0.00031	mg/L	0.000247	80.82%
Cu 327.393†	-40.0	-0.00048	mg/L	0.000256	-0.00048	mg/L	0.000256	53.21%
Fe 239.562†	31.9	-0.00465	mg/L	0.001029	-0.00465	mg/L	0.001029	22.12%
Mg 279.077†	992.2	0.695	mg/L	0.0024	0.695	mg/L	0.0024	0.34%
Mn 257.610†	-57.8	-0.00265	mg/L	0.000022	-0.00265	mg/L	0.000022	0.84%
Mo 202.031†	2.9	-0.00190	mg/L	0.000186	-0.00190	mg/L	0.000186	9.77%
Ni 231.604†	222.5	0.00395	mg/L	0.000126	0.00395	mg/L	0.000126	3.20%
Pb 220.353†	17.6	0.00056	mg/L	0.000905	0.00056	mg/L	0.000905	160.91%
Sb 206.836†	3.1	-0.00112	mg/L	0.000267	-0.00112	mg/L	0.000267	23.75%
Se 196.026†	-1.1	-0.00202	mg/L	0.005414	-0.00202	mg/L	0.005414	268.07%
Si 251.611†	57366.2	1.58	mg/L	0.041	1.58	mg/L	0.041	2.57%
Sn 189.927†	-26.6	-0.00590	mg/L	0.000583	-0.00590	mg/L	0.000583	9.89%
Ti 334.940†	-487.6	-0.00056	mg/L	0.000059	-0.00056	mg/L	0.000059	10.68%
Tl 190.801†	-4.9	-0.00651	mg/L	0.001413	-0.00651	mg/L	0.001413	21.72%
V 290.880†	381.5	0.00060	mg/L	0.000445	0.00060	mg/L	0.000445	74.55%
Zn 206.200†	82.3	0.00041	mg/L	0.000106	0.00041	mg/L	0.000106	26.13%
K 766.490†	158.9	0.0988	mg/L	0.01000	0.0988	mg/L	0.01000	10.12%
Na 589.592†	22744.3	2.01	mg/L	0.080	2.01	mg/L	0.080	3.98%
Sr 407.771†	29676.5	0.0211	mg/L	0.00088	0.0211	mg/L	0.00088	4.15%
Li 670.784†	-17.0	-0.00397	mg/L	0.001052	-0.00397	mg/L	0.001052	26.49%

Sequence No.: 34 **Autosampler Location: 148**
Sample ID: L1305130403 0.1 **Date Collected: 5/31/2013 4:38:36 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1305130403 0.1

Analyte	Back Pressure	Flow
All	164.0 kPa	0.48 L/min

Mean Data: L1305130403 0.1

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2541128.9						27470.65	1.08%
YRADIAL	181897.4						5432.94	2.99%
Ga 417.206	1020880.9						10060.53	0.99%
GaRADIAL	52861.4						1846.82	3.49%
Ag 328.068†	-4.0	-0.00032	mg/L	0.000299	-0.00032	mg/L	0.000299	94.41%
Al 396.153†	8.1	-0.00795	mg/L	0.001103	-0.00795	mg/L	0.001103	13.87%
As 188.979†	3.2	0.00250	mg/L	0.000856	0.00250	mg/L	0.000856	34.25%
Ba 233.527†	503.4	0.00380	mg/L	0.000054	0.00380	mg/L	0.000054	1.42%
Be 234.861†	63.6	0.00012	mg/L	0.000024	0.00012	mg/L	0.000024	20.17%
B 249.677†	195.8	0.00420	mg/L	0.000146	0.00420	mg/L	0.000146	3.48%
Ca 227.546†	856.0	4.06	mg/L	0.040	4.06	mg/L	0.040	0.99%
Cd 228.802†	-9.0	-0.00040	mg/L	0.000151	-0.00040	mg/L	0.000151	37.51%
Co 228.616†	-7.8	-0.00123	mg/L	0.000108	-0.00123	mg/L	0.000108	8.74%

Approved: June 03, 2013

Cr 267.716†	16.5	-0.00103	mg/L	0.000052	-0.00103	mg/L	0.000052	5.04%
Cu 327.393†	53.2	0.00005	mg/L	0.000292	0.00005	mg/L	0.000292	556.10%
Fe 239.562†	12.8	-0.00935	mg/L	0.001005	-0.00935	mg/L	0.001005	10.74%
Mg 279.077†	1231.5	0.867	mg/L	0.0327	0.867	mg/L	0.0327	3.77%
Mn 257.610†	-77.0	-0.00269	mg/L	0.000012	-0.00269	mg/L	0.000012	0.45%
Mo 202.031†	-4.3	-0.00227	mg/L	0.000186	-0.00227	mg/L	0.000186	8.21%
Ni 231.604†	-17.0	-0.00220	mg/L	0.000457	-0.00220	mg/L	0.000457	20.79%
Pb 220.353†	23.7	0.00135	mg/L	0.001040	0.00135	mg/L	0.001040	76.79%
Sb 206.836†	0.3	-0.00226	mg/L	0.001989	-0.00226	mg/L	0.001989	88.16%
Se 196.026†	-6.2	-0.00697	mg/L	0.002547	-0.00697	mg/L	0.002547	36.52%
Si 251.611†	60014.6	1.65	mg/L	0.050	1.65	mg/L	0.050	3.02%
Sn 189.927†	-43.0	-0.00795	mg/L	0.000468	-0.00795	mg/L	0.000468	5.88%
Ti 334.940†	-346.4	-0.00018	mg/L	0.000500	-0.00018	mg/L	0.000500	283.90%
Tl 190.801†	-7.8	-0.00794	mg/L	0.001382	-0.00794	mg/L	0.001382	17.41%
V 290.880†	463.7	0.00101	mg/L	0.001173	0.00101	mg/L	0.001173	115.82%
Zn 206.200†	55.8	-0.00037	mg/L	0.000193	-0.00037	mg/L	0.000193	52.72%
K 766.490†	224.3	0.142	mg/L	0.0344	0.142	mg/L	0.0344	24.25%
Na 589.592†	24914.5	2.20	mg/L	0.033	2.20	mg/L	0.033	1.51%
Sr 407.771†	40647.8	0.0303	mg/L	0.00016	0.0303	mg/L	0.00016	0.53%
Li 670.784†	77.5	-0.00263	mg/L	0.001193	-0.00263	mg/L	0.001193	45.39%

Sequence No.: 35
Sample ID: L1305115701 0.01
Analyst: KHR
Initial Sample Wt:
Dilution:

Autosampler Location: 149
Date Collected: 5/31/2013 4:41:37 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: L1305115701 0.01

Analyte	Back Pressure	Flow
All	165.0 kPa	0.48 L/min

Mean Data: L1305115701 0.01

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2514037.8						30314.44	1.21%
YRADIAL	176543.1						4345.82	2.46%
Ga 417.206	1014901.6						14517.42	1.43%
GaRADIAL	51566.1						1087.93	2.11%
Ag 328.068†	5.1	-0.00027	mg/L	0.000034	-0.00027	mg/L	0.000034	12.43%
Al 396.153†	13.4	-0.00624	mg/L	0.000804	-0.00624	mg/L	0.000804	12.90%
As 188.979†	5.7	0.00366	mg/L	0.000784	0.00366	mg/L	0.000784	21.44%
Ba 233.527†	20.7	-0.00161	mg/L	0.000093	-0.00161	mg/L	0.000093	5.77%
Be 234.861†	77.8	0.00014	mg/L	0.000017	0.00014	mg/L	0.000017	12.06%
B 249.677†	507.5	0.00862	mg/L	0.000013	0.00862	mg/L	0.000013	0.16%
Ca 227.546†	146.4	0.665	mg/L	0.0030	0.665	mg/L	0.0030	0.46%
Cd 228.802†	-11.6	-0.00049	mg/L	0.000112	-0.00049	mg/L	0.000112	22.83%
Co 228.616†	-7.5	-0.00122	mg/L	0.000075	-0.00122	mg/L	0.000075	6.19%
Cr 267.716†	-1.7	-0.00123	mg/L	0.000064	-0.00123	mg/L	0.000064	5.21%
Cu 327.393†	-77.3	-0.00069	mg/L	0.000284	-0.00069	mg/L	0.000284	40.97%
Fe 239.562†	8.7	-0.0104	mg/L	0.00131	-0.0104	mg/L	0.00131	12.64%
Mg 279.077†	2131.6	1.51	mg/L	0.039	1.51	mg/L	0.039	2.59%
Mn 257.610†	1321.9	-0.00004	mg/L	0.000055	-0.00004	mg/L	0.000055	125.32%
Mo 202.031†	0.3	-0.00204	mg/L	0.000217	-0.00204	mg/L	0.000217	10.65%
Ni 231.604†	-3.0	-0.00184	mg/L	0.000300	-0.00184	mg/L	0.000300	16.31%
Pb 220.353†	11.9	-0.00019	mg/L	0.000662	-0.00019	mg/L	0.000662	352.57%
Sb 206.836†	-0.9	-0.00275	mg/L	0.000434	-0.00275	mg/L	0.000434	15.81%
Se 196.026†	-1.6	-0.00252	mg/L	0.004106	-0.00252	mg/L	0.004106	162.74%
Si 251.611†	1256.0	0.0326	mg/L	0.00126	0.0326	mg/L	0.00126	3.86%
Sn 189.927†	-15.6	-0.00452	mg/L	0.001161	-0.00452	mg/L	0.001161	25.70%
Ti 334.940†	-84.7	-0.00033	mg/L	0.000170	-0.00033	mg/L	0.000170	51.20%
Tl 190.801†	-4.8	-0.00644	mg/L	0.003879	-0.00644	mg/L	0.003879	60.25%
V 290.880†	630.8	0.00185	mg/L	0.000861	0.00185	mg/L	0.000861	46.60%
Zn 206.200†	53.6	-0.00043	mg/L	0.000061	-0.00043	mg/L	0.000061	14.29%
K 766.490†	1373.5	0.891	mg/L	0.0143	0.891	mg/L	0.0143	1.60%
Na 589.592†	143259.1	12.7	mg/L	0.08	12.7	mg/L	0.08	0.66%
Sr 407.771†	3792.5	-0.00041	mg/L	0.000056	-0.00041	mg/L	0.000056	13.58%
Li 670.784†	8.1	-0.00361	mg/L	0.000414	-0.00361	mg/L	0.000414	11.46%

Approved: June 03, 2013

Sequence No.: 36
Sample ID: L1305115702 0.01
Analyst: KHR
Initial Sample Wt:
Dilution:

Autosampler Location: 150
Date Collected: 5/31/2013 4:44:38 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: L1305115702 0.01

Analyte	Back Pressure	Flow
All	164.0 kPa	0.48 L/min

Mean Data: L1305115702 0.01

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2524963.5						26689.50	1.06%
YRADIAL	184732.7						2482.53	1.34%
Ga 417.206	1017572.0						20874.74	2.05%
GaRADIAL	53271.1						459.63	0.86%
Ag 328.068†	-39.5	-0.00046	mg/L	0.000186	-0.00046	mg/L	0.000186	40.05%
Al 396.153†	10.6	-0.00714	mg/L	0.003493	-0.00714	mg/L	0.003493	48.96%
As 188.979†	6.5	0.00406	mg/L	0.001990	0.00406	mg/L	0.001990	49.05%
Ba 233.527†	19.7	-0.00162	mg/L	0.000019	-0.00162	mg/L	0.000019	1.19%
Be 234.861†	63.4	0.00012	mg/L	0.000060	0.00012	mg/L	0.000060	49.30%
B 249.677†	482.4	0.00826	mg/L	0.000474	0.00826	mg/L	0.000474	5.74%
Ca 227.546†	145.4	0.659	mg/L	0.0342	0.659	mg/L	0.0342	5.18%
Cd 228.802†	-13.4	-0.00055	mg/L	0.000088	-0.00055	mg/L	0.000088	15.92%
Co 228.616†	-6.1	-0.00116	mg/L	0.000128	-0.00116	mg/L	0.000128	11.02%
Cr 267.716†	-0.9	-0.00122	mg/L	0.000054	-0.00122	mg/L	0.000054	4.44%
Cu 327.393†	55.0	0.00006	mg/L	0.000050	0.00006	mg/L	0.000050	79.26%
Fe 239.562†	-4.4	-0.0136	mg/L	0.00026	-0.0136	mg/L	0.00026	1.94%
Mg 279.077†	1650.7	1.17	mg/L	0.041	1.17	mg/L	0.041	3.50%
Mn 257.610†	1178.4	-0.00032	mg/L	0.000056	-0.00032	mg/L	0.000056	17.67%
Mo 202.031†	-5.5	-0.00233	mg/L	0.000319	-0.00233	mg/L	0.000319	13.70%
Ni 231.604†	-6.8	-0.00194	mg/L	0.000282	-0.00194	mg/L	0.000282	14.53%
Pb 220.353†	9.6	-0.00048	mg/L	0.000401	-0.00048	mg/L	0.000401	83.19%
Sb 206.836†	-1.2	-0.00289	mg/L	0.002100	-0.00289	mg/L	0.002100	72.65%
Se 196.026†	-7.7	-0.00846	mg/L	0.002167	-0.00846	mg/L	0.002167	25.60%
Si 251.611†	1134.8	0.0292	mg/L	0.00076	0.0292	mg/L	0.00076	2.59%
Sn 189.927†	-9.6	-0.00376	mg/L	0.000614	-0.00376	mg/L	0.000614	16.32%
Ti 334.940†	-205.4	-0.00050	mg/L	0.000156	-0.00050	mg/L	0.000156	31.49%
Tl 190.801†	-3.6	-0.00585	mg/L	0.003216	-0.00585	mg/L	0.003216	55.00%
V 290.880†	530.5	0.00135	mg/L	0.000661	0.00135	mg/L	0.000661	49.06%
Zn 206.200†	49.1	-0.00056	mg/L	0.000328	-0.00056	mg/L	0.000328	58.48%
K 766.490†	1393.9	0.905	mg/L	0.0321	0.905	mg/L	0.0321	3.54%
Na 589.592†	134173.6	11.9	mg/L	0.27	11.9	mg/L	0.27	2.25%
Sr 407.771†	3433.1	-0.00071	mg/L	0.000111	-0.00071	mg/L	0.000111	15.67%
Li 670.784†	14.1	-0.00353	mg/L	0.000932	-0.00353	mg/L	0.000932	26.40%

==========

Sequence No.: 37
Sample ID: L1305115703 0.01
Analyst: KHR
Initial Sample Wt:
Dilution:

Autosampler Location: 151
Date Collected: 5/31/2013 4:47:39 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: L1305115703 0.01

Analyte	Back Pressure	Flow
All	164.0 kPa	0.48 L/min

Mean Data: L1305115703 0.01

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2538424.9						80684.84	3.18%
YRADIAL	186689.4						1217.02	0.65%
Ga 417.206	1016316.7						35410.41	3.48%
GaRADIAL	53971.8						390.48	0.72%
Ag 328.068†	53.8	-0.00006	mg/L	0.000627	-0.00006	mg/L	0.000627	>999.9%
Al 396.153†	15.0	-0.00571	mg/L	0.001558	-0.00571	mg/L	0.001558	27.26%
As 188.979†	5.5	0.00356	mg/L	0.001331	0.00356	mg/L	0.001331	37.34%

Approved: June 03, 2013

Kym H. Rhoden

Ba 233.527†	29.4	-0.00151	mg/L	0.000065	-0.00151	mg/L	0.000065 4.29%
Be 234.861†	47.6	0.00010	mg/L	0.000063	0.00010	mg/L	0.000063 64.55%
B 249.677†	388.3	0.00693	mg/L	0.000279	0.00693	mg/L	0.000279 4.03%
Ca 227.546†	158.7	0.723	mg/L	0.0496	0.723	mg/L	0.0496 6.86%
Cd 228.802†	-10.3	-0.00045	mg/L	0.000139	-0.00045	mg/L	0.000139 30.99%
Co 228.616†	-4.3	-0.00108	mg/L	0.000166	-0.00108	mg/L	0.000166 15.29%
Cr 267.716†	11.2	-0.00109	mg/L	0.000239	-0.00109	mg/L	0.000239 21.94%
Cu 327.393†	-1.4	-0.00026	mg/L	0.000391	-0.00026	mg/L	0.000391 151.25%
Fe 239.562†	6.3	-0.0110	mg/L	0.00069	-0.0110	mg/L	0.00069 6.30%
Mg 279.077†	3051.3	2.17	mg/L	0.016	2.17	mg/L	0.016 0.73%
Mn 257.610†	978.0	-0.00069	mg/L	0.000118	-0.00069	mg/L	0.000118 16.93%
Mo 202.031†	-2.9	-0.00220	mg/L	0.000205	-0.00220	mg/L	0.000205 9.31%
Ni 231.604†	-9.5	-0.00201	mg/L	0.000124	-0.00201	mg/L	0.000124 6.17%
Pb 220.353†	20.1	0.00089	mg/L	0.001412	0.00089	mg/L	0.001412 158.51%
Sb 206.836†	3.1	-0.00111	mg/L	0.001110	-0.00111	mg/L	0.001110 99.96%
Se 196.026†	-7.7	-0.00841	mg/L	0.005574	-0.00841	mg/L	0.005574 66.30%
Si 251.611†	1306.5	0.0340	mg/L	0.00179	0.0340	mg/L	0.00179 5.28%
Sn 189.927†	-13.4	-0.00424	mg/L	0.000537	-0.00424	mg/L	0.000537 12.68%
Ti 334.940†	-204.1	-0.00048	mg/L	0.000147	-0.00048	mg/L	0.000147 30.33%
Tl 190.801†	0.4	-0.00384	mg/L	0.002880	-0.00384	mg/L	0.002880 75.07%
V 290.880†	596.2	0.00165	mg/L	0.000929	0.00165	mg/L	0.000929 56.13%
Zn 206.200†	67.6	-0.00002	mg/L	0.000245	-0.00002	mg/L	0.000245 982.06%
K 766.490†	1273.8	0.830	mg/L	0.0238	0.830	mg/L	0.0238 2.87%
Na 589.592†	86466.4	7.67	mg/L	0.044	7.67	mg/L	0.044 0.57%
Sr 407.771†	3280.2	-0.00083	mg/L	0.000064	-0.00083	mg/L	0.000064 7.63%
Li 670.784†	-13.7	-0.00393	mg/L	0.000060	-0.00393	mg/L	0.000060 1.52%

Sequence No.: 38 **Autosampler Location: 152**
Sample ID: L1305115704 0.01 **Date Collected: 5/31/2013 4:50:40 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1305115704 0.01

Analyte	Back Pressure	Flow
All	165.0 kPa	0.48 L/min

Mean Data: L1305115704 0.01

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2569338.0						27692.77	1.08%
YRADIAL	185638.0						9304.04	5.01%
Ga 417.206	1037435.7						12222.79	1.18%
GaRADIAL	53187.3						1926.12	3.62%
Ag 328.068†	29.6	-0.00017	mg/L	0.000283	-0.00017	mg/L	0.000283	169.88%
Al 396.153†	7.0	-0.00832	mg/L	0.002323	-0.00832	mg/L	0.002323	27.93%
As 188.979†	6.3	0.00393	mg/L	0.000583	0.00393	mg/L	0.000583	14.83%
Ba 233.527†	29.3	-0.00151	mg/L	0.000079	-0.00151	mg/L	0.000079	5.22%
Be 234.861†	94.5	0.00017	mg/L	0.000046	0.00017	mg/L	0.000046	27.17%
B 249.677†	395.5	0.00703	mg/L	0.000154	0.00703	mg/L	0.000154	2.19%
Ca 227.546†	155.0	0.705	mg/L	0.0341	0.705	mg/L	0.0341	4.83%
Cd 228.802†	-14.4	-0.00058	mg/L	0.000038	-0.00058	mg/L	0.000038	6.58%
Co 228.616†	-0.4	-0.00092	mg/L	0.000493	-0.00092	mg/L	0.000493	53.71%
Cr 267.716†	0.5	-0.00121	mg/L	0.000188	-0.00121	mg/L	0.000188	15.58%
Cu 327.393†	4.7	-0.00022	mg/L	0.000208	-0.00022	mg/L	0.000208	92.69%
Fe 239.562†	-5.8	-0.0139	mg/L	0.00104	-0.0139	mg/L	0.00104	7.45%
Mg 279.077†	3254.4	2.32	mg/L	0.146	2.32	mg/L	0.146	6.31%
Mn 257.610†	-142.4	-0.00281	mg/L	0.000020	-0.00281	mg/L	0.000020	0.71%
Mo 202.031†	-5.5	-0.00233	mg/L	0.000169	-0.00233	mg/L	0.000169	7.24%
Ni 231.604†	-12.9	-0.00209	mg/L	0.000215	-0.00209	mg/L	0.000215	10.27%
Pb 220.353†	21.7	0.00110	mg/L	0.000876	0.00110	mg/L	0.000876	79.91%
Sb 206.836†	1.2	-0.00189	mg/L	0.001056	-0.00189	mg/L	0.001056	55.84%
Se 196.026†	-7.5	-0.00821	mg/L	0.003624	-0.00821	mg/L	0.003624	44.16%
Si 251.611†	1258.6	0.0327	mg/L	0.00037	0.0327	mg/L	0.00037	1.13%
Sn 189.927†	-19.6	-0.00502	mg/L	0.000299	-0.00502	mg/L	0.000299	5.97%
Ti 334.940†	-235.7	-0.00053	mg/L	0.000084	-0.00053	mg/L	0.000084	15.94%
Tl 190.801†	1.0	-0.00354	mg/L	0.001126	-0.00354	mg/L	0.001126	31.80%
V 290.880†	608.2	0.00171	mg/L	0.000194	0.00171	mg/L	0.000194	11.35%
Zn 206.200†	54.3	-0.00041	mg/L	0.000105	-0.00041	mg/L	0.000105	25.78%

Approved: June 03, 2013

K 766.490†	1316.1	0.858	mg/L	0.0439	0.858	mg/L	0.0439	5.11%
Na 589.592†	91318.8	8.10	mg/L	0.270	8.10	mg/L	0.270	3.33%
Sr 407.771†	3418.7	-0.00072	mg/L	0.000150	-0.00072	mg/L	0.000150	20.78%
Li 670.784†	36.5	-0.00321	mg/L	0.000769	-0.00321	mg/L	0.000769	23.93%

Sequence No.: 39 **Autosampler Location: 153**
Sample ID: L1305115705 0.01 **Date Collected: 5/31/2013 4:53:41 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1305115705 0.01

Analyte	Back Pressure	Flow
All	164.0 kPa	0.48 L/min

Mean Data: L1305115705 0.01

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2576583.1						47693.35	1.85%
YRADIAL	181503.1						1063.90	0.59%
Ga 417.206	1034599.1						21459.24	2.07%
GaRADIAL	52527.0						527.67	1.00%
Ag 328.068†	13.1	-0.00024	mg/L	0.000467	-0.00024	mg/L	0.000467	196.54%
Al 396.153†	10.0	-0.00734	mg/L	0.000650	-0.00734	mg/L	0.000650	8.86%
As 188.979†	2.2	0.00191	mg/L	0.001673	0.00191	mg/L	0.001673	87.75%
Ba 233.527†	23.6	-0.00158	mg/L	0.000041	-0.00158	mg/L	0.000041	2.61%
Be 234.861†	72.9	0.00014	mg/L	0.000037	0.00014	mg/L	0.000037	27.68%
B 249.677†	367.4	0.00663	mg/L	0.000357	0.00663	mg/L	0.000357	5.39%
Ca 227.546†	157.9	0.719	mg/L	0.0475	0.719	mg/L	0.0475	6.61%
Cd 228.802†	-9.4	-0.00041	mg/L	0.000102	-0.00041	mg/L	0.000102	24.68%
Co 228.616†	-10.0	-0.00132	mg/L	0.000073	-0.00132	mg/L	0.000073	5.52%
Cr 267.716†	-3.6	-0.00125	mg/L	0.000106	-0.00125	mg/L	0.000106	8.48%
Cu 327.393†	-32.4	-0.00044	mg/L	0.000226	-0.00044	mg/L	0.000226	51.86%
Fe 239.562†	4.2	-0.0115	mg/L	0.00127	-0.0115	mg/L	0.00127	11.03%
Mg 279.077†	3298.1	2.35	mg/L	0.021	2.35	mg/L	0.021	0.90%
Mn 257.610†	791.4	-0.00105	mg/L	0.000052	-0.00105	mg/L	0.000052	4.96%
Mo 202.031†	-4.0	-0.00225	mg/L	0.000364	-0.00225	mg/L	0.000364	16.14%
Ni 231.604†	-12.4	-0.00208	mg/L	0.000268	-0.00208	mg/L	0.000268	12.87%
Pb 220.353†	10.7	-0.00034	mg/L	0.000518	-0.00034	mg/L	0.000518	152.18%
Sb 206.836†	-1.1	-0.00287	mg/L	0.001161	-0.00287	mg/L	0.001161	40.45%
Se 196.026†	-1.1	-0.00208	mg/L	0.006525	-0.00208	mg/L	0.006525	313.83%
Si 251.611†	1254.3	0.0325	mg/L	0.00124	0.0325	mg/L	0.00124	3.80%
Sn 189.927†	-15.3	-0.00448	mg/L	0.000470	-0.00448	mg/L	0.000470	10.50%
Ti 334.940†	-75.4	-0.00031	mg/L	0.000059	-0.00031	mg/L	0.000059	19.12%
Tl 190.801†	-5.4	-0.00672	mg/L	0.003123	-0.00672	mg/L	0.003123	46.47%
V 290.880†	510.5	0.00121	mg/L	0.000658	0.00121	mg/L	0.000658	54.21%
Zn 206.200†	53.9	-0.00042	mg/L	0.000175	-0.00042	mg/L	0.000175	41.66%
K 766.490†	1294.6	0.844	mg/L	0.0556	0.844	mg/L	0.0556	6.59%
Na 589.592†	92131.9	8.17	mg/L	0.030	8.17	mg/L	0.030	0.36%
Sr 407.771†	3467.3	-0.00068	mg/L	0.000031	-0.00068	mg/L	0.000031	4.55%
Li 670.784†	21.3	-0.00343	mg/L	0.000879	-0.00343	mg/L	0.000879	25.66%

Sequence No.: 40 **Autosampler Location: 154**
Sample ID: L1305115705PS WG432149-01 **Date Collected: 5/31/2013 4:56:42 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1305115705PS WG432149-01

Analyte	Back Pressure	Flow
All	165.0 kPa	0.48 L/min

Mean Data: L1305115705PS WG432149-01

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2481246.0						19373.35	0.78%

Approved: June 03, 2013

Kym H. Rhoden

YRADIAL	178467.9					2534.58	1.42%
Ga 417.206	989407.7					20382.09	2.06%
GaRADIAL	51866.0					724.47	1.40%
Ag 328.068†	47616.0	0.205	mg/L	0.0111	0.205 mg/L	0.0111	5.41%
Al 396.153†	15833.8	5.15	mg/L	0.012	5.15 mg/L	0.012	0.24%
As 188.979†	428.4	0.210	mg/L	0.0051	0.210 mg/L	0.0051	2.44%
Ba 233.527†	46473.4	0.519	mg/L	0.0230	0.519 mg/L	0.0230	4.43%
Be 234.861†	17577.8	0.0259	mg/L	0.00136	0.0259 mg/L	0.00136	5.27%
B 249.677†	70609.9	1.00	mg/L	0.058	1.00 mg/L	0.058	5.80%
Ca 227.546†	1211.2	6.01	mg/L	0.158	6.01 mg/L	0.158	2.64%
Cd 228.802†	813.4	0.0248	mg/L	0.00085	0.0248 mg/L	0.00085	3.43%
Co 228.616†	2527.5	0.105	mg/L	0.0010	0.105 mg/L	0.0010	0.95%
Cr 267.716†	24158.3	0.258	mg/L	0.0123	0.258 mg/L	0.0123	4.76%
Cu 327.393†	43867.6	0.251	mg/L	0.0155	0.251 mg/L	0.0155	6.18%
Fe 239.562†	8939.9	2.18	mg/L	0.088	2.18 mg/L	0.088	4.01%
Mg 279.077†	10988.4	7.87	mg/L	0.233	7.87 mg/L	0.233	2.96%
Mn 257.610†	140738.0	0.264	mg/L	0.0112	0.264 mg/L	0.0112	4.23%
Mo 202.031†	10320.4	0.525	mg/L	0.0041	0.525 mg/L	0.0041	0.78%
Ni 231.604†	10627.7	0.271	mg/L	0.0018	0.271 mg/L	0.0018	0.66%
Pb 220.353†	2030.8	0.265	mg/L	0.0022	0.265 mg/L	0.0022	0.85%
Sb 206.836†	1497.1	0.620	mg/L	0.0135	0.620 mg/L	0.0135	2.17%
Se 196.026†	218.2	0.211	mg/L	0.0074	0.211 mg/L	0.0074	3.50%
Si 251.611†	92200.4	2.54	mg/L	0.140	2.54 mg/L	0.140	5.53%
Sn 189.927†	-53.4	-0.00926	mg/L	0.000823	-0.00926 mg/L	0.000823	8.89%
Ti 334.940†	385631.0	0.522	mg/L	0.0248	0.522 mg/L	0.0248	4.76%
Tl 190.801†	541.1	0.276	mg/L	0.0066	0.276 mg/L	0.0066	2.38%
V 290.880†	101440.7	0.515	mg/L	0.0227	0.515 mg/L	0.0227	4.41%
Zn 206.200†	18507.8	0.533	mg/L	0.0258	0.533 mg/L	0.0258	4.84%
K 766.490†	41497.1	27.7	mg/L	0.16	27.7 mg/L	0.16	0.57%
Na 589.592†	376950.3	33.9	mg/L	0.98	33.9 mg/L	0.98	2.89%
Sr 407.771†	677775.9	0.559	mg/L	0.0031	0.559 mg/L	0.0031	0.56%
Li 670.784†	37768.4	0.533	mg/L	0.0035	0.533 mg/L	0.0035	0.65%

Sequence No.: 41 **Autosampler Location: 155**
Sample ID: L1305115705DL WG432149-02 **Date Collected: 5/31/2013 4:58:47 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1305115705DL WG432149-02

Analyte	Back Pressure	Flow
All	164.0 kPa	0.48 L/min

Mean Data: L1305115705DL WG432149-02

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2571453.0						24539.83	0.95%
YRADIAL	183123.5						3035.62	1.66%
Ga 417.206	1032187.2						5914.15	0.57%
GaRADIAL	52794.6						1363.31	2.58%
Ag 328.068†	-10.5	-0.00034	mg/L	0.000168	-0.00034	mg/L	0.000168	49.04%
Al 396.153†	9.2	-0.00761	mg/L	0.003329	-0.00761	mg/L	0.003329	43.73%
As 188.979†	6.9	0.00423	mg/L	0.001663	0.00423	mg/L	0.001663	39.30%
Ba 233.527†	0.5	-0.00183	mg/L	0.000029	-0.00183	mg/L	0.000029	1.59%
Be 234.861†	77.4	0.00014	mg/L	0.000020	0.00014	mg/L	0.000020	14.14%
B 249.677†	797.6	0.0127	mg/L	0.00176	0.0127	mg/L	0.00176	13.85%
Ca 227.546†	40.8	0.159	mg/L	0.0198	0.159	mg/L	0.0198	12.41%
Cd 228.802†	-5.4	-0.00030	mg/L	0.000054	-0.00030	mg/L	0.000054	17.97%
Co 228.616†	-13.1	-0.00145	mg/L	0.000008	-0.00145	mg/L	0.000008	0.54%
Cr 267.716†	-12.2	-0.00134	mg/L	0.000151	-0.00134	mg/L	0.000151	11.28%
Cu 327.393†	0.7	-0.00025	mg/L	0.000089	-0.00025	mg/L	0.000089	36.01%
Fe 239.562†	-7.7	-0.0144	mg/L	0.00056	-0.0144	mg/L	0.00056	3.89%
Mg 279.077†	657.3	0.455	mg/L	0.0132	0.455	mg/L	0.0132	2.90%
Mn 257.610†	5.9	-0.00253	mg/L	0.000029	-0.00253	mg/L	0.000029	1.15%
Mo 202.031†	-0.6	-0.00208	mg/L	0.000134	-0.00208	mg/L	0.000134	6.44%
Ni 231.604†	-6.2	-0.00192	mg/L	0.000551	-0.00192	mg/L	0.000551	28.67%
Pb 220.353†	15.2	0.00025	mg/L	0.001174	0.00025	mg/L	0.001174	478.35%
Sb 206.836†	1.3	-0.00185	mg/L	0.000925	-0.00185	mg/L	0.000925	50.05%
Se 196.026†	-5.7	-0.00655	mg/L	0.001619	-0.00655	mg/L	0.001619	24.73%

Approved: June 03, 2013

Si 251.611†	112.8	0.00104 mg/L	0.000829	0.00104 mg/L	0.000829	79.40%
Sn 189.927†	-3.6	-0.00301 mg/L	0.000296	-0.00301 mg/L	0.000296	9.82%
Ti 334.940†	-215.5	-0.00058 mg/L	0.000097	-0.00058 mg/L	0.000097	16.55%
Tl 190.801†	-8.2	-0.00816 mg/L	0.000904	-0.00816 mg/L	0.000904	11.07%
V 290.880†	196.4	-0.00034 mg/L	0.000630	-0.00034 mg/L	0.000630	186.48%
Zn 206.200†	36.9	-0.00091 mg/L	0.000258	-0.00091 mg/L	0.000258	28.38%
K 766.490†	245.3	0.156 mg/L	0.0274	0.156 mg/L	0.0274	17.51%
Na 589.592†	18895.9	1.67 mg/L	0.042	1.67 mg/L	0.042	2.52%
Sr 407.771†	605.6	-0.00306 mg/L	0.000046	-0.00306 mg/L	0.000046	1.52%
Li 670.784†	-11.2	-0.00389 mg/L	0.001632	-0.00389 mg/L	0.001632	41.95%

==========

Sequence No.: 42 **Autosampler Location: 156**
Sample ID: L1305115706 0.01 **Date Collected: 5/31/2013 5:01:48 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1305115706 0.01

Analyte	Back Pressure	Flow
All	165.0 kPa	0.48 L/min

Mean Data: L1305115706 0.01

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2563990.3						50355.69	1.96%
YRADIAL	181687.7						5944.48	3.27%
Ga 417.206	1031950.8						17995.84	1.74%
GaRADIAL	52580.2						2063.15	3.92%
Ag 328.068†	-12.8	-0.00035	mg/L	0.000540	-0.00035	mg/L	0.000540	155.64%
Al 396.153†	-1.5	-0.0111	mg/L	0.00316	-0.0111	mg/L	0.00316	28.44%
As 188.979†	4.9	0.00324	mg/L	0.002217	0.00324	mg/L	0.002217	68.52%
Ba 233.527†	22.7	-0.00159	mg/L	0.000116	-0.00159	mg/L	0.000116	7.31%
Be 234.861†	63.5	0.00012	mg/L	0.000049	0.00012	mg/L	0.000049	40.39%
B 249.677†	693.7	0.0113	mg/L	0.00065	0.0113	mg/L	0.00065	5.77%
Ca 227.546†	167.4	0.765	mg/L	0.0550	0.765	mg/L	0.0550	7.19%
Cd 228.802†	-14.1	-0.00057	mg/L	0.000084	-0.00057	mg/L	0.000084	14.82%
Co 228.616†	-2.3	-0.00100	mg/L	0.000229	-0.00100	mg/L	0.000229	22.90%
Cr 267.716†	-7.8	-0.00129	mg/L	0.000123	-0.00129	mg/L	0.000123	9.53%
Cu 327.393†	-94.9	-0.00079	mg/L	0.000432	-0.00079	mg/L	0.000432	54.48%
Fe 239.562†	-5.5	-0.0139	mg/L	0.00114	-0.0139	mg/L	0.00114	8.19%
Mg 279.077†	3335.4	2.37	mg/L	0.041	2.37	mg/L	0.041	1.73%
Mn 257.610†	-159.1	-0.00285	mg/L	0.000025	-0.00285	mg/L	0.000025	0.89%
Mo 202.031†	-4.3	-0.00227	mg/L	0.000325	-0.00227	mg/L	0.000325	14.32%
Ni 231.604†	-3.5	-0.00185	mg/L	0.000113	-0.00185	mg/L	0.000113	6.08%
Pb 220.353†	23.6	0.00134	mg/L	0.000738	0.00134	mg/L	0.000738	54.92%
Sb 206.836†	2.6	-0.00129	mg/L	0.001905	-0.00129	mg/L	0.001905	147.52%
Se 196.026†	-6.4	-0.00720	mg/L	0.002586	-0.00720	mg/L	0.002586	35.92%
Si 251.611†	1274.8	0.0331	mg/L	0.00132	0.0331	mg/L	0.00132	3.99%
Sn 189.927†	-20.2	-0.00509	mg/L	0.000716	-0.00509	mg/L	0.000716	14.05%
Ti 334.940†	-251.0	-0.00054	mg/L	0.000085	-0.00054	mg/L	0.000085	15.68%
Tl 190.801†	-7.6	-0.00787	mg/L	0.005735	-0.00787	mg/L	0.005735	72.89%
V 290.880†	752.9	0.00245	mg/L	0.000711	0.00245	mg/L	0.000711	29.02%
Zn 206.200†	39.6	-0.00083	mg/L	0.000117	-0.00083	mg/L	0.000117	14.10%
K 766.490†	1399.0	0.912	mg/L	0.0459	0.912	mg/L	0.0459	5.03%
Na 589.592†	93931.7	8.33	mg/L	0.086	8.33	mg/L	0.086	1.03%
Sr 407.771†	3522.0	-0.00063	mg/L	0.000111	-0.00063	mg/L	0.000111	17.49%
Li 670.784†	9.3	-0.00360	mg/L	0.000918	-0.00360	mg/L	0.000918	25.52%

==========

Sequence No.: 43 **Autosampler Location: 6**
Sample ID: CCV **Date Collected: 5/31/2013 5:04:49 PM**
Analyst: **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: CCV

Analyte	Back Pressure	Flow
All	165.0 kPa	0.48 L/min

Approved: June 03, 2013

Lynn H. Rhoden

Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2420787.9						12473.23	0.52%
YRADIAL	178268.9						2360.19	1.32%
Ga 417.206	951304.6						14107.51	1.48%
GaRADIAL	50425.5						835.85	1.66%
Ag 328.068†	95104.5	0.410	mg/L	0.0082	0.410	mg/L	0.0082	2.00%
QC value within limits for Ag 328.068 Recovery = 102.49%								
Al 396.153†	30978.0	10.1	mg/L	0.10	10.1	mg/L	0.10	0.99%
QC value within limits for Al 396.153 Recovery = 100.78%								
As 188.979†	837.3	0.409	mg/L	0.0031	0.409	mg/L	0.0031	0.75%
QC value within limits for As 188.979 Recovery = 102.29%								
Ba 233.527†	93255.6	1.04	mg/L	0.024	1.04	mg/L	0.024	2.33%
QC value within limits for Ba 233.527 Recovery = 104.36%								
Be 234.861†	34391.5	0.0506	mg/L	0.00097	0.0506	mg/L	0.00097	1.91%
QC value within limits for Be 234.861 Recovery = 101.26%								
B 249.677†	35339.6	0.498	mg/L	0.0099	0.498	mg/L	0.0099	1.98%
QC value within limits for B 249.677 Recovery = 99.69%								
Ca 227.546†	2155.1	10.8	mg/L	0.16	10.8	mg/L	0.16	1.48%
QC value within limits for Ca 227.546 Recovery = 107.52%								
Cd 228.802†	1625.7	0.0497	mg/L	0.00110	0.0497	mg/L	0.00110	2.21%
QC value within limits for Cd 228.802 Recovery = 99.46%								
Co 228.616†	5083.9	0.211	mg/L	0.0007	0.211	mg/L	0.0007	0.35%
QC value within limits for Co 228.616 Recovery = 105.70%								
Cr 267.716†	48234.5	0.517	mg/L	0.0118	0.517	mg/L	0.0118	2.28%
QC value within limits for Cr 267.716 Recovery = 103.33%								
Cu 327.393†	89301.1	0.512	mg/L	0.0108	0.512	mg/L	0.0108	2.10%
QC value within limits for Cu 327.393 Recovery = 102.36%								
Fe 239.562†	16927.4	4.14	mg/L	0.035	4.14	mg/L	0.035	0.84%
QC value within limits for Fe 239.562 Recovery = 103.62%								
Mg 279.077†	14340.6	10.3	mg/L	0.08	10.3	mg/L	0.08	0.81%
QC value within limits for Mg 279.077 Recovery = 102.78%								
Mn 257.610†	281331.5	0.530	mg/L	0.0120	0.530	mg/L	0.0120	2.27%
QC value within limits for Mn 257.610 Recovery = 106.06%								
Mo 202.031†	20411.5	1.04	mg/L	0.025	1.04	mg/L	0.025	2.38%
QC value within limits for Mo 202.031 Recovery = 104.06%								
Ni 231.604†	20564.4	0.526	mg/L	0.0110	0.526	mg/L	0.0110	2.10%
QC value within limits for Ni 231.604 Recovery = 105.15%								
Pb 220.353†	4062.1	0.531	mg/L	0.0015	0.531	mg/L	0.0015	0.28%
QC value within limits for Pb 220.353 Recovery = 106.26%								
Sb 206.836†	2979.3	1.24	mg/L	0.022	1.24	mg/L	0.022	1.77%
QC value within limits for Sb 206.836 Recovery = 103.04%								
Se 196.026†	429.6	0.416	mg/L	0.0044	0.416	mg/L	0.0044	1.06%
QC value within limits for Se 196.026 Recovery = 103.95%								
Si 251.611†	185034.4	5.09	mg/L	0.105	5.09	mg/L	0.105	2.07%
QC value within limits for Si 251.611 Recovery = 101.81%								
Sn 189.927†	7636.6	0.955	mg/L	0.0052	0.955	mg/L	0.0052	0.55%
QC value within limits for Sn 189.927 Recovery = 95.53%								
Ti 334.940†	761589.4	1.03	mg/L	0.016	1.03	mg/L	0.016	1.51%
QC value within limits for Ti 334.940 Recovery = 103.03%								
Tl 190.801†	1056.1	0.542	mg/L	0.0048	0.542	mg/L	0.0048	0.88%
QC value within limits for Tl 190.801 Recovery = 108.42%								
V 290.880†	204368.6	1.04	mg/L	0.023	1.04	mg/L	0.023	2.19%
QC value within limits for V 290.880 Recovery = 103.86%								
Zn 206.200†	35953.0	1.04	mg/L	0.018	1.04	mg/L	0.018	1.75%
QC value within limits for Zn 206.200 Recovery = 103.79%								
K 766.490†	78718.8	52.9	mg/L	0.75	52.9	mg/L	0.75	1.42%
QC value within limits for K 766.490 Recovery = 105.89%								
Na 589.592†	554594.7	50.3	mg/L	0.90	50.3	mg/L	0.90	1.78%
QC value within limits for Na 589.592 Recovery = 100.51%								
Sr 407.771†	1283783.8	1.06	mg/L	0.014	1.06	mg/L	0.014	1.35%
QC value within limits for Sr 407.771 Recovery = 106.27%								
Li 670.784†	73810.5	1.05	mg/L	0.010	1.05	mg/L	0.010	0.91%
QC value within limits for Li 670.784 Recovery = 104.58%								

All analyte(s) passed QC.

Sequence No.: 44 **Autosampler Location: 1**
Sample ID: CCB **Date Collected: 5/31/2013 5:06:54 PM**

Approved: June 03, 2013
Lynn H. Rhoden

Analyst:
Initial Sample Wt:
Dilution:

Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: CCB

Analyte	Back Pressure	Flow
All	165.0 kPa	0.48 L/min

Mean Data: CCB

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2480395.4						44827.14	1.81%
YRADIAL	175027.8						5469.49	3.12%
Ga 417.206	966677.7						15130.14	1.57%
GaRADIAL	49415.4						853.03	1.73%
Ag 328.068†	-43.8	-0.00048	mg/L	0.000553	-0.00048	mg/L	0.000553	114.97%
QC value within limits for Ag 328.068 Recovery = Not calculated								
Al 396.153†	9.9	-0.00739	mg/L	0.000271	-0.00739	mg/L	0.000271	3.67%
QC value within limits for Al 396.153 Recovery = Not calculated								
As 188.979†	-3.2	-0.00078	mg/L	0.003651	-0.00078	mg/L	0.003651	469.55%
QC value within limits for As 188.979 Recovery = Not calculated								
Ba 233.527†	-16.0	-0.00202	mg/L	0.000109	-0.00202	mg/L	0.000109	5.41%
QC value within limits for Ba 233.527 Recovery = Not calculated								
Be 234.861†	-74.0	-0.00008	mg/L	0.000045	-0.00008	mg/L	0.000045	53.93%
QC value within limits for Be 234.861 Recovery = Not calculated								
B 249.677†	512.1	0.00868	mg/L	0.000632	0.00868	mg/L	0.000632	7.28%
QC value within limits for B 249.677 Recovery = Not calculated								
Ca 227.546†	15.0	0.0360	mg/L	0.05043	0.0360	mg/L	0.05043	140.05%
QC value within limits for Ca 227.546 Recovery = Not calculated								
Cd 228.802†	-5.8	-0.00029	mg/L	0.000231	-0.00029	mg/L	0.000231	80.27%
QC value within limits for Cd 228.802 Recovery = Not calculated								
Co 228.616†	-12.5	-0.00143	mg/L	0.000237	-0.00143	mg/L	0.000237	16.64%
QC value within limits for Co 228.616 Recovery = Not calculated								
Cr 267.716†	2.7	-0.00118	mg/L	0.000088	-0.00118	mg/L	0.000088	7.43%
QC value within limits for Cr 267.716 Recovery = Not calculated								
Cu 327.393†	-108.0	-0.00087	mg/L	0.000363	-0.00087	mg/L	0.000363	41.83%
QC value within limits for Cu 327.393 Recovery = Not calculated								
Fe 239.562†	6.1	-0.0110	mg/L	0.00216	-0.0110	mg/L	0.00216	19.61%
QC value within limits for Fe 239.562 Recovery = Not calculated								
Mg 279.077†	4.4	-0.0125	mg/L	0.00667	-0.0125	mg/L	0.00667	53.45%
QC value within limits for Mg 279.077 Recovery = Not calculated								
Mn 257.610†	41.3	-0.00247	mg/L	0.000027	-0.00247	mg/L	0.000027	1.07%
QC value within limits for Mn 257.610 Recovery = Not calculated								
Mo 202.031†	3.6	-0.00187	mg/L	0.000211	-0.00187	mg/L	0.000211	11.28%
QC value within limits for Mo 202.031 Recovery = Not calculated								
Ni 231.604†	-23.5	-0.00237	mg/L	0.000185	-0.00237	mg/L	0.000185	7.82%
QC value within limits for Ni 231.604 Recovery = Not calculated								
Pb 220.353†	8.4	-0.00065	mg/L	0.000808	-0.00065	mg/L	0.000808	124.66%
QC value within limits for Pb 220.353 Recovery = Not calculated								
Sb 206.836†	6.1	0.00014	mg/L	0.000418	0.00014	mg/L	0.000418	289.91%
QC value within limits for Sb 206.836 Recovery = Not calculated								
Se 196.026†	0.1	-0.00089	mg/L	0.004310	-0.00089	mg/L	0.004310	486.24%
QC value within limits for Se 196.026 Recovery = Not calculated								
Si 251.611†	-15.6	-0.00250	mg/L	0.000580	-0.00250	mg/L	0.000580	23.20%
QC value within limits for Si 251.611 Recovery = Not calculated								
Sn 189.927†	19.5	-0.00012	mg/L	0.000398	-0.00012	mg/L	0.000398	340.80%
QC value within limits for Sn 189.927 Recovery = Not calculated								
Ti 334.940†	22.6	-0.00028	mg/L	0.000071	-0.00028	mg/L	0.000071	25.22%
QC value within limits for Ti 334.940 Recovery = Not calculated								
Tl 190.801†	-14.5	-0.0113	mg/L	0.00355	-0.0113	mg/L	0.00355	31.31%
QC value within limits for Tl 190.801 Recovery = Not calculated								
V 290.880†	410.4	0.00077	mg/L	0.000561	0.00077	mg/L	0.000561	73.35%
QC value within limits for V 290.880 Recovery = Not calculated								
Zn 206.200†	11.8	-0.00163	mg/L	0.000110	-0.00163	mg/L	0.000110	6.75%
QC value within limits for Zn 206.200 Recovery = Not calculated								
K 766.490†	100.6	0.0623	mg/L	0.09308	0.0623	mg/L	0.09308	149.52%
QC value within limits for K 766.490 Recovery = Not calculated								
Na 589.592†	315.0	0.0267	mg/L	0.02322	0.0267	mg/L	0.02322	86.90%
QC value within limits for Na 589.592 Recovery = Not calculated								
Sr 407.771†	225.2	-0.00338	mg/L	0.000202	-0.00338	mg/L	0.000202	5.97%

Approved: June 03, 2013

Lynn H. Rhoden

QC value within limits for Sr 407.771 Recovery = Not calculated

Li 670.784†	134.3	-0.00182 mg/L	0.000516	-0.00182 mg/L	0.000516	28.35%

QC value within limits for Li 670.784 Recovery = Not calculated

All analyte(s) passed QC.

==========

Sequence No.: 45 **Autosampler Location: 157**
Sample ID: L1305115707 0.01 **Date Collected: 5/31/2013 5:09:54 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1305115707 0.01

Analyte	Back Pressure	Flow
All	165.0 kPa	0.48 L/min

Mean Data: L1305115707 0.01

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2551724.2						16030.84	0.63%
YRADIAL	184719.3						3654.08	1.98%
Ga 417.206	1029607.0						1109.31	0.11%
GaRADIAL	53779.7						870.98	1.62%
Ag 328.068†	7.4	-0.00026	mg/L	0.000285	-0.00026	mg/L	0.000285	108.60%
Al 396.153†	10.3	-0.00727	mg/L	0.002608	-0.00727	mg/L	0.002608	35.87%
As 188.979†	2.3	0.00198	mg/L	0.001378	0.00198	mg/L	0.001378	69.70%
Ba 233.527†	23.3	-0.00158	mg/L	0.000078	-0.00158	mg/L	0.000078	4.93%
Be 234.861†	78.9	0.00014	mg/L	0.000027	0.00014	mg/L	0.000027	18.40%
B 249.677†	541.9	0.00910	mg/L	0.000291	0.00910	mg/L	0.000291	3.19%
Ca 227.546†	128.7	0.579	mg/L	0.0404	0.579	mg/L	0.0404	6.97%
Cd 228.802†	-7.7	-0.00036	mg/L	0.000023	-0.00036	mg/L	0.000023	6.37%
Co 228.616†	-9.2	-0.00129	mg/L	0.000187	-0.00129	mg/L	0.000187	14.52%
Cr 267.716†	-1.0	-0.00122	mg/L	0.000062	-0.00122	mg/L	0.000062	5.07%
Cu 327.393†	-7.3	-0.00029	mg/L	0.000643	-0.00029	mg/L	0.000643	219.16%
Fe 239.562†	3.7	-0.0116	mg/L	0.00122	-0.0116	mg/L	0.00122	10.54%
Mg 279.077†	2407.1	1.71	mg/L	0.047	1.71	mg/L	0.047	2.73%
Mn 257.610†	2349.8	0.00190	mg/L	0.000079	0.00190	mg/L	0.000079	4.18%
Mo 202.031†	0.1	-0.00205	mg/L	0.000490	-0.00205	mg/L	0.000490	23.91%
Ni 231.604†	-13.1	-0.00210	mg/L	0.000082	-0.00210	mg/L	0.000082	3.91%
Pb 220.353†	13.0	-0.00005	mg/L	0.000498	-0.00005	mg/L	0.000498	>999.9%
Sb 206.836†	2.2	-0.00148	mg/L	0.004008	-0.00148	mg/L	0.004008	270.86%
Se 196.026†	-3.5	-0.00436	mg/L	0.001699	-0.00436	mg/L	0.001699	38.96%
Si 251.611†	1101.4	0.0283	mg/L	0.00011	0.0283	mg/L	0.00011	0.38%
Sn 189.927†	-11.9	-0.00405	mg/L	0.000495	-0.00405	mg/L	0.000495	12.22%
Ti 334.940†	-208.5	-0.00051	mg/L	0.000097	-0.00051	mg/L	0.000097	18.93%
Tl 190.801†	-9.5	-0.00881	mg/L	0.001798	-0.00881	mg/L	0.001798	20.42%
V 290.880†	496.8	0.00116	mg/L	0.001212	0.00116	mg/L	0.001212	104.42%
Zn 206.200†	56.1	-0.00036	mg/L	0.000292	-0.00036	mg/L	0.000292	81.55%
K 766.490†	1915.5	1.25	mg/L	0.037	1.25	mg/L	0.037	2.92%
Na 589.592†	109984.8	9.76	mg/L	0.114	9.76	mg/L	0.114	1.17%
Sr 407.771†	3164.4	-0.00093	mg/L	0.000077	-0.00093	mg/L	0.000077	8.23%
Li 670.784†	-42.8	-0.00434	mg/L	0.000976	-0.00434	mg/L	0.000976	22.49%

==========

Sequence No.: 46 **Autosampler Location: 158**
Sample ID: L1305115708 0.01 **Date Collected: 5/31/2013 5:12:55 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1305115708 0.01

Analyte	Back Pressure	Flow
All	164.0 kPa	0.48 L/min

Mean Data: L1305115708 0.01

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2561358.8						11512.21	0.45%

Approved: June 03, 2013

Kym H. Rhoden

YRADIAL	180580.8						5970.88	3.31%
Ga 417.206	1039913.7						7652.70	0.74%
GaRADIAL	52649.6						1969.11	3.74%
Ag 328.068†	-19.0	-0.00038	mg/L	0.000069	-0.00038	mg/L	0.000069	18.41%
Al 396.153†	4.7	-0.00909	mg/L	0.004030	-0.00909	mg/L	0.004030	44.33%
As 188.979†	-0.7	0.00048	mg/L	0.002029	0.00048	mg/L	0.002029	421.22%
Ba 233.527†	26.0	-0.00155	mg/L	0.000012	-0.00155	mg/L	0.000012	0.79%
Be 234.861†	88.4	0.00016	mg/L	0.000008	0.00016	mg/L	0.000008	4.85%
B 249.677†	438.7	0.00764	mg/L	0.000141	0.00764	mg/L	0.000141	1.85%
Ca 227.546†	134.5	0.608	mg/L	0.0343	0.608	mg/L	0.0343	5.64%
Cd 228.802†	-12.1	-0.00049	mg/L	0.000093	-0.00049	mg/L	0.000093	18.94%
Co 228.616†	-5.0	-0.00111	mg/L	0.000380	-0.00111	mg/L	0.000380	34.15%
Cr 267.716†	-0.2	-0.00121	mg/L	0.000156	-0.00121	mg/L	0.000156	12.84%
Cu 327.393†	36.9	-0.00004	mg/L	0.000665	-0.00004	mg/L	0.000665	>999.9%
Fe 239.562†	-4.6	-0.0136	mg/L	0.00133	-0.0136	mg/L	0.00133	9.77%
Mg 279.077†	2362.0	1.68	mg/L	0.065	1.68	mg/L	0.065	3.85%
Mn 257.610†	2232.0	0.00168	mg/L	0.000024	0.00168	mg/L	0.000024	1.46%
Mo 202.031†	2.8	-0.00191	mg/L	0.000498	-0.00191	mg/L	0.000498	26.13%
Ni 231.604†	-9.5	-0.00201	mg/L	0.000095	-0.00201	mg/L	0.000095	4.75%
Pb 220.353†	14.6	0.00016	mg/L	0.001438	0.00016	mg/L	0.001438	874.01%
Sb 206.836†	1.8	-0.00165	mg/L	0.000908	-0.00165	mg/L	0.000908	54.93%
Se 196.026†	-5.6	-0.00638	mg/L	0.003041	-0.00638	mg/L	0.003041	47.67%
Si 251.611†	1044.1	0.0267	mg/L	0.00061	0.0267	mg/L	0.00061	2.27%
Sn 189.927†	-5.2	-0.00321	mg/L	0.000146	-0.00321	mg/L	0.000146	4.54%
Ti 334.940†	-222.1	-0.00053	mg/L	0.000073	-0.00053	mg/L	0.000073	13.81%
Tl 190.801†	-3.4	-0.00574	mg/L	0.002718	-0.00574	mg/L	0.002718	47.39%
V 290.880†	594.4	0.00166	mg/L	0.000819	0.00166	mg/L	0.000819	49.33%
Zn 206.200†	32.7	-0.00103	mg/L	0.000104	-0.00103	mg/L	0.000104	10.09%
K 766.490†	1759.3	1.15	mg/L	0.057	1.15	mg/L	0.057	4.95%
Na 589.592†	107521.9	9.54	mg/L	0.197	9.54	mg/L	0.197	2.06%
Sr 407.771†	3021.3	-0.00105	mg/L	0.000032	-0.00105	mg/L	0.000032	3.02%
Li 670.784†	-18.1	-0.00399	mg/L	0.000707	-0.00399	mg/L	0.000707	17.73%

==========

Sequence No.: 47 **Autosampler Location: 159**
Sample ID: L1305146407 WG432107-01 **Date Collected: 5/31/2013 5:15:56 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1305146407 WG432107-01

Analyte	Back Pressure	Flow
All	164.0 kPa	0.48 L/min

Mean Data: L1305146407 WG432107-01

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2371900.6						32370.00	1.36%
YRADIAL	172056.9						5803.50	3.37%
Ga 417.206	837061.1						12172.40	1.45%
GaRADIAL	44089.3						801.47	1.82%
Ag 328.068†	-18.9	-0.00036	mg/L	0.000500	-0.00036	mg/L	0.000500	138.96%
Al 396.153†	20.2	-0.00409	mg/L	0.002014	-0.00409	mg/L	0.002014	49.25%
As 188.979†	-4.2	-0.00124	mg/L	0.002096	-0.00124	mg/L	0.002096	169.25%
Ba 233.527†	143.9	-0.00023	mg/L	0.000045	-0.00023	mg/L	0.000045	19.83%
Be 234.861†	-308.5	-0.00044	mg/L	0.000055	-0.00044	mg/L	0.000055	12.49%
B 249.677†	867.7	0.0137	mg/L	0.00026	0.0137	mg/L	0.00026	1.88%
Ca 227.546†	133.5	0.603	mg/L	0.0097	0.603	mg/L	0.0097	1.61%
Cd 228.802†	3.6	0.00001	mg/L	0.000245	0.00001	mg/L	0.000245	>999.9%
Co 228.616†	-10.6	-0.00135	mg/L	0.000354	-0.00135	mg/L	0.000354	26.31%
Cr 267.716†	72.6	-0.00043	mg/L	0.000071	-0.00043	mg/L	0.000071	16.37%
Cu 327.393†	-32.2	-0.00043	mg/L	0.000200	-0.00043	mg/L	0.000200	46.40%
Fe 239.562†	155.0	0.0256	mg/L	0.00188	0.0256	mg/L	0.00188	7.35%
Mg 279.077†	52.4	0.0219	mg/L	0.00715	0.0219	mg/L	0.00715	32.72%
Mn 257.610†	1808.0	0.00088	mg/L	0.000077	0.00088	mg/L	0.000077	8.81%
Mo 202.031†	22.4	-0.00090	mg/L	0.000220	-0.00090	mg/L	0.000220	24.32%
Ni 231.604†	-33.7	-0.00263	mg/L	0.000287	-0.00263	mg/L	0.000287	10.94%
Pb 220.353†	12.4	-0.00012	mg/L	0.000812	-0.00012	mg/L	0.000812	666.00%
Sb 206.836†	3.5	-0.00093	mg/L	0.001230	-0.00093	mg/L	0.001230	131.95%
Se 196.026†	5.2	0.00407	mg/L	0.004212	0.00407	mg/L	0.004212	103.54%

Approved: June 03, 2013

Si 251.611†	3269.6	0.0881 mg/L	0.00189	0.0881 mg/L	0.00189	2.14%
Sn 189.927†	-7.5	-0.00350 mg/L	0.000493	-0.00350 mg/L	0.000493	14.07%
Ti 334.940†	29.3	-0.00019 mg/L	0.000074	-0.00019 mg/L	0.000074	39.56%
Tl 190.801†	-22.7	-0.0155 mg/L	0.00382	-0.0155 mg/L	0.00382	24.69%
V 290.880†	584.8	0.00164 mg/L	0.000822	0.00164 mg/L	0.000822	50.03%
Zn 206.200†	528.2	0.0132 mg/L	0.00015	0.0132 mg/L	0.00015	1.12%
K 766.490†	-38.3	-0.0295 mg/L	0.06065	-0.0295 mg/L	0.06065	205.26%
Na 589.592†	153.3	0.0124 mg/L	0.00568	0.0124 mg/L	0.00568	45.68%
Sr 407.771†	6856.7	0.00213 mg/L	0.000036	0.00213 mg/L	0.000036	1.67%
Li 670.784†	3.6	-0.00368 mg/L	0.000320	-0.00368 mg/L	0.000320	8.70%

Sequence No.: 48 **Autosampler Location: 160**
Sample ID: L1305146407MS WG432107-05 **Date Collected: 5/31/2013 5:18:57 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1305146407MS WG432107-05

Analyte	Back Pressure	Flow
All	164.0 kPa	0.48 L/min

Mean Data: L1305146407MS WG432107-05

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	2283261.2						88496.88	3.88%
YRADIAL	156189.2						1188.39	0.76%
Ga 417.206	845368.9						40167.34	4.75%
GaRADIAL	43735.5						347.99	0.80%
Ag 328.068†	48713.8	0.210	mg/L	0.0134	0.210	mg/L	0.0134	6.37%
Al 396.153†	16046.3	5.22	mg/L	0.049	5.22	mg/L	0.049	0.94%
As 188.979†	412.9	0.202	mg/L	0.0080	0.202	mg/L	0.0080	3.96%
Ba 233.527†	44343.6	0.495	mg/L	0.0234	0.495	mg/L	0.0234	4.72%
Be 234.861†	17086.7	0.0251	mg/L	0.00147	0.0251	mg/L	0.00147	5.86%
B 249.677†	70175.3	0.994	mg/L	0.0613	0.994	mg/L	0.0613	6.16%
Ca 227.546†	1184.8	5.87	mg/L	0.246	5.87	mg/L	0.246	4.19%
Cd 228.802†	811.8	0.0248	mg/L	0.00119	0.0248	mg/L	0.00119	4.82%
Co 228.616†	2374.8	0.0982	mg/L	0.00309	0.0982	mg/L	0.00309	3.15%
Cr 267.716†	23244.5	0.248	mg/L	0.0149	0.248	mg/L	0.0149	6.02%
Cu 327.393†	45515.2	0.261	mg/L	0.0160	0.261	mg/L	0.0160	6.12%
Fe 239.562†	8658.0	2.11	mg/L	0.038	2.11	mg/L	0.038	1.80%
Mg 279.077†	7410.1	5.30	mg/L	0.064	5.30	mg/L	0.064	1.20%
Mn 257.610†	135549.9	0.254	mg/L	0.0121	0.254	mg/L	0.0121	4.76%
Mo 202.031†	9853.3	0.501	mg/L	0.0173	0.501	mg/L	0.0173	3.45%
Ni 231.604†	9927.8	0.253	mg/L	0.0086	0.253	mg/L	0.0086	3.40%
Pb 220.353†	1890.4	0.246	mg/L	0.0080	0.246	mg/L	0.0080	3.23%
Sb 206.836†	1459.7	0.605	mg/L	0.0313	0.605	mg/L	0.0313	5.18%
Se 196.026†	216.5	0.209	mg/L	0.0083	0.209	mg/L	0.0083	3.97%
Si 251.611†	94855.0	2.61	mg/L	0.148	2.61	mg/L	0.148	5.69%
Sn 189.927†	3977.1	0.496	mg/L	0.0159	0.496	mg/L	0.0159	3.20%
Ti 334.940†	369214.3	0.499	mg/L	0.0269	0.499	mg/L	0.0269	5.38%
Tl 190.801†	481.1	0.245	mg/L	0.0075	0.245	mg/L	0.0075	3.06%
V 290.880†	97263.3	0.494	mg/L	0.0230	0.494	mg/L	0.0230	4.67%
Zn 206.200†	17460.2	0.503	mg/L	0.0221	0.503	mg/L	0.0221	4.39%
K 766.490†	40497.3	27.0	mg/L	0.42	27.0	mg/L	0.42	1.57%
Na 589.592†	288098.5	25.8	mg/L	0.16	25.8	mg/L	0.16	0.63%
Sr 407.771†	655201.2	0.541	mg/L	0.0012	0.541	mg/L	0.0012	0.23%
Li 670.784†	38273.3	0.540	mg/L	0.0070	0.540	mg/L	0.0070	1.29%

Sequence No.: 49 **Autosampler Location: 161**
Sample ID: L1305146407SD WG432107-06 **Date Collected: 5/31/2013 5:21:02 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1305146407SD WG432107-06

Analyte	Back Pressure	Flow
All	164.0 kPa	0.48 L/min

Approved: June 03, 2013

Lynn H. Rhoden

Mean Data: L1305146407SD WG432107-06

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	2223882.0						66127.31	2.97%
YRADIAL	156311.2						2272.65	1.45%
Ga 417.206	820911.4						23862.51	2.91%
GaRADIAL	43823.1						538.24	1.23%
Ag 328.068†	48866.4	0.210	mg/L	0.0031	0.210	mg/L	0.0031	1.50%
Al 396.153†	15588.2	5.07	mg/L	0.158	5.07	mg/L	0.158	3.11%
As 188.979†	411.9	0.202	mg/L	0.0072	0.202	mg/L	0.0072	3.59%
Ba 233.527†	44291.1	0.495	mg/L	0.0111	0.495	mg/L	0.0111	2.25%
Be 234.861†	16896.1	0.0249	mg/L	0.00051	0.0249	mg/L	0.00051	2.06%
B 249.677†	71007.4	1.01	mg/L	0.013	1.01	mg/L	0.013	1.31%
Ca 227.546†	1204.0	5.95	mg/L	0.110	5.95	mg/L	0.110	1.85%
Cd 228.802†	835.8	0.0255	mg/L	0.00066	0.0255	mg/L	0.00066	2.59%
Co 228.616†	2427.3	0.100	mg/L	0.0033	0.100	mg/L	0.0033	3.25%
Cr 267.716†	23187.2	0.248	mg/L	0.0049	0.248	mg/L	0.0049	1.97%
Cu 327.393†	45560.2	0.261	mg/L	0.0042	0.261	mg/L	0.0042	1.61%
Fe 239.562†	8432.4	2.06	mg/L	0.065	2.06	mg/L	0.065	3.17%
Mg 279.077†	7257.9	5.19	mg/L	0.125	5.19	mg/L	0.125	2.41%
Mn 257.610†	135827.8	0.255	mg/L	0.0064	0.255	mg/L	0.0064	2.50%
Mo 202.031†	9761.9	0.497	mg/L	0.0152	0.497	mg/L	0.0152	3.06%
Ni 231.604†	9747.3	0.248	mg/L	0.0065	0.248	mg/L	0.0065	2.62%
Pb 220.353†	1920.6	0.250	mg/L	0.0103	0.250	mg/L	0.0103	4.10%
Sb 206.836†	1495.4	0.619	mg/L	0.0129	0.619	mg/L	0.0129	2.09%
Se 196.026†	223.1	0.215	mg/L	0.0045	0.215	mg/L	0.0045	2.09%
Si 251.611†	94618.3	2.60	mg/L	0.045	2.60	mg/L	0.045	1.74%
Sn 189.927†	4024.2	0.502	mg/L	0.0150	0.502	mg/L	0.0150	2.99%
Ti 334.940†	359553.8	0.486	mg/L	0.0040	0.486	mg/L	0.0040	0.82%
Tl 190.801†	485.6	0.247	mg/L	0.0040	0.247	mg/L	0.0040	1.63%
V 290.880†	97646.7	0.495	mg/L	0.0117	0.495	mg/L	0.0117	2.36%
Zn 206.200†	17394.1	0.501	mg/L	0.0115	0.501	mg/L	0.0115	2.29%
K 766.490†	39113.2	26.1	mg/L	0.79	26.1	mg/L	0.79	3.02%
Na 589.592†	286676.5	25.7	mg/L	0.32	25.7	mg/L	0.32	1.25%
Sr 407.771†	649891.2	0.536	mg/L	0.0081	0.536	mg/L	0.0081	1.50%
Li 670.784†	37216.0	0.525	mg/L	0.0162	0.525	mg/L	0.0162	3.08%

Sequence No.: 50
Sample ID: L1305124602 0.01
Analyst: KHR
Initial Sample Wt:
Dilution:

Autosampler Location: 162
Date Collected: 5/31/2013 5:23:07 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: L1305124602 0.01

Analyte	Back Pressure	Flow
All	164.0 kPa	0.48 L/min

Mean Data: L1305124602 0.01

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	2713534.6						16897.05	0.62%
YRADIAL	182808.5						2064.29	1.13%
Ga 417.206	1162594.8						24994.39	2.15%
GaRADIAL	53615.3						387.95	0.72%
Ag 328.068†	13.9	0.00000	mg/L	0.000431	0.00000	mg/L	0.000431	>999.9%
Al 396.153†	618.0	0.192	mg/L	0.0066	0.192	mg/L	0.0066	3.45%
As 188.979†	5.5	0.00373	mg/L	0.003068	0.00373	mg/L	0.003068	82.24%
Ba 233.527†	457.8	0.00327	mg/L	0.000092	0.00327	mg/L	0.000092	2.80%
Be 234.861†	294.8	0.00033	mg/L	0.000143	0.00033	mg/L	0.000143	43.50%
B 249.677†	656.6	0.0104	mg/L	0.00153	0.0104	mg/L	0.00153	14.61%
Ca 227.546†	702.6	3.34	mg/L	0.141	3.34	mg/L	0.141	4.22%
Cd 228.802†	-12.8	-0.00052	mg/L	0.000038	-0.00052	mg/L	0.000038	7.25%
Co 228.616†	6.7	-0.00065	mg/L	0.000125	-0.00065	mg/L	0.000125	19.35%
Cr 267.716†	17.8	-0.00106	mg/L	0.000124	-0.00106	mg/L	0.000124	11.71%
Cu 327.393†	46.4	0.00007	mg/L	0.000105	0.00007	mg/L	0.000105	153.90%
Fe 239.562†	2658.7	0.641	mg/L	0.0203	0.641	mg/L	0.0203	3.16%
Mg 279.077†	648.7	0.449	mg/L	0.0190	0.449	mg/L	0.0190	4.23%

Approved: June 03, 2013

Kym H. Rhoden

Mn 257.610†	92875.8	0.173 mg/L	0.0083	0.173 mg/L	0.0083	4.80%
Mo 202.031†	-12.2	-0.00260 mg/L	0.000353	-0.00260 mg/L	0.000353	13.56%
Ni 231.604†	10.8	-0.00149 mg/L	0.000219	-0.00149 mg/L	0.000219	14.72%
Pb 220.353†	21.5	0.00097 mg/L	0.001863	0.00097 mg/L	0.001863	192.79%
Sb 206.836†	0.2	-0.00231 mg/L	0.001529	-0.00231 mg/L	0.001529	66.30%
Se 196.026†	-8.8	-0.00940 mg/L	0.004448	-0.00940 mg/L	0.004448	47.31%
Si 251.611†	9269.9	0.254 mg/L	0.0108	0.254 mg/L	0.0108	4.26%
Sn 189.927†	-36.4	-0.00713 mg/L	0.000664	-0.00713 mg/L	0.000664	9.31%
Ti 334.940†	1504.3	0.00221 mg/L	0.000083	0.00221 mg/L	0.000083	3.74%
Tl 190.801†	-5.4	-0.00689 mg/L	0.003823	-0.00689 mg/L	0.003823	55.46%
V 290.880†	413.5	0.00060 mg/L	0.001257	0.00060 mg/L	0.001257	209.02%
Zn 206.200†	90.2	0.00061 mg/L	0.000187	0.00061 mg/L	0.000187	30.62%
K 766.490†	771.1	0.501 mg/L	0.0096	0.501 mg/L	0.0096	1.92%
Na 589.592†	54850.3	4.86 mg/L	0.125	4.86 mg/L	0.125	2.58%
Sr 407.771†	37817.2	0.0279 mg/L	0.00174	0.0279 mg/L	0.00174	6.24%
Li 670.784†	87.0	-0.00249 mg/L	0.000120	-0.00249 mg/L	0.000120	4.83%

Sequence No.: 51 **Autosampler Location: 6**
Sample ID: CCV **Date Collected: 5/31/2013 5:26:08 PM**
Analyst: **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: CCV

Analyte	Back Pressure	Flow
All	164.0 kPa	0.48 L/min

Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2491146.7						28587.43	1.15%
YRADIAL	177815.6						1868.63	1.05%
Ga 417.206	1005040.7						16842.53	1.68%
GaRADIAL	50008.2						511.45	1.02%
Ag 328.068†	91962.2	0.397	mg/L	0.0054	0.397	mg/L	0.0054	1.36%
QC value within limits for Ag 328.068 Recovery = 99.13%								
Al 396.153†	32344.3	10.5	mg/L	0.25	10.5	mg/L	0.25	2.34%
QC value within limits for Al 396.153 Recovery = 105.27%								
As 188.979†	802.1	0.392	mg/L	0.0054	0.392	mg/L	0.0054	1.38%
QC value within limits for As 188.979 Recovery = 97.96%								
Ba 233.527†	91691.8	1.03	mg/L	0.010	1.03	mg/L	0.010	0.97%
QC value within limits for Ba 233.527 Recovery = 102.60%								
Be 234.861†	33237.1	0.0489	mg/L	0.00062	0.0489	mg/L	0.00062	1.26%
QC value within limits for Be 234.861 Recovery = 97.74%								
B 249.677†	34489.0	0.486	mg/L	0.0051	0.486	mg/L	0.0051	1.05%
QC value within limits for B 249.677 Recovery = 97.28%								
Ca 227.546†	2109.2	10.5	mg/L	0.18	10.5	mg/L	0.18	1.69%
QC value within limits for Ca 227.546 Recovery = 105.28%								
Cd 228.802†	1561.0	0.0478	mg/L	0.00075	0.0478	mg/L	0.00075	1.57%
QC value within limits for Cd 228.802 Recovery = 95.53%								
Co 228.616†	4984.7	0.207	mg/L	0.0025	0.207	mg/L	0.0025	1.22%
QC value within limits for Co 228.616 Recovery = 103.61%								
Cr 267.716†	47559.5	0.509	mg/L	0.0031	0.509	mg/L	0.0031	0.61%
QC value within limits for Cr 267.716 Recovery = 101.88%								
Cu 327.393†	87275.5	0.500	mg/L	0.0072	0.500	mg/L	0.0072	1.45%
QC value within limits for Cu 327.393 Recovery = 100.04%								
Fe 239.562†	17534.1	4.29	mg/L	0.098	4.29	mg/L	0.098	2.28%
QC value within limits for Fe 239.562 Recovery = 107.35%								
Mg 279.077†	14844.6	10.6	mg/L	0.23	10.6	mg/L	0.23	2.12%
QC value within limits for Mg 279.077 Recovery = 106.39%								
Mn 257.610†	277140.7	0.522	mg/L	0.0048	0.522	mg/L	0.0048	0.91%
QC value within limits for Mn 257.610 Recovery = 104.48%								
Mo 202.031†	20087.5	1.02	mg/L	0.012	1.02	mg/L	0.012	1.18%
QC value within limits for Mo 202.031 Recovery = 102.41%								
Ni 231.604†	20120.2	0.514	mg/L	0.0072	0.514	mg/L	0.0072	1.39%
QC value within limits for Ni 231.604 Recovery = 102.87%								
Pb 220.353†	3985.9	0.521	mg/L	0.0066	0.521	mg/L	0.0066	1.26%
QC value within limits for Pb 220.353 Recovery = 104.28%								
Sb 206.836†	2858.5	1.19	mg/L	0.023	1.19	mg/L	0.023	1.96%

Approved: June 03, 2013

```
   QC value within limits for Sb 206.836  Recovery = 98.85%
Se 196.026†              407.9       0.395 mg/L        0.0087       0.395 mg/L        0.0087   2.20%
   QC value within limits for Se 196.026  Recovery = 98.71%
Si 251.611†           178674.7        4.92 mg/L         0.067        4.92 mg/L         0.067   1.36%
   QC value within limits for Si 251.611  Recovery = 98.30%
Sn 189.927†             7476.7       0.935 mg/L        0.0133       0.935 mg/L        0.0133   1.42%
   QC value within limits for Sn 189.927  Recovery = 93.53%
Ti 334.940†           758568.3        1.03 mg/L         0.005        1.03 mg/L         0.005   0.48%
   QC value within limits for Ti 334.940  Recovery = 102.62%
Tl 190.801†             1049.7       0.539 mg/L        0.0059       0.539 mg/L        0.0059   1.10%
   QC value within limits for Tl 190.801  Recovery = 107.77%
V 290.880†            201866.5        1.03 mg/L         0.011        1.03 mg/L         0.011   1.07%
   QC value within limits for V 290.880  Recovery = 102.58%
Zn 206.200†            35099.0        1.01 mg/L         0.006        1.01 mg/L         0.006   0.63%
   QC value within limits for Zn 206.200  Recovery = 101.33%
K 766.490†             81205.1        54.6 mg/L          1.39        54.6 mg/L          1.39   2.54%
   QC value within limits for K 766.490  Recovery = 109.30%
Na 589.592†           594190.2        53.9 mg/L          0.84        53.9 mg/L          0.84   1.56%
   QC value within limits for Na 589.592  Recovery = 107.89%
Sr 407.771†          1376481.9        1.14 mg/L         0.013        1.14 mg/L         0.013   1.16%
   QC value greater than the upper limit for Sr 407.771  Recovery = 113.97%
Li 670.784†            76664.1        1.09 mg/L         0.028        1.09 mg/L         0.028   2.56%
   QC value within limits for Li 670.784  Recovery = 108.63%
QC Failed.  Continue with analysis.

==========================================================================================================
Sequence No.: 52                                    Autosampler Location: 1
Sample ID: CCB                                      Date Collected: 5/31/2013 5:28:13 PM
Analyst:                                            Data Type: Original
Initial Sample Wt:                                  Initial Sample Vol:
Dilution:                                           Sample Prep Vol:

----------------------------------------------------------------------------------------------------------
Nebulizer Parameters: CCB
Analyte                 Back Pressure    Flow
All                     164.0 kPa        0.48 L/min

----------------------------------------------------------------------------------------------------------
Mean Data: CCB
                   Mean Corrected        Calib.                          Sample
Analyte               Intensity     Conc. Units     Std.Dev.     Conc. Units      Std.Dev.   RSD
Y 371.029            2511909.1                                                   17757.74   0.71%
YRADIAL               184346.2                                                    5222.13   2.83%
Ga 417.206            987744.9                                                   11332.41   1.15%
GaRADIAL               50864.2                                                    1103.24   2.17%
Ag 328.068†               18.9    -0.00021 mg/L      0.000076    -0.00021 mg/L      0.000076  35.54%
   QC value within limits for Ag 328.068  Recovery = Not calculated
Al 396.153†                9.0    -0.00766 mg/L      0.000706    -0.00766 mg/L      0.000706   9.21%
   QC value within limits for Al 396.153  Recovery = Not calculated
As 188.979†                0.6     0.00114 mg/L      0.001836     0.00114 mg/L      0.001836 161.60%
   QC value within limits for As 188.979  Recovery = Not calculated
Ba 233.527†              -14.8    -0.00201 mg/L      0.000134    -0.00201 mg/L      0.000134   6.67%
   QC value within limits for Ba 233.527  Recovery = Not calculated
Be 234.861†              -61.1    -0.00006 mg/L      0.000043    -0.00006 mg/L      0.000043  66.59%
   QC value within limits for Be 234.861  Recovery = Not calculated
B 249.677†               558.3     0.00933 mg/L      0.001122     0.00933 mg/L      0.001122  12.03%
   QC value within limits for B 249.677  Recovery = Not calculated
Ca 227.546†                1.7     -0.0276 mg/L       0.02729     -0.0276 mg/L       0.02729  98.76%
   QC value within limits for Ca 227.546  Recovery = Not calculated
Cd 228.802†               -6.0    -0.00030 mg/L      0.000079    -0.00030 mg/L      0.000079  26.18%
   QC value within limits for Cd 228.802  Recovery = Not calculated
Co 228.616†                0.5    -0.00088 mg/L      0.000092    -0.00088 mg/L      0.000092  10.43%
   QC value within limits for Co 228.616  Recovery = Not calculated
Cr 267.716†               15.7    -0.00104 mg/L      0.000087    -0.00104 mg/L      0.000087   8.36%
   QC value within limits for Cr 267.716  Recovery = Not calculated
Cu 327.393†                7.4    -0.00021 mg/L      0.000308    -0.00021 mg/L      0.000308 146.75%
   QC value within limits for Cu 327.393  Recovery = Not calculated
Fe 239.562†               10.3    -0.00994 mg/L      0.001191    -0.00994 mg/L      0.001191  11.98%
   QC value within limits for Fe 239.562  Recovery = Not calculated
Mg 279.077†               -0.5     -0.0160 mg/L       0.00386     -0.0160 mg/L       0.00386  24.04%
   QC value within limits for Mg 279.077  Recovery = Not calculated
Mn 257.610†               36.6    -0.00248 mg/L      0.000015    -0.00248 mg/L      0.000015   0.62%
```

Approved: June 03, 2013

Lynn H. Rhoden

```
   QC value within limits for Mn 257.610  Recovery = Not calculated
Mo 202.031†               -7.5    -0.00243 mg/L      0.000234    -0.00243 mg/L      0.000234   9.62%
   QC value within limits for Mo 202.031  Recovery = Not calculated
Ni 231.604†              -22.2    -0.00233 mg/L      0.000313    -0.00233 mg/L      0.000313  13.44%
   QC value within limits for Ni 231.604  Recovery = Not calculated
Pb 220.353†                7.9    -0.00070 mg/L      0.000713    -0.00070 mg/L      0.000713 101.41%
   QC value within limits for Pb 220.353  Recovery = Not calculated
Sb 206.836†                5.5    -0.00010 mg/L      0.001142    -0.00010 mg/L      0.001142 >999.9%
   QC value within limits for Sb 206.836  Recovery = Not calculated
Se 196.026†               -0.3    -0.00131 mg/L      0.003557    -0.00131 mg/L      0.003557 272.46%
   QC value within limits for Se 196.026  Recovery = Not calculated
Si 251.611†              -58.3    -0.00367 mg/L      0.000435    -0.00367 mg/L      0.000435  11.84%
   QC value within limits for Si 251.611  Recovery = Not calculated
Sn 189.927†               22.3     0.00024 mg/L      0.000499     0.00024 mg/L      0.000499 206.89%
   QC value within limits for Sn 189.927  Recovery = Not calculated
Ti 334.940†              -64.2    -0.00041 mg/L      0.000115    -0.00041 mg/L      0.000115  28.24%
   QC value within limits for Ti 334.940  Recovery = Not calculated
Tl 190.801†              -16.4     -0.0123 mg/L       0.00252     -0.0123 mg/L       0.00252  20.49%
   QC value within limits for Tl 190.801  Recovery = Not calculated
V 290.880†               388.0     0.00065 mg/L      0.000816     0.00065 mg/L      0.000816 125.34%
   QC value within limits for V 290.880  Recovery = Not calculated
Zn 206.200†                6.9    -0.00177 mg/L      0.000042    -0.00177 mg/L      0.000042   2.36%
   QC value within limits for Zn 206.200  Recovery = Not calculated
K 766.490†                86.8      0.0531 mg/L       0.02913      0.0531 mg/L       0.02913  54.87%
   QC value within limits for K 766.490  Recovery = Not calculated
Na 589.592†              202.0      0.0167 mg/L       0.02629      0.0167 mg/L       0.02629 157.09%
   QC value within limits for Na 589.592  Recovery = Not calculated
Sr 407.771†              222.6    -0.00339 mg/L      0.000122    -0.00339 mg/L      0.000122   3.59%
   QC value within limits for Sr 407.771  Recovery = Not calculated
Li 670.784†              181.0    -0.00116 mg/L      0.000134    -0.00116 mg/L      0.000134  11.58%
   QC value within limits for Li 670.784  Recovery = Not calculated
All analyte(s) passed QC.
```

Approved: June 03, 2013

2.1.2 Metals ICP-MS Data

2.1.2.1 Summary Data

Login Number: L13051304
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: WG432851 - The continuing calibration blanks analyzed on 04-June-2013 at 18:31 and 19:16 yielded results for antimony which exceeded the LOD but were below the LOQ. Client samples 01 through 03 yielded nondetected results for antimony. With permission of the project chemist, the antimony results were reported with 'B' qualifiers to indicate the association with noncompliant CCBs and no further action was taken.

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: WG432851 - All acceptance criteria were met.

Matrix Spikes: All acceptance criteria were met.

SAMPLES

Samples: All acceptance criteria were met.

Narrative ID: 65330
Approved By: Maren Beery
Maren Beery

Microbac

Lab Report #: L13051304
Lab Project #: 3005.011
Project Name: White Sands MR
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L13051304-01	**PrePrep Method:**	N/A	**Instrument:**	ICP-MS2
Client ID:	SMW1-0513-1	**Prep Method:**	3015	**Prep Date:**	06/04/2013 08:49
Matrix:	Water	**Analytical Method:**	6020	**Cal Date:**	06/04/2013 12:47
Workgroup #:	WG432851	**Analyst:**	JYH	**Run Date:**	06/04/2013 18:50
Collect Date:	05/23/2013 10:42	**Dilution:**	1	**File ID:**	NI.060413.185010
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Antimony, Total	7440-36-0		UB	0.00100	0.000500
Arsenic, Total	7440-38-2	0.000550	J	0.00100	0.000500
Barium, Total	7440-39-3	0.0696		0.00300	0.00150
Cadmium, Total	7440-43-9		U	0.000600	0.000300
Chromium, Total	7440-47-3		U	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	0.00137	J	0.00200	0.00100
Nickel, Total	7440-02-0		U	0.00400	0.00200
Selenium, Total	7782-49-2	0.00249		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.
UB	Analyte was not detected. The concentration is below the reported LOQ, however the reported result is associated with a contaminated method blank.

Certificate of Analysis

Sample #:	L13051304-02	**PrePrep Method:**	N/A	**Instrument:**	ICP-MS2
Client ID:	SMW4-0513-1	**Prep Method:**	3015	**Prep Date:**	06/04/2013 08:49
Matrix:	Water	**Analytical Method:**	6020	**Cal Date:**	06/04/2013 12:47
Workgroup #:	WG432851	**Analyst:**	JYH	**Run Date:**	06/04/2013 18:53
Collect Date:	05/23/2013 12:20	**Dilution:**	1	**File ID:**	NI.060413.185356
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Antimony, Total	7440-36-0		UB	0.00100	0.000500
Arsenic, Total	7440-38-2	0.000693	J	0.00100	0.000500
Barium, Total	7440-39-3	0.0785		0.00300	0.00150
Cadmium, Total	7440-43-9		U	0.000600	0.000300
Chromium, Total	7440-47-3	0.0117		0.00200	0.00100
Cobalt, Total	7440-48-4		U	0.00100	0.000500
Copper, Total	7440-50-8	0.00124	J	0.00200	0.00100
Lead, Total	7439-92-1		U	0.00100	0.000500
Manganese, Total	7439-96-5	0.00164	J	0.00200	0.00100
Nickel, Total	7440-02-0	0.0694		0.00400	0.00200
Selenium, Total	7782-49-2	0.00277		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.
UB	Analyte was not detected. The concentration is below the reported LOQ, however the reported result is associated with a contaminated method blank.

Certificate of Analysis

Sample #:	L13051304-03	**PrePrep Method:**	N/A	**Instrument:**	ICP-MS2
Client ID:	MPL25-0513-1	**Prep Method:**	3015	**Prep Date:**	06/04/2013 08:49
Matrix:	Water	**Analytical Method:**	6020	**Cal Date:**	06/04/2013 12:47
Workgroup #:	WG432851	**Analyst:**	JYH	**Run Date:**	06/04/2013 18:57
Collect Date:	05/23/2013 15:00	**Dilution:**	1	**File ID:**	NI.060413.185742
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Antimony, Total	7440-36-0		UB	0.00100	0.000500
Arsenic, Total	7440-38-2	0.00122		0.00100	0.000500
Barium, Total	7440-39-3	0.0672		0.00300	0.00150
Cadmium, Total	7440-43-9		U	0.000600	0.000300
Chromium, Total	7440-47-3		U	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	0.00286		0.00200	0.00100
Nickel, Total	7440-02-0		U	0.00400	0.00200
Selenium, Total	7782-49-2	0.00455		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.
UB	Analyte was not detected. The concentration is below the reported LOQ, however the reported result is associated with a contaminated method blank.

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: WG432798
Analyst: VC
Spike Analyst: VC
Run Date: 06/04/2013 08:49
Method: 3015
Balance: BAL016
Instrument: MW-2
Instrument Start: 06/04/2013 08:46

SOP: ME407 Revison 14
Spike Solution: STD57131
Spike Witness: ERP
HNO3 Lot #: COA16631
Digestion Tubes Lot #: COA16806
MS Filters- fisher-Lot#R RGT26840

	SAMPLE #	Type	Matrix	Initial Amount	Final Volume	Initial Vessel Wt	Final Vessel Wt	Spike Amount	Due Date
1	WG432798-02	BLANK	1	40 mL	100 mL	205.709 g	205.682 g		
2	WG432399-01	FBLK	18	40 mL	100 mL	206.502 g	206.478 g		
3	WG432798-03	LCS	1	40 mL	100 mL	205.605 g	205.585 g	.25 mL	
4	L13051242-01	SAMP	1	40 mL	100 mL	206.926 g	206.893 g		06/03/13
5	L13051242-02	SAMP	1	40 mL	100 mL	206.213 g	206.186 g		06/03/13
6	L13051242-03	SAMP	1	40 mL	100 mL	206.445 g	206.407 g		06/03/13
7	L13051242-04	SAMP	1	40 mL	100 mL	207.069 g	207.053 g		06/03/13
8	L13051304-01	SAMP	1	40 mL	100 mL	207.332 g	207.307 g		06/04/13
9	L13051304-02	SAMP	1	40 mL	100 mL	205.778 g	205.762 g		06/04/13
10	L13051304-03	SAMP	1	40 mL	100 mL	206.632 g	206.612 g		06/04/13
11	L13051321-01	SAMP	1	40 mL	100 mL	205.646 g	205.629 g		06/04/13
12	L13051321-02	SAMP	1	40 mL	100 mL	206.665 g	206.645 g		06/04/13
13	L13051321-03	SAMP	1	40 mL	100 mL	209.278 g	209.251 g		06/04/13
14	L13051321-04	SAMP	1	40 mL	100 mL	206.748 g	206.717 g		06/04/13
15	L13051321-05	SAMP	1	40 mL	100 mL	205.374 g	205.341 g		06/04/13
16	L13051321-06	SAMP	1	40 mL	100 mL	206.932 g	206.912 g		06/04/13
17	L13051321-07	SAMP	1	40 mL	100 mL	209.008 g	208.993 g		06/04/13
18	L13051321-08	SAMP	1	40 mL	100 mL	207.841 g	207.814 g		06/04/13
19	WG432798-01	REF	1	40 mL	100 mL	207.466 g	207.452 g		
20	L13051321-09	SAMP	1	40 mL	100 mL	207.466 g	207.452 g		06/04/13
21	L13051523-02	SAMP	18	40 mL	100 mL	206.465 g	206.45 g		06/04/13
22	L13051523-04	SAMP	18	40 mL	100 mL	207.388 g	207.367 g		06/04/13
23	L13051524-02	SAMP	18	40 mL	100 mL	208.403 g	208.38 g		06/04/13
24	WG432798-04	MS	1	40 mL	100 mL	209.006 g	208.983 g	.25 mL	
25	WG432798-05	MSD	1	40 mL	100 mL	206.331 g	206.307 g	.25 mL	

L13051523-04	filtered digestate
L13051524-02	filtered digestate

Analyst: Vicki Collins

Reviewer: Erin Potter

MW_DIG - Modified 09/30/2009
PDF ID: 2907588
Report generated: 06/04/2013 10:46

Microbac Laboratories Inc.

Instrument Run Log

Instrument: ICP-MS2 Dataset: 060413A.REP
Analyst1: JYH Analyst2: N/A
Method: 6020/6020A/200.8 SOP: ME700A Rev: 0
Maintenance Log ID: 46204

Calibration Std: STD57410 ICV Std: STD57413 Post Spike: STD53712
ICSA: STD57411 ICSAB: STD57412 Int. Std: RGT17735
CCV: STD58144 LLCCV: STD57415 Tuning Sol : STD58154
Stannous : Hydroxylamine :

Workgroups: 432851,432748

Comments:

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
1	NI.060413.123205	Blank	Blank		1		06/04/13 12:32
2	NI.060413.123552	WG432868-01	Calibration Point		1		06/04/13 12:35
3	NI.060413.123938	WG432868-02	Calibration Point		1		06/04/13 12:39
4	NI.060413.124324	WG432868-03	Calibration Point		1		06/04/13 12:43
5	NI.060413.124710	WG432868-04	Calibration Point		1		06/04/13 12:47
6	NI.060413.125058	WG432868-05	Initial Calibration Verification		1		06/04/13 12:50
7	NI.060413.125446	WG432868-06	QC Std 2		1		06/04/13 12:54
8	NI.060413.125843	WG432868-07	Initial Calib Blank		1		06/04/13 12:58
9	NI.060413.130231	WG432868-08	Low Level Initial Calibration V		1		06/04/13 13:02
10	NI.060413.130617	WG432868-09	Interference Check		1		06/04/13 13:06
11	NI.060413.131002	WG432868-10	Interference Check		1		06/04/13 13:10
12	NI.060413.131401	WG432868-11	CCV		1		06/04/13 13:14
13	NI.060413.131811	WG432868-12	CCB		1		06/04/13 13:18
14	NI.060413.132240	WG432798-02	Method/Prep Blank	40/100	1		06/04/13 13:22
15	NI.060413.132626	WG432399-01	Fluid Blank		1		06/04/13 13:26
16	NI.060413.133012	WG432798-03	Laboratory Control S	40/100	1		06/04/13 13:30
17	NI.060413.133358	WG432798-01	Reference Sample		1	L13051321-09	06/04/13 13:33
18	NI.060413.133744	WG432798-04	Matrix Spike	40/100	1	L13051321-09	06/04/13 13:37
19	NI.060413.134130	WG432798-05	Matrix Spike Duplica	40/100	1	L13051321-09	06/04/13 13:41
20	NI.060413.134516	L13051523-02	60500-SSP0320	40/100	1		06/04/13 13:45
21	NI.060413.134903	L13051523-04	60500-SSP0321	40/100	1		06/04/13 13:49
22	NI.060413.135249	WG432851-01	Post Digestion Spike		1	L13051523-04	06/04/13 13:52
23	NI.060413.135635	WG432851-02	Serial Dilution		5	L13051523-04	06/04/13 13:56
24	NI.060413.140023	WG432868-13	CCV		1		06/04/13 14:00
25	NI.060413.140410	WG432868-14	CCB		1		06/04/13 14:04
26	NI.060413.140758	L13051524-02	60500-C0176	40/100	1		06/04/13 14:07
27	NI.060413.141716	L13051523-04	60500-SSP0321	40/100	25		06/04/13 14:17
28	NI.060413.142102	WG432851-01	Post Digestion Spike		25	L13051523-04	06/04/13 14:21
29	NI.060413.142448	WG432851-02	Serial Dilution		125	L13051523-04	06/04/13 14:24
30	NI.060413.142834	L13051524-02	60500-C0176	40/100	25		06/04/13 14:28
31	NI.060413.143223	WG432868-15	CCV		1		06/04/13 14:32
32	NI.060413.143609	WG432868-16	CCB		1		06/04/13 14:36
33	NI.060413.144639	WG432680-02	Method/Prep Blank	.5/200	1		06/04/13 14:46
34	NI.060413.145025	WG432680-03	Laboratory Control S	.5/200	1		06/04/13 14:50

Page: 1 Approved: June 05, 2013

Maren Berry

Microbac Laboratories Inc.

Instrument Run Log

Instrument: ICP-MS2 Dataset: 060413A.REP
Analyst1: JYH Analyst2: N/A
Method: 6020/6020A/200.8 SOP: ME700A Rev: 0
Maintenance Log ID: 46204

Calibration Std: STD57410 ICV Std: STD57413 Post Spike: STD53712
ICSA: STD57411 ICSAB: STD57412 Int. Std: RGT17735
CCV: STD58144 LLCCV: STD57415 Tuning Sol : STD58154
Stannous : Hydroxylamine :

Workgroups: 432851,432748

Comments:

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
35	NI.060413.145411	WG432680-01	Reference Sample		1	L13051595-17	06/04/13 14:54
36	NI.060413.145757	WG432680-04	Matrix Spike	.501/200	1	L13051595-17	06/04/13 14:57
37	NI.060413.150144	WG432680-05	Matrix Spike Duplica	.533/200	1	L13051595-17	06/04/13 15:01
38	NI.060413.150530	L13051595-01	PFK0078	.505/200	1		06/04/13 15:05
39	NI.060413.150916	L13051595-02	PFK0079	.526/200	1		06/04/13 15:09
40	NI.060413.151302	WG432748-01	Post Digestion Spike		1	L13051595-02	06/04/13 15:13
41	NI.060413.151648	WG432748-02	Serial Dilution		5	L13051595-02	06/04/13 15:16
42	NI.060413.152034	WG432748-02	Serial Dilution		25	L13051595-02	06/04/13 15:20
43	NI.060413.152423	WG432868-17	CCV		1		06/04/13 15:24
44	NI.060413.152809	WG432868-18	CCB		1		06/04/13 15:28
45	NI.060413.153157	L13051595-03	PFK0081	.511/200	1		06/04/13 15:31
46	NI.060413.153543	L13051595-04	PFK0082	.532/200	1		06/04/13 15:35
47	NI.060413.153929	L13051595-05	PFK0084	.509/200	1		06/04/13 15:39
48	NI.060413.154315	L13051595-06	PFK0085	.505/200	1		06/04/13 15:43
49	NI.060413.154701	L13051595-07	PFK0087	.522/200	1		06/04/13 15:47
50	NI.060413.155047	L13051595-08	PFK0089	.502/200	1		06/04/13 15:50
51	NI.060413.155433	L13051595-09	PFK0091	.537/200	1		06/04/13 15:54
52	NI.060413.155819	L13051595-10	PFK0092	.509/200	1		06/04/13 15:58
53	NI.060413.160345	L13051595-11	PFK0094	.517/200	1		06/04/13 16:03
54	NI.060413.160731	L13051595-12	PFK0095	.51/200	1		06/04/13 16:07
55	NI.060413.161119	WG432868-19	CCV		1		06/04/13 16:11
56	NI.060413.161505	WG432868-20	CCB		1		06/04/13 16:15
57	NI.060413.161909	L13051561-01	FILTER BAGS 5-30-13		25		06/04/13 16:19
58	NI.060413.162313	L13051595-13	PFK0097	.501/200	1		06/04/13 16:23
59	NI.060413.162659	L13051595-14	PFK0098	.541/200	1		06/04/13 16:26
60	NI.060413.163045	L13051595-15	PFK0101	.513/200	1		06/04/13 16:30
61	NI.060413.163431	L13051595-16	PFK0102	.531/200	1		06/04/13 16:34
62	NI.060413.163817	L13051507-01	BDC-1	.518/200	1		06/04/13 16:38
63	NI.060413.164203	L13051507-02	BDC-2	.509/200	1		06/04/13 16:42
64	NI.060413.164549	L13051507-03	BDC-3	.515/200	1		06/04/13 16:45
65	NI.060413.164935	WG432680-01	Reference Sample		50	L13051595-17	06/04/13 16:49
66	NI.060413.165702	WG432680-04	Matrix Spike	.501/200	50	L13051595-17	06/04/13 16:57
67	NI.060413.170050	WG432868-21	CCV		1		06/04/13 17:00
68	NI.060413.170436	WG432868-22	CCB		1		06/04/13 17:04

Page: 2 Approved: June 05, 2013

Maren Berry

Microbac

Microbac Laboratories Inc.

Instrument Run Log

Instrument: ICP-MS2 Dataset: 060413A.REP
Analyst1: JYH Analyst2: N/A
Method: 6020/6020A/200.8 SOP: ME700A Rev: 0
Maintenance Log ID: 46204

Calibration Std: STD57410 ICV Std: STD57413 Post Spike: STD53712
ICSA: STD57411 ICSAB: STD57412 Int. Std: RGT17735
CCV: STD58144 LLCCV: STD57415 Tuning Sol : STD58154
Stannous : Hydroxylamine :

Workgroups: 432851,432748

Comments:

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
69	NI.060413.170824	WG432680-05	Matrix Spike Duplica	.533/200	50	L13051595-17	06/04/13 17:08
70	NI.060413.171210	L13051595-01	PFK0078	.505/200	50		06/04/13 17:12
71	NI.060413.171556	L13051595-02	PFK0079	.526/200	50		06/04/13 17:15
72	NI.060413.171942	WG432748-01	Post Digestion Spike		50	L13051595-02	06/04/13 17:19
73	NI.060413.172328	WG432748-02	Serial Dilution		250	L13051595-02	06/04/13 17:23
74	NI.060413.172714	L13051595-03	PFK0081	.511/200	50		06/04/13 17:27
75	NI.060413.173100	L13051595-04	PFK0082	.532/200	50		06/04/13 17:31
76	NI.060413.173446	L13051595-05	PFK0084	.509/200	100		06/04/13 17:34
77	NI.060413.173831	L13051595-06	PFK0085	.505/200	50		06/04/13 17:38
78	NI.060413.174217	L13051595-07	PFK0087	.522/200	50		06/04/13 17:42
79	NI.060413.174605	WG432868-23	CCV		1		06/04/13 17:46
80	NI.060413.174951	WG432868-24	CCB		1		06/04/13 17:49
81	NI.060413.175338	L13051595-08	PFK0089	.502/200	50		06/04/13 17:53
82	NI.060413.175724	L13051595-09	PFK0091	.537/200	100		06/04/13 17:57
83	NI.060413.180110	L13051595-10	PFK0092	.509/200	50		06/04/13 18:01
84	NI.060413.180455	L13051595-11	PFK0094	.517/200	50		06/04/13 18:04
85	NI.060413.180841	L13051595-12	PFK0095	.51/200	50		06/04/13 18:08
86	NI.060413.181227	L13051595-13	PFK0097	.501/200	50		06/04/13 18:12
87	NI.060413.181613	L13051595-14	PFK0098	.541/200	50		06/04/13 18:16
88	NI.060413.181959	L13051595-15	PFK0101	.513/200	50		06/04/13 18:19
89	NI.060413.182345	L13051595-16	PFK0102	.531/200	50		06/04/13 18:23
90	NI.060413.182732	WG432868-25	CCV		1		06/04/13 18:27
91	NI.060413.183118	WG432868-26	CCB		1		06/04/13 18:31
92	NI.060413.183505	L13051242-01	MPL19-0513-1	40/100	1		06/04/13 18:35
93	NI.060413.183851	L13051242-02	MPL20-0513-1	40/100	1		06/04/13 18:38
94	NI.060413.184237	L13051242-03	MPL20-0513-2	40/100	1		06/04/13 18:42
95	NI.060413.184624	L13051242-04	MPL6-0513-1	40/100	1		06/04/13 18:46
96	NI.060413.185010	L13051304-01	SMW1-0513-1	40/100	1		06/04/13 18:50
97	NI.060413.185356	L13051304-02	SMW4-0513-1	40/100	1		06/04/13 18:53
98	NI.060413.185742	L13051304-03	MPL25-0513-1	40/100	1		06/04/13 18:57
99	NI.060413.190128	L13051321-01	4104-MW1	40/100	1		06/04/13 19:01
100	NI.060413.190514	L13051321-02	4104-MW2	40/100	1		06/04/13 19:05
101	NI.060413.190900	L13051321-03	4104-MW3A	40/100	1		06/04/13 19:09
102	NI.060413.191249	WG432868-27	CCV		1		06/04/13 19:12

Page: 3 Approved: June 05, 2013

Maren Berry

Microbac Laboratories Inc.

Instrument Run Log

Instrument: ICP-MS2 Dataset: 060413A.REP
Analyst1: JYH Analyst2: N/A
Method: 6020/6020A/200.8 SOP: ME700A Rev: 0
Maintenance Log ID: 46204

Calibration Std: STD57410 ICV Std: STD57413 Post Spike: STD53712
ICSA: STD57411 ICSAB: STD57412 Int. Std: RGT17735
CCV: STD58144 LLCCV: STD57415 Tuning Sol : STD58154
Stannous : Hydroxylamine :

Workgroups: 432851,432748

Comments:

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
103	NI.060413.191635	WG432868-28	CCB		1		06/04/13 19:16
104	NI.060413.192023	L13051321-04	4104-MW4	40/100	1		06/04/13 19:20
105	NI.060413.192410	L13051321-05	4104-MW6A	40/100	1		06/04/13 19:24
106	NI.060413.192756	L13051321-06	4104-MW7D	40/100	1		06/04/13 19:27
107	NI.060413.193142	L13051321-07	4104-MW8A	40/100	1		06/04/13 19:31
108	NI.060413.193528	L13051321-08	4104-MW8B	40/100	1		06/04/13 19:35
109	NI.060413.193916	WG432868-29	CCV		1		06/04/13 19:39
110	NI.060413.194302	WG432868-30	CCB		1		06/04/13 19:43
111	NI.060413.194650	WG432868-31	Low Level Continuing Calibra		1		06/04/13 19:46

Comments

Seq.	Rerun	Dil.	Reason	Analytes
7			Rerun for antimony.	

Page: 4 Approved: June 05, 2013

Maren Berry

Microbac Laboratories Inc.

Data Checklist

Date: 04-JUN-2013
Analyst: JYH
Analyst: NA
Method: 6020/6020A/200.8
Instrument: ICP-MS2
Curve Workgroup: 432868
Runlog ID: 53583
Analytical Workgroups: 432851

Calibration/Linearity	X
ICV/CCV	X
ICV RSD <= 3% (EPA 200.7 only)	
ICB/CCB	X
ICSA/ICSAB	X
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	1523,1524,1242,1304,1595
Client Forms	X
Level X	
Level 3	
Level 4	1523,1524,1242,1304,1595
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:
04-JUN-2013

Secondary Reviewer:
05-JUN-2013

CHECKLIST1 - Modified 03/05/2008
Generated: JUN-05-2013 13:26:54

Microbac Laboratories Inc.

HOLDING TIMES
EQUIVALENT TO AFCEE FORM 9

Analytical Method: 6020 AAB#: WG432851

Login Number: L13051304

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
SMW1-0513-1	01	05/23/13					06/04/2013	11.9	180		06/04/13	12.3	180	
SMW4-0513-1	02	05/23/13					06/04/2013	11.9	180		06/04/13	12.3	180	
MPL25-0513-1	03	05/23/13					06/04/2013	11.7	180		06/04/13	12.2	180	

* = SEE PROJECT QAPP REQUIREMENTS

HOLD_TIMES - Modified 03/06/2008
PDF File ID: 2909747
Report generated 06/05/2013 08:18

Microbac Laboratories Inc.

METHOD BLANK SUMMARY

Login Number: L13051304
Blank File ID: NI.060413.132240
Prep Date: 06/04/13 08:49
Analyzed Date: 06/04/13 13:22
Analyst: JYH

Work Group: WG432851
Blank Sample ID: WG432798-02
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	WG432798-03	NI.060413.133012	06/04/13 13:30	01
SMW1-0513-1	L13051304-01	NI.060413.185010	06/04/13 18:50	01
SMW4-0513-1	L13051304-02	NI.060413.185356	06/04/13 18:53	01
MPL25-0513-1	L13051304-03	NI.060413.185742	06/04/13 18:57	01

Report Name: BLANK_SUMMARY
PDF File ID: 2909748
Report generated 06/05/2013 08:18

Microbac Laboratories Inc.

METHOD BLANK REPORT

Login Number: L13051304 Prep Date: 06/04/13 08:49 Sample ID: WG432798-02
Instrument ID: ICP-MS2 Run Date: 06/04/13 13:22 Prep Method: 3015
File ID: NI.060413.132240 Analyst: JYH Method: 6020
Workgroup (AAB#): WG432851 Matrix: Water Units: mg/L
Contract #: Cal ID: ICP-MS-04-JUN-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: 2909749
05-JUN-2013 08:18

Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L13051304 Run Date: 06/04/2013 Sample ID: WG432798-03
Instrument ID: ICP-MS2 Run Time: 13:30 Prep Method: 3015
File ID: NI.060413.133012 Analyst: JYH Method: 6020
Workgroup (AAB#): WG432851 Matrix: Water Units: mg/L
QC Key: DOD4 Lot#: STD57131 Cal ID: ICP-MS-04-JUN-13

Analytes	Expected	Found	% Rec	LCS Limits	Q
Antimony, Total	0.0625	0.0617	98.7	80 - 120	
Arsenic, Total	0.0625	0.0605	96.9	80 - 120	
Barium, Total	0.0625	0.0618	98.9	80 - 120	
Cadmium, Total	0.0625	0.0617	98.7	80 - 120	
Chromium, Total	0.0625	0.0623	99.7	80 - 120	
Cobalt, Total	0.0625	0.0610	97.7	80 - 120	
Copper, Total	0.0625	0.0631	101	80 - 120	
Lead, Total	0.0625	0.0618	98.9	80 - 120	
Manganese, Total	0.0625	0.0619	99.0	80 - 120	
Nickel, Total	0.0625	0.0633	101	80 - 120	
Selenium, Total	0.0625	0.0627	100	80 - 120	
Silver, Total	0.0625	0.0628	101	80 - 120	
Thallium, Total	0.0625	0.0616	98.6	80 - 120	

LCS - Modified 03/06/2008
PDF File ID: 2909750
Report generated: 06/05/2013 08:18

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

Loginnum: L13051304 Cal ID: ICP-MS2- Worknum: WG432851
Instrument ID: ICP-MS2 Contract #: Method: 6020
Parent ID: WG432798-01 File ID: NI.060413.133358 Dil: 1 Matrix: WATER
Sample ID: WG432798-04 MS File ID: NI.060413.133744 Dil: 1 Units: mg/L
Sample ID: WG432798-05 MSD File ID: NI.060413.134130 Dil: 1

Analyte	Parent	MS Spiked	MS Found	MS %Rec	MSD Spiked	MSD Found	MSD %Rec	%RPD	%Rec Limits	RPD Limit	Q
Antimony, Total	0.000977	0.0625	0.0592	93.2	0.0625	0.0616	97.0	3.95	80 - 120	20	
Arsenic, Total	0.00248	0.0625	0.0607	93.2	0.0625	0.0648	99.7	6.48	80 - 120	20	
Barium, Total	0.0854	0.0625	0.141	89.8	0.0625	0.147	99.3	4.12	80 - 120	20	
Cadmium, Total	ND	0.0625	0.0591	94.6	0.0625	0.0617	98.7	4.23	80 - 120	20	
Chromium, Total	0.00249	0.0625	0.0611	93.8	0.0625	0.0649	99.9	6.08	80 - 120	20	
Cobalt, Total	0.00687	0.0625	0.0636	90.8	0.0625	0.0666	95.6	4.56	80 - 120	20	
Copper, Total	0.00269	0.0625	0.0611	93.5	0.0625	0.0646	99.0	5.52	80 - 120	20	
Lead, Total	ND	0.0625	0.0596	95.3	0.0625	0.0630	101	5.62	80 - 120	20	
Manganese, Total	1.29	0.0625	1.32	50.9	0.0625	1.33	70.5	0.930	80 - 120	20	*
Nickel, Total	0.00432	0.0625	0.0635	94.7	0.0625	0.0669	100	5.23	80 - 120	20	
Selenium, Total	0.00979	0.0625	0.0675	92.3	0.0625	0.0747	104	10.1	80 - 120	20	
Silver, Total	ND	0.0625	0.0562	89.9	0.0625	0.0581	93.0	3.39	80 - 120	20	
Thallium, Total	ND	0.0625	0.0591	94.6	0.0625	0.0611	97.8	3.32	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: 2911648
Report generated 06/05/2013 16:03

Microbac Laboratories Inc.
Serial Dilution Report

Login: L13051304 **Worknum:** WG432851
Instrument: ICP-MS2 **Method:** 6020
Serial Dil: WG432851-02 **File ID:** NI.060413.142448 **Dil:** 125 **Units:** ug/L
Sample: L13051523-04 **File ID:** NI.060413.141716 **Dil:** 25

Analyte	Sample	Qual	Serial Dil	Qual	% Diff	Q
Antimony	ND	U	ND	U		
Arsenic	ND	U	ND	U		
Barium	88.0	X	88.1	F	0.02	
Cadmium	ND	U	ND	U		
Chromium	ND	U	ND	U		
Cobalt	ND	U	ND	U		
Copper	142	X	144	X	0.90	
Lead	139	X	138	X	0.82	
Manganese	64.2	X	57.4	F	10.50	
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: 2909745
06/05/2013 08:18

Microbac Laboratories Inc.
Serial Dilution Report

Login: L13051304 **Worknum:** WG432851
Instrument: ICP-MS2 **Method:** 6020
Serial Dil: WG432851-02 **File ID:** NI.060413.135635 **Dil:** 5 **Units:** ug/L
Sample: L13051523-04 **File ID:** NI.060413.134903 **Dil:** 1

Analyte	Sample	Qual	Serial Dil	Qual	% Diff	Q
Antimony	1.41	X	2.62	X	85.60	
Arsenic	3.93	X	3.80	X	3.38	
Barium	87.5		86.7		0.88	
Cadmium	0.391	X	ND	U		
Chromium	3.32	X	3.42	F	2.89	
Cobalt	0.674	X	ND	U		
Copper	136		137		0.68	
Lead	135		142		4.82	
Manganese	62.9		62.1		1.34	
Nickel	1.81	X	ND	U		
Selenium	0.651	X	ND	U		
Silver	1.20	X	1.21	F	1.24	
Thallium	0.0450	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 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: 2909745
06/05/2013 08:18

Microbac Laboratories Inc.
POST SPIKE REPORT

Sample Login ID: L13051304 **Worknum:** WG432851
Instrument ID: ICP-MS2 **Method:** 6020
Post Spike ID: WG432851-01 **File ID:** NI.060413.135249 **Dil:** 1 **Units:** ug/L
Sample ID: L13051523-04 **File ID:** NI.060413.134903 **Dil:** 1 **Matrix:** Water

Analyte	Post Spike Result	C	Sample Result	C	Spike Added(SA)	% R	Control Limit %R	Q
ANTIMONY	52.3		1.41		50	101.8	75 - 125	
ARSENIC	53.8		3.93		50	99.7	75 - 125	
BARIUM	139		87.5		50	103.7	75 - 125	
CADMIUM	51.8		0.391		50	102.8	75 - 125	
CHROMIUM	55.2		3.32		50	103.7	75 - 125	
COBALT	51.2		0.674		50	101.1	75 - 125	
COPPER	189		136		50	104.4	75 - 125	
LEAD	191		135		50	110.2	75 - 125	
MANGANESE	113		62.9		50	100.3	75 - 125	
NICKEL	53.9		1.81		50	104.2	75 - 125	
SELENIUM	51.0		0.651		50	100.7	75 - 125	
SILVER	53.3		1.20		50	104.2	75 - 125	
THALLIUM	50.6		0.0450	F	50	101.1	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: 2909746
Report generated: 06/05/2013 08:18

Microbac Laboratories Inc.
POST SPIKE REPORT

Sample Login ID: L13051304 **Worknum:** WG432851
Instrument ID: ICP-MS2 **Method:** 6020
Post Spike ID: WG432851-01 **File ID:** NI.060413.142102 **Dil:** 25 **Units:** ug/L
Sample ID: L13051523-04 **File ID:** NI.060413.141716 **Dil:** 25 **Matrix:** Water

Analyte	Post Spike Result	C	Sample Result	C	Spike Added(SA)	% R	Control Limit %R	Q
ANTIMONY	53.6		0	U	50	107.1	75 - 125	
ARSENIC	54.4		0	U	50	108.8	75 - 125	
BARIUM	58.4		3.52		50	109.7	75 - 125	
CADMIUM	54.0		0	U	50	107.9	75 - 125	
CHROMIUM	55.5		0	U	50	111.0	75 - 125	
COBALT	53.4		0	U	50	106.7	75 - 125	
COPPER	62.5		5.69		50	113.6	75 - 125	
LEAD	61.0		5.56		50	110.8	75 - 125	
MANGANESE	56.9		2.57		50	108.8	75 - 125	
NICKEL	56.0		0	U	50	112.0	75 - 125	
SELENIUM	56.5		0	U	50	113.1	75 - 125	
SILVER	60.8		0	U	50	121.7	75 - 125	
THALLIUM	54.8		0	U	50	109.5	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: 2909746
Report generated: 06/05/2013 08:18

Microbac Laboratories Inc.
Initial Calibration Summary

Login:	**L13051304**	Workgroup (AAB#):	**WG432851**
Analytical Method:	**6020**	Instrument ID:	**ICP-MS2**
ICAL Worknum:	**WG432868**	Initial Calibration Date:	**04-JUN-2013 12:47**

	WG432868-01		WG432868-02		WG432868-03		WG432868-04			
	Conc	INT	Conc	INT	Conc	INT	Conc	INT	R	Q
ANTIMONY	0	76.1	.4	255	50	190000	100	376000	.999983	
ARSENIC	0	-146	.4	-74.8	50	63700	100	126000	.999998	
BARIUM	0	11.3	.4	124	50	85200	100	168000	.999985	
CADMIUM	0	2.00	.4	87.9	50	85000	100	167000	.999973	
CHROMIUM	0	4350	.4	4670	50	265000	100	510000	.999979	
COBALT	0	76.0	.4	376	50	281000	100	549000	.999992	
COPPER	0	92.0	.4	232	50	109000	100	213000	.999997	
LEAD	0	204	.4	498	50	256000	100	512000	.999911	
MANGANESE	0	1220	.4	1700	50	399000	100	777000	.999988	
NICKEL	0	285	.4	402	50	108000	100	213000	.999996	
SELENIUM	0	1.50	.4	6.80	50	6250	100	12500	.999972	
SILVER	0	50.0	.4	340	50	273000	100	534000	.99994	
THALLIUM	0	3.70	.4	274	50	267000	100	529000	.999962	

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: 2909753
Report generated: 05-JUN-2013 08:18

Microbac Laboratories Inc.
INITIAL CALIBRATION BLANK (ICB)

Login Number: L13051304
Run Date: 06/04/2013
Sample ID: WG432868-07
Instrument ID: ICP-MS2
Run Time: 12:58
Method: 6020
File ID: NI.060413.125843
Analyst: JYH
Units: ug/L
Workgroup (AAB#): WG432851
Cal ID: ICP-MS2 - 04-JUN-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: 2909755
Report generated 06/05/2013 08:18

Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L13051304
Run Date: 06/04/2013
Sample ID: WG432868-12
Instrument ID: ICP-MS2
Run Time: 13:18
Method: 6020
File ID: NI.060413.131811
Analyst: JYH
Units: ug/L
Workgroup (AAB#): WG432851
Cal ID: ICP-MS - 04-JUN-13
Matrix: WATER
QAPP: DOD4

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: 2909758
Report generated 06/05/2013 08:18

Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L13051304
Run Date: 06/04/2013
Sample ID: WG432868-14
Instrument ID: ICP-MS2
Run Time: 14:04
Method: 6020
File ID: NI.060413.140410
Analyst: JYH
Units: ug/L
Workgroup (AAB#): WG432851
Cal ID: ICP-MS - 04-JUN-13
Matrix: WATER
QAPP: DOD4

Analytes	MDL	RDL	Concentration	Qualifier
Antimony	0.200	0.400	0.240	F
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: 2909758
Report generated 06/05/2013 08:18

Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L13051304 Run Date: 06/04/2013 Sample ID: WG432868-16
Instrument ID: ICP-MS2 Run Time: 14:36 Method: 6020
File ID: NI.060413.143609 Analyst: JYH Units: ug/L
Workgroup (AAB#): WG432851 Cal ID: ICP-MS - 04-JUN-13
Matrix: WATER QAPP: DOD4

Analytes	MDL	RDL	Concentration	Qualifier
Antimony	0.200	0.400	0.243	F
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: 2909758
Report generated 06/05/2013 08:18

Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L13051304 Run Date: 06/04/2013 Sample ID: WG432868-26
Instrument ID: ICP-MS2 Run Time: 18:31 Method: 6020
File ID: NI.060413.183118 Analyst: JYH Units: ug/L
Workgroup (AAB#): WG432851 Cal ID: ICP-MS - 04-JUN-13
Matrix: WATER QAPP: DOD4

Analytes	MDL	RDL	Concentration	Qualifier
Antimony	0.200	0.400	0.241	F
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: 2909758
Report generated 06/05/2013 08:18

Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L13051304
Run Date: 06/04/2013
Sample ID: WG432868-28
Instrument ID: ICP-MS2
Run Time: 19:16
Method: 6020
File ID: NI.060413.191635
Analyst: JYH
Units: ug/L
Workgroup (AAB#): WG432851
Cal ID: ICP-MS - 04-JUN-13
Matrix: WATER
QAPP: DOD4

Analytes	MDL	RDL	Concentration	Qualifier
Antimony	0.200	0.400	0.237	F
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: 2909758
Report generated 06/05/2013 08:18

Microbac Laboratories Inc.

INITIAL CALIBRATION VERIFICATION (ICV)

(Alternate Source)

Login Number: L13051304 Run Date: 06/04/2013 Sample ID: WG432868-05

Instrument ID: ICP-MS2 Run Time: 12:50 Method: 6020

File ID: NI.060413.125058 Analyst: JYH Units: ug/L

Workgroup (AAB#): WG432851 Cal ID: ICP-MS - 04-JUN-13

QC Key: DOD4

Analyte		Expected	Found	%REC	LIMITS	Q
Antimony		50	50.4	101	90 - 110	
Arsenic		50	49.4	98.9	90 - 110	
Barium		50	50.1	100	90 - 110	
Cadmium		50	50.2	100	90 - 110	
Chromium		50	49.8	99.5	90 - 110	
Cobalt		50	49.4	98.9	90 - 110	
Copper		50	49.8	99.7	90 - 110	
Lead		50	50.3	101	90 - 110	
Manganese		50	49.7	99.4	90 - 110	
Nickel		50	49.8	99.7	90 - 110	
Selenium		50	49.4	98.8	90 - 110	
Silver		50	50.7	101	90 - 110	
Thallium		50	50.2	100	90 - 110	

* Exceeds LIMITS Limit

ICV - Modified 03/06/2008
PDF File ID: 2909754
Report generated 06/05/2013 08:18

Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L13051304
Run Date: 06/04/2013
Sample ID: WG432868-11
Instrument ID: ICP-MS2
Run Time: 13:14
Method: 6020
File ID: NI.060413.131401
Analyst: JYH
QC Key: DOD4
Workgroup (AAB#): WG432851
Cal ID: ICP-MS - 04-JUN-13
Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Antimony		50.0	50.6	ug/L	101	90 - 110		
Arsenic		50.0	49.0	ug/L	98.0	90 - 110		
Barium		50.0	50.3	ug/L	101	90 - 110		
Cadmium		50.0	50.5	ug/L	101	90 - 110		
Chromium		50.0	49.4	ug/L	98.8	90 - 110		
Cobalt		50.0	49.0	ug/L	98.0	90 - 110		
Copper		50.0	49.1	ug/L	98.2	90 - 110		
Lead		50.0	50.4	ug/L	101	90 - 110		
Manganese		50.0	48.9	ug/L	97.9	90 - 110		
Nickel		50.0	50.5	ug/L	101	90 - 110		
Selenium		50.0	50.4	ug/L	101	90 - 110		
Silver		50.0	51.4	ug/L	103	90 - 110		
Thallium		50.0	50.1	ug/L	100	90 - 110		

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008
PDF File ID: 2909757
Report generated 06/05/2013 08:18

Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L13051304 Run Date: 06/04/2013 Sample ID: WG432868-13
Instrument ID: ICP-MS2 Run Time: 14:00 Method: 6020
File ID: NI.060413.140023 Analyst: JYH QC Key: DOD4
Workgroup (AAB#): WG432851 Cal ID: ICP-MS - 04-JUN-13
Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Antimony		50.0	48.8	ug/L	97.5	90 - 110		
Arsenic		50.0	50.2	ug/L	100	90 - 110		
Barium		50.0	49.9	ug/L	99.9	90 - 110		
Cadmium		50.0	49.4	ug/L	98.7	90 - 110		
Chromium		50.0	50.9	ug/L	102	90 - 110		
Cobalt		50.0	49.1	ug/L	98.1	90 - 110		
Copper		50.0	50.7	ug/L	101	90 - 110		
Lead		50.0	49.7	ug/L	99.4	90 - 110		
Manganese		50.0	49.6	ug/L	99.1	90 - 110		
Nickel		50.0	52.2	ug/L	104	90 - 110		
Selenium		50.0	52.6	ug/L	105	90 - 110		
Silver		50.0	49.9	ug/L	99.7	90 - 110		
Thallium		50.0	50.6	ug/L	101	90 - 110		

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008
PDF File ID: 2909757
Report generated 06/05/2013 08:18

Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L13051304
Run Date: 06/04/2013
Sample ID: WG432868-15
Instrument ID: ICP-MS2
Run Time: 14:32
Method: 6020
File ID: NI.060413.143223
Analyst: JYH
QC Key: DOD4
Workgroup (AAB#): WG432851
Cal ID: ICP-MS - 04-JUN-13
Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Antimony		50.0	49.1	ug/L	98.3	90 - 110		
Arsenic		50.0	50.3	ug/L	101	90 - 110		
Barium		50.0	50.4	ug/L	101	90 - 110		
Cadmium		50.0	48.3	ug/L	96.5	90 - 110		
Chromium		50.0	50.7	ug/L	101	90 - 110		
Cobalt		50.0	48.6	ug/L	97.2	90 - 110		
Copper		50.0	51.0	ug/L	102	90 - 110		
Lead		50.0	49.7	ug/L	99.4	90 - 110		
Manganese		50.0	49.2	ug/L	98.4	90 - 110		
Nickel		50.0	52.5	ug/L	105	90 - 110		
Selenium		50.0	52.4	ug/L	105	90 - 110		
Silver		50.0	50.3	ug/L	101	90 - 110		
Thallium		50.0	49.9	ug/L	99.8	90 - 110		

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008
PDF File ID: 2909757
Report generated 06/05/2013 08:18

Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L13051304
Run Date: 06/04/2013
Sample ID: WG432868-25
Instrument ID: ICP-MS2
Run Time: 18:27
Method: 6020
File ID: NI.060413.182732
Analyst: JYH
QC Key: DOD4
Workgroup (AAB#): WG432851
Cal ID: ICP-MS - 04-JUN-13
Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Antimony		50.0	47.9	ug/L	95.9	90 - 110		
Arsenic		50.0	49.8	ug/L	99.5	90 - 110		
Barium		50.0	50.4	ug/L	101	90 - 110		
Cadmium		50.0	45.8	ug/L	91.6	90 - 110		
Chromium		50.0	48.7	ug/L	97.4	90 - 110		
Cobalt		50.0	46.1	ug/L	92.2	90 - 110		
Copper		50.0	51.2	ug/L	102	90 - 110		
Lead		50.0	48.7	ug/L	97.3	90 - 110		
Manganese		50.0	47.2	ug/L	94.3	90 - 110		
Nickel		50.0	52.8	ug/L	106	90 - 110		
Selenium		50.0	51.7	ug/L	103	90 - 110		
Silver		50.0	51.3	ug/L	103	90 - 110		
Thallium		50.0	50.0	ug/L	100	90 - 110		

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008
PDF File ID: 2909757
Report generated 06/05/2013 08:18

Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L13051304
Run Date: 06/04/2013
Sample ID: WG432868-27
Instrument ID: ICP-MS2
Run Time: 19:12
Method: 6020
File ID: NI.060413.191249
Analyst: JYH
QC Key: DOD4
Workgroup (AAB#): WG432851
Cal ID: ICP-MS - 04-JUN-13
Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Antimony		50.0	48.1	ug/L	96.3	90 - 110		
Arsenic		50.0	50.4	ug/L	101	90 - 110		
Barium		50.0	49.3	ug/L	98.6	90 - 110		
Cadmium		50.0	47.1	ug/L	94.2	90 - 110		
Chromium		50.0	49.8	ug/L	99.7	90 - 110		
Cobalt		50.0	47.1	ug/L	94.3	90 - 110		
Copper		50.0	51.8	ug/L	104	90 - 110		
Lead		50.0	50.4	ug/L	101	90 - 110		
Manganese		50.0	47.9	ug/L	95.9	90 - 110		
Nickel		50.0	54.0	ug/L	108	90 - 110		
Selenium		50.0	53.1	ug/L	106	90 - 110		
Silver		50.0	46.9	ug/L	93.9	90 - 110		
Thallium		50.0	50.9	ug/L	102	90 - 110		

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008
PDF File ID: 2909757
Report generated 06/05/2013 08:18

Microbac Laboratories Inc.
INTERFERENCE CHECK SAMPLES

Login number: L13051304
Instrument ID: ICP-MS2
Sol. A : WG432868-09 **File ID:** NI.060413.130617
Sol. AB : WG432868-10 **File ID:** NI.060413.131002

Workgroup (AAB#): WG432851
Method: 6020
Units: ug/L
Matrix: Water

	Sol. A			Sol. AB			
ANALYTE	True	Found	%Recovery	True	Found	%Recovery	Q
Antimony	NS	0.112	NS	100	101	101	
Arsenic	NS	-0.000400	NS	100	100	100	
Barium	NS	0.0422	NS	100	99.3	99.3	
Cadmium	NS	-0.0273	NS	100	99.7	99.7	
Chromium	NS	0.0875	NS	100	98.5	98.5	
Cobalt	NS	0.0302	NS	100	96.8	96.8	
Copper	NS	0.180	NS	100	98.2	98.2	
Lead	NS	0.0200	NS	100	100	100	
Manganese	NS	0.0975	NS	100	97.5	97.5	
Nickel	NS	0.512	NS	100	99.6	99.6	
Selenium	NS	0.0193	NS	100	101	101	
Silver	NS	0.00120	NS	100	98.3	98.3	
Thallium	NS	0.00250	NS	100	98.7	98.7	

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: 2909756
Report generated 06/05/2013 08:18

Microbac Laboratories Inc.

INTERNAL STANDARD REPORT

Login: L13051304 **Analytical Method:** 6020
Analytical Workgroup: WG432851 **Matrix:** 1
Instrument: ICP-MS2 **Analyst:** JYH
ICAL Date: 04-JUN-2013 12:35

			BISMUTH	GERMANIUM	INDIUM	LITHIUM
Sample	**Type**	**Run Date**	**% Rec**	**% Rec**	**% Rec**	**% Rec**
L13051304-01	SAMP	04-JUN-2013 18:50	116.009	93.618	116.951	**138.429**
L13051304-02	SAMP	04-JUN-2013 18:53	116.646	95.2	117.697	**143.182**
L13051304-03	SAMP	04-JUN-2013 18:57	115.641	92.508	116.498	**140.085**
WG432798-01	REF	04-JUN-2013 13:33	108.301	99.555	108.243	112.999
WG432798-02	BLANK	04-JUN-2013 13:22	100.078	87.039	94.237	92.027
WG432798-03	LCS	04-JUN-2013 13:30	109.199	100.088	109.111	114.146
WG432798-04	MS	04-JUN-2013 13:37	109.113	99.611	108.862	116.15
WG432798-05	MSD	04-JUN-2013 13:41	108.767	99.923	110.041	117.58
WG432851-01	PSPK	04-JUN-2013 13:52	116.767	103.603	113.848	**123.867**
WG432851-01	PSPK	04-JUN-2013 14:21	112.784	97.352	110.978	**120.707**
WG432851-02	SERIAL	04-JUN-2013 13:56	110.6	97.417	109.421	117.079
WG432851-02	SERIAL	04-JUN-2013 14:24	103.922	84.457	96.046	100.053
WG432868-05	ICV	04-JUN-2013 12:50	102.236	97.517	101.835	102.397
WG432868-07	ICB	04-JUN-2013 12:58	105.653	97.882	104.163	105.232
WG432868-08	LLICV	04-JUN-2013 13:02	105.428	98.05	104.243	105.805
WG432868-09	ICS	04-JUN-2013 13:06	98.717	90.976	95.551	96.131
WG432868-10	ICS	04-JUN-2013 13:10	107.308	100.188	107.579	110.22
WG432868-11	CCV	04-JUN-2013 13:14	107.243	99.724	106.244	110.371
WG432868-12	CCB	04-JUN-2013 13:18	103.128	93.582	97.063	100.593
WG432868-13	CCV	04-JUN-2013 14:00	108.393	95.49	108.217	113.741
WG432868-14	CCB	04-JUN-2013 14:04	108.538	94.256	106.335	112.199
WG432868-15	CCV	04-JUN-2013 14:32	110.561	94.517	109.373	117
WG432868-16	CCB	04-JUN-2013 14:36	111.757	93.411	109.02	117.137
WG432868-25	CCV	04-JUN-2013 18:27	111.367	92.743	111.677	**127.195**
WG432868-26	CCB	04-JUN-2013 18:31	113.12	91.42	113.855	**130.43**
WG432868-27	CCV	04-JUN-2013 19:12	116.043	91.923	117.349	**137.171**
WG432868-28	CCB	04-JUN-2013 19:16	116.991	92.955	115.356	**138.033**
WG432868-31	LLCCV	04-JUN-2013 19:46	114.861	91.114	113.78	**133.71**

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: 2909752
Report generated: 06/05/2013 08:18

Microbac Laboratories Inc.

INTERNAL STANDARD REPORT

Login: L13051304 **Analytical Method:** 6020
Analytical Workgroup: WG432851 **Matrix:** 18
Instrument: ICP-MS2 **Analyst:** JYH
ICAL Date: 04-JUN-2013 12:35

			BISMUTH	GERMANIUM	INDIUM	LITHIUM
Sample	Type	Run Date	% Rec	% Rec	% Rec	% Rec
L13051523-04	SAMP	04-JUN-2013 13:49	113.661	97.594	108.484	116.65
L13051523-04	SAMP	04-JUN-2013 14:17	102.92	84.23	97.696	101.723

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: 2909752
Report generated: 06/05/2013 08:18

Microbac Laboratories Inc.
LINEAR RANGE (QUARTERLY)

Login Number: L13051304 **Date:** 03/12/2013
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: 2909751
Report generated: 06/05/2013 08:18

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, June 04, 2013 12:15:13

Mass Calibration and Resolution

Analyte	E Mass	Meas Mass	Mass C DAC Val	Res DAC Value	Meas Peak WCustom Res
Li	7.016	6.975	1345	2024	0.707
Mg	23.985	24.025	4503	2019	0.709
Co	58.933	58.925	11685	2019	0.711
In	114.904	114.875	22859	2025	0.689
U	238.050	238.075	47464	2037	0.702

Relative Std. Dev.

Mass	Meas. Intens. RSD
5.525	3.118
5.575	1.388
5.625	2.124
5.675	1.316
5.725	1.280
5.775	1.334
5.825	2.123
5.875	1.306
5.925	1.683
5.975	2.442
6.025	3.843
6.075	4.167
6.125	17.973
6.175	70.711
6.225	55.902
6.275	74.689
6.325	20.360
6.375	8.520
6.425	6.264
6.475	7.334
6.525	5.416
6.575	1.749
6.625	2.860
6.675	1.943
6.725	1.855
6.775	1.833
6.825	2.914

Report Date/Time: Tuesday, June 04, 2013 12:18:24
Page 1

Approved: June 05, 2013

6.875	2.177
6.925	1.052
6.975	1.715
7.025	1.776
7.075	1.323
7.125	4.580
7.175	4.671
7.225	55.902
7.275	121.835
7.325	136.931
7.375	91.287
7.425	104.583
7.475	70.711
7.525	91.287
7.575	91.287
7.625	104.583
7.675	37.268
7.725	69.722
7.775	0.000
7.825	91.287
7.875	136.931
7.925	
7.975	104.583
8.025	70.711
8.075	108.653
8.125	104.583
8.175	136.931
8.225	141.421
8.275	136.931
8.325	91.287
8.375	149.071
8.425	104.583
8.475	47.140
22.525	55.902
22.575	22.822
22.625	46.566
22.675	34.810
22.725	23.570
22.775	35.675
22.825	30.366
22.875	13.546
22.925	10.648
22.975	18.373
23.025	30.053
23.075	30.756
23.125	26.066
23.175	13.357

Approved: June 05, 2013

23.225	31.044
23.275	27.702
23.325	26.504
23.375	49.743
23.425	32.478
23.475	24.047
23.525	8.430
23.575	1.898
23.625	1.914
23.675	0.869
23.725	1.237
23.775	0.633
23.825	1.472
23.875	1.390
23.925	2.191
23.975	0.815
24.025	1.948
24.075	1.875
24.125	1.910
24.175	1.772
24.225	2.146
24.275	2.263
24.325	4.688
24.375	14.425
24.425	23.570
24.475	23.568
24.525	5.673
24.575	3.014
24.625	2.375
24.675	2.230
24.725	2.015
24.775	1.994
24.825	1.989
24.875	2.633
24.925	2.015
24.975	0.334
25.025	2.788
25.075	3.170
25.125	1.116
25.175	2.160
25.225	2.211
25.275	6.883
25.325	13.176
25.375	63.888
25.425	46.481
25.475	29.166
57.525	9.821

Report Date/Time: Tuesday, June 04, 2013 12:18:24
Page 3

Approved: June 05, 2013

57.575	2.636
57.625	4.009
57.675	4.367
57.725	1.501
57.775	1.202
57.825	2.414
57.875	2.921
57.925	3.060
57.975	3.180
58.025	2.671
58.075	2.480
58.125	1.121
58.175	3.002
58.225	3.664
58.275	7.334
58.325	11.205
58.375	49.701
58.425	40.406
58.475	21.990
58.525	7.025
58.575	5.107
58.625	2.312
58.675	1.987
58.725	3.162
58.775	2.013
58.825	2.226
58.875	2.191
58.925	1.639
58.975	2.863
59.025	5.360
59.075	2.471
59.125	1.539
59.175	0.990
59.225	2.290
59.275	15.077
59.325	51.349
59.375	43.853
59.425	15.215
59.475	28.828
59.525	16.105
59.575	7.268
59.625	10.143
59.675	3.666
59.725	7.010
59.775	8.008
59.825	4.651
59.875	4.857

Report Date/Time: Tuesday, June 04, 2013 12:18:24
Page 4

Approved: June 05, 2013

59.925	3.774
59.975	2.185
60.025	2.945
60.075	3.326
60.125	4.573
60.175	8.829
60.225	2.321
60.275	12.696
60.325	35.355
60.375	83.853
60.425	72.436
60.475	69.722
113.525	4.110
113.575	5.956
113.625	4.370
113.675	5.470
113.725	3.969
113.775	2.552
113.825	2.888
113.875	3.707
113.925	3.128
113.975	2.387
114.025	3.985
114.075	5.551
114.125	4.628
114.175	3.321
114.225	6.887
114.275	24.514
114.325	57.601
114.375	23.207
114.425	13.293
114.475	6.684
114.525	2.137
114.575	2.696
114.625	3.646
114.675	1.444
114.725	2.816
114.775	2.870
114.825	1.811
114.875	1.582
114.925	2.367
114.975	1.926
115.025	0.517
115.075	1.174
115.125	1.653
115.175	2.958
115.225	3.248

Report Date/Time: Tuesday, June 04, 2013 12:18:24
Page 5

Approved: June 05, 2013

115.275	10.431
115.325	72.436
115.375	34.233
115.425	51.602
115.475	42.127
115.525	15.306
115.575	11.717
115.625	6.628
115.675	6.873
115.725	5.571
115.775	3.327
115.825	4.660
115.875	9.033
115.925	5.583
115.975	3.291
116.025	3.202
116.075	5.857
116.125	11.512
116.175	6.080
116.225	18.040
116.275	19.563
116.325	82.402
116.375	59.265
116.425	162.980
116.475	77.427
236.525	
236.575	35.334
236.625	75.357
236.675	45.079
236.725	50.047
236.775	24.786
236.825	34.641
236.875	32.969
236.925	56.398
236.975	30.987
237.025	14.425
237.075	54.565
237.125	44.304
237.175	24.786
237.225	30.619
237.275	81.223
237.325	71.148
237.375	41.163
237.425	43.301
237.475	49.793
237.525	35.392
237.575	19.183

Approved: June 05, 2013

237.625	14.415
237.675	4.484
237.725	3.283
237.775	1.526
237.825	2.337
237.875	2.362
237.925	1.994
237.975	1.679
238.025	1.268
238.075	1.812
238.125	2.426
238.175	2.331
238.225	1.264
238.275	2.377
238.325	3.397
238.375	4.101
238.425	3.138
238.475	7.588
238.525	11.679
238.575	22.822
238.625	42.127
238.675	30.619
238.725	39.491
238.775	32.969
238.825	34.233
238.875	54.935
238.925	36.099
238.975	50.461
239.025	14.142
239.075	45.015
239.125	33.535
239.175	10.648
239.225	62.828
239.275	97.183
239.325	46.481
239.375	57.334
239.425	26.352
239.475	62.828

Approved: June 05, 2013

Daily Performance Report

Sample ID: Daily Performance Check
Sample Date/Time: Tuesday, June 04, 2013 12:19:50
Sample Description:
Method File: C:\NexION Data\Method\ESI Daily Performance.mth
Dataset File: C:\NexION Data\DataSet\053013\Daily Performance Check.416
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	7055.4	7055.376	73.740	1.0	Standard
	Mg	24.0	399018.0	399017.963	4327.317	1.1	Standard
	In	114.9	51369.2	51369.208	558.576	1.1	Standard
	U	238.1	35160.6	35160.554	396.057	1.1	Standard
⌈	CeO	155.9	1326.7	0.020	0.000	2.1	Standard
| >	Ce	139.9	67001.3	67001.289	510.788	0.8	Standard
⌊	Ce++	70.0	845.9	0.013	0.000	2.5	Standard
	Bkgd	220.0	0.2	0.200	0.183	91.3	Standard

Current Conditions File Data

Current Value	Description
0.97	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
-1600.00	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
1.00	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, June 04, 2013 12:21:54
Page 1

Approved: June 05, 2013

SmartTune Wizard - Summary

```
Optimization Summary

SmartTune file: C:\NexIONData\Wizard\SmartTune\ESI SmartTune Fullmicrobac.swz

Start Time: 6/4/2013 12:19:50 PM
End Time: 6/4/2013 12:21:54 PM

Daily Performance Check - [Passed]  Optimum value(s): N/A
        Obtained Intensity (Be 9.0122): 7055.38
        Obtained Intensity (Mg 23.985): 399017.96
        Obtained Intensity (In 114.904): 51369.21
        Obtained Intensity (U 238.05): 35160.55
        Obtained Intensity (Bkgd 220): 0.20
        Obtained Formula (CeO 155.9 / Ce 139.905): 0.020 (=1326.72 / 67001.29)
        Obtained Formula (Ce++ 69.9527 / Ce 139.905): 0.013 (=845.89 / 67001.29)
```

Report Date/Time: Tuesday, June 04, 2013 12:21:54
Page 1

Approved: June 05, 2013

SmartTune Wizard - Details

```
Optimization Details

SmartTune file: C:\NexIONData\Wizard\SmartTune\ESI SmartTune Fullmicrobac.swz

Optimization Status

Start Time: 6/4/2013 12:19:50 PM

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): 7055.38
                Obtained Intensity (Mg 23.985): 399017.96
                Obtained Intensity (In 114.904): 51369.21
                Obtained Intensity (U 238.05): 35160.55
                Obtained Intensity (Bkgd 220): 0.20
                Obtained Formula (CeO 155.9 / Ce 139.905): 0.020 (=1326.72 / 67001.29)
                Obtained Formula (Ce++ 69.9527 / Ce 139.905): 0.013 (=845.89 / 67001.29)
[Passed]  Optimum value(s): N/A

End Time: 6/4/2013 12:21:54 PM
```


Approved: June 05, 2013

Method 6020 - Summary Report

Sample ID: Blank
Sample Date/Time: Tuesday, June 04, 2013 12:32:05
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	552026.7	0.3				ug/L		Standard
	Be	9	17.7	16.3				ug/L		Standard
	Al	27	841.4	1.9				ug/L		Standard
	Sc	45	35083.9	0.8				ug/L		Standard
	Ti	47	22.3	15.7				ug/L		Standard
	V	51	811.8	1.7				ug/L		Standard
	Cr	52	4274.3	2.1				ug/L		Standard
	Cr	53	1105.9	1.8				ug/L		Standard
	Mn	55	1206.7	4.9				ug/L		Standard
	Co	59	70.7	11.8				ug/L		Standard
	Ni	60	295.3	0.2				ug/L		Standard
	Cu	65	87.0	18.2				ug/L		Standard
	Zn	66	469.3	4.4				ug/L		Standard
>	Ge	72	514704.0	1.3				ug/L		Standard
	As	75	-121.1	21.9				ug/L		Standard
	Se	82	-0.9	199.7				ug/L		Standard
	Se-1	77	127.3	9.7				ug/L		Standard
>	Ga	71	175.0	4.9				mg/L		Standard
	Rb	85	50.0	26.5				ug/L		Standard
	Y	89	527498.6	1.7				ug/L		Standard
>	Rh	103	10.0					ug/L		Standard
	Mo	98	23.3	17.6				ug/L		Standard
	Ag	107	59.3	17.2				ug/L		Standard
	Cd	111	3.0	33.8				mg/L		Standard
	Cd	114	10.5	55.1				ug/L		Standard
>	In	115	537195.1	0.8				ug/L		Standard
	Sn	118	280.7	19.9				ug/L		Standard
	Sb	123	167.3	19.7				ug/L		Standard
	Ba	135	10.3	11.2				ug/L		Standard
	Ce	140	26.7	60.3				ug/L		Standard
>	Tb	159	758170.0	0.5				ug/L		Standard
	Ho	165	7.3	39.4				ug/L		Standard
	Tl	203	4.7	68.9				ug/L		Standard
	Tl	205	0.3	173.2				ug/L		Standard
	Pb	206	181.7	10.2				ug/L		Standard
	Pb	207	145.0	0.7				ug/L		Standard
	Pb	208	206.7	4.1				ug/L		Standard
	U	238	1.3	86.6				ug/L		Standard
>	Bi	209	325207.0	0.3				ug/L		Standard

Sample ID: Blank
Report Date/Time: Tuesday, June 04, 2013 12:34:57
Page 1

Approved: June 05, 2013

	Na	23	0.0		mg/L	Standard
	Mg	24	25.0	52.9	mg/L	Standard
	K	39	3.3	86.6	mg/L	Standard
	Ca	43	296.7	8.5	mg/L	Standard
	Fe	54	91.2	13.7	mg/L	Standard
	Fe	57	236.7	23.3	mg/L	Standard
>	**Sc-1**	45	35083.9	0.8	mg/L	Standard
	Cl	35	29807.6	1.2	ug/L	Standard
	Kr	83	38.4	0.5	ug/L	Standard
	Br	81	965.0	4.4	ug/L	Standard
	P	31	176735.0	1.9	ug/L	Standard
	S	34	28890.9	1.1	ug/L	Standard
	Sr	88	26.7	62.4	ug/L	Standard
	C	12	6.7	43.3	mg/L	Standard
	N	14	0.0		mg/L	Standard
	Hg	202	3.3	86.6	mg/L	Standard
	Dy	164	13.6	18.8	mg/L	Standard
	Ho-1	165	7.3	39.4	mg/L	Standard
	Er	166	8.3	59.2	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			

Sample ID: Blank
Report Date/Time: Tuesday, June 04, 2013 12:34:57
Page 2

Approved: June 05, 2013

⌈	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: Blank
Report Date/Time: Tuesday, June 04, 2013 12:34:57
Page 3

Approved: June 05, 2013

Method 6020 - Summary Report

Sample ID: Standard 1
Sample Date/Time: Tuesday, June 04, 2013 12:35:52
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	565238.5	0.9				ug/L	552027	Standard
	Be	9	26.3	22.9				ug/L	18	Standard
	Al	27	885.0	3.8				ug/L	841	Standard
	Sc	45	35224.2	2.6				ug/L	35084	Standard
	Ti	47	22.0	20.8				ug/L	22	Standard
	V	51	795.9	7.2				ug/L	812	Standard
	Cr	52	4350.3	2.2				ug/L	4274	Standard
	Cr	53	1072.5	3.0				ug/L	1106	Standard
	Mn	55	1224.0	1.4				ug/L	1207	Standard
	Co	59	76.0	6.0				ug/L	71	Standard
	Ni	60	284.7	5.8				ug/L	295	Standard
	Cu	65	92.0	16.0				ug/L	87	Standard
	Zn	66	488.7	1.2				ug/L	469	Standard
>	**Ge**	72	513716.0	1.1				ug/L	514704	Standard
	As	75	-146.1	6.3				ug/L	-121	Standard
	Se	82	1.5	502.0				ug/L	-1	Standard
	Se-1	77	127.3	8.1				ug/L	127	Standard
>	**Ga**	71	176.7	1.6				mg/L	175	Standard
	Rb	85	51.7	20.1				ug/L	50	Standard
	Y	89	527883.6	2.5				ug/L	527499	Standard
>	**Rh**	103	10.0	50.0				ug/L	10	Standard
	Mo	98	18.7	21.4				ug/L	23	Standard
	Ag	107	50.0	9.2				ug/L	59	Standard
	Cd	111	2.0	50.3				mg/L	3	Standard
	Cd	114	16.7	38.9				ug/L	10	Standard
>	**In**	115	543922.3	2.3				ug/L	537195	Standard
	Sn	118	283.0	23.3				ug/L	281	Standard
	Sb	123	76.1	16.4				ug/L	167	Standard
	Ba	135	11.3	50.9				ug/L	10	Standard
	Ce	140	25.7	82.1				ug/L	27	Standard
>	**Tb**	159	772693.9	1.1				ug/L	758170	Standard
	Ho	165	5.7	10.2				ug/L	7	Standard
	Tl	203	3.7	41.7				ug/L	5	Standard
	Tl	205	0.0					ug/L	0	Standard
	Pb	206	174.0	6.0				ug/L	182	Standard
	Pb	207	147.3	1.7				ug/L	145	Standard
	Pb	208	204.0	9.1				ug/L	207	Standard
	U	238	0.3	173.2				ug/L	1	Standard
>	**Bi**	209	332540.8	0.7				ug/L	325207	Standard

Sample ID: Standard 1
Report Date/Time: Tuesday, June 04, 2013 12:38:44
Page 1

Approved: June 05, 2013

Na	23	1.7	173.2	mg/L	0	Standard
Mg	24	25.0	20.0	mg/L	25	Standard
K	39	10.0	86.6	mg/L	3	Standard
Ca	43	305.0	10.0	mg/L	297	Standard
Fe	54	122.9	15.6	mg/L	91	Standard
Fe	57	176.7	20.1	mg/L	237	Standard
> **Sc-1**	45	35224.2	2.6	mg/L	35084	Standard
Cl	35	30413.5	0.9	ug/L	29808	Standard
Kr	83	36.3	1.6	ug/L	38	Standard
Br	81	1021.7	12.7	ug/L	965	Standard
P	31	179212.4	2.5	ug/L	176735	Standard
S	34	28106.9	1.2	ug/L	28891	Standard
Sr	88	30.8	18.7	ug/L	27	Standard
C	12	5.0	173.2	mg/L	7	Standard
N	14	0.0		mg/L	0	Standard
Hg	202	0.0		mg/L	3	Standard
Dy	164	8.3	26.3	mg/L	14	Standard
Ho-1	165	5.7	10.2	mg/L	7	Standard
Er	166	7.7	37.7	mg/L	8	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
Report Date/Time: Tuesday, June 04, 2013 12:38:44
Page 2

Approved: June 05, 2013

⌈	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
Report Date/Time: Tuesday, June 04, 2013 12:38:44
Page 3

Approved: June 05, 2013

Method 6020 - Summary Report

Sample ID: Standard 2
Sample Date/Time: Tuesday, June 04, 2013 12:39:38
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	563283.3	0.9				ug/L	552027	Standard
	Be	9	117.7	2.5				ug/L	18	Standard
	Al	27	8692.8	8.3				ug/L	841	Standard
	Sc	45	35740.5	2.9				ug/L	35084	Standard
	Ti	47	40.7	12.6				ug/L	22	Standard
	V	51	1073.8	11.7				ug/L	812	Standard
	Cr	52	4669.1	1.7				ug/L	4274	Standard
	Cr	53	1128.4	6.3				ug/L	1106	Standard
	Mn	55	1702.8	4.9				ug/L	1207	Standard
	Co	59	375.7	8.0				ug/L	71	Standard
	Ni	60	401.7	4.8				ug/L	295	Standard
	Cu	65	232.0	7.8				ug/L	87	Standard
	Zn	66	882.0	2.0				ug/L	469	Standard
>	**Ge**	72	518252.7	1.8				ug/L	514704	Standard
	As	75	-74.8	41.0				ug/L	-121	Standard
	Se	82	6.8	93.0				ug/L	-1	Standard
	Se-1	77	121.3	8.4				ug/L	127	Standard
>	**Ga**	71	215.0	23.6				mg/L	175	Standard
	Rb	85	58.3	9.9				ug/L	50	Standard
	Y	89	545438.8	1.5				ug/L	527499	Standard
>	**Rh**	103	13.3	43.3				ug/L	10	Standard
	Mo	98	418.8	7.9				ug/L	23	Standard
	Ag	107	339.7	4.7				ug/L	59	Standard
	Cd	111	87.9	5.7				mg/L	3	Standard
	Cd	114	241.6	13.9				ug/L	10	Standard
>	**In**	115	548997.5	1.4				ug/L	537195	Standard
	Sn	118	562.3	11.4				ug/L	281	Standard
	Sb	123	254.8	2.4				ug/L	167	Standard
	Ba	135	124.3	12.9				ug/L	10	Standard
	Ce	140	26.3	71.9				ug/L	27	Standard
>	**Tb**	159	780084.5	1.4				ug/L	758170	Standard
	Ho	165	8.3	18.3				ug/L	7	Standard
	Tl	203	274.3	6.6				ug/L	5	Standard
	Tl	205	6.0	33.3				ug/L	0	Standard
	Pb	206	416.7	5.1				ug/L	182	Standard
	Pb	207	344.0	5.1				ug/L	145	Standard
	Pb	208	498.0	6.1				ug/L	207	Standard
	U	238	231.3	6.5				ug/L	1	Standard
>	**Bi**	209	335069.4	1.0				ug/L	325207	Standard

Sample ID: Standard 2
Report Date/Time: Tuesday, June 04, 2013 12:42:30
Page 1

Approved: June 05, 2013

Na	23	6.7	43.3	mg/L	0	Standard
Mg	24	43.3	29.0	mg/L	25	Standard
K	39	3.3	86.6	mg/L	3	Standard
Ca	43	293.3	13.7	mg/L	297	Standard
Fe	54	104.6	12.6	mg/L	91	Standard
Fe	57	183.3	29.9	mg/L	237	Standard
> **Sc-1**	45	35740.5	2.9	mg/L	35084	Standard
Cl	35	31137.0	0.9	ug/L	29808	Standard
Kr	83	38.2	11.0	ug/L	38	Standard
Br	81	1065.0	4.5	ug/L	965	Standard
P	31	185258.5	2.2	ug/L	176735	Standard
S	34	28832.4	1.8	ug/L	28891	Standard
Sr	88	25.8	20.1	ug/L	27	Standard
C	12	6.7	43.3	mg/L	7	Standard
N	14	0.0		mg/L	0	Standard
Hg	202	0.0		mg/L	3	Standard
Dy	164	7.3	7.4	mg/L	14	Standard
Ho-1	165	8.3	18.3	mg/L	7	Standard
Er	166	7.0	24.7	mg/L	8	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 2
Report Date/Time: Tuesday, June 04, 2013 12:42:30
Page 2

Approved: June 05, 2013

⌈	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 2
Report Date/Time: Tuesday, June 04, 2013 12:42:30
Page 3

Approved: June 05, 2013

Method 6020 - Summary Report

Sample ID: Standard 3
Sample Date/Time: Tuesday, June 04, 2013 12:43:24
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	567651.7	1.0				ug/L	552027	Standard
	Be	9	96310.5	9.2	**50.0000**	4.344	8.7	ug/L	18	Standard
	Al	27	6925903.1	9.5	**50.0000**	4.556	9.1	ug/L	841	Standard
	Sc	45	35119.0	2.3				ug/L	35084	Standard
	Ti	47	21602.2	10.4	**100.0000**	8.498	8.5	ug/L	22	Standard
	V	51	296218.8	11.4	**50.0000**	4.759	9.5	ug/L	812	Standard
	Cr	52	264618.3	12.5	**50.0000**	5.409	10.8	ug/L	4274	Standard
	Cr	53	51271.5	11.3	**50.0000**	4.789	9.6	ug/L	1106	Standard
	Mn	55	399332.6	12.7	**50.0000**	5.503	11.0	ug/L	1207	Standard
	Co	59	280921.9	12.3	**50.0000**	5.210	10.4	ug/L	71	Standard
	Ni	60	107641.2	9.9	**50.0000**	4.033	8.1	ug/L	295	Standard
	Cu	65	108655.8	9.3	**50.0000**	3.773	7.5	ug/L	87	Standard
	Zn	66	57160.9	9.6	**50.0000**	3.834	7.7	ug/L	469	Standard
>	**Ge**	72	506948.3	2.2				ug/L	514704	Standard
	As	75	63708.8	9.3	**50.0000**	3.664	7.3	ug/L	-121	Standard
	Se	82	6251.7	8.6	**50.0000**	3.438	6.9	ug/L	-1	Standard
	Se-1	77	4237.9	8.1	**50.0000**	3.082	6.2	ug/L	127	Standard
>	**Ga**	71	241.7	6.0				mg/L	175	Standard
	Rb	85	3082.0	8.5				ug/L	50	Standard
	Y	89	550139.7	0.5				ug/L	527499	Standard
>	**Rh**	103	28.3	50.9				ug/L	10	Standard
	Mo	98	389873.1	10.6	**100.0000**	9.770	9.8	ug/L	23	Standard
	Ag	107	273336.0	8.0	**50.0000**	3.557	7.1	ug/L	59	Standard
	Cd	111	85008.7	10.3	**50.0000**	4.736	9.5	mg/L	3	Standard
	Cd	114	219705.3	10.9	**50.0000**	5.021	10.0	ug/L	10	Standard
>	**In**	115	547494.0	0.9				ug/L	537195	Standard
	Sn	118	241764.4	11.1	**50.0000**	5.149	10.3	ug/L	281	Standard
	Sb	123	190330.0	8.9	**50.0000**	4.017	8.0	ug/L	167	Standard
	Ba	135	85155.2	10.0	**50.0000**	4.554	9.1	ug/L	10	Standard
	Ce	140	88.7	6.8				ug/L	27	Standard
>	**Tb**	159	777967.0	1.2				ug/L	758170	Standard
	Ho	165	8.7	35.3				ug/L	7	Standard
	Tl	203	266637.5	6.8	**50.0000**	3.649	7.3	ug/L	5	Standard
	Tl	205	6951.3	7.8	**50.0000**	4.073	8.1	ug/L	0	Standard
	Pb	206	210562.1	10.3	**50.0000**	5.358	10.7	ug/L	182	Standard
	Pb	207	179290.9	9.8	**50.0000**	5.157	10.3	ug/L	145	Standard
	Pb	208	255821.8	9.9	**50.0000**	5.164	10.3	ug/L	207	Standard
	U	238	218976.9	11.2	**50.0000**	5.813	11.6	ug/L	1	Standard
>	**Bi**	209	334407.5	0.7				ug/L	325207	Standard

Sample ID: Standard 3
Report Date/Time: Tuesday, June 04, 2013 12:46:16
Page 1

Approved: June 05, 2013

	Na	23	36.7	31.5	**5.0000**	2.063	41.3	mg/L	0	Standard
	Mg	24	4750.8	10.7	**5.0000**	0.612	12.2	mg/L	25	Standard
	K	39	283.3	9.7	**5.0000**	0.474	9.5	mg/L	3	Standard
	Ca	43	1691.8	10.1	**5.0000**	0.674	13.5	mg/L	297	Standard
	Fe	54	4190.4	12.5	**5.0000**	0.664	13.3	mg/L	91	Standard
	Fe	57	1898.5	5.2	**5.0000**	0.294	5.9	mg/L	237	Standard
>	**Sc-1**	45	35119.0	2.3				mg/L	35084	Standard
	Cl	35	35582.4	2.5				ug/L	29808	Standard
	Kr	83	35.3	3.4				ug/L	38	Standard
	Br	81	999.2	6.8				ug/L	965	Standard
	P	31	199021.9	5.4				ug/L	176735	Standard
	S	34	39426.2	2.3				ug/L	28891	Standard
	Sr	88	34.2	11.2				ug/L	27	Standard
	C	12	1.7	173.2				mg/L	7	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	3.3	86.6				mg/L	3	Standard
	Dy	164	10.1	20.4				mg/L	14	Standard
	Ho-1	165	8.7	35.3				mg/L	7	Standard
	Er	166	12.7	18.2				mg/L	8	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 3
Report Date/Time: Tuesday, June 04, 2013 12:46:16
Page 2

Approved: June 05, 2013

⌈	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 3
Report Date/Time: Tuesday, June 04, 2013 12:46:16
Page 3

Approved: June 05, 2013

Method 6020 - Summary Report

Sample ID: Standard 4
Sample Date/Time: Tuesday, June 04, 2013 12:47:10
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	567624.9	1.8				ug/L	552027	Standard
	Be	9	195631.2	10.0	**100.7549**	8.711	8.6	ug/L	18	Standard
	Al	27	14439281.1	10.5	**102.0507**	9.225	9.0	ug/L	841	Standard
	Sc	45	35356.2	3.6				ug/L	35084	Standard
	Ti	47	43107.4	10.9	**201.3863**	21.703	10.8	ug/L	22	Standard
	V	51	592245.5	11.7	**100.8451**	11.763	11.7	ug/L	812	Standard
	Cr	52	510042.3	13.1	**99.3542**	12.912	13.0	ug/L	4274	Standard
	Cr	53	102499.3	12.9	**101.3064**	13.214	13.0	ug/L	1106	Standard
	Mn	55	777223.9	11.3	**99.5166**	11.134	11.2	ug/L	1207	Standard
	Co	59	548502.4	11.2	**99.5976**	10.870	10.9	ug/L	71	Standard
	Ni	60	212785.2	11.1	**100.2692**	11.195	11.2	ug/L	295	Standard
	Cu	65	212834.7	10.3	**99.7684**	10.342	10.4	ug/L	87	Standard
	Zn	66	111682.1	10.5	**99.9677**	10.413	10.4	ug/L	469	Standard
>	**Ge**	72	499575.8	1.2				ug/L	514704	Standard
	As	75	126059.8	9.8	**100.1906**	9.775	9.8	ug/L	-121	Standard
	Se	82	12496.7	9.8	**100.7465**	9.812	9.7	ug/L	-1	Standard
	Se-1	77	8446.7	8.0	**101.3025**	8.234	8.1	ug/L	127	Standard
>	**Ga**	71	251.7	14.9				mg/L	175	Standard
	Rb	85	6162.9	9.2				ug/L	50	Standard
	Y	89	537221.9	0.8				ug/L	527499	Standard
>	**Rh**	103	46.7	22.3				ug/L	10	Standard
	Mo	98	778275.4	11.7	**199.9276**	21.092	10.5	ug/L	23	Standard
	Ag	107	534073.7	8.1	**98.9037**	6.892	7.0	ug/L	59	Standard
	Cd	111	167348.4	11.4	**99.2671**	10.243	10.3	mg/L	3	Standard
	Cd	114	430443.7	10.9	**99.0327**	9.721	9.8	ug/L	10	Standard
>	**In**	115	546729.5	1.2				ug/L	537195	Standard
	Sn	118	480283.0	11.8	**99.7534**	10.631	10.7	ug/L	281	Standard
	Sb	123	375753.0	9.9	**99.4184**	8.708	8.8	ug/L	167	Standard
	Ba	135	168235.9	10.0	**99.4603**	8.765	8.8	ug/L	10	Standard
	Ce	140	159.3	11.3				ug/L	27	Standard
>	**Tb**	159	766469.3	1.3				ug/L	758170	Standard
	Ho	165	397.0	13.8				ug/L	7	Standard
	Tl	203	528803.6	7.0	**100.8763**	6.963	6.9	ug/L	5	Standard
	Tl	205	13890.4	7.1	**101.2504**	7.043	7.0	ug/L	0	Standard
	Pb	206	418546.8	9.8	**101.0098**	9.803	9.7	ug/L	182	Standard
	Pb	207	355414.5	9.2	**100.8699**	9.231	9.2	ug/L	145	Standard
	Pb	208	511880.2	10.9	**101.3351**	10.842	10.7	ug/L	207	Standard
	U	238	459208.0	12.3	**103.6520**	12.549	12.1	ug/L	1	Standard
>	**Bi**	209	325763.8	1.2				ug/L	325207	Standard

Sample ID: Standard 4
Report Date/Time: Tuesday, June 04, 2013 12:50:02
Page 1

Approved: June 05, 2013

	Na	23	66.7	37.0	**9.9775**	4.507	45.2	mg/L	0	Standard
	Mg	24	9448.0	7.0	**9.9552**	0.752	7.6	mg/L	25	Standard
	K	39	545.0	22.5	**9.8087**	2.355	24.0	mg/L	3	Standard
	Ca	43	3158.7	9.9	**10.0690**	1.096	10.9	mg/L	297	Standard
	Fe	54	8731.8	14.2	**10.2398**	1.636	16.0	mg/L	91	Standard
	Fe	57	3757.1	9.0	**10.1729**	1.221	12.0	mg/L	237	Standard
>	**Sc-1**	45	35356.2	3.6				mg/L	35084	Standard
	Cl	35	34446.5	2.9				ug/L	29808	Standard
	Kr	83	38.3	6.8				ug/L	38	Standard
	Br	81	995.0	7.0				ug/L	965	Standard
	P	31	202099.3	3.7				ug/L	176735	Standard
	S	34	37950.8	2.2				ug/L	28891	Standard
	Sr	88	31.7	32.9				ug/L	27	Standard
	C	12	3.3	86.6				mg/L	7	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	1.7	173.2				mg/L	3	Standard
	Dy	164	11.6	16.4				mg/L	14	Standard
	Ho-1	165	397.0	13.8				mg/L	7	Standard
	Er	166	14.7	27.6				mg/L	8	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
Report Date/Time: Tuesday, June 04, 2013 12:50:02
Page 2

Approved: June 05, 2013

⌈	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 4
Report Date/Time: Tuesday, June 04, 2013 12:50:02
Page 3

Approved: June 05, 2013

Method 6020 - Summary Report

Sample ID: QC Std 1
Sample Date/Time: Tuesday, June 04, 2013 12:50:58
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	565260.4	2.0				ug/L	552027	Standard
	Be	9	94764.3	9.7	**49.0097**	4.080	8.3	ug/L	18	Standard
	Al	27	6881703.3	9.0	**48.8443**	3.648	7.5	ug/L	841	Standard
	Sc	45	34480.9	2.7				ug/L	35084	Standard
	Ti	47	21383.5	10.4	**99.3568**	9.615	9.7	ug/L	22	Standard
	V	51	294674.2	10.1	**49.8642**	4.806	9.6	ug/L	812	Standard
	Cr	52	258851.3	11.4	**49.7710**	5.562	11.2	ug/L	4274	Standard
	Cr	53	50903.6	11.2	**49.5441**	5.540	11.2	ug/L	1106	Standard
	Mn	55	390552.4	11.3	**49.6864**	5.466	11.0	ug/L	1207	Standard
	Co	59	273535.4	10.8	**49.4310**	5.178	10.5	ug/L	71	Standard
	Ni	60	106421.8	9.8	**49.8326**	4.593	9.2	ug/L	295	Standard
	Cu	65	106900.9	10.0	**49.8329**	4.710	9.5	ug/L	87	Standard
	Zn	66	57116.4	9.4	**50.5322**	4.674	9.2	ug/L	469	Standard
>	**Ge**	72	501924.1	1.9				ug/L	514704	Standard
	As	75	62451.1	8.8	**49.4456**	4.052	8.2	ug/L	-121	Standard
	Se	82	6158.6	7.9	**49.4075**	3.593	7.3	ug/L	-1	Standard
	Se-1	77	4187.9	6.9	**49.2887**	3.241	6.6	ug/L	127	Standard
>	**Ga**	71	228.3	9.1				mg/L	175	Standard
	Rb	85	3043.6	5.5				ug/L	50	Standard
	Y	89	539013.6	0.6				ug/L	527499	Standard
>	**Rh**	103	45.0	38.5				ug/L	10	Standard
	Mo	98	385983.5	10.6	**99.1502**	10.121	10.2	ug/L	23	Standard
	Ag	107	273914.1	7.7	**50.7059**	3.663	7.2	ug/L	59	Standard
	Cd	111	84597.5	9.8	**50.1765**	4.648	9.3	mg/L	3	Standard
	Cd	114	218824.0	10.5	**50.3387**	5.064	10.1	ug/L	10	Standard
>	**In**	115	547053.0	0.9				ug/L	537195	Standard
	Sn	118	239153.6	11.1	**49.6371**	5.334	10.7	ug/L	281	Standard
	Sb	123	190504.9	10.3	**50.3887**	4.959	9.8	ug/L	167	Standard
	Ba	135	84782.8	9.9	**50.1028**	4.720	9.4	ug/L	10	Standard
	Ce	140	90.0	13.7				ug/L	27	Standard
>	**Tb**	159	771118.7	1.1				ug/L	758170	Standard
	Ho	165	8.3	55.4				ug/L	7	Standard
	Tl	203	268319.8	7.7	**50.1538**	3.888	7.8	ug/L	5	Standard
	Tl	205	6989.6	7.9	**49.9254**	3.921	7.9	ug/L	0	Standard
	Pb	206	210587.7	10.2	**49.7730**	5.100	10.2	ug/L	182	Standard
	Pb	207	181395.5	9.8	**50.4219**	4.931	9.8	ug/L	145	Standard
	Pb	208	259304.9	9.8	**50.2807**	4.935	9.8	ug/L	207	Standard
	U	238	224504.5	10.8	**49.6600**	5.409	10.9	ug/L	1	Standard
>	**Bi**	209	332477.1	0.8				ug/L	325207	Standard

Sample ID: QC Std 1
Report Date/Time: Tuesday, June 04, 2013 12:53:50
Page 1

Approved: June 05, 2013

	Na	23	25.0	40.0	**3.1566**	1.806	57.2	mg/L	0	Standard
	Mg	24	4497.3	8.5	**4.8428**	0.516	10.7	mg/L	25	Standard
	K	39	303.3	16.8	**5.5760**	1.054	18.9	mg/L	3	Standard
	Ca	43	1615.1	9.7	**4.8000**	0.614	12.8	mg/L	297	Standard
	Fe	54	4233.9	9.4	**5.0299**	0.573	11.4	mg/L	91	Standard
	Fe	57	1816.8	6.7	**4.7792**	0.409	8.6	mg/L	237	Standard
>	**Sc-1**	45	34480.9	2.7				mg/L	35084	Standard
	Cl	35	33764.2	0.8				ug/L	29808	Standard
	Kr	83	34.9	11.2				ug/L	38	Standard
	Br	81	920.9	2.0				ug/L	965	Standard
	P	31	201154.6	2.7				ug/L	176735	Standard
	S	34	36702.7	1.0				ug/L	28891	Standard
	Sr	88	27.5	24.1				ug/L	27	Standard
	C	12	1.7	173.2				mg/L	7	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	0.0					mg/L	3	Standard
	Dy	164	8.8	53.6				mg/L	14	Standard
	Ho-1	165	8.3	55.4				mg/L	7	Standard
	Er	166	11.0	9.1				mg/L	8	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		102.397	
	Be	9	98.019		
	Al	27	97.689		
	Sc	45			
	Ti	47	99.357		
	V	51	99.728		
	Cr	52	99.542		
	Cr	53			
	Mn	55	99.373		
	Co	59	98.862		
	Ni	60	99.665		
	Cu	65	99.666		
	Zn	66	101.064		
>	Ge	72		97.517	
	As	75	98.891		
	Se	82	98.815		
	Se-1	77			
>	Ga	71			
	Rb	85			

Sample ID: QC Std 1
Report Date/Time: Tuesday, June 04, 2013 12:53:50
Page 2

Approved: June 05, 2013

⌈	Y	89		
⌊>	Rh	103		
⌈	Mo	98	99.150	
|	Ag	107	101.412	
|	Cd	111	100.353	
|	Cd	114		
|>	In	115		101.835
|	Sn	118	99.274	
|	Sb	123	100.777	
⌊	Ba	135	100.206	
⌈	Ce	140		
⌊>	Tb	159		
⌈	Ho	165		
|	Tl	203	100.308	
|	Tl	205		
|	Pb	206	99.546	
|	Pb	207	100.844	
|	Pb	208	100.561	
|	U	238	99.320	
⌊>	Bi	209		102.236
⌈	Na	23	63.131	
|	Mg	24	96.856	
|	K	39	111.521	
|	Ca	43	96.001	
|	Fe	54	100.599	
|	Fe	57	95.583	
⌊>	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	

Sample ID: QC Std 1
Report Date/Time: Tuesday, June 04, 2013 12:53:50
Page 3

Approved: June 05, 2013

Method 6020 - Summary Report

Sample ID: QC Std 2
Sample Date/Time: Tuesday, June 04, 2013 12:54:46
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	557934.2	5.8				ug/L	552027	Standard
	Be	9	38.7	16.8	**0.0092**	0.003	36.0	ug/L	18	Standard
	Al	27	1688.1	16.2	**0.0002**	0.002	992.0	ug/L	841	Standard
	Sc	45	34222.0	3.9				ug/L	35084	Standard
	Ti	47	21.7	22.8	**0.0197**	0.026	130.0	ug/L	22	Standard
	V	51	734.8	3.7	**0.0001**	0.008	8462.5	ug/L	812	Standard
	Cr	52	3874.8	8.1	**-0.0656**	0.046	70.7	ug/L	4274	Standard
	Cr	53	905.0	4.3	**-0.1224**	0.025	20.6	ug/L	1106	Standard
	Mn	55	1336.4	5.6	**0.0130**	0.013	101.6	ug/L	1207	Standard
	Co	59	94.3	4.0	**0.0016**	0.000	31.7	ug/L	71	Standard
	Ni	60	327.7	8.9	**0.0236**	0.013	54.3	ug/L	295	Standard
	Cu	65	101.0	26.0	**-0.0068**	0.013	195.6	ug/L	87	Standard
	Zn	66	530.3	9.2	**-0.2339**	0.037	15.9	ug/L	469	Standard
>	**Ge**	72	494364.0	2.7				ug/L	514704	Standard
	As	75	-128.2	26.5	**0.0047**	0.026	543.8	ug/L	-121	Standard
	Se	82	1.6	419.3	**0.0105**	0.056	533.7	ug/L	-1	Standard
	Se-1	77	107.7	6.0	**-0.0482**	0.066	137.6	ug/L	127	Standard
>	**Ga**	71	195.0	24.5				mg/L	175	Standard
	Rb	85	50.0	26.5				ug/L	50	Standard
	Y	89	523096.9	3.1				ug/L	527499	Standard
>	**Rh**	103	11.7	107.9				ug/L	10	Standard
	Mo	98	140.9	10.7	**0.0295**	0.005	15.8	ug/L	23	Standard
	Ag	107	109.7	41.2	**0.0081**	0.009	115.4	ug/L	59	Standard
	Cd	111	13.2	58.8	**0.0061**	0.005	82.4	mg/L	3	Standard
	Cd	114	47.4	65.1	**0.0059**	0.008	131.4	ug/L	10	Standard
>	**In**	115	539863.4	4.3				ug/L	537195	Standard
	Sn	118	555.3	59.5	**0.0522**	0.075	144.6	ug/L	281	Standard
	Sb	123	955.7	49.8	**0.2366**	0.122	51.7	ug/L	167	Standard
	Ba	135	24.7	49.5	**-0.0082**	0.008	97.7	ug/L	10	Standard
	Ce	140	20.7	40.3				ug/L	27	Standard
>	**Tb**	159	767372.1	3.5				ug/L	758170	Standard
	Ho	165	6.0	44.1				ug/L	7	Standard
	Tl	203	38.3	40.4	**0.0061**	0.003	45.9	ug/L	5	Standard
	Tl	205	0.7	86.6	**0.0121**	0.004	32.7	ug/L	0	Standard
	Pb	206	207.7	8.6	**0.0000**	0.004	17330.5	ug/L	182	Standard
	Pb	207	183.7	2.7	**0.0048**	0.001	21.1	ug/L	145	Standard
	Pb	208	246.3	3.7	**0.0007**	0.003	409.0	ug/L	207	Standard
	U	238	21.7	31.4	**0.0039**	0.001	36.4	ug/L	1	Standard
>	**Bi**	209	341552.0	2.7				ug/L	325207	Standard

Sample ID: QC Std 2
Report Date/Time: Tuesday, June 04, 2013 12:57:38
Page 1

Approved: June 05, 2013

⌈	**Na**	23	1.7	173.2	**-0.7943**	0.511	64.4	mg/L	0	Standard
|	**Mg**	24	25.0	69.3	**-0.0124**	0.019	157.2	mg/L	25	Standard
|	**K**	39	6.7	43.3	**0.0692**	0.053	77.0	mg/L	3	Standard
|	**Ca**	43	253.3	16.8	**-0.0966**	0.137	141.6	mg/L	297	Standard
|	**Fe**	54	101.1	41.6	**0.0052**	0.047	898.0	mg/L	91	Standard
|	**Fe**	57	166.7	12.1	**-0.0230**	0.070	303.0	mg/L	237	Standard
⌊>	**Sc-1**	45	34222.0	3.9				mg/L	35084	Standard
	Cl	35	32479.9	7.9				ug/L	29808	Standard
	Kr	83	36.0	11.4				ug/L	38	Standard
	Br	81	803.4	17.2				ug/L	965	Standard
	P	31	173872.5	22.5				ug/L	176735	Standard
	S	34	34277.2	7.0				ug/L	28891	Standard
	Sr	88	37.5	41.6				ug/L	27	Standard
	C	12	0.0					mg/L	7	Standard
	N	14	1.7	173.2				mg/L	0	Standard
	Hg	202	3.3	86.6				mg/L	3	Standard
	Dy	164	6.4	31.8				mg/L	14	Standard
	Ho-1	165	6.0	44.1				mg/L	7	Standard
	Er	166	13.3	4.3				mg/L	8	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		101.070	
|	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		96.048	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			

Sample ID: QC Std 2
Report Date/Time: Tuesday, June 04, 2013 12:57:38
Page 2

Approved: June 05, 2013

	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	100.497
	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	105.026
	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 2	Sb	123	
QC Std 2	Na	23	

Sample ID: QC Std 2
Report Date/Time: Tuesday, June 04, 2013 12:57:38
Page 3

Approved: June 05, 2013

Method 6020 - Summary Report

Sample ID: QC Std 2
Sample Date/Time: Tuesday, June 04, 2013 12:58:43
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	580909.2	0.0				ug/L	552027	Standard
	Be	9	40.3	8.0	**0.0092**	0.002	17.7	ug/L	18	Standard
	Al	27	1057.0	20.7	**-0.0047**	0.002	32.6	ug/L	841	Standard
	Sc	45	37125.5	2.7				ug/L	35084	Standard
	Ti	47	21.3	19.5	**0.0158**	0.019	122.4	ug/L	22	Standard
	V	51	851.3	13.3	**0.0171**	0.017	97.1	ug/L	812	Standard
	Cr	52	4098.2	4.2	**-0.0360**	0.024	65.7	ug/L	4274	Standard
	Cr	53	900.9	7.1	**-0.1433**	0.064	44.8	ug/L	1106	Standard
	Mn	55	1330.7	1.8	**0.0089**	0.007	75.8	ug/L	1207	Standard
	Co	59	91.7	13.1	**0.0008**	0.003	316.0	ug/L	71	Standard
	Ni	60	303.7	3.4	**0.0094**	0.003	31.1	ug/L	295	Standard
	Cu	65	87.0	17.4	**-0.0144**	0.006	43.7	ug/L	87	Standard
	Zn	66	544.3	4.7	**-0.2296**	0.034	14.8	ug/L	469	Standard
>	**Ge**	72	503802.5	2.3				ug/L	514704	Standard
	As	75	-125.5	15.1	**0.0083**	0.017	203.8	ug/L	-121	Standard
	Se	82	3.6	182.0	**0.0260**	0.053	205.1	ug/L	-1	Standard
	Se-1	77	99.3	8.1	**-0.1737**	0.083	47.9	ug/L	127	Standard
>	**Ga**	71	251.7	16.2				mg/L	175	Standard
	Rb	85	51.7	55.0				ug/L	50	Standard
	Y	89	552682.3	2.6				ug/L	527499	Standard
>	**Rh**	103	5.0	100.0				ug/L	10	Standard
	Mo	98	183.3	118.4	**0.0394**	0.056	141.4	ug/L	23	Standard
	Ag	107	131.7	90.0	**0.0114**	0.022	193.1	ug/L	59	Standard
	Cd	111	20.1	152.3	**0.0099**	0.018	182.5	mg/L	3	Standard
	Cd	114	62.6	134.5	**0.0089**	0.019	216.0	ug/L	10	Standard
>	**In**	115	559560.2	1.5				ug/L	537195	Standard
	Sn	118	423.7	36.5	**0.0198**	0.033	166.6	ug/L	281	Standard
	Sb	123	496.8	18.3	**0.1115**	0.025	22.1	ug/L	167	Standard
	Ba	135	24.3	74.6	**-0.0090**	0.011	119.4	ug/L	10	Standard
	Ce	140	13.0	35.3				ug/L	27	Standard
>	**Tb**	159	787554.1	1.4				ug/L	758170	Standard
	Ho	165	6.0	33.3				ug/L	7	Standard
	Tl	203	21.7	129.8	**0.0031**	0.005	167.4	ug/L	5	Standard
	Tl	205	0.0		**0.0075**	0.000	0.0	ug/L	0	Standard
	Pb	206	203.7	10.1	**-0.0011**	0.005	462.3	ug/L	182	Standard
	Pb	207	173.0	4.0	**0.0016**	0.002	100.8	ug/L	145	Standard
	Pb	208	216.7	5.4	**-0.0052**	0.003	49.9	ug/L	207	Standard
	U	238	9.0	77.0	**0.0012**	0.002	130.3	ug/L	1	Standard
>	**Bi**	209	343590.0	1.8				ug/L	325207	Standard

Sample ID: QC Std 2
Report Date/Time: Tuesday, June 04, 2013 13:01:35
Page 1

Approved: June 05, 2013

	Na	23	1.7	173.2	**-0.8347**	0.441	52.9	mg/L	0	Standard
	Mg	24	41.7	6.9	**0.0018**	0.002	115.1	mg/L	25	Standard
	K	39	10.0	100.0	**0.1189**	0.177	149.1	mg/L	3	Standard
	Ca	43	255.0	12.9	**-0.1598**	0.121	75.4	mg/L	297	Standard
	Fe	54	121.3	26.3	**0.0200**	0.039	192.6	mg/L	91	Standard
	Fe	57	156.7	14.4	**-0.0899**	0.055	61.6	mg/L	237	Standard
>	**Sc-1**	45	37125.5	2.7				mg/L	35084	Standard
	Cl	35	36010.1	1.6				ug/L	29808	Standard
	Kr	83	37.6	11.2				ug/L	38	Standard
	Br	81	895.9	9.1				ug/L	965	Standard
	P	31	196857.7	2.2				ug/L	176735	Standard
	S	34	36937.5	0.6				ug/L	28891	Standard
	Sr	88	31.7	47.6				ug/L	27	Standard
	C	12	1.7	173.2				mg/L	7	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	1.7	173.2				mg/L	3	Standard
	Dy	164	8.5	11.3				mg/L	14	Standard
	Ho-1	165	6.0	33.3				mg/L	7	Standard
	Er	166	11.0	18.2				mg/L	8	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		105.232	
	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		97.882	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			

Sample ID: QC Std 2
Report Date/Time: Tuesday, June 04, 2013 13:01:35
Page 2

Approved: June 05, 2013

⌈	Y	89	
⌊>	Rh	103	
⌈	Mo	98	
|	Ag	107	
|	Cd	111	
|	Cd	114	
|>	In	115	104.163
|	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	105.653
⌈	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 2	Na	23	
QC Std 2	K	39	
QC Std 2	Ca	43	

Sample ID: QC Std 2
Report Date/Time: Tuesday, June 04, 2013 13:01:35
Page 3

Approved: June 05, 2013

Method 6020 - Summary Report

Sample ID: QC Std 3
Sample Date/Time: Tuesday, June 04, 2013 13:02:31
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	584072.4	1.5				ug/L	552027	Standard
	Be	9	414.0	5.9	**0.1962**	0.009	4.6	ug/L	18	Standard
	Al	27	539.0	0.7	**-0.0083**	0.000	0.9	ug/L	841	Standard
	Sc	45	36380.3	2.2				ug/L	35084	Standard
	Ti	47	23.7	32.0	**0.0261**	0.034	128.9	ug/L	22	Standard
	V	51	3140.8	12.1	**0.4027**	0.054	13.5	ug/L	812	Standard
	Cr	52	8305.0	7.4	**0.7798**	0.090	11.5	ug/L	4274	Standard
	Cr	53	1662.6	9.2	**0.6063**	0.118	19.5	ug/L	1106	Standard
	Mn	55	5402.0	8.0	**0.5249**	0.043	8.2	ug/L	1207	Standard
	Co	59	2235.8	11.5	**0.3859**	0.040	10.4	ug/L	71	Standard
	Ni	60	3706.8	7.5	**1.5974**	0.097	6.1	ug/L	295	Standard
	Cu	65	1788.1	12.0	**0.7743**	0.085	11.0	ug/L	87	Standard
	Zn	66	7476.9	10.3	**5.9490**	0.557	9.4	ug/L	469	Standard
>	**Ge**	72	504667.6	2.0				ug/L	514704	Standard
	As	75	343.0	17.1	**0.3764**	0.041	10.9	ug/L	-121	Standard
	Se	82	46.5	19.5	**0.3672**	0.065	17.6	ug/L	-1	Standard
	Se-1	77	142.7	20.7	**0.3417**	0.322	94.2	ug/L	127	Standard
>	**Ga**	71	270.0	3.7				mg/L	175	Standard
	Rb	85	56.7	18.4				ug/L	50	Standard
	Y	89	546607.7	1.3				ug/L	527499	Standard
>	**Rh**	103	6.7	43.3				ug/L	10	Standard
	Mo	98	37.8	21.3	**0.0023**	0.002	88.8	ug/L	23	Standard
	Ag	107	2294.8	7.4	**0.4025**	0.028	6.9	ug/L	59	Standard
	Cd	111	408.6	10.6	**0.2348**	0.022	9.4	mg/L	3	Standard
	Cd	114	1034.7	9.2	**0.2270**	0.016	7.1	ug/L	10	Standard
>	**In**	115	559988.3	2.7				ug/L	537195	Standard
	Sn	118	387.0	19.8	**0.0122**	0.017	141.2	ug/L	281	Standard
	Sb	123	1891.6	10.1	**0.4716**	0.044	9.3	ug/L	167	Standard
	Ba	135	1270.7	12.9	**0.7103**	0.086	12.1	ug/L	10	Standard
	Ce	140	17.7	51.0				ug/L	27	Standard
>	**Tb**	159	779985.4	1.7				ug/L	758170	Standard
	Ho	165	8.7	26.6				ug/L	7	Standard
	Tl	203	423.0	11.4	**0.0757**	0.008	10.0	ug/L	5	Standard
	Tl	205	9.7	23.9	**0.0743**	0.015	20.3	ug/L	0	Standard
	Pb	206	1087.4	13.0	**0.2014**	0.029	14.2	ug/L	182	Standard
	Pb	207	850.0	8.9	**0.1842**	0.017	9.2	ug/L	145	Standard
	Pb	208	1249.0	9.8	**0.1890**	0.019	10.3	ug/L	207	Standard
	U	238	1786.4	12.0	**0.3820**	0.040	10.5	ug/L	1	Standard
>	**Bi**	209	342859.8	1.6				ug/L	325207	Standard

Sample ID: QC Std 3
Report Date/Time: Tuesday, June 04, 2013 13:05:22
Page 1

Approved: June 05, 2013

Na	23	0.0		**-1.0895**	0.000	0.0	mg/L	0	Standard
Mg	24	38.3	32.8	**-0.0008**	0.012	1490.6	mg/L	25	Standard
K	39	1.7	173.2	**-0.0266**	0.049	185.8	mg/L	3	Standard
Ca	43	253.3	11.9	**-0.1481**	0.115	77.9	mg/L	297	Standard
Fe	54	118.8	10.9	**0.0197**	0.018	90.2	mg/L	91	Standard
Fe	57	146.7	16.8	**-0.1092**	0.059	53.7	mg/L	237	Standard
Sc-1	45	36380.3	2.2				mg/L	35084	Standard
Cl	35	37048.6	1.4				ug/L	29808	Standard
Kr	83	34.4	12.3				ug/L	38	Standard
Br	81	930.9	10.5				ug/L	965	Standard
P	31	199393.7	3.6				ug/L	176735	Standard
S	34	37033.5	1.4				ug/L	28891	Standard
Sr	88	32.5	13.3				ug/L	27	Standard
C	12	3.3	86.6				mg/L	7	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	3.3	86.6				mg/L	3	Standard
Dy	164	7.5	62.0				mg/L	14	Standard
Ho-1	165	8.7	26.6				mg/L	7	Standard
Er	166	10.0	17.3				mg/L	8	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
> Li	6		105.805	
Be	9	98.093		
Al	27	-0.826		
Sc	45			
Ti	47			
V	51	100.687		
Cr	52	97.471		
Cr	53			
Mn	55	104.975		
Co	59	96.464		
Ni	60	99.839		
Cu	65	96.788		
Zn	66	95.183		
> Ge	72		98.050	
As	75	94.096		
Se	82	91.807		
Se-1	77			
> Ga	71			
Rb	85			

Sample ID: QC Std 3
Report Date/Time: Tuesday, June 04, 2013 13:05:22
Page 2

Approved: June 05, 2013

⌈	Y	89		
⌊>	Rh	103		
⌈	Mo	98		
|	Ag	107	100.617	
|	Cd	111	97.817	
|	Cd	114		
|>	In	115		104.243
|	Sn	118		
|	Sb	123	117.898	
⌊	Ba	135	94.708	
⌈	Ce	140		
⌊>	Tb	159		
⌈	Ho	165		
|	Tl	203	94.657	
|	Tl	205		
|	Pb	206		
|	Pb	207		
|	Pb	208	94.481	
|	U	238	95.495	
⌊>	Bi	209		105.428
⌈	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
Report Date/Time: Tuesday, June 04, 2013 13:05:22
Page 3

Approved: June 05, 2013

Method 6020 - Summary Report

Sample ID: QC Std 4
Sample Date/Time: Tuesday, June 04, 2013 13:06:17
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	530666.5	2.1				ug/L	552027	Standard
	Be	9	26.0	10.2	**0.0032**	0.002	53.8	ug/L	18	Standard
	Al	27	6602617.5	7.5	**50.0224**	4.752	9.5	ug/L	841	Standard
	Sc	45	33981.4	1.4				ug/L	35084	Standard
	Ti	47	20785.7	8.9	**103.6348**	10.223	9.9	ug/L	22	Standard
	V	51	299.5	55.2	**-0.0720**	0.031	42.5	ug/L	812	Standard
	Cr	52	4396.3	3.3	**0.0875**	0.040	46.0	ug/L	4274	Standard
	Cr	53	2169.3	2.2	**1.2759**	0.076	5.9	ug/L	1106	Standard
	Mn	55	1885.1	2.7	**0.0975**	0.004	4.4	ug/L	1207	Standard
	Co	59	236.7	11.7	**0.0302**	0.006	19.4	ug/L	71	Standard
	Ni	60	1280.1	4.6	**0.5120**	0.036	7.0	ug/L	295	Standard
	Cu	65	468.7	10.3	**0.1799**	0.026	14.7	ug/L	87	Standard
	Zn	66	1273.4	5.6	**0.5087**	0.081	16.0	ug/L	469	Standard
>	**Ge**	72	468258.2	1.1				ug/L	514704	Standard
	As	75	-126.8	29.9	**-0.0004**	0.033	9406.1	ug/L	-121	Standard
	Se	82	2.7	479.4	**0.0193**	0.110	570.4	ug/L	-1	Standard
	Se-1	77	254.0	2.0	**1.9234**	0.066	3.4	ug/L	127	Standard
>	**Ga**	71	496.7	2.1				mg/L	175	Standard
	Rb	85	2920.3	5.2				ug/L	50	Standard
	Y	89	504042.6	2.2				ug/L	527499	Standard
>	**Rh**	103	1.7	173.2				ug/L	10	Standard
	Mo	98	345766.7	9.2	**94.7375**	9.477	10.0	ug/L	23	Standard
	Ag	107	70.3	7.3	**0.0012**	0.001	74.1	ug/L	59	Standard
	Cd	111	-40.0	59.4	**-0.0273**	0.015	55.7	mg/L	3	Standard
	Cd	114	660.2	5.8	**0.1566**	0.011	6.8	ug/L	10	Standard
>	**In**	115	513293.8	0.8				ug/L	537195	Standard
	Sn	118	564.3	14.9	**0.0583**	0.018	30.1	ug/L	281	Standard
	Sb	123	459.4	3.1	**0.1124**	0.004	3.5	ug/L	167	Standard
	Ba	135	103.7	12.1	**0.0422**	0.008	19.6	ug/L	10	Standard
	Ce	140	970.0	8.0				ug/L	27	Standard
>	**Tb**	159	744017.8	0.8				ug/L	758170	Standard
	Ho	165	8.3	59.2				ug/L	7	Standard
	Tl	203	17.3	33.8	**0.0025**	0.001	45.8	ug/L	5	Standard
	Tl	205	1.0	100.0	**0.0150**	0.007	49.8	ug/L	0	Standard
	Pb	206	298.0	8.9	**0.0253**	0.007	27.2	ug/L	182	Standard
	Pb	207	233.7	5.4	**0.0224**	0.004	19.0	ug/L	145	Standard
	Pb	208	328.0	0.9	**0.0200**	0.001	5.4	ug/L	207	Standard
	U	238	2.3	99.0	**-0.0002**	0.001	219.5	ug/L	1	Standard
>	**Bi**	209	321034.6	1.0				ug/L	325207	Standard

Sample ID: QC Std 4
Report Date/Time: Tuesday, June 04, 2013 13:09:08
Page 1

Approved: June 05, 2013

	Na	23	88.3	44.0	**13.9661**	6.474	46.4	mg/L	0	Standard
	Mg	24	10747.2	9.7	**11.7733**	1.013	8.6	mg/L	25	Standard
	K	39	296.7	21.3	**5.5128**	1.148	20.8	mg/L	3	Standard
	Ca	43	4078.9	10.2	**13.8574**	1.316	9.5	mg/L	297	Standard
	Fe	54	9912.6	10.8	**12.0824**	1.171	9.7	mg/L	91	Standard
	Fe	57	4302.3	10.9	**12.1831**	1.226	10.1	mg/L	237	Standard
>	**Sc-1**	45	33981.4	1.4				mg/L	35084	Standard
	Cl	35	38454.4	0.6				ug/L	29808	Standard
	Kr	83	39.6	12.2				ug/L	38	Standard
	Br	81	734.2	6.6				ug/L	965	Standard
	P	31	116206.5	1.5				ug/L	176735	Standard
	S	34	37827.2	0.2				ug/L	28891	Standard
	Sr	88	31.7	38.9				ug/L	27	Standard
	C	12	10.0	100.0				mg/L	7	Standard
	N	14	3.3	173.2				mg/L	0	Standard
	Hg	202	6.7	86.6				mg/L	3	Standard
	Dy	164	9.0	69.6				mg/L	14	Standard
	Ho-1	165	8.3	59.2				mg/L	7	Standard
	Er	166	13.3	48.2				mg/L	8	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		96.131	
	Be	9			
	Al	27	1.000		
	Sc	45			
	Ti	47	103.635		
	V	51			
	Cr	52			
	Cr	53			
	Mn	55			
	Co	59			
	Ni	60			
	Cu	65			
	Zn	66			
>	Ge	72		90.976	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			

Sample ID: QC Std 4
Report Date/Time: Tuesday, June 04, 2013 13:09:08
Page 2

Approved: June 05, 2013

	Y	89		
>	Rh	103		
	Mo	98	94.738	
	Ag	107		
	Cd	111		
	Cd	114		
>	In	115		95.551
	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		98.717
	Na	23	111.728	
	Mg	24	235.466	
	K	39	110.256	
	Ca	43	92.383	
	Fe	54	96.659	
	Fe	57	97.464	
>	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	

Sample ID: QC Std 4
Report Date/Time: Tuesday, June 04, 2013 13:09:08
Page 3

Approved: June 05, 2013

Method 6020 - Summary Report

Sample ID: QC Std 5
Sample Date/Time: Tuesday, June 04, 2013 13:10:02
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	608443.1	1.6				ug/L	552027	Standard
	Be	9	203083.2	9.2	**97.6569**	8.890	9.1	ug/L	18	Standard
	Al	27	6138920.6	9.2	**40.5075**	3.701	9.1	ug/L	841	Standard
	Sc	45	37541.5	3.3				ug/L	35084	Standard
	Ti	47	18994.3	10.8	**85.8472**	8.098	9.4	ug/L	22	Standard
	V	51	588919.1	12.1	**97.0443**	10.454	10.8	ug/L	812	Standard
	Cr	52	522384.5	13.0	**98.4768**	11.552	11.7	ug/L	4274	Standard
	Cr	53	105159.5	11.8	**100.5820**	10.670	10.6	ug/L	1106	Standard
	Mn	55	787062.4	11.2	**97.5432**	9.639	9.9	ug/L	1207	Standard
	Co	59	550631.3	11.0	**96.7936**	9.410	9.7	ug/L	71	Standard
	Ni	60	218407.2	11.1	**99.6095**	9.728	9.8	ug/L	295	Standard
	Cu	65	216519.4	9.1	**98.2488**	7.624	7.8	ug/L	87	Standard
	Zn	66	118491.7	11.3	**102.6833**	10.302	10.0	ug/L	469	Standard
>	**Ge**	72	515670.2	1.4				ug/L	514704	Standard
	As	75	129950.3	9.6	**99.9808**	8.227	8.2	ug/L	-121	Standard
	Se	82	12937.6	8.8	**100.9761**	7.484	7.4	ug/L	-1	Standard
	Se-1	77	8604.5	8.4	**99.8813**	7.109	7.1	ug/L	127	Standard
>	**Ga**	71	508.3	7.0				mg/L	175	Standard
	Rb	85	2600.2	5.7				ug/L	50	Standard
	Y	89	549763.7	4.2				ug/L	527499	Standard
>	**Rh**	103	63.3	19.9				ug/L	10	Standard
	Mo	98	323386.8	10.5	**78.6682**	8.460	10.8	ug/L	23	Standard
	Ag	107	560684.6	8.2	**98.2953**	8.202	8.3	ug/L	59	Standard
	Cd	111	177605.3	10.6	**99.7457**	10.474	10.5	mg/L	3	Standard
	Cd	114	455012.8	9.3	**99.1185**	9.200	9.3	ug/L	10	Standard
>	**In**	115	577907.5	1.3				ug/L	537195	Standard
	Sn	118	882.0	2.8	**0.1070**	0.005	5.0	ug/L	281	Standard
	Sb	123	401840.5	8.6	**100.6727**	8.884	8.8	ug/L	167	Standard
	Ba	135	177347.8	9.3	**99.2717**	9.334	9.4	ug/L	10	Standard
	Ce	140	837.4	10.4				ug/L	27	Standard
>	**Tb**	159	811663.6	0.2				ug/L	758170	Standard
	Ho	165	9.0	19.2				ug/L	7	Standard
	Tl	203	553959.3	6.8	**98.6620**	7.032	7.1	ug/L	5	Standard
	Tl	205	14612.1	6.5	**99.4434**	6.806	6.8	ug/L	0	Standard
	Pb	206	439066.1	10.0	**98.9358**	10.197	10.3	ug/L	182	Standard
	Pb	207	377398.0	9.0	**100.0073**	9.354	9.4	ug/L	145	Standard
	Pb	208	541445.2	9.7	**100.0869**	9.971	10.0	ug/L	207	Standard
	U	238	459958.7	10.6	**96.9495**	10.551	10.9	ug/L	1	Standard
>	**Bi**	209	348974.5	0.4				ug/L	325207	Standard

Sample ID: QC Std 5
Report Date/Time: Tuesday, June 04, 2013 13:12:54
Page 1

Approved: June 05, 2013

	Na	23	95.0	54.9	**13.5288**	7.680	56.8	mg/L	0	Standard
	Mg	24	9711.5	9.7	**9.6155**	0.632	6.6	mg/L	25	Standard
	K	39	261.7	27.2	**4.3726**	1.093	25.0	mg/L	3	Standard
	Ca	43	3737.1	11.4	**11.3105**	1.078	9.5	mg/L	297	Standard
	Fe	54	9408.8	12.8	**10.3510**	1.013	9.8	mg/L	91	Standard
	Fe	57	3837.2	12.8	**9.7238**	1.002	10.3	mg/L	237	Standard
>	**Sc-1**	45	37541.5	3.3				mg/L	35084	Standard
	Cl	35	41546.9	0.9				ug/L	29808	Standard
	Kr	83	43.1	11.7				ug/L	38	Standard
	Br	81	924.2	2.6				ug/L	965	Standard
	P	31	198353.8	2.6				ug/L	176735	Standard
	S	34	38415.3	1.4				ug/L	28891	Standard
	Sr	88	34.2	40.3				ug/L	27	Standard
	C	12	10.0	50.0				mg/L	7	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	0.0					mg/L	3	Standard
	Dy	164	7.2	141.4				mg/L	14	Standard
	Ho-1	165	9.0	19.2				mg/L	7	Standard
	Er	166	16.7	34.1				mg/L	8	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		110.220	
	Be	9	97.657		
	Al	27	0.810		
	Sc	45			
	Ti	47	85.847		
	V	51	97.044		
	Cr	52	98.477		
	Cr	53			
	Mn	55	97.543		
	Co	59	96.794		
	Ni	60	99.610		
	Cu	65	98.249		
	Zn	66	102.683		
>	Ge	72		100.188	
	As	75	99.981		
	Se	82	100.976		
	Se-1	77			
>	Ga	71			
	Rb	85			

Sample ID: QC Std 5
Report Date/Time: Tuesday, June 04, 2013 13:12:54
Page 2

Approved: June 05, 2013

⌈	Y	89		
⌊>	Rh	103		
⌈	Mo	98	78.668	
|	Ag	107	98.295	
|	Cd	111	99.746	
|	Cd	114		
|>	In	115		107.579
|	Sn	118		
|	Sb	123	100.673	
⌊	Ba	135	99.272	
⌈	Ce	140		
⌊>	Tb	159		
⌈	Ho	165		
|	Tl	203	98.662	
|	Tl	205		
|	Pb	206		
|	Pb	207		
|	Pb	208	100.087	
|	U	238	96.950	
⌊>	Bi	209		107.308
⌈	Na	23	108.230	
|	Mg	24	192.310	
|	K	39	87.451	
|	Ca	43	75.404	
|	Fe	54	82.808	
|	Fe	57	77.790	
⌊>	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	Mo	98	
QC Std 5	Na	23	
QC Std 5	Mg	24	
QC Std 5	K	39	

Sample ID: QC Std 5
Report Date/Time: Tuesday, June 04, 2013 13:12:54
Page 3

Approved: June 05, 2013

QC Std 5	Ca	43
QC Std 5	Fe	57

Sample ID: QC Std 5
Report Date/Time: Tuesday, June 04, 2013 13:12:54
Page 4

Approved: June 05, 2013

Method 6020 - Summary Report

Sample ID: QC Std 6
Sample Date/Time: Tuesday, June 04, 2013 13:14:01
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	609279.8	3.7				ug/L	552027	Standard
	Be	9	98997.8	10.7	**47.5242**	4.693	9.9	ug/L	18	Standard
	Al	27	7556589.3	9.9	**49.7938**	4.597	9.2	ug/L	841	Standard
	Sc	45	38336.8	2.3				ug/L	35084	Standard
	Ti	47	22464.4	9.8	**102.0176**	8.408	8.2	ug/L	22	Standard
	V	51	297664.7	10.3	**49.2176**	4.283	8.7	ug/L	812	Standard
	Cr	52	263118.3	12.1	**49.4169**	5.268	10.7	ug/L	4274	Standard
	Cr	53	52914.6	10.3	**50.3336**	4.407	8.8	ug/L	1106	Standard
	Mn	55	393758.7	11.5	**48.9387**	4.887	10.0	ug/L	1207	Standard
	Co	59	277717.2	12.6	**49.0223**	5.417	11.1	ug/L	71	Standard
	Ni	60	110356.2	9.6	**50.4995**	4.023	8.0	ug/L	295	Standard
	Cu	65	107837.0	10.1	**49.1198**	4.134	8.4	ug/L	87	Standard
	Zn	66	57331.3	10.1	**49.5433**	4.259	8.6	ug/L	469	Standard
>	**Ge**	72	513281.2	1.8				ug/L	514704	Standard
	As	75	63327.2	9.4	**48.9996**	3.820	7.8	ug/L	-121	Standard
	Se	82	6430.5	9.6	**50.4118**	3.976	7.9	ug/L	-1	Standard
	Se-1	77	4337.3	9.5	**49.8985**	4.100	8.2	ug/L	127	Standard
>	**Ga**	71	376.7	5.0				mg/L	175	Standard
	Rb	85	3065.3	8.5				ug/L	50	Standard
	Y	89	554473.7	0.8				ug/L	527499	Standard
>	**Rh**	103	28.3	56.7				ug/L	10	Standard
	Mo	98	404026.2	10.7	**99.4980**	10.551	10.6	ug/L	23	Standard
	Ag	107	289394.3	8.5	**51.3591**	4.346	8.5	ug/L	59	Standard
	Cd	111	88748.8	10.1	**50.4665**	5.037	10.0	mg/L	3	Standard
	Cd	114	231065.1	11.2	**50.9600**	5.641	11.1	ug/L	10	Standard
>	**In**	115	570740.1	0.6				ug/L	537195	Standard
	Sn	118	250873.8	12.1	**49.9199**	6.014	12.0	ug/L	281	Standard
	Sb	123	199401.0	10.3	**50.5650**	5.184	10.3	ug/L	167	Standard
	Ba	135	88828.4	11.1	**50.3277**	5.544	11.0	ug/L	10	Standard
	Ce	140	83.3	8.8				ug/L	27	Standard
>	**Tb**	159	807070.9	0.6				ug/L	758170	Standard
	Ho	165	8.0	21.7				ug/L	7	Standard
	Tl	203	281082.7	7.5	**50.0858**	3.772	7.5	ug/L	5	Standard
	Tl	205	7347.8	6.4	**50.0341**	3.249	6.5	ug/L	0	Standard
	Pb	206	222678.1	10.8	**50.1748**	5.439	10.8	ug/L	182	Standard
	Pb	207	192186.0	9.9	**50.9289**	5.064	9.9	ug/L	145	Standard
	Pb	208	272840.6	10.5	**50.4343**	5.305	10.5	ug/L	207	Standard
	U	238	233348.3	12.5	**49.2061**	6.161	12.5	ug/L	1	Standard
>	**Bi**	209	348761.6	0.2				ug/L	325207	Standard

Sample ID: QC Std 6
Report Date/Time: Tuesday, June 04, 2013 13:16:52
Page 1

Approved: June 05, 2013

	Na	23	41.7	25.0	**5.2486**	1.680	32.0	mg/L	0	Standard
	Mg	24	4655.7	8.3	**4.4950**	0.277	6.2	mg/L	25	Standard
	K	39	300.0	16.4	**4.9390**	0.783	15.9	mg/L	3	Standard
	Ca	43	1608.4	7.5	**4.1850**	0.277	6.6	mg/L	297	Standard
	Fe	54	4531.3	12.0	**4.8230**	0.490	10.2	mg/L	91	Standard
	Fe	57	1828.4	10.0	**4.2681**	0.377	8.8	mg/L	237	Standard
>	**Sc-1**	45	38336.8	2.3				mg/L	35084	Standard
	Cl	35	41933.0	2.5				ug/L	29808	Standard
	Kr	83	38.7	4.8				ug/L	38	Standard
	Br	81	967.5	10.1				ug/L	965	Standard
	P	31	211144.2	2.8				ug/L	176735	Standard
	S	34	43433.8	1.7				ug/L	28891	Standard
	Sr	88	33.3	42.6				ug/L	27	Standard
	C	12	0.0					mg/L	7	Standard
	N	14	1.7	173.2				mg/L	0	Standard
	Hg	202	0.0					mg/L	3	Standard
	Dy	164	12.5	33.6				mg/L	14	Standard
	Ho-1	165	8.0	21.7				mg/L	7	Standard
	Er	166	17.0	17.6				mg/L	8	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		110.371	
	Be	9	95.048		
	Al	27	99.588		
	Sc	45			
	Ti	47	102.018		
	V	51	98.435		
	Cr	52	98.834		
	Cr	53			
	Mn	55	97.877		
	Co	59	98.045		
	Ni	60	100.999		
	Cu	65	98.240		
	Zn	66	99.087		
>	Ge	72		99.724	
	As	75	97.999		
	Se	82	100.824		
	Se-1	77			
>	Ga	71			
	Rb	85			

Sample ID: QC Std 6
Report Date/Time: Tuesday, June 04, 2013 13:16:52
Page 2

Approved: June 05, 2013

⌈	Y	89		
⌊>	Rh	103		
⌈	Mo	98	99.498	
|	Ag	107	102.718	
|	Cd	111	100.933	
|	Cd	114		
|>	In	115		106.244
|	Sn	118	99.840	
|	Sb	123	101.130	
⌊	Ba	135	100.655	
⌈	Ce	140		
⌊>	Tb	159		
⌈	Ho	165		
|	Tl	203	100.172	
|	Tl	205		
|	Pb	206		
|	Pb	207		
|	Pb	208	100.869	
|	U	238	98.412	
⌊>	Bi	209		107.243
⌈	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
Report Date/Time: Tuesday, June 04, 2013 13:16:52
Page 3

Approved: June 05, 2013

Method 6020 - Summary Report

Sample ID: QC Std 7
Sample Date/Time: Tuesday, June 04, 2013 13:18:11
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	555300.0	6.8				ug/L	552027	Standard
	Be	9	64.3	52.6	**0.0237**	0.021	88.4	ug/L	18	Standard
	Al	27	2404.9	77.7	**0.0061**	0.015	251.1	ug/L	841	Standard
	Sc	45	35022.1	3.0				ug/L	35084	Standard
	Ti	47	24.0	41.0	**0.0330**	0.047	141.1	ug/L	22	Standard
	V	51	774.3	27.3	**0.0105**	0.038	365.8	ug/L	812	Standard
	Cr	52	3558.4	14.1	**-0.1085**	0.108	99.3	ug/L	4274	Standard
	Cr	53	830.9	5.3	**-0.1751**	0.043	24.7	ug/L	1106	Standard
	Mn	55	1788.4	9.5	**0.0774**	0.021	27.0	ug/L	1207	Standard
	Co	59	226.3	89.2	**0.0267**	0.038	140.5	ug/L	71	Standard
	Ni	60	342.0	4.3	**0.0347**	0.007	19.3	ug/L	295	Standard
	Cu	65	133.0	12.6	**0.0098**	0.008	76.4	ug/L	87	Standard
	Zn	66	572.0	3.1	**-0.1817**	0.020	11.2	ug/L	469	Standard
>	**Ge**	72	481668.1	1.0				ug/L	514704	Standard
	As	75	-104.8	27.0	**0.0212**	0.022	106.1	ug/L	-121	Standard
	Se	82	8.3	60.8	**0.0663**	0.042	63.6	ug/L	-1	Standard
	Se-1	77	113.0	8.5	**0.0548**	0.134	244.1	ug/L	127	Standard
>	**Ga**	71	330.0	14.5				mg/L	175	Standard
	Rb	85	33.3	31.2				ug/L	50	Standard
	Y	89	516386.2	3.2				ug/L	527499	Standard
>	**Rh**	103	3.3	173.2				ug/L	10	Standard
	Mo	98	158.4	66.6	**0.0353**	0.027	77.1	ug/L	23	Standard
	Ag	107	132.0	57.8	**0.0129**	0.014	109.6	ug/L	59	Standard
	Cd	111	27.5	81.4	**0.0152**	0.013	88.5	mg/L	3	Standard
	Cd	114	67.8	61.9	**0.0110**	0.010	88.2	ug/L	10	Standard
>	**In**	115	521416.9	8.0				ug/L	537195	Standard
	Sn	118	1101.4	16.6	**0.1725**	0.022	12.8	ug/L	281	Standard
	Sb	123	404.5	14.6	**0.0947**	0.008	8.0	ug/L	167	Standard
	Ba	135	30.0	47.3	**-0.0043**	0.009	219.7	ug/L	10	Standard
	Ce	140	18.7	11.2				ug/L	27	Standard
>	**Tb**	159	746848.5	6.3				ug/L	758170	Standard
	Ho	165	6.7	34.6				ug/L	7	Standard
	Tl	203	57.7	52.2	**0.0099**	0.005	54.3	ug/L	5	Standard
	Tl	205	5.0	111.4	**0.0453**	0.044	97.2	ug/L	0	Standard
	Pb	206	238.7	6.3	**0.0084**	0.005	54.0	ug/L	182	Standard
	Pb	207	191.0	6.8	**0.0079**	0.004	53.8	ug/L	145	Standard
	Pb	208	367.7	47.2	**0.0271**	0.041	152.6	ug/L	207	Standard
	U	238	115.7	133.6	**0.0267**	0.038	142.2	ug/L	1	Standard
>	**Bi**	209	335379.2	8.3				ug/L	325207	Standard

Sample ID: QC Std 7
Report Date/Time: Tuesday, June 04, 2013 13:21:03
Page 1

Approved: June 05, 2013

Na	23	0.0		**-1.0895**	0.000	0.0	mg/L	0	Standard
Mg	24	36.7	79.9	**-0.0004**	0.033	7785.0	mg/L	25	Standard
K	39	1.7	173.2	**-0.0257**	0.051	197.9	mg/L	3	Standard
Ca	43	263.3	10.5	**-0.0798**	0.105	131.1	mg/L	297	Standard
Fe	54	94.7	13.7	**-0.0044**	0.013	295.4	mg/L	91	Standard
Fe	57	160.0	8.3	**-0.0542**	0.041	74.9	mg/L	237	Standard
> **Sc-1**	45	35022.1	3.0				mg/L	35084	Standard
Cl	35	35499.1	17.8				ug/L	29808	Standard
Kr	83	32.9	3.6				ug/L	38	Standard
Br	81	688.3	12.7				ug/L	965	Standard
P	31	135744.6	13.8				ug/L	176735	Standard
S	34	38102.5	12.4				ug/L	28891	Standard
Sr	88	38.3	38.2				ug/L	27	Standard
C	12	3.3	86.6				mg/L	7	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	0.0					mg/L	3	Standard
Dy	164	8.8	25.4				mg/L	14	Standard
Ho-1	165	6.7	34.6				mg/L	7	Standard
Er	166	10.3	20.1				mg/L	8	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
> Li	6		100.593	
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		93.582	
As	75			
Se	82			
Se-1	77			
> Ga	71			
Rb	85			

Sample ID: QC Std 7
Report Date/Time: Tuesday, June 04, 2013 13:21:03
Page 2

Approved: June 05, 2013

	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	97.063
	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	103.128
	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, June 04, 2013 13:21:03
Page 3

Approved: June 05, 2013

Method 6020 - Summary Report

Sample ID: PBW AF WG432798-02
Sample Date/Time: Tuesday, June 04, 2013 13:22:40
Number of Replicates: 3
Autosampler Position: 401
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	508014.7	2.5				ug/L	552027	Standard
	Be	9	35.0	28.1	**0.0090**	0.006	63.2	ug/L	18	Standard
	Al	27	381.0	12.6	**-0.0090**	0.000	3.4	ug/L	841	Standard
	Sc	45	32902.4	1.2				ug/L	35084	Standard
	Ti	47	17.3	29.0	**0.0071**	0.025	354.0	ug/L	22	Standard
	V	51	732.9	20.8	**0.0126**	0.028	221.7	ug/L	812	Standard
	Cr	52	3471.1	2.5	**-0.0736**	0.025	34.2	ug/L	4274	Standard
	Cr	53	785.9	4.5	**-0.1600**	0.052	32.3	ug/L	1106	Standard
	Mn	55	1165.7	4.8	**0.0063**	0.009	148.0	ug/L	1207	Standard
	Co	59	58.0	14.9	**-0.0040**	0.002	47.9	ug/L	71	Standard
	Ni	60	462.7	54.8	**0.1115**	0.135	121.4	ug/L	295	Standard
	Cu	65	79.3	60.8	**-0.0132**	0.026	193.4	ug/L	87	Standard
	Zn	66	1429.4	90.1	**0.7264**	1.308	180.0	ug/L	469	Standard
>	**Ge**	72	447994.8	1.4				ug/L	514704	Standard
	As	75	-88.0	25.9	**0.0294**	0.020	67.6	ug/L	-121	Standard
	Se	82	6.3	103.0	**0.0535**	0.059	109.8	ug/L	-1	Standard
	Se-1	77	113.0	15.1	**0.1630**	0.249	152.6	ug/L	127	Standard
>	**Ga**	71	300.0	1.7				mg/L	175	Standard
	Rb	85	41.7	13.9				ug/L	50	Standard
	Y	89	478090.2	3.1				ug/L	527499	Standard
>	**Rh**	103	6.7	43.3				ug/L	10	Standard
	Mo	98	46.8	17.5	**0.0058**	0.002	37.9	ug/L	23	Standard
	Ag	107	48.3	8.4	**-0.0030**	0.001	24.0	ug/L	59	Standard
	Cd	111	4.9	53.4	**0.0012**	0.002	136.5	mg/L	3	Standard
	Cd	114	14.0	63.9	**-0.0018**	0.002	120.2	ug/L	10	Standard
>	**In**	115	506235.1	1.2				ug/L	537195	Standard
	Sn	118	422.3	21.3	**0.0282**	0.020	70.2	ug/L	281	Standard
	Sb	123	364.2	8.0	**0.0870**	0.009	9.9	ug/L	167	Standard
	Ba	135	8.3	56.7	**-0.0179**	0.003	17.2	ug/L	10	Standard
	Ce	140	11.0	27.3				ug/L	27	Standard
>	**Tb**	159	725017.2	1.5				ug/L	758170	Standard
	Ho	165	7.7	30.1				ug/L	7	Standard
	Tl	203	13.3	31.2	**0.0017**	0.001	47.0	ug/L	5	Standard
	Tl	205	0.7	86.6	**0.0124**	0.004	33.9	ug/L	0	Standard
	Pb	206	173.3	6.7	**-0.0059**	0.003	45.6	ug/L	182	Standard
	Pb	207	153.7	7.9	**-0.0013**	0.003	267.8	ug/L	145	Standard
	Pb	208	208.7	3.7	**-0.0045**	0.002	34.5	ug/L	207	Standard
	U	238	4.0	75.0	**0.0001**	0.001	508.1	ug/L	1	Standard
>	**Bi**	209	325459.4	0.4				ug/L	325207	Standard

Sample ID: PBW AF WG432798-02
Report Date/Time: Tuesday, June 04, 2013 13:25:31
Page 1

Approved: June 05, 2013

	Na	23	3.3	86.6	**-0.5033**	0.508	100.9	mg/L	0	Standard
	Mg	24	31.7	18.2	**-0.0041**	0.007	157.5	mg/L	25	Standard
	K	39	8.3	69.3	**0.1058**	0.110	103.6	mg/L	3	Standard
	Ca	43	261.7	14.6	**-0.0272**	0.138	508.5	mg/L	297	Standard
	Fe	54	49.6	19.7	**-0.0543**	0.012	21.6	mg/L	91	Standard
	Fe	57	135.0	17.0	**-0.1009**	0.073	72.2	mg/L	237	Standard
>	**Sc-1**	45	32902.4	1.2				mg/L	35084	Standard
	Cl	35	35981.3	1.4				ug/L	29808	Standard
	Kr	83	34.0	2.6				ug/L	38	Standard
	Br	81	643.3	4.2				ug/L	965	Standard
	P	31	67594.1	5.5				ug/L	176735	Standard
	S	34	39640.1	1.3				ug/L	28891	Standard
	Sr	88	41.7	9.2				ug/L	27	Standard
	C	12	6.7	86.6				mg/L	7	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	1.7	173.2				mg/L	3	Standard
	Dy	164	9.7	37.4				mg/L	14	Standard
	Ho-1	165	7.7	30.1				mg/L	7	Standard
	Er	166	6.3	39.7				mg/L	8	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		92.027	
	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		87.039	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			

Sample ID: PBW AF WG432798-02
Report Date/Time: Tuesday, June 04, 2013 13:25:31
Page 2

Approved: June 05, 2013

	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	94.237
	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	100.078
	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

Sample ID: PBW AF WG432798-02
Report Date/Time: Tuesday, June 04, 2013 13:25:31
Page 3

Approved: June 05, 2013

Method 6020 - Summary Report

Sample ID: F BLANK WG432399-01
Sample Date/Time: Tuesday, June 04, 2013 13:26:26
Number of Replicates: 3
Autosampler Position: 402
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	568779.8	2.8				ug/L	552027	Standard
	Be	9	33.3	30.3	**0.0060**	0.005	87.0	ug/L	18	Standard
	Al	27	872.4	12.7	**-0.0058**	0.001	12.9	ug/L	841	Standard
	Sc	45	36540.7	0.9				ug/L	35084	Standard
	Ti	47	18.7	13.5	**0.0065**	0.011	168.2	ug/L	22	Standard
	V	51	917.1	9.7	**0.0341**	0.017	49.6	ug/L	812	Standard
	Cr	52	3972.2	1.7	**-0.0324**	0.012	38.1	ug/L	4274	Standard
	Cr	53	786.7	2.4	**-0.2281**	0.032	14.2	ug/L	1106	Standard
	Mn	55	1337.7	5.3	**0.0158**	0.007	41.4	ug/L	1207	Standard
	Co	59	80.3	3.1	**-0.0008**	0.000	61.5	ug/L	71	Standard
	Ni	60	865.4	2.7	**0.2870**	0.017	6.0	ug/L	295	Standard
	Cu	65	93.0	17.3	**-0.0100**	0.008	82.7	ug/L	87	Standard
	Zn	66	1490.4	6.6	**0.6641**	0.092	13.9	ug/L	469	Standard
>	**Ge**	72	486232.8	1.7				ug/L	514704	Standard
	As	75	-135.3	12.2	**-0.0032**	0.015	460.7	ug/L	-121	Standard
	Se	82	-0.3	1324.1	**-0.0055**	0.032	578.0	ug/L	-1	Standard
	Se-1	77	103.7	20.3	**-0.0735**	0.281	382.1	ug/L	127	Standard
>	**Ga**	71	333.3	12.1				mg/L	175	Standard
	Rb	85	41.7	36.7				ug/L	50	Standard
	Y	89	526998.2	3.8				ug/L	527499	Standard
>	**Rh**	103	3.3	173.2				ug/L	10	Standard
	Mo	98	47.3	27.7	**0.0050**	0.003	65.8	ug/L	23	Standard
	Ag	107	68.0	19.9	**0.0000**	0.002	62535.8	ug/L	59	Standard
	Cd	111	7.9	21.6	**0.0028**	0.001	37.4	mg/L	3	Standard
	Cd	114	22.6	36.2	**-0.0001**	0.002	1698.3	ug/L	10	Standard
>	**In**	115	543185.1	2.4				ug/L	537195	Standard
	Sn	118	435.7	19.4	**0.0246**	0.018	72.0	ug/L	281	Standard
	Sb	123	398.7	1.5	**0.0891**	0.003	3.6	ug/L	167	Standard
	Ba	135	11.0	18.2	**-0.0166**	0.001	7.4	ug/L	10	Standard
	Ce	140	14.7	14.2				ug/L	27	Standard
>	**Tb**	159	766147.3	1.9				ug/L	758170	Standard
	Ho	165	9.0	0.0				ug/L	7	Standard
	Tl	203	14.0	32.7	**0.0017**	0.001	46.5	ug/L	5	Standard
	Tl	205	0.3	173.2	**0.0099**	0.004	41.0	ug/L	0	Standard
	Pb	206	214.0	2.9	**0.0018**	0.002	102.2	ug/L	182	Standard
	Pb	207	157.7	9.8	**-0.0019**	0.005	243.9	ug/L	145	Standard
	Pb	208	236.0	11.0	**-0.0010**	0.005	500.5	ug/L	207	Standard
	U	238	7.3	68.6	**0.0008**	0.001	131.3	ug/L	1	Standard
>	**Bi**	209	339273.4	2.0				ug/L	325207	Standard

Sample ID: F BLANK WG432399-01
Report Date/Time: Tuesday, June 04, 2013 13:29:18
Page 1

Approved: June 05, 2013

Na	23	0.0		**-1.0895**	0.000	0.0	mg/L	0	Standard
Mg	24	25.0	34.6	**-0.0145**	0.009	61.3	mg/L	25	Standard
K	39	5.0	100.0	**0.0317**	0.087	273.4	mg/L	3	Standard
Ca	43	278.3	20.8	**-0.0674**	0.204	302.5	mg/L	297	Standard
Fe	54	91.2	8.4	**-0.0128**	0.009	70.1	mg/L	91	Standard
Fe	57	158.3	6.6	**-0.0780**	0.032	41.2	mg/L	237	Standard
> **Sc-1**	45	36540.7	0.9				mg/L	35084	Standard
Cl	35	40176.5	1.2				ug/L	29808	Standard
Kr	83	37.3	9.7				ug/L	38	Standard
Br	81	830.9	8.5				ug/L	965	Standard
P	31	146759.2	2.1				ug/L	176735	Standard
S	34	40728.8	0.7				ug/L	28891	Standard
Sr	88	39.2	32.1				ug/L	27	Standard
C	12	5.0	100.0				mg/L	7	Standard
N	14	1.7	173.2				mg/L	0	Standard
Hg	202	1.7	173.2				mg/L	3	Standard
Dy	164	5.9	17.5				mg/L	14	Standard
Ho-1	165	9.0	0.0				mg/L	7	Standard
Er	166	9.0	33.3				mg/L	8	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
> Li	6		103.035	
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		94.468	
As	75			
Se	82			
Se-1	77			
> Ga	71			
Rb	85			

Sample ID: F BLANK WG432399-01
Report Date/Time: Tuesday, June 04, 2013 13:29:18
Page 2

Approved: June 05, 2013

	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	101.115
	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	104.325
	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: F BLANK WG432399-01
Report Date/Time: Tuesday, June 04, 2013 13:29:18
Page 3

Approved: June 05, 2013

Method 6020 - Summary Report

Sample ID: LCSW AF WG432798-03
Sample Date/Time: Tuesday, June 04, 2013 13:30:12
Number of Replicates: 3
Autosampler Position: 403
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	630115.1	2.7				ug/L	552027	Standard
	Be	9	49993.7	11.3	**23.1786**	2.196	9.5	ug/L	18	Standard
	Al	27	1504.4	10.2	**-0.0024**	0.001	32.6	ug/L	841	Standard
	Sc	45	39509.8	3.3				ug/L	35084	Standard
	Ti	47	19.3	15.8	**0.0047**	0.014	311.1	ug/L	22	Standard
	V	51	148844.9	10.8	**24.4567**	2.243	9.2	ug/L	812	Standard
	Cr	52	135437.7	12.4	**24.9339**	2.700	10.8	ug/L	4274	Standard
	Cr	53	26687.0	11.6	**24.7763**	2.586	10.4	ug/L	1106	Standard
	Mn	55	200593.4	12.8	**24.7587**	2.814	11.4	ug/L	1207	Standard
	Co	59	138845.9	11.3	**24.4158**	2.334	9.6	ug/L	71	Standard
	Ni	60	55632.4	8.3	**25.3056**	1.695	6.7	ug/L	295	Standard
	Cu	65	55647.4	10.1	**25.2297**	2.101	8.3	ug/L	87	Standard
	Zn	66	30108.5	11.0	**25.5779**	2.396	9.4	ug/L	469	Standard
>	**Ge**	72	515157.1	2.5				ug/L	514704	Standard
	As	75	31345.6	10.5	**24.2173**	2.110	8.7	ug/L	-121	Standard
	Se	82	3210.0	11.3	**25.0661**	2.395	9.6	ug/L	-1	Standard
	Se-1	77	2158.2	9.9	**24.0513**	2.219	9.2	ug/L	127	Standard
>	**Ga**	71	260.0	20.8				mg/L	175	Standard
	Rb	85	50.0	26.5				ug/L	50	Standard
	Y	89	566309.6	2.4				ug/L	527499	Standard
>	**Rh**	103	11.7	89.2				ug/L	10	Standard
	Mo	98	46.7	31.8	**0.0040**	0.004	90.2	ug/L	23	Standard
	Ag	107	145632.4	9.1	**25.1390**	1.840	7.3	ug/L	59	Standard
	Cd	111	44624.5	12.2	**24.6784**	2.566	10.4	mg/L	3	Standard
	Cd	114	115787.1	11.0	**24.8384**	2.341	9.4	ug/L	10	Standard
>	**In**	115	586138.4	2.2				ug/L	537195	Standard
	Sn	118	506.7	5.6	**0.0318**	0.008	23.9	ug/L	281	Standard
	Sb	123	100055.6	10.5	**24.6747**	2.197	8.9	ug/L	167	Standard
	Ba	135	44899.9	10.7	**24.7349**	2.243	9.1	ug/L	10	Standard
	Ce	140	105.7	7.9				ug/L	27	Standard
>	**Tb**	159	820710.6	1.5				ug/L	758170	Standard
	Ho	165	5.3	21.7				ug/L	7	Standard
	Tl	203	140958.6	8.3	**24.6502**	1.685	6.8	ug/L	5	Standard
	Tl	205	3692.5	9.8	**24.6763**	2.078	8.4	ug/L	0	Standard
	Pb	206	111309.6	10.4	**24.5846**	2.213	9.0	ug/L	182	Standard
	Pb	207	95078.4	10.9	**24.6968**	2.350	9.5	ug/L	145	Standard
	Pb	208	136427.3	11.0	**24.7195**	2.359	9.5	ug/L	207	Standard
	U	238	114982.6	12.2	**23.7846**	2.550	10.7	ug/L	1	Standard
>	**Bi**	209	355122.1	1.9				ug/L	325207	Standard

Sample ID: LCSW AF WG432798-03
Report Date/Time: Tuesday, June 04, 2013 13:33:04
Page 1

Approved: June 05, 2013

⌈	**Na**	23	1.7	173.2	**-0.8505**	0.414	48.7	mg/L	0	Standard
|	**Mg**	24	36.7	15.7	**-0.0053**	0.006	110.4	mg/L	25	Standard
|	**K**	39	8.3	34.6	**0.0799**	0.048	60.1	mg/L	3	Standard
|	**Ca**	43	246.7	11.5	**-0.2365**	0.112	47.4	mg/L	297	Standard
|	**Fe**	54	137.2	36.0	**0.0274**	0.049	177.1	mg/L	91	Standard
|	**Fe**	57	126.7	13.9	**-0.1917**	0.038	20.1	mg/L	237	Standard
⌊>	**Sc-1**	45	39509.8	3.3				mg/L	35084	Standard
	Cl	35	43955.0	2.4				ug/L	29808	Standard
	Kr	83	38.7	14.3				ug/L	38	Standard
	Br	81	931.7	6.6				ug/L	965	Standard
	P	31	217567.8	4.2				ug/L	176735	Standard
	S	34	41043.9	1.4				ug/L	28891	Standard
	Sr	88	27.5	0.0				ug/L	27	Standard
	C	12	5.0	100.0				mg/L	7	Standard
	N	14	1.7	173.2				mg/L	0	Standard
	Hg	202	0.0					mg/L	3	Standard
	Dy	164	11.9	18.7				mg/L	14	Standard
	Ho-1	165	5.3	21.7				mg/L	7	Standard
	Er	166	16.7	48.5				mg/L	8	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		114.146	
|	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			

Sample ID: LCSW AF WG432798-03
Report Date/Time: Tuesday, June 04, 2013 13:33:04
Page 2

Approved: June 05, 2013

⌈	Y	89	
⌊>	Rh	103	
⌈	Mo	98	
|	Ag	107	
|	Cd	111	
|	Cd	114	
|>	In	115	109.111
|	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	109.199
⌈	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

Sample ID: LCSW AF WG432798-03
Report Date/Time: Tuesday, June 04, 2013 13:33:04
Page 3

Approved: June 05, 2013

Method 6020 - Summary Report

Sample ID: L1305132109 WG432798-01
Sample Date/Time: Tuesday, June 04, 2013 13:33:58
Number of Replicates: 3
Autosampler Position: 404
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	623783.7	0.8				ug/L	552027	Standard
	Be	9	78.3	10.6	**0.0256**	0.004	15.0	ug/L	18	Standard
	Al	27	5672534.7	8.7	**36.5112**	3.229	8.8	ug/L	841	Standard
	Sc	45	40992.1	3.4				ug/L	35084	Standard
	Ti	47	7271.1	11.6	**33.0273**	3.549	10.7	ug/L	22	Standard
	V	51	15142.7	11.8	**2.3886**	0.274	11.5	ug/L	812	Standard
	Cr	52	9559.7	6.5	**0.9962**	0.104	10.4	ug/L	4274	Standard
	Cr	53	2498.5	3.0	**1.3965**	0.056	4.0	ug/L	1106	Standard
	Mn	55	4117289.7	11.1	**514.3316**	52.537	10.2	ug/L	1207	Standard
	Co	59	15608.8	11.0	**2.7467**	0.280	10.2	ug/L	71	Standard
	Ni	60	4043.2	9.0	**1.7263**	0.151	8.7	ug/L	295	Standard
	Cu	65	2477.2	10.6	**1.0772**	0.110	10.3	ug/L	87	Standard
	Zn	66	15572.7	9.6	**12.9640**	1.184	9.1	ug/L	469	Standard
>	**Ge**	72	512415.3	1.1				ug/L	514704	Standard
	As	75	1142.4	9.9	**0.9912**	0.081	8.2	ug/L	-121	Standard
	Se	82	498.8	8.8	**3.9161**	0.315	8.0	ug/L	-1	Standard
	Se-1	77	185.7	5.2	**0.8303**	0.130	15.7	ug/L	127	Standard
>	**Ga**	71	1586.8	20.4				mg/L	175	Standard
	Rb	85	9948.3	9.4				ug/L	50	Standard
	Y	89	577056.9	2.2				ug/L	527499	Standard
>	**Rh**	103	153.3	13.2				ug/L	10	Standard
	Mo	98	332.7	49.1	**0.0730**	0.039	53.2	ug/L	23	Standard
	Ag	107	177.0	86.5	**0.0181**	0.026	146.2	ug/L	59	Standard
	Cd	111	64.6	53.7	**0.0341**	0.019	56.0	mg/L	3	Standard
	Cd	114	154.5	65.9	**0.0280**	0.022	77.7	ug/L	10	Standard
>	**In**	115	581474.6	0.8				ug/L	537195	Standard
	Sn	118	1050.0	3.5	**0.1388**	0.008	5.7	ug/L	281	Standard
	Sb	123	1638.1	7.2	**0.3906**	0.026	6.7	ug/L	167	Standard
	Ba	135	61457.8	9.6	**34.1561**	3.041	8.9	ug/L	10	Standard
	Ce	140	37319.0	11.6				ug/L	27	Standard
>	**Tb**	159	824967.3	0.1				ug/L	758170	Standard
	Ho	165	404.0	12.9				ug/L	7	Standard
	Tl	203	121.3	38.3	**0.0205**	0.008	39.9	ug/L	5	Standard
	Tl	205	1.7	34.6	**0.0188**	0.004	20.8	ug/L	0	Standard
	Pb	206	1114.4	10.2	**0.2011**	0.026	12.7	ug/L	182	Standard
	Pb	207	872.7	9.5	**0.1843**	0.022	12.0	ug/L	145	Standard
	Pb	208	1243.4	7.4	**0.1819**	0.017	9.3	ug/L	207	Standard
	U	238	129.0	17.5	**0.0262**	0.005	18.0	ug/L	1	Standard
>	**Bi**	209	352202.9	0.2				ug/L	325207	Standard

Sample ID: L1305132109 WG432798-01
Report Date/Time: Tuesday, June 04, 2013 13:36:50
Page 1

Approved: June 05, 2013

	Na	23	90.0	14.7	**11.6584**	1.605	13.8	mg/L	0	Standard
	Mg	24	12056.5	10.7	**10.9368**	0.847	7.7	mg/L	25	Standard
	K	39	20.0	100.0	**0.2564**	0.306	119.1	mg/L	3	Standard
	Ca	43	4612.4	12.7	**12.9081**	1.331	10.3	mg/L	297	Standard
	Fe	54	815.9	4.6	**0.7157**	0.020	2.8	mg/L	91	Standard
	Fe	57	1671.8	13.5	**3.5720**	0.437	12.2	mg/L	237	Standard
>	**Sc-1**	45	40992.1	3.4				mg/L	35084	Standard
	Cl	35	44415.7	1.3				ug/L	29808	Standard
	Kr	83	37.9	13.7				ug/L	38	Standard
	Br	81	28497.7	8.8				ug/L	965	Standard
	P	31	352890.7	6.7				ug/L	176735	Standard
	S	34	38332.6	0.7				ug/L	28891	Standard
	Sr	88	130.8	15.9				ug/L	27	Standard
	C	12	23.3	24.7				mg/L	7	Standard
	N	14	1.7	173.2				mg/L	0	Standard
	Hg	202	21.7	26.6				mg/L	3	Standard
	Dy	164	562.1	14.4				mg/L	14	Standard
	Ho-1	165	404.0	12.9				mg/L	7	Standard
	Er	166	457.3	7.8				mg/L	8	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		112.999	
	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		99.555	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			

Sample ID: L1305132109 WG432798-01
Report Date/Time: Tuesday, June 04, 2013 13:36:50
Page 2

Approved: June 05, 2013

	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	108.243
	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	108.301
	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	

Sample ID: L1305132109 WG432798-01
Report Date/Time: Tuesday, June 04, 2013 13:36:50
Page 3

Approved: June 05, 2013

Method 6020 - Summary Report

Sample ID: L1305132109S WG432798-04
Sample Date/Time: Tuesday, June 04, 2013 13:37:44
Number of Replicates: 3
Autosampler Position: 405
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	641179.1	3.5				ug/L	552027	Standard
	Be	9	49172.2	10.5	**22.4177**	2.070	9.2	ug/L	18	Standard
	Al	27	5646794.8	9.1	**35.3432**	2.777	7.9	ug/L	841	Standard
	Sc	45	41904.6	4.6				ug/L	35084	Standard
	Ti	47	5669.7	10.8	**25.7234**	2.516	9.8	ug/L	22	Standard
	V	51	153798.3	11.3	**25.4120**	2.700	10.6	ug/L	812	Standard
	Cr	52	132137.8	12.3	**24.4456**	2.911	11.9	ug/L	4274	Standard
	Cr	53	26922.4	11.2	**25.1485**	2.802	11.1	ug/L	1106	Standard
	Mn	55	4220166.0	10.4	**527.0445**	51.139	9.7	ug/L	1207	Standard
	Co	59	143974.1	11.1	**25.4545**	2.635	10.4	ug/L	71	Standard
	Ni	60	55568.1	10.6	**25.4020**	2.477	9.7	ug/L	295	Standard
	Cu	65	53638.3	9.2	**24.4452**	2.023	8.3	ug/L	87	Standard
	Zn	66	45853.3	9.2	**39.5475**	3.340	8.4	ug/L	469	Standard
>	**Ge**	72	512703.2	2.1				ug/L	514704	Standard
	As	75	31282.1	9.3	**24.2976**	2.050	8.4	ug/L	-121	Standard
	Se	82	3437.0	8.5	**26.9873**	2.042	7.6	ug/L	-1	Standard
	Se-1	77	2102.5	6.6	**23.5234**	1.414	6.0	ug/L	127	Standard
>	**Ga**	71	1118.4	1.1				mg/L	175	Standard
	Rb	85	9164.4	4.9				ug/L	50	Standard
	Y	89	563830.8	1.5				ug/L	527499	Standard
>	**Rh**	103	168.3	24.7				ug/L	10	Standard
	Mo	98	166.7	4.4	**0.0329**	0.001	3.6	ug/L	23	Standard
	Ag	107	129838.2	7.3	**22.4720**	1.343	6.0	ug/L	59	Standard
	Cd	111	42643.2	10.8	**23.6474**	2.229	9.4	mg/L	3	Standard
	Cd	114	110523.6	10.0	**23.7713**	2.076	8.7	ug/L	10	Standard
>	**In**	115	584799.7	2.4				ug/L	537195	Standard
	Sn	118	891.4	3.7	**0.1069**	0.010	9.3	ug/L	281	Standard
	Sb	123	95816.3	9.6	**23.6907**	1.988	8.4	ug/L	167	Standard
	Ba	135	102396.3	9.7	**56.5936**	4.809	8.5	ug/L	10	Standard
	Ce	140	36558.7	10.2				ug/L	27	Standard
>	**Tb**	159	831061.8	1.5				ug/L	758170	Standard
	Ho	165	398.0	8.2				ug/L	7	Standard
	Tl	203	135033.5	7.4	**23.6429**	1.641	6.9	ug/L	5	Standard
	Tl	205	3534.7	8.5	**23.6543**	1.904	8.1	ug/L	0	Standard
	Pb	206	106900.1	9.7	**23.6414**	2.192	9.3	ug/L	182	Standard
	Pb	207	91931.2	10.0	**23.9120**	2.294	9.6	ug/L	145	Standard
	Pb	208	131350.7	10.8	**23.8317**	2.487	10.4	ug/L	207	Standard
	U	238	110380.1	11.5	**22.8670**	2.531	11.1	ug/L	1	Standard
>	**Bi**	209	354844.5	0.5				ug/L	325207	Standard

Sample ID: L1305132109S WG432798-04
Report Date/Time: Tuesday, June 04, 2013 13:40:36
Page 1

Approved: June 05, 2013

	Na	23	118.3	19.1	**15.3508**	3.278	21.4	mg/L	0	Standard
	Mg	24	12074.8	9.8	**10.7289**	0.929	8.7	mg/L	25	Standard
	K	39	38.3	15.1	**0.5311**	0.105	19.8	mg/L	3	Standard
	Ca	43	4637.4	14.4	**12.6994**	1.816	14.3	mg/L	297	Standard
	Fe	54	615.8	6.7	**0.4989**	0.055	11.0	mg/L	91	Standard
	Fe	57	1585.1	12.9	**3.2828**	0.462	14.1	mg/L	237	Standard
>	**Sc-1**	45	41904.6	4.6				mg/L	35084	Standard
	Cl	35	44853.7	2.7				ug/L	29808	Standard
	Kr	83	41.1	13.0				ug/L	38	Standard
	Br	81	23111.9	11.4				ug/L	965	Standard
	P	31	342501.1	4.0				ug/L	176735	Standard
	S	34	38271.6	2.5				ug/L	28891	Standard
	Sr	88	153.3	11.6				ug/L	27	Standard
	C	12	33.3	8.7				mg/L	7	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	23.3	118.0				mg/L	3	Standard
	Dy	164	514.4	10.9				mg/L	14	Standard
	Ho-1	165	398.0	8.2				mg/L	7	Standard
	Er	166	424.0	18.9				mg/L	8	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		116.150	
	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		99.611	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			

Sample ID: L1305132109S WG432798-04
Report Date/Time: Tuesday, June 04, 2013 13:40:36
Page 2

Approved: June 05, 2013

	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	108.862
	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	109.113
	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	

Sample ID: L1305132109S WG432798-04
Report Date/Time: Tuesday, June 04, 2013 13:40:36
Page 3

Approved: June 05, 2013

Method 6020 - Summary Report

Sample ID: L1305132109SD WG432798-05
Sample Date/Time: Tuesday, June 04, 2013 13:41:30
Number of Replicates: 3
Autosampler Position: 406
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	649071.2	0.2				ug/L	552027	Standard
	Be	9	52156.1	9.3	**23.5025**	2.183	9.3	ug/L	18	Standard
	Al	27	5756412.5	8.1	**35.6054**	2.928	8.2	ug/L	841	Standard
	Sc	45	41144.1	1.1				ug/L	35084	Standard
	Ti	47	8320.6	10.2	**37.6913**	3.768	10.0	ug/L	22	Standard
	V	51	167049.2	10.2	**27.5328**	2.716	9.9	ug/L	812	Standard
	Cr	52	140532.4	11.5	**25.9791**	3.002	11.6	ug/L	4274	Standard
	Cr	53	28747.4	8.6	**26.8506**	2.463	9.2	ug/L	1106	Standard
	Mn	55	4271776.8	9.5	**531.9676**	49.062	9.2	ug/L	1207	Standard
	Co	59	151097.9	11.8	**26.6422**	3.088	11.6	ug/L	71	Standard
	Ni	60	58692.5	9.4	**26.7653**	2.460	9.2	ug/L	295	Standard
	Cu	65	56826.3	9.3	**25.8322**	2.386	9.2	ug/L	87	Standard
	Zn	66	44301.3	8.6	**38.0774**	3.214	8.4	ug/L	469	Standard
>	**Ge**	72	514305.8	1.7				ug/L	514704	Standard
	As	75	33474.2	9.2	**25.9239**	2.379	9.2	ug/L	-121	Standard
	Se	82	3813.4	7.8	**29.8647**	2.367	7.9	ug/L	-1	Standard
	Se-1	77	2232.8	7.0	**24.9898**	1.771	7.1	ug/L	127	Standard
>	**Ga**	71	1615.1	11.2				mg/L	175	Standard
	Rb	85	10682.1	9.7				ug/L	50	Standard
	Y	89	575291.8	1.7				ug/L	527499	Standard
>	**Rh**	103	138.3	13.7				ug/L	10	Standard
	Mo	98	168.3	11.0	**0.0328**	0.004	13.3	ug/L	23	Standard
	Ag	107	135743.9	7.4	**23.2473**	1.594	6.9	ug/L	59	Standard
	Cd	111	44947.2	10.8	**24.6684**	2.546	10.3	mg/L	3	Standard
	Cd	114	116677.2	9.5	**24.8351**	2.223	9.0	ug/L	10	Standard
>	**In**	115	591134.7	0.6				ug/L	537195	Standard
	Sn	118	1338.1	2.3	**0.1908**	0.007	3.9	ug/L	281	Standard
	Sb	123	100728.4	9.7	**24.6455**	2.257	9.2	ug/L	167	Standard
	Ba	135	107830.7	8.9	**58.9752**	4.955	8.4	ug/L	10	Standard
	Ce	140	38010.3	11.2				ug/L	27	Standard
>	**Tb**	159	839228.2	0.6				ug/L	758170	Standard
	Ho	165	406.0	11.5				ug/L	7	Standard
	Tl	203	139080.0	6.8	**24.4416**	1.798	7.4	ug/L	5	Standard
	Tl	205	3618.1	6.4	**24.3000**	1.628	6.7	ug/L	0	Standard
	Pb	206	113406.8	9.1	**25.1769**	2.375	9.4	ug/L	182	Standard
	Pb	207	96987.2	8.2	**25.3232**	2.161	8.5	ug/L	145	Standard
	Pb	208	138409.3	9.6	**25.2087**	2.478	9.8	ug/L	207	Standard
	U	238	118817.2	11.7	**24.7115**	2.976	12.0	ug/L	1	Standard
>	**Bi**	209	353719.1	1.5				ug/L	325207	Standard

Sample ID: L1305132109SD WG432798-05
Report Date/Time: Tuesday, June 04, 2013 13:44:22
Page 1

Approved: June 05, 2013

	Na	23	98.3	21.2	**12.7873**	2.806	21.9	mg/L	0	Standard
	Mg	24	12431.8	6.7	**11.2490**	0.628	5.6	mg/L	25	Standard
	K	39	25.0	20.0	**0.3333**	0.082	24.5	mg/L	3	Standard
	Ca	43	4710.7	7.0	**13.1765**	0.838	6.4	mg/L	297	Standard
	Fe	54	847.0	14.0	**0.7435**	0.112	15.0	mg/L	91	Standard
	Fe	57	1675.1	12.0	**3.5705**	0.457	12.8	mg/L	237	Standard
>	**Sc-1**	45	41144.1	1.1				mg/L	35084	Standard
	Cl	35	46233.4	0.4				ug/L	29808	Standard
	Kr	83	38.9	7.9				ug/L	38	Standard
	Br	81	33254.1	7.3				ug/L	965	Standard
	P	31	357092.2	5.5				ug/L	176735	Standard
	S	34	39039.4	0.5				ug/L	28891	Standard
	Sr	88	150.0	9.3				ug/L	27	Standard
	C	12	21.7	13.3				mg/L	7	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	23.3	32.7				mg/L	3	Standard
	Dy	164	581.5	14.1				mg/L	14	Standard
	Ho-1	165	406.0	11.5				mg/L	7	Standard
	Er	166	483.7	10.4				mg/L	8	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		117.580	
	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		99.923	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			

Sample ID: L1305132109SD WG432798-05
Report Date/Time: Tuesday, June 04, 2013 13:44:22
Page 2

Approved: June 05, 2013

	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	110.041
	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	108.767
	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	

Sample ID: L1305132109SD WG432798-05
Report Date/Time: Tuesday, June 04, 2013 13:44:22
Page 3

Approved: June 05, 2013

Method 6020 - Summary Report

Sample ID: L1305152302
Sample Date/Time: Tuesday, June 04, 2013 13:45:16
Number of Replicates: 3
Autosampler Position: 407
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	640035.6	2.0				ug/L	552027	Standard
	Be	9	238.0	14.3	**0.0975**	0.013	13.6	ug/L	18	Standard
	Al	27	1732737.0	9.2	**10.8539**	0.869	8.0	ug/L	841	Standard
	Sc	45	40487.4	1.1				ug/L	35084	Standard
	Ti	47	5495.0	9.8	**25.0933**	2.148	8.6	ug/L	22	Standard
	V	51	30090.5	12.7	**4.9004**	0.567	11.6	ug/L	812	Standard
	Cr	52	16244.4	9.4	**2.2936**	0.238	10.4	ug/L	4274	Standard
	Cr	53	3518.7	5.8	**2.4098**	0.158	6.6	ug/L	1106	Standard
	Mn	55	687623.8	10.6	**86.2749**	7.880	9.1	ug/L	1207	Standard
	Co	59	3384.7	12.5	**0.5868**	0.067	11.4	ug/L	71	Standard
	Ni	60	4154.6	8.3	**1.7891**	0.132	7.4	ug/L	295	Standard
	Cu	65	88280.6	10.2	**40.5249**	3.565	8.8	ug/L	87	Standard
	Zn	66	64392.7	9.4	**56.1930**	4.554	8.1	ug/L	469	Standard
>	**Ge**	72	509268.1	2.0				ug/L	514704	Standard
	As	75	35036.3	8.7	**27.3777**	2.033	7.4	ug/L	-121	Standard
	Se	82	63.7	23.0	**0.4992**	0.105	21.1	ug/L	-1	Standard
	Se-1	77	142.3	12.2	**0.3243**	0.172	53.0	ug/L	127	Standard
>	**Ga**	71	2251.8	11.8				mg/L	175	Standard
	Rb	85	41495.5	10.8				ug/L	50	Standard
	Y	89	579755.5	2.3				ug/L	527499	Standard
>	**Rh**	103	31.7	18.2				ug/L	10	Standard
	Mo	98	4967.0	11.0	**1.1806**	0.126	10.7	ug/L	23	Standard
	Ag	107	493.0	6.5	**0.0723**	0.005	7.3	ug/L	59	Standard
	Cd	111	341.5	9.1	**0.1866**	0.016	8.6	mg/L	3	Standard
	Cd	114	897.6	13.1	**0.1869**	0.024	13.1	ug/L	10	Standard
>	**In**	115	587665.3	0.6				ug/L	537195	Standard
	Sn	118	1657.4	6.0	**0.2541**	0.017	6.8	ug/L	281	Standard
	Sb	123	3388.8	8.3	**0.8176**	0.067	8.2	ug/L	167	Standard
	Ba	135	39236.1	10.6	**21.5708**	2.187	10.1	ug/L	10	Standard
	Ce	140	74800.0	11.1				ug/L	27	Standard
>	**Tb**	159	841557.6	0.8				ug/L	758170	Standard
	Ho	165	1119.4	11.5				ug/L	7	Standard
	Tl	203	211.7	19.6	**0.0358**	0.007	20.0	ug/L	5	Standard
	Tl	205	5.7	53.9	**0.0450**	0.020	44.0	ug/L	0	Standard
	Pb	206	79551.0	9.9	**17.4102**	1.632	9.4	ug/L	182	Standard
	Pb	207	67075.8	10.1	**17.2657**	1.652	9.6	ug/L	145	Standard
	Pb	208	96022.3	10.4	**17.2403**	1.701	9.9	ug/L	207	Standard
	U	238	994.7	14.7	**0.2032**	0.028	13.8	ug/L	1	Standard
>	**Bi**	209	358293.8	1.0				ug/L	325207	Standard

Sample ID: L1305152302
Report Date/Time: Tuesday, June 04, 2013 13:48:08
Page 1

Approved: June 05, 2013

	Na	23	63.3	44.9	**7.9870**	3.990	50.0	mg/L	0	Standard
	Mg	24	8535.7	7.9	**7.8418**	0.649	8.3	mg/L	25	Standard
	K	39	61.7	4.7	**0.9177**	0.056	6.1	mg/L	3	Standard
	Ca	43	3437.1	12.5	**9.5119**	1.294	13.6	mg/L	297	Standard
	Fe	54	1183.3	11.3	**1.1067**	0.148	13.3	mg/L	91	Standard
	Fe	57	1391.7	13.6	**2.9385**	0.486	16.5	mg/L	237	Standard
>	**Sc-1**	45	40487.4	1.1				mg/L	35084	Standard
	Cl	35	48888.4	1.2				ug/L	29808	Standard
	Kr	83	39.2	17.2				ug/L	38	Standard
	Br	81	1933.5	9.5				ug/L	965	Standard
	P	31	275143.6	6.2				ug/L	176735	Standard
	S	34	40984.5	1.7				ug/L	28891	Standard
	Sr	88	35.0	12.4				ug/L	27	Standard
	C	12	8.3	34.6				mg/L	7	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	35.0	14.3				mg/L	3	Standard
	Dy	164	1696.8	11.6				mg/L	14	Standard
	Ho-1	165	1119.4	11.5				mg/L	7	Standard
	Er	166	994.7	12.1				mg/L	8	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		115.943	
	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		98.944	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			

Sample ID: L1305152302
Report Date/Time: Tuesday, June 04, 2013 13:48:08
Page 2

Approved: June 05, 2013

⌈	Y	89	
⌊>	Rh	103	
⌈	Mo	98	
|	Ag	107	
|	Cd	111	
|	Cd	114	
|>	In	115	109.395
|	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	110.174
⌈	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: L1305152302
Report Date/Time: Tuesday, June 04, 2013 13:48:08
Page 3

Approved: June 05, 2013

Method 6020 - Summary Report

Sample ID: L1305152304
Sample Date/Time: Tuesday, June 04, 2013 13:49:03
Number of Replicates: 3
Autosampler Position: 408
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	643938.9	1.4				ug/L	552027	Standard
	Be	9	202.3	8.4	**0.0808**	0.007	8.4	ug/L	18	Standard
	Al	27	1610663.0	10.7	**10.0272**	0.983	9.8	ug/L	841	Standard
	Sc	45	39239.1	2.3				ug/L	35084	Standard
	Ti	47	7214.4	11.4	**33.4255**	3.431	10.3	ug/L	22	Standard
	V	51	14730.9	10.9	**2.3690**	0.242	10.2	ug/L	812	Standard
	Cr	52	21294.1	10.8	**3.3231**	0.402	12.1	ug/L	4274	Standard
	Cr	53	4480.7	8.9	**3.4102**	0.324	9.5	ug/L	1106	Standard
	Mn	55	495191.6	11.8	**62.9482**	6.691	10.6	ug/L	1207	Standard
	Co	59	3822.5	10.4	**0.6743**	0.064	9.4	ug/L	71	Standard
	Ni	60	4138.6	9.0	**1.8086**	0.159	8.8	ug/L	295	Standard
	Cu	65	292829.4	10.6	**136.4236**	12.796	9.4	ug/L	87	Standard
	Zn	66	178334.0	11.0	**159.0534**	15.604	9.8	ug/L	469	Standard
>	**Ge**	72	502320.5	1.7				ug/L	514704	Standard
	As	75	4848.4	11.2	**3.9323**	0.379	9.6	ug/L	-121	Standard
	Se	82	81.7	21.2	**0.6514**	0.134	20.6	ug/L	-1	Standard
	Se-1	77	187.0	10.7	**0.8878**	0.204	23.0	ug/L	127	Standard
>	**Ga**	71	2393.5	12.2				mg/L	175	Standard
	Rb	85	82190.1	8.6				ug/L	50	Standard
	Y	89	567770.2	2.6				ug/L	527499	Standard
>	**Rh**	103	105.0	16.5				ug/L	10	Standard
	Mo	98	7972.4	11.0	**1.9140**	0.183	9.6	ug/L	23	Standard
	Ag	107	6970.6	8.7	**1.1982**	0.082	6.9	ug/L	59	Standard
	Cd	111	705.9	8.4	**0.3910**	0.027	7.0	mg/L	3	Standard
	Cd	114	1895.8	10.4	**0.4038**	0.036	9.0	ug/L	10	Standard
>	**In**	115	582773.0	1.9				ug/L	537195	Standard
	Sn	118	8439.4	9.9	**1.5788**	0.136	8.6	ug/L	281	Standard
	Sb	123	5764.7	9.4	**1.4140**	0.115	8.1	ug/L	167	Standard
	Ba	135	157751.8	9.8	**87.4798**	7.251	8.3	ug/L	10	Standard
	Ce	140	180664.8	11.1				ug/L	27	Standard
>	**Tb**	159	834277.0	1.5				ug/L	758170	Standard
	Ho	165	847.0	12.9				ug/L	7	Standard
	Tl	203	272.7	4.2	**0.0450**	0.001	3.3	ug/L	5	Standard
	Tl	205	4.7	44.6	**0.0376**	0.014	36.3	ug/L	0	Standard
	Pb	206	652984.1	11.1	**138.8500**	14.651	10.6	ug/L	182	Standard
	Pb	207	538391.6	10.6	**134.6357**	13.432	10.0	ug/L	145	Standard
	Pb	208	776474.1	10.5	**135.4545**	13.509	10.0	ug/L	207	Standard
	U	238	1050.7	10.6	**0.2082**	0.021	10.2	ug/L	1	Standard
>	**Bi**	209	369632.7	1.4				ug/L	325207	Standard

Sample ID: L1305152304
Report Date/Time: Tuesday, June 04, 2013 13:51:54
Page 1

Approved: June 05, 2013

	Na	23	71.7	21.3	**9.5426**	2.306	24.2	mg/L	0	Standard
	Mg	24	8482.4	7.6	**8.0336**	0.441	5.5	mg/L	25	Standard
	K	39	116.7	13.1	**1.8402**	0.211	11.4	mg/L	3	Standard
	Ca	43	3243.7	9.3	**9.2256**	0.737	8.0	mg/L	297	Standard
	Fe	54	1776.6	15.0	**1.7741**	0.245	13.8	mg/L	91	Standard
	Fe	57	1311.7	11.1	**2.8375**	0.299	10.5	mg/L	237	Standard
>	**Sc-1**	45	39239.1	2.3				mg/L	35084	Standard
	Cl	35	51871.6	1.2				ug/L	29808	Standard
	Kr	83	36.9	14.1				ug/L	38	Standard
	Br	81	1608.4	2.5				ug/L	965	Standard
	P	31	254651.4	3.6				ug/L	176735	Standard
	S	34	42285.6	1.1				ug/L	28891	Standard
	Sr	88	56.7	28.7				ug/L	27	Standard
	C	12	10.0	86.6				mg/L	7	Standard
	N	14	1.7	173.2				mg/L	0	Standard
	Hg	202	240.0	15.0				mg/L	3	Standard
	Dy	164	1521.0	10.7				mg/L	14	Standard
	Ho-1	165	847.0	12.9				mg/L	7	Standard
	Er	166	794.7	8.7				mg/L	8	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		116.650	
	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		97.594	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			

Sample ID: L1305152304
Report Date/Time: Tuesday, June 04, 2013 13:51:54
Page 2

Approved: June 05, 2013

⌈	Y	89	
⌊>	Rh	103	
⌈	Mo	98	
|	Ag	107	
|	Cd	111	
|	Cd	114	
|>	In	115	108.484
|	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	113.661
⌈	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
Cu 65 Upper, S, EEE	Cu	65	
Zn 66 Upper, S, EEE	Zn	66	
Pb 206 Upper, S, EEE	Pb	206	
Pb 207 Upper, S, EEE	Pb	207	
Pb 208 Upper, S, EEE	Pb	208	

Sample ID: L1305152304
Report Date/Time: Tuesday, June 04, 2013 13:51:54
Page 3

Approved: June 05, 2013

Method 6020 - Summary Report

Sample ID: L1305152304PS WG432851-01
Sample Date/Time: Tuesday, June 04, 2013 13:52:49
Number of Replicates: 3
Autosampler Position: 409
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	683778.0	1.0				ug/L	552027	Standard
	Be	9	111827.5	9.4	**47.8234**	4.119	8.6	ug/L	18	Standard
	Al	27	1722715.0	9.0	**10.1016**	0.831	8.2	ug/L	841	Standard
	Sc	45	42006.5	4.1				ug/L	35084	Standard
	Ti	47	7661.3	9.1	**33.4566**	2.891	8.6	ug/L	22	Standard
	V	51	341538.8	11.0	**54.4099**	5.732	10.5	ug/L	812	Standard
	Cr	52	304369.4	11.2	**55.1691**	6.039	10.9	ug/L	4274	Standard
	Cr	53	61163.8	8.7	**56.1623**	4.642	8.3	ug/L	1106	Standard
	Mn	55	942697.5	10.0	**113.0828**	10.791	9.5	ug/L	1207	Standard
	Co	59	301167.7	9.7	**51.2290**	4.842	9.5	ug/L	71	Standard
	Ni	60	122316.7	9.5	**53.9177**	4.775	8.9	ug/L	295	Standard
	Cu	65	429512.6	9.4	**188.6177**	16.890	9.0	ug/L	87	Standard
	Zn	66	241992.2	9.5	**203.6373**	18.491	9.1	ug/L	469	Standard
>	**Ge**	72	533249.4	1.6				ug/L	514704	Standard
	As	75	72191.2	8.8	**53.7910**	4.420	8.2	ug/L	-121	Standard
	Se	82	6754.1	8.3	**51.0013**	3.980	7.8	ug/L	-1	Standard
	Se-1	77	4399.3	11.3	**48.7262**	5.647	11.6	ug/L	127	Standard
>	**Ga**	71	2565.2	13.3				mg/L	175	Standard
	Rb	85	87880.2	8.0				ug/L	50	Standard
	Y	89	605294.6	3.5				ug/L	527499	Standard
>	**Rh**	103	123.3	12.4				ug/L	10	Standard
	Mo	98	8583.7	8.1	**1.9660**	0.161	8.2	ug/L	23	Standard
	Ag	107	321827.7	8.0	**53.2928**	3.961	7.4	ug/L	59	Standard
	Cd	111	97589.7	9.3	**51.7793**	4.560	8.8	mg/L	3	Standard
	Cd	114	249561.1	9.1	**51.3592**	4.509	8.8	ug/L	10	Standard
>	**In**	115	611586.4	1.8				ug/L	537195	Standard
	Sn	118	9496.0	8.8	**1.6993**	0.155	9.1	ug/L	281	Standard
	Sb	123	221082.5	8.7	**52.3139**	4.321	8.3	ug/L	167	Standard
	Ba	135	263422.5	8.9	**139.3128**	11.878	8.5	ug/L	10	Standard
	Ce	140	189929.6	10.1				ug/L	27	Standard
>	**Tb**	159	869011.6	1.9				ug/L	758170	Standard
	Ho	165	922.7	10.8				ug/L	7	Standard
	Tl	203	309209.0	7.6	**50.5937**	3.670	7.3	ug/L	5	Standard
	Tl	205	8141.5	7.2	**50.9068**	3.463	6.8	ug/L	0	Standard
	Pb	206	921617.2	8.9	**190.8146**	16.334	8.6	ug/L	182	Standard
	Pb	207	772497.6	8.2	**188.0898**	14.819	7.9	ug/L	145	Standard
	Pb	208	1121881.1	9.1	**190.5479**	16.809	8.8	ug/L	207	Standard
	U	238	259640.3	10.3	**50.2704**	5.002	9.9	ug/L	1	Standard
>	**Bi**	209	379734.7	0.4				ug/L	325207	Standard

Sample ID: L1305152304PS WG432851-01
Report Date/Time: Tuesday, June 04, 2013 13:55:40
Page 1

Approved: June 05, 2013

	Na	23	55.0	50.6	**6.4444**	3.611	56.0	mg/L	0	Standard
	Mg	24	8899.3	4.7	**7.8773**	0.048	0.6	mg/L	25	Standard
	K	39	101.7	14.2	**1.4953**	0.260	17.4	mg/L	3	Standard
	Ca	43	3498.7	11.4	**9.3038**	0.930	10.0	mg/L	297	Standard
	Fe	54	1982.8	15.7	**1.8522**	0.237	12.8	mg/L	91	Standard
	Fe	57	1456.7	12.3	**2.9599**	0.297	10.0	mg/L	237	Standard
>	**Sc-1**	45	42006.5	4.1				mg/L	35084	Standard
	Cl	35	52706.9	3.2				ug/L	29808	Standard
	Kr	83	43.6	3.2				ug/L	38	Standard
	Br	81	1625.9	4.8				ug/L	965	Standard
	P	31	333406.9	2.1				ug/L	176735	Standard
	S	34	41225.2	3.4				ug/L	28891	Standard
	Sr	88	50.0	13.2				ug/L	27	Standard
	C	12	10.0	86.6				mg/L	7	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	271.7	8.7				mg/L	3	Standard
	Dy	164	1566.3	9.3				mg/L	14	Standard
	Ho-1	165	922.7	10.8				mg/L	7	Standard
	Er	166	810.0	8.3				mg/L	8	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		123.867	
	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		103.603	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			

Sample ID: L1305152304PS WG432851-01
Report Date/Time: Tuesday, June 04, 2013 13:55:40
Page 2

Approved: June 05, 2013

	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	113.848
	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	116.767
	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
Mn 55 Upper, S, EEE	Mn	55	
Cu 65 Upper, S, EEE	Cu	65	
Zn 66 Upper, S, EEE	Zn	66	
Ba 135 Upper, S, EEE	Ba	135	

Sample ID: L1305152304PS WG432851-01
Report Date/Time: Tuesday, June 04, 2013 13:55:40
Page 3

Approved: June 05, 2013

Pb 206 Upper, S, EEE	Pb	206
Pb 207 Upper, S, EEE	Pb	207
Pb 208 Upper, S, EEE	Pb	208

Approved: June 05, 2013

Method 6020 - Summary Report

Sample ID: L1305152304SDL WG432851-02
Sample Date/Time: Tuesday, June 04, 2013 13:56:35
Number of Replicates: 3
Autosampler Position: 410
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	646308.4	1.3				ug/L	552027	Standard
	Be	9	80.7	5.9	**0.0254**	0.002	8.2	ug/L	18	Standard
	Al	27	338841.2	9.1	**2.0921**	0.166	8.0	ug/L	841	Standard
	Sc	45	39078.7	1.9				ug/L	35084	Standard
	Ti	47	1448.1	8.6	**6.6580**	0.534	8.0	ug/L	22	Standard
	V	51	3676.0	12.5	**0.4972**	0.071	14.3	ug/L	812	Standard
	Cr	52	7758.3	6.9	**0.6838**	0.088	12.9	ug/L	4274	Standard
	Cr	53	1739.3	6.9	**0.6939**	0.095	13.7	ug/L	1106	Standard
	Mn	55	98514.9	10.4	**12.4208**	1.191	9.6	ug/L	1207	Standard
	Co	59	823.7	7.7	**0.1332**	0.009	7.0	ug/L	71	Standard
	Ni	60	944.4	5.6	**0.3112**	0.019	6.2	ug/L	295	Standard
	Cu	65	58945.9	10.5	**27.4706**	2.598	9.5	ug/L	87	Standard
	Zn	66	37345.9	9.6	**32.8091**	2.841	8.7	ug/L	469	Standard
>	**Ge**	72	501407.7	1.7				ug/L	514704	Standard
	As	75	825.5	15.5	**0.7599**	0.097	12.8	ug/L	-121	Standard
	Se	82	21.3	33.6	**0.1675**	0.056	33.5	ug/L	-1	Standard
	Se-1	77	122.7	8.2	**0.1144**	0.106	92.7	ug/L	127	Standard
>	**Ga**	71	535.0	15.6				mg/L	175	Standard
	Rb	85	16911.2	11.9				ug/L	50	Standard
	Y	89	565287.1	0.4				ug/L	527499	Standard
>	**Rh**	103	30.0	0.0				ug/L	10	Standard
	Mo	98	1583.4	9.3	**0.3711**	0.028	7.6	ug/L	23	Standard
	Ag	107	1482.1	8.3	**0.2426**	0.018	7.2	ug/L	59	Standard
	Cd	111	158.3	7.7	**0.0854**	0.005	5.9	mg/L	3	Standard
	Cd	114	375.3	11.3	**0.0750**	0.008	10.9	ug/L	10	Standard
>	**In**	115	587804.0	2.0				ug/L	537195	Standard
	Sn	118	2002.5	6.0	**0.3207**	0.018	5.6	ug/L	281	Standard
	Sb	123	2202.0	6.2	**0.5249**	0.023	4.4	ug/L	167	Standard
	Ba	135	31580.8	10.4	**17.3416**	1.519	8.8	ug/L	10	Standard
	Ce	140	36019.5	11.7				ug/L	27	Standard
>	**Tb**	159	835025.1	1.7				ug/L	758170	Standard
	Ho	165	167.7	9.8				ug/L	7	Standard
	Tl	203	96.3	22.4	**0.0157**	0.003	22.1	ug/L	5	Standard
	Tl	205	2.7	108.3	**0.0250**	0.019	74.6	ug/L	0	Standard
	Pb	206	133839.5	10.6	**29.2011**	2.775	9.5	ug/L	182	Standard
	Pb	207	110315.3	10.4	**28.3079**	2.677	9.5	ug/L	145	Standard
	Pb	208	158642.2	10.8	**28.3955**	2.799	9.9	ug/L	207	Standard
	U	238	230.0	14.8	**0.0463**	0.007	15.0	ug/L	1	Standard
>	**Bi**	209	359680.2	1.6				ug/L	325207	Standard

Sample ID: L1305152304SDL WG432851-02
Report Date/Time: Tuesday, June 04, 2013 13:59:27
Page 1

Approved: June 05, 2013

Na	23	18.3	31.5	**1.6376**	0.852	52.0	mg/L	0	Standard
Mg	24	1606.8	3.2	**1.4966**	0.032	2.2	mg/L	25	Standard
K	39	25.0	40.0	**0.3513**	0.156	44.4	mg/L	3	Standard
Ca	43	855.0	7.7	**1.6984**	0.171	10.0	mg/L	297	Standard
Fe	54	474.6	17.6	**0.3903**	0.083	21.4	mg/L	91	Standard
Fe	57	366.7	5.5	**0.4284**	0.041	9.6	mg/L	237	Standard
> **Sc-1**	45	39078.7	1.9				mg/L	35084	Standard
Cl	35	48469.4	0.9				ug/L	29808	Standard
Kr	83	34.8	9.3				ug/L	38	Standard
Br	81	991.7	2.1				ug/L	965	Standard
P	31	215468.3	2.0				ug/L	176735	Standard
S	34	42141.9	0.8				ug/L	28891	Standard
Sr	88	45.8	6.3				ug/L	27	Standard
C	12	6.7	114.6				mg/L	7	Standard
N	14	1.7	173.2				mg/L	0	Standard
Hg	202	63.3	38.9				mg/L	3	Standard
Dy	164	313.1	16.9				mg/L	14	Standard
Ho-1	165	167.7	9.8				mg/L	7	Standard
Er	166	179.0	15.2				mg/L	8	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
> Li	6		117.079	
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		97.417	
As	75			
Se	82			
Se-1	77			
> Ga	71			
Rb	85			

Sample ID: L1305152304SDL WG432851-02
Report Date/Time: Tuesday, June 04, 2013 13:59:27
Page 2

Approved: June 05, 2013

	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	109.421
	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	110.600
	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: June 05, 2013

Method 6020 - Summary Report

Sample ID: QC Std 6
Sample Date/Time: Tuesday, June 04, 2013 14:00:23
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	627881.0	0.9				ug/L	552027	Standard
	Be	9	102824.6	10.5	**47.8811**	4.617	9.6	ug/L	18	Standard
	Al	27	8015037.2	9.7	**51.2249**	4.515	8.8	ug/L	841	Standard
	Sc	45	38495.5	1.0				ug/L	35084	Standard
	Ti	47	22932.5	10.7	**108.8017**	10.691	9.8	ug/L	22	Standard
	V	51	293537.7	9.9	**50.7198**	4.696	9.3	ug/L	812	Standard
	Cr	52	259251.4	11.4	**50.9096**	5.530	10.9	ug/L	4274	Standard
	Cr	53	52055.2	12.3	**51.7612**	6.069	11.7	ug/L	1106	Standard
	Mn	55	381717.8	11.2	**49.5747**	5.195	10.5	ug/L	1207	Standard
	Co	59	265950.9	10.9	**49.0613**	4.967	10.1	ug/L	71	Standard
	Ni	60	109268.7	11.6	**52.2460**	5.713	10.9	ug/L	295	Standard
	Cu	65	106607.3	10.2	**50.7354**	4.670	9.2	ug/L	87	Standard
	Zn	66	55684.4	9.6	**50.2902**	4.510	9.0	ug/L	469	Standard
>	**Ge**	72	491489.7	1.4				ug/L	514704	Standard
	As	75	62077.6	9.0	**50.1864**	4.178	8.3	ug/L	-121	Standard
	Se	82	6427.4	9.7	**52.6473**	4.744	9.0	ug/L	-1	Standard
	Se-1	77	4255.3	9.6	**51.1847**	4.769	9.3	ug/L	127	Standard
>	**Ga**	71	156.7	4.9				mg/L	175	Standard
	Rb	85	3295.4	5.8				ug/L	50	Standard
	Y	89	553843.6	2.1				ug/L	527499	Standard
>	**Rh**	103	45.0	29.4				ug/L	10	Standard
	Mo	98	399991.0	11.0	**96.6615**	9.845	10.2	ug/L	23	Standard
	Ag	107	286310.6	9.0	**49.8589**	3.901	7.8	ug/L	59	Standard
	Cd	111	88446.5	10.3	**49.3530**	4.588	9.3	mg/L	3	Standard
	Cd	114	232832.5	10.4	**50.3900**	4.780	9.5	ug/L	10	Standard
>	**In**	115	581338.4	1.7				ug/L	537195	Standard
	Sn	118	249176.8	11.4	**48.6448**	4.992	10.3	ug/L	281	Standard
	Sb	123	195941.7	10.5	**48.7528**	4.617	9.5	ug/L	167	Standard
	Ba	135	89828.2	9.9	**49.9418**	4.484	9.0	ug/L	10	Standard
	Ce	140	93.3	19.5				ug/L	27	Standard
>	**Tb**	159	822953.8	1.1				ug/L	758170	Standard
	Ho	165	10.0	17.3				ug/L	7	Standard
	Tl	203	287307.3	7.7	**50.6418**	3.696	7.3	ug/L	5	Standard
	Tl	205	7489.5	9.5	**50.4476**	4.606	9.1	ug/L	0	Standard
	Pb	206	224741.1	9.2	**50.0915**	4.458	8.9	ug/L	182	Standard
	Pb	207	192059.9	9.4	**50.3435**	4.532	9.0	ug/L	145	Standard
	Pb	208	271892.4	10.6	**49.7121**	5.076	10.2	ug/L	207	Standard
	U	238	234123.4	12.2	**48.8327**	5.797	11.9	ug/L	1	Standard
>	**Bi**	209	352503.2	1.3				ug/L	325207	Standard

Sample ID: QC Std 6
Report Date/Time: Tuesday, June 04, 2013 14:03:15
Page 1

Approved: June 05, 2013

	Na	23	50.0	20.0	**6.4550**	1.442	22.3	mg/L	0	Standard
	Mg	24	4837.4	10.7	**4.6555**	0.481	10.3	mg/L	25	Standard
	K	39	316.7	27.6	**5.1950**	1.446	27.8	mg/L	3	Standard
	Ca	43	1743.4	9.0	**4.5997**	0.448	9.7	mg/L	297	Standard
	Fe	54	5113.4	12.8	**5.4416**	0.699	12.9	mg/L	91	Standard
	Fe	57	1691.8	14.7	**3.8958**	0.630	16.2	mg/L	237	Standard
>	**Sc-1**	45	38495.5	1.0				mg/L	35084	Standard
	Cl	35	53328.0	1.3				ug/L	29808	Standard
	Kr	83	36.1	2.3				ug/L	38	Standard
	Br	81	889.2	3.4				ug/L	965	Standard
	P	31	228850.8	3.4				ug/L	176735	Standard
	S	34	53790.3	0.3				ug/L	28891	Standard
	Sr	88	36.7	3.9				ug/L	27	Standard
	C	12	5.0	100.0				mg/L	7	Standard
	N	14	1.7	173.2				mg/L	0	Standard
	Hg	202	3.3	86.6				mg/L	3	Standard
	Dy	164	8.2	31.4				mg/L	14	Standard
	Ho-1	165	10.0	17.3				mg/L	7	Standard
	Er	166	9.7	26.0				mg/L	8	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		113.741	
	Be	9	95.762		
	Al	27	102.450		
	Sc	45			
	Ti	47	108.802		
	V	51	101.440		
	Cr	52	101.819		
	Cr	53			
	Mn	55	99.149		
	Co	59	98.123		
	Ni	60	104.492		
	Cu	65	101.471		
	Zn	66	100.580		
>	Ge	72		95.490	
	As	75	100.373		
	Se	82	105.295		
	Se-1	77			
>	Ga	71			
	Rb	85			

Sample ID: QC Std 6
Report Date/Time: Tuesday, June 04, 2013 14:03:15
Page 2

Approved: June 05, 2013

	Y	89		
>	Rh	103		
	Mo	98	96.661	
	Ag	107	99.718	
	Cd	111	98.706	
	Cd	114		
>	In	115		108.217
	Sn	118	97.290	
	Sb	123	97.506	
	Ba	135	99.884	
	Ce	140		
>	Tb	159		
	Ho	165		
	Tl	203	101.284	
	Tl	205		
	Pb	206		
	Pb	207		
	Pb	208	99.424	
	U	238	97.665	
>	Bi	209		108.393
	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
Report Date/Time: Tuesday, June 04, 2013 14:03:15
Page 3

Approved: June 05, 2013

Method 6020 - Summary Report

Sample ID: QC Std 7
Sample Date/Time: Tuesday, June 04, 2013 14:04:10
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	619369.8	2.2				ug/L	552027	Standard
	Be	9	44.7	14.4	**0.0099**	0.003	27.1	ug/L	18	Standard
	Al	27	1887.8	25.7	**0.0002**	0.003	1270.8	ug/L	841	Standard
	Sc	45	38293.3	1.2				ug/L	35084	Standard
	Ti	47	23.0	31.4	**0.0275**	0.034	124.4	ug/L	22	Standard
	V	51	863.7	3.5	**0.0250**	0.003	12.7	ug/L	812	Standard
	Cr	52	3987.2	3.9	**-0.0278**	0.019	70.0	ug/L	4274	Standard
	Cr	53	861.7	1.9	**-0.1495**	0.010	6.4	ug/L	1106	Standard
	Mn	55	1118.7	7.1	**-0.0128**	0.008	64.8	ug/L	1207	Standard
	Co	59	90.0	16.4	**0.0011**	0.003	237.6	ug/L	71	Standard
	Ni	60	224.0	4.7	**-0.0238**	0.003	14.5	ug/L	295	Standard
	Cu	65	98.3	13.4	**-0.0074**	0.006	77.8	ug/L	87	Standard
	Zn	66	456.0	9.5	**-0.2934**	0.040	13.5	ug/L	469	Standard
>	**Ge**	72	485137.2	1.5				ug/L	514704	Standard
	As	75	-115.7	16.8	**0.0128**	0.015	120.5	ug/L	-121	Standard
	Se	82	5.3	99.4	**0.0409**	0.044	107.6	ug/L	-1	Standard
	Se-1	77	117.3	5.4	**0.0981**	0.078	79.3	ug/L	127	Standard
>	**Ga**	71	126.7	19.9				mg/L	175	Standard
	Rb	85	51.7	20.1				ug/L	50	Standard
	Y	89	544344.8	1.1				ug/L	527499	Standard
>	**Rh**	103	11.7	49.5				ug/L	10	Standard
	Mo	98	117.8	21.4	**0.0218**	0.006	28.7	ug/L	23	Standard
	Ag	107	85.0	28.1	**0.0024**	0.004	176.4	ug/L	59	Standard
	Cd	111	11.5	18.0	**0.0046**	0.001	28.5	mg/L	3	Standard
	Cd	114	30.2	33.1	**0.0013**	0.002	160.2	ug/L	10	Standard
>	**In**	115	571227.6	2.0				ug/L	537195	Standard
	Sn	118	401.0	15.1	**0.0134**	0.014	102.4	ug/L	281	Standard
	Sb	123	1015.9	7.3	**0.2401**	0.014	6.0	ug/L	167	Standard
	Ba	135	20.7	28.4	**-0.0115**	0.003	27.1	ug/L	10	Standard
	Ce	140	13.7	51.9				ug/L	27	Standard
>	**Tb**	159	813708.9	1.3				ug/L	758170	Standard
	Ho	165	8.7	54.5				ug/L	7	Standard
	Tl	203	28.7	15.7	**0.0042**	0.001	17.4	ug/L	5	Standard
	Tl	205	1.7	91.7	**0.0187**	0.010	54.3	ug/L	0	Standard
	Pb	206	225.3	7.8	**0.0024**	0.003	140.0	ug/L	182	Standard
	Pb	207	182.3	5.2	**0.0028**	0.002	67.1	ug/L	145	Standard
	Pb	208	282.7	11.7	**0.0057**	0.005	92.6	ug/L	207	Standard
	U	238	40.3	34.4	**0.0076**	0.003	36.7	ug/L	1	Standard
>	**Bi**	209	352972.0	1.4				ug/L	325207	Standard

Sample ID: QC Std 7
Report Date/Time: Tuesday, June 04, 2013 14:07:01
Page 1

Approved: June 05, 2013

⌈	**Na**	23	1.7	173.2	**-0.8342**	0.442	53.0	mg/L	0	Standard
|	**Mg**	24	43.3	24.0	**0.0021**	0.010	452.8	mg/L	25	Standard
|	**K**	39	8.3	69.3	**0.0843**	0.098	115.9	mg/L	3	Standard
|	**Ca**	43	221.7	18.9	**-0.2961**	0.127	42.7	mg/L	297	Standard
|	**Fe**	54	174.6	8.6	**0.0735**	0.016	22.3	mg/L	91	Standard
|	**Fe**	57	98.3	25.6	**-0.2548**	0.069	26.9	mg/L	237	Standard
⌊>	**Sc-1**	45	38293.3	1.2				mg/L	35084	Standard
	Cl	35	52221.2	3.0				ug/L	29808	Standard
	Kr	83	32.0	3.8				ug/L	38	Standard
	Br	81	781.7	7.1				ug/L	965	Standard
	P	31	214909.2	2.8				ug/L	176735	Standard
	S	34	50116.1	2.6				ug/L	28891	Standard
	Sr	88	40.8	19.7				ug/L	27	Standard
	C	12	5.0	100.0				mg/L	7	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	3.3	86.6				mg/L	3	Standard
	Dy	164	7.6	14.5				mg/L	14	Standard
	Ho-1	165	8.7	54.5				mg/L	7	Standard
	Er	166	8.7	26.6				mg/L	8	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		112.199	
|	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		94.256	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			

Sample ID: QC Std 7
Report Date/Time: Tuesday, June 04, 2013 14:07:01
Page 2

Approved: June 05, 2013

	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	106.335
	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	108.538
	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	Sb	123	

Sample ID: QC Std 7
Report Date/Time: Tuesday, June 04, 2013 14:07:01
Page 3

Approved: June 05, 2013

Method 6020 - Summary Report

Sample ID: L1305152402
Sample Date/Time: Tuesday, June 04, 2013 14:07:58
Number of Replicates: 3
Autosampler Position: 411
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	656809.0	1.3				ug/L	552027	Standard
	Be	9	59.3	34.6	**0.0152**	0.009	57.7	ug/L	18	Standard
	Al	27	386256.4	9.1	**2.3516**	0.240	10.2	ug/L	841	Standard
	Sc	45	38943.3	1.1				ug/L	35084	Standard
	Ti	47	492.0	7.0	**2.2410**	0.166	7.4	ug/L	22	Standard
	V	51	52224.0	10.6	**8.8733**	0.984	11.1	ug/L	812	Standard
	Cr	52	9124.1	3.9	**0.9774**	0.077	7.8	ug/L	4274	Standard
	Cr	53	1500.9	6.2	**0.4792**	0.099	20.7	ug/L	1106	Standard
	Mn	55	45451.8	9.5	**5.7318**	0.580	10.1	ug/L	1207	Standard
	Co	59	5287.3	12.1	**0.9551**	0.121	12.6	ug/L	71	Standard
	Ni	60	7672.6	7.8	**3.5265**	0.296	8.4	ug/L	295	Standard
	Cu	65	226990.1	9.4	**107.5472**	10.460	9.7	ug/L	87	Standard
	Zn	66	5225.6	10.0	**4.0455**	0.494	12.2	ug/L	469	Standard
>	**Ge**	72	494351.6	0.4				ug/L	514704	Standard
	As	75	1814.6	10.0	**1.5635**	0.150	9.6	ug/L	-121	Standard
	Se	82	137.6	9.7	**1.1181**	0.112	10.0	ug/L	-1	Standard
	Se-1	77	175.7	1.7	**0.7873**	0.045	5.7	ug/L	127	Standard
>	**Ga**	71	1453.4	4.3				mg/L	175	Standard
	Rb	85	12558.6	7.7				ug/L	50	Standard
	Y	89	544117.2	1.3				ug/L	527499	Standard
>	**Rh**	103	96.7	31.2				ug/L	10	Standard
	Mo	98	31823.5	9.2	**7.8717**	0.715	9.1	ug/L	23	Standard
	Ag	107	163.0	22.4	**0.0163**	0.006	36.4	ug/L	59	Standard
	Cd	111	43.0	34.9	**0.0226**	0.008	36.3	mg/L	3	Standard
	Cd	114	194.7	15.3	**0.0378**	0.006	15.2	ug/L	10	Standard
>	**In**	115	567803.6	1.9				ug/L	537195	Standard
	Sn	118	669.0	7.1	**0.0673**	0.008	12.2	ug/L	281	Standard
	Sb	123	3460.3	7.3	**0.8654**	0.068	7.9	ug/L	167	Standard
	Ba	135	27662.1	9.8	**15.7391**	1.525	9.7	ug/L	10	Standard
	Ce	140	3559.8	10.1				ug/L	27	Standard
>	**Tb**	159	823083.7	0.3				ug/L	758170	Standard
	Ho	165	57.7	15.7				ug/L	7	Standard
	Tl	203	66.3	35.1	**0.0110**	0.004	37.7	ug/L	5	Standard
	Tl	205	2.0	100.0	**0.0213**	0.014	64.5	ug/L	0	Standard
	Pb	206	7072.0	9.2	**1.5602**	0.149	9.5	ug/L	182	Standard
	Pb	207	5929.8	9.0	**1.5406**	0.144	9.3	ug/L	145	Standard
	Pb	208	8427.6	9.6	**1.5261**	0.153	10.0	ug/L	207	Standard
	U	238	165.7	19.5	**0.0345**	0.007	20.1	ug/L	1	Standard
>	**Bi**	209	345948.2	0.2				ug/L	325207	Standard

Sample ID: L1305152402
Report Date/Time: Tuesday, June 04, 2013 14:10:50
Page 1

Approved: June 05, 2013

	Na	23	445.0	33.3	**65.2225**	21.575	33.1	mg/L	0	Standard
	Mg	24	3613.8	4.3	**3.4279**	0.124	3.6	mg/L	25	Standard
	K	39	290.0	23.7	**4.6922**	1.086	23.1	mg/L	3	Standard
	Ca	43	20121.8	10.5	**63.0082**	6.088	9.7	mg/L	297	Standard
	Fe	54	212.4	20.2	**0.1111**	0.047	42.0	mg/L	91	Standard
	Fe	57	4970.8	11.8	**12.2879**	1.394	11.3	mg/L	237	Standard
>	**Sc-1**	45	38943.3	1.1				mg/L	35084	Standard
	Cl	35	112139.3	2.6				ug/L	29808	Standard
	Kr	83	39.1	12.2				ug/L	38	Standard
	Br	81	1969.3	1.5				ug/L	965	Standard
	P	31	252400.3	3.9				ug/L	176735	Standard
	S	34	46945.1	0.5				ug/L	28891	Standard
	Sr	88	79.2	14.6				ug/L	27	Standard
	C	12	15.0	57.7				mg/L	7	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	48.3	6.0				mg/L	3	Standard
	Dy	164	252.6	118.1				mg/L	14	Standard
	Ho-1	165	57.7	15.7				mg/L	7	Standard
	Er	166	63.3	10.5				mg/L	8	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		118.981	
	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		96.046	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			

Sample ID: L1305152402
Report Date/Time: Tuesday, June 04, 2013 14:10:50
Page 2

Approved: June 05, 2013

	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	105.698
	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	106.378
	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
Cu 65 Upper, S, EEE	Cu	65	

Approved: June 05, 2013

Method 6020 - Summary Report

Sample ID: L1305152304
Sample Date/Time: Tuesday, June 04, 2013 14:17:16
Number of Replicates: 3
Autosampler Position: 408
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	561535.5	2.4				ug/L	552027	Standard
	Be	9	33.7	15.2	**0.0065**	0.003	47.3	ug/L	18	Standard
	Al	27	61250.8	5.4	**0.4261**	0.021	4.9	ug/L	841	Standard
	Sc	45	33625.6	1.1				ug/L	35084	Standard
	Ti	47	269.0	1.6	**1.3658**	0.028	2.1	ug/L	22	Standard
	V	51	1516.2	0.5	**0.1712**	0.003	1.8	ug/L	812	Standard
	Cr	52	4671.1	4.4	**0.2233**	0.048	21.4	ug/L	4274	Standard
	Cr	53	821.7	3.4	**-0.0901**	0.029	32.1	ug/L	1106	Standard
	Mn	55	18456.3	8.0	**2.5677**	0.228	8.9	ug/L	1207	Standard
	Co	59	194.7	5.3	**0.0250**	0.002	9.3	ug/L	71	Standard
	Ni	60	400.0	6.3	**0.0849**	0.014	16.9	ug/L	295	Standard
	Cu	65	10630.4	7.1	**5.6909**	0.424	7.5	ug/L	87	Standard
	Zn	66	21950.6	25.2	**22.0926**	5.758	26.1	ug/L	469	Standard
>	**Ge**	72	433536.1	0.6				ug/L	514704	Standard
	As	75	64.4	14.7	**0.1661**	0.008	5.1	ug/L	-121	Standard
	Se	82	4.3	116.6	**0.0367**	0.046	126.3	ug/L	-1	Standard
	Se-1	77	101.0	3.0	**0.0440**	0.035	79.4	ug/L	127	Standard
>	**Ga**	71	180.0	9.6				mg/L	175	Standard
	Rb	85	3065.3	8.8				ug/L	50	Standard
	Y	89	481857.9	1.1				ug/L	527499	Standard
>	**Rh**	103	5.0	0.0				ug/L	10	Standard
	Mo	98	282.5	8.7	**0.0684**	0.006	8.6	ug/L	23	Standard
	Ag	107	304.0	3.6	**0.0460**	0.001	2.1	ug/L	59	Standard
	Cd	111	34.7	17.9	**0.0195**	0.004	20.2	mg/L	3	Standard
	Cd	114	95.9	13.5	**0.0176**	0.003	15.0	ug/L	10	Standard
>	**In**	115	524820.6	1.9				ug/L	537195	Standard
	Sn	118	575.3	10.2	**0.0580**	0.012	20.9	ug/L	281	Standard
	Sb	123	378.2	5.2	**0.0872**	0.007	8.2	ug/L	167	Standard
	Ba	135	5748.8	7.0	**3.5214**	0.255	7.2	ug/L	10	Standard
	Ce	140	6669.5	5.5				ug/L	27	Standard
>	**Tb**	159	747192.1	1.6				ug/L	758170	Standard
	Ho	165	35.0	22.9				ug/L	7	Standard
	Tl	203	16.3	12.7	**0.0022**	0.000	16.2	ug/L	5	Standard
	Tl	205	0.3	173.2	**0.0099**	0.004	41.7	ug/L	0	Standard
	Pb	206	24616.4	5.9	**5.7351**	0.279	4.9	ug/L	182	Standard
	Pb	207	20619.4	5.5	**5.6518**	0.256	4.5	ug/L	145	Standard
	Pb	208	29080.8	5.9	**5.5586**	0.272	4.9	ug/L	207	Standard
	U	238	36.7	20.1	**0.0073**	0.001	20.6	ug/L	1	Standard
>	**Bi**	209	334701.6	1.4				ug/L	325207	Standard

Sample ID: L1305152304
Report Date/Time: Tuesday, June 04, 2013 14:20:08
Page 1

Approved: June 05, 2013

	Na	23	3.3	86.6	**-0.5159**	0.497	96.3	mg/L	0	Standard
	Mg	24	323.3	11.2	**0.3191**	0.036	11.4	mg/L	25	Standard
	K	39	8.3	34.6	**0.1030**	0.055	53.1	mg/L	3	Standard
	Ca	43	376.7	5.4	**0.3759**	0.068	18.2	mg/L	297	Standard
	Fe	54	114.4	13.0	**0.0250**	0.017	67.8	mg/L	91	Standard
	Fe	57	136.7	8.4	**-0.1053**	0.030	28.8	mg/L	237	Standard
>	**Sc-1**	45	33625.6	1.1				mg/L	35084	Standard
	Cl	35	56679.2	0.7				ug/L	29808	Standard
	Kr	83	34.0	8.0				ug/L	38	Standard
	Br	81	621.7	5.8				ug/L	965	Standard
	P	31	79762.9	3.7				ug/L	176735	Standard
	S	34	53700.0	0.6				ug/L	28891	Standard
	Sr	88	26.7	30.1				ug/L	27	Standard
	C	12	0.0					mg/L	7	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	8.3	91.7				mg/L	3	Standard
	Dy	164	54.9	15.3				mg/L	14	Standard
	Ho-1	165	35.0	22.9				mg/L	7	Standard
	Er	166	43.7	9.3				mg/L	8	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		101.723	
	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		84.230	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			

Sample ID: L1305152304
Report Date/Time: Tuesday, June 04, 2013 14:20:08
Page 2

Approved: June 05, 2013

	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	97.696
	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	102.920
	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: L1305152304
Report Date/Time: Tuesday, June 04, 2013 14:20:08
Page 3

Approved: June 05, 2013

Method 6020 - Summary Report

Sample ID: L1305152304PS WG432851-01
Sample Date/Time: Tuesday, June 04, 2013 14:21:02
Number of Replicates: 3
Autosampler Position: 409
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	666332.5	1.5				ug/L	552027	Standard
	Be	9	117695.1	9.0	**51.6356**	3.951	7.7	ug/L	18	Standard
	Al	27	77353.1	9.3	**0.4539**	0.037	8.1	ug/L	841	Standard
	Sc	45	38056.1	1.0				ug/L	35084	Standard
	Ti	47	331.0	9.5	**1.4586**	0.132	9.0	ug/L	22	Standard
	V	51	327964.5	11.7	**55.5826**	6.042	10.9	ug/L	812	Standard
	Cr	52	287702.2	12.0	**55.4788**	6.265	11.3	ug/L	4274	Standard
	Cr	53	57125.7	10.1	**55.7973**	5.230	9.4	ug/L	1106	Standard
	Mn	55	446844.7	10.5	**56.9444**	5.514	9.7	ug/L	1207	Standard
	Co	59	294863.6	10.1	**53.3562**	4.980	9.3	ug/L	71	Standard
	Ni	60	119387.7	9.0	**56.0021**	4.541	8.1	ug/L	295	Standard
	Cu	65	133792.8	10.2	**62.4695**	5.837	9.3	ug/L	87	Standard
	Zn	66	71563.7	9.7	**63.5764**	5.690	8.9	ug/L	469	Standard
>	**Ge**	72	501073.9	1.0				ug/L	514704	Standard
	As	75	68627.0	7.9	**54.4054**	3.797	7.0	ug/L	-121	Standard
	Se	82	7035.3	6.8	**56.5279**	3.354	5.9	ug/L	-1	Standard
	Se-1	77	4629.7	6.0	**54.7156**	2.879	5.3	ug/L	127	Standard
>	**Ga**	71	251.7	6.4				mg/L	175	Standard
	Rb	85	3547.1	13.9				ug/L	50	Standard
	Y	89	557663.5	1.4				ug/L	527499	Standard
>	**Rh**	103	48.3	15.8				ug/L	10	Standard
	Mo	98	400.0	10.3	**0.0870**	0.008	9.4	ug/L	23	Standard
	Ag	107	358090.3	5.9	**60.8274**	2.931	4.8	ug/L	59	Standard
	Cd	111	99185.7	10.1	**53.9518**	4.623	8.6	mg/L	3	Standard
	Cd	114	263122.8	10.2	**55.5051**	4.774	8.6	ug/L	10	Standard
>	**In**	115	596170.1	2.1				ug/L	537195	Standard
	Sn	118	978.0	5.8	**0.1201**	0.013	10.8	ug/L	281	Standard
	Sb	123	220778.5	9.6	**53.5585**	4.372	8.2	ug/L	167	Standard
	Ba	135	107690.8	9.1	**58.3766**	4.451	7.6	ug/L	10	Standard
	Ce	140	8123.9	9.7				ug/L	27	Standard
>	**Tb**	159	836675.7	1.8				ug/L	758170	Standard
	Ho	165	46.3	12.5				ug/L	7	Standard
	Tl	203	323291.4	6.4	**54.7566**	2.974	5.4	ug/L	5	Standard
	Tl	205	8544.4	5.8	**55.3076**	2.760	5.0	ug/L	0	Standard
	Pb	206	286934.1	9.5	**61.4522**	5.298	8.6	ug/L	182	Standard
	Pb	207	244373.3	9.3	**61.5517**	5.160	8.4	ug/L	145	Standard
	Pb	208	346911.1	9.0	**60.9517**	4.921	8.1	ug/L	207	Standard
	U	238	261670.6	11.7	**52.4263**	5.610	10.7	ug/L	1	Standard
>	**Bi**	209	366782.6	1.4				ug/L	325207	Standard

Sample ID: L1305152304PS WG432851-01
Report Date/Time: Tuesday, June 04, 2013 14:23:54
Page 1

Approved: June 05, 2013

Na	23	1.7	173.2	**-0.8327**	0.445	53.4	mg/L	0	Standard
Mg	24	430.0	8.4	**0.3822**	0.034	8.8	mg/L	25	Standard
K	39	10.0	50.0	**0.1125**	0.084	74.6	mg/L	3	Standard
Ca	43	378.3	4.0	**0.2196**	0.037	16.9	mg/L	297	Standard
Fe	54	193.9	5.1	**0.0960**	0.012	12.7	mg/L	91	Standard
Fe	57	158.3	22.4	**-0.0957**	0.092	96.5	mg/L	237	Standard
> **Sc-1**	45	38056.1	1.0				mg/L	35084	Standard
Cl	35	62231.7	4.3				ug/L	29808	Standard
Kr	83	36.1	5.6				ug/L	38	Standard
Br	81	870.9	13.1				ug/L	965	Standard
P	31	234126.7	4.6				ug/L	176735	Standard
S	34	53563.7	2.8				ug/L	28891	Standard
Sr	88	36.7	21.9				ug/L	27	Standard
C	12	8.3	34.6				mg/L	7	Standard
N	14	1.7	173.2				mg/L	0	Standard
Hg	202	13.3	43.3				mg/L	3	Standard
Dy	164	82.6	15.6				mg/L	14	Standard
Ho-1	165	46.3	12.5				mg/L	7	Standard
Er	166	44.0	13.6				mg/L	8	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
> Li	6		120.707	
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		97.352	
As	75			
Se	82			
Se-1	77			
> Ga	71			
Rb	85			

Sample ID: L1305152304PS WG432851-01
Report Date/Time: Tuesday, June 04, 2013 14:23:54
Page 2

Approved: June 05, 2013

	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	110.978
	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	112.784
	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

Sample ID: L1305152304PS WG432851-01
Report Date/Time: Tuesday, June 04, 2013 14:23:54
Page 3

Approved: June 05, 2013

Method 6020 - Summary Report

Sample ID: L1305152304SDL WG432851-02
Sample Date/Time: Tuesday, June 04, 2013 14:24:48
Number of Replicates: 3
Autosampler Position: 410
Sample Description: 125
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	552317.5	1.9				ug/L	552027	Standard
	Be	9	36.0	16.7	**0.0079**	0.003	40.7	ug/L	18	Standard
	Al	27	12696.3	4.4	**0.0803**	0.003	4.2	ug/L	841	Standard
	Sc	45	33904.6	1.2				ug/L	35084	Standard
	Ti	47	68.3	11.0	**0.2845**	0.046	16.1	ug/L	22	Standard
	V	51	1071.4	4.1	**0.0834**	0.011	13.7	ug/L	812	Standard
	Cr	52	3954.2	1.4	**0.0590**	0.033	55.3	ug/L	4274	Standard
	Cr	53	708.3	2.8	**-0.2220**	0.041	18.6	ug/L	1106	Standard
	Mn	55	4205.9	6.0	**0.4594**	0.032	6.9	ug/L	1207	Standard
	Co	59	101.3	23.4	**0.0054**	0.005	86.8	ug/L	71	Standard
	Ni	60	241.7	14.2	**-0.0017**	0.018	1043.9	ug/L	295	Standard
	Cu	65	2233.2	4.6	**1.1484**	0.028	2.4	ug/L	87	Standard
	Zn	66	2375.2	3.2	**1.7442**	0.053	3.0	ug/L	469	Standard
>	**Ge**	72	434703.5	2.3				ug/L	514704	Standard
	As	75	-68.1	51.1	**0.0451**	0.032	70.8	ug/L	-121	Standard
	Se	82	3.4	182.9	**0.0293**	0.058	197.7	ug/L	-1	Standard
	Se-1	77	89.7	4.6	**-0.1180**	0.052	44.2	ug/L	127	Standard
>	**Ga**	71	140.0	15.6				mg/L	175	Standard
	Rb	85	650.0	7.8				ug/L	50	Standard
	Y	89	479835.9	1.7				ug/L	527499	Standard
>	**Rh**	103	5.0	0.0				ug/L	10	Standard
	Mo	98	62.1	13.8	**0.0097**	0.002	20.7	ug/L	23	Standard
	Ag	107	121.3	24.8	**0.0111**	0.005	48.8	ug/L	59	Standard
	Cd	111	12.6	100.4	**0.0059**	0.008	131.2	mg/L	3	Standard
	Cd	114	35.1	58.9	**0.0032**	0.005	152.6	ug/L	10	Standard
>	**In**	115	515952.3	1.9				ug/L	537195	Standard
	Sn	118	344.3	25.9	**0.0094**	0.021	219.3	ug/L	281	Standard
	Sb	123	614.2	7.1	**0.1553**	0.015	9.8	ug/L	167	Standard
	Ba	135	1160.4	4.9	**0.7044**	0.034	4.8	ug/L	10	Standard
	Ce	140	1362.7	4.4				ug/L	27	Standard
>	**Tb**	159	749037.7	1.3				ug/L	758170	Standard
	Ho	165	13.0	7.7				ug/L	7	Standard
	Tl	203	37.0	56.8	**0.0060**	0.004	65.8	ug/L	5	Standard
	Tl	205	1.0	173.2	**0.0146**	0.012	83.9	ug/L	0	Standard
	Pb	206	5174.6	2.3	**1.1564**	0.019	1.6	ug/L	182	Standard
	Pb	207	4273.3	4.9	**1.1246**	0.056	5.0	ug/L	145	Standard
	Pb	208	6016.1	2.5	**1.1026**	0.018	1.6	ug/L	207	Standard
	U	238	34.7	32.2	**0.0068**	0.002	36.2	ug/L	1	Standard
>	**Bi**	209	337962.2	0.9				ug/L	325207	Standard

Sample ID: L1305152304SDL WG432851-02
Report Date/Time: Tuesday, June 04, 2013 14:27:40
Page 1

Approved: June 05, 2013

Na	23	1.7	173.2	**-0.8020**	0.498	62.1	mg/L	0	Standard
Mg	24	105.0	9.5	**0.0757**	0.011	14.6	mg/L	25	Standard
K	39	5.0	0.0	**0.0390**	0.001	2.8	mg/L	3	Standard
Ca	43	281.7	13.1	**0.0171**	0.133	779.2	mg/L	297	Standard
Fe	54	51.1	24.4	**-0.0541**	0.016	28.7	mg/L	91	Standard
Fe	57	105.0	9.5	**-0.2024**	0.027	13.2	mg/L	237	Standard
> **Sc-1**	45	33904.6	1.2				mg/L	35084	Standard
Cl	35	53934.8	1.5				ug/L	29808	Standard
Kr	83	30.6	18.0				ug/L	38	Standard
Br	81	582.5	9.1				ug/L	965	Standard
P	31	73492.4	6.0				ug/L	176735	Standard
S	34	51408.7	0.2				ug/L	28891	Standard
Sr	88	31.7	16.4				ug/L	27	Standard
C	12	6.7	43.3				mg/L	7	Standard
N	14	1.7	173.2				mg/L	0	Standard
Hg	202	3.3	86.6				mg/L	3	Standard
Dy	164	20.0	10.4				mg/L	14	Standard
Ho-1	165	13.0	7.7				mg/L	7	Standard
Er	166	13.0	0.0				mg/L	8	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
> Li	6		100.053	
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		84.457	
As	75			
Se	82			
Se-1	77			
> Ga	71			
Rb	85			

Sample ID: L1305152304SDL WG432851-02
Report Date/Time: Tuesday, June 04, 2013 14:27:40
Page 2

Approved: June 05, 2013

	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	96.046
	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	103.922
	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: June 05, 2013

Method 6020 - Summary Report

Sample ID: L1305152402
Sample Date/Time: Tuesday, June 04, 2013 14:28:34
Number of Replicates: 3
Autosampler Position: 411
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	570495.6	0.2				ug/L	552027	Standard
	Be	9	22.7	6.7	**0.0005**	0.001	163.1	ug/L	18	Standard
	Al	27	14748.5	8.2	**0.0918**	0.008	9.2	ug/L	841	Standard
	Sc	45	35012.1	2.4				ug/L	35084	Standard
	Ti	47	31.0	3.2	**0.0810**	0.005	5.9	ug/L	22	Standard
	V	51	2853.0	5.3	**0.4242**	0.031	7.3	ug/L	812	Standard
	Cr	52	4125.9	1.8	**0.0837**	0.020	24.0	ug/L	4274	Standard
	Cr	53	660.0	5.2	**-0.2893**	0.037	12.8	ug/L	1106	Standard
	Mn	55	2208.5	3.0	**0.1603**	0.011	7.0	ug/L	1207	Standard
	Co	59	249.0	8.7	**0.0355**	0.004	12.5	ug/L	71	Standard
	Ni	60	475.3	1.1	**0.1213**	0.004	3.3	ug/L	295	Standard
	Cu	65	8781.9	4.3	**4.6089**	0.197	4.3	ug/L	87	Standard
	Zn	66	1774.4	3.0	**1.0951**	0.063	5.8	ug/L	469	Standard
>	**Ge**	72	441174.6	0.6				ug/L	514704	Standard
	As	75	-34.4	88.2	**0.0765**	0.027	35.5	ug/L	-121	Standard
	Se	82	5.8	72.5	**0.0503**	0.039	77.1	ug/L	-1	Standard
	Se-1	77	93.3	14.5	**-0.0867**	0.179	206.5	ug/L	127	Standard
>	**Ga**	71	165.0	13.2				mg/L	175	Standard
	Rb	85	468.3	15.3				ug/L	50	Standard
	Y	89	486890.1	3.4				ug/L	527499	Standard
>	**Rh**	103	10.0	50.0				ug/L	10	Standard
	Mo	98	1126.5	8.7	**0.2930**	0.020	6.8	ug/L	23	Standard
	Ag	107	48.7	11.7	**-0.0033**	0.001	32.0	ug/L	59	Standard
	Cd	111	3.8	68.5	**0.0004**	0.002	419.6	mg/L	3	Standard
	Cd	114	21.0	14.8	**-0.0003**	0.001	206.4	ug/L	10	Standard
>	**In**	115	527068.4	2.2				ug/L	537195	Standard
	Sn	118	271.7	25.0	**-0.0078**	0.016	207.1	ug/L	281	Standard
	Sb	123	489.3	7.3	**0.1172**	0.008	7.1	ug/L	167	Standard
	Ba	135	1101.4	6.2	**0.6526**	0.031	4.8	ug/L	10	Standard
	Ce	140	144.0	21.6				ug/L	27	Standard
>	**Tb**	159	750579.5	1.2				ug/L	758170	Standard
	Ho	165	11.0	36.4				ug/L	7	Standard
	Tl	203	17.7	34.1	**0.0024**	0.001	44.7	ug/L	5	Standard
	Tl	205	0.0		**0.0075**	0.000	0.0	ug/L	0	Standard
	Pb	206	469.3	2.9	**0.0609**	0.002	3.2	ug/L	182	Standard
	Pb	207	394.0	11.4	**0.0623**	0.011	16.9	ug/L	145	Standard
	Pb	208	522.7	8.0	**0.0534**	0.007	13.8	ug/L	207	Standard
	U	238	11.3	68.5	**0.0017**	0.002	97.9	ug/L	1	Standard
>	**Bi**	209	339521.2	1.6				ug/L	325207	Standard

Sample ID: L1305152402
Report Date/Time: Tuesday, June 04, 2013 14:31:26
Page 1

Approved: June 05, 2013

	Na	23	18.3	83.3	**1.9759**	2.608	132.0	mg/L	0	Standard
	Mg	24	191.7	17.4	**0.1650**	0.039	23.7	mg/L	25	Standard
	K	39	13.3	78.1	**0.1851**	0.182	98.5	mg/L	3	Standard
	Ca	43	1040.0	3.8	**2.6697**	0.076	2.9	mg/L	297	Standard
	Fe	54	61.0	20.3	**-0.0442**	0.016	35.7	mg/L	91	Standard
	Fe	57	240.0	9.1	**0.1743**	0.046	26.4	mg/L	237	Standard
>	**Sc-1**	45	35012.1	2.4				mg/L	35084	Standard
	Cl	35	57734.2	2.4				ug/L	29808	Standard
	Kr	83	33.6	9.2				ug/L	38	Standard
	Br	81	649.2	5.8				ug/L	965	Standard
	P	31	79214.5	5.9				ug/L	176735	Standard
	S	34	53669.9	1.1				ug/L	28891	Standard
	Sr	88	40.0	22.5				ug/L	27	Standard
	C	12	1.7	173.2				mg/L	7	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	3.3	86.6				mg/L	3	Standard
	Dy	164	8.2	27.6				mg/L	14	Standard
	Ho-1	165	11.0	36.4				mg/L	7	Standard
	Er	166	10.0	81.9				mg/L	8	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		103.346	
	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		85.714	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			

Sample ID: L1305152402
Report Date/Time: Tuesday, June 04, 2013 14:31:26
Page 2

Approved: June 05, 2013

	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	98.115
	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	104.402
	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: L1305152402
Report Date/Time: Tuesday, June 04, 2013 14:31:26
Page 3

Approved: June 05, 2013

Method 6020 - Summary Report

Sample ID: QC Std 6
Sample Date/Time: Tuesday, June 04, 2013 14:32:23
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	645869.1	1.6				ug/L	552027	Standard
	Be	9	104924.4	11.2	**47.4770**	4.592	9.7	ug/L	18	Standard
	Al	27	8214391.5	10.7	**51.0138**	4.722	9.3	ug/L	841	Standard
	Sc	45	39117.1	3.1				ug/L	35084	Standard
	Ti	47	23407.6	11.3	**112.2081**	11.894	10.6	ug/L	22	Standard
	V	51	291127.6	11.2	**50.8165**	5.345	10.5	ug/L	812	Standard
	Cr	52	255824.3	14.0	**50.7426**	6.853	13.5	ug/L	4274	Standard
	Cr	53	51380.4	12.6	**51.6142**	6.300	12.2	ug/L	1106	Standard
	Mn	55	375031.2	12.6	**49.2040**	5.873	11.9	ug/L	1207	Standard
	Co	59	260657.7	11.8	**48.5792**	5.416	11.1	ug/L	71	Standard
	Ni	60	108624.7	11.0	**52.4727**	5.410	10.3	ug/L	295	Standard
	Cu	65	106057.3	10.6	**50.9979**	5.059	9.9	ug/L	87	Standard
	Zn	66	55965.1	11.7	**51.0702**	5.708	11.2	ug/L	469	Standard
>	**Ge**	72	486481.5	0.7				ug/L	514704	Standard
	As	75	61570.1	9.4	**50.2841**	4.376	8.7	ug/L	-121	Standard
	Se	82	6331.9	8.5	**52.4006**	4.096	7.8	ug/L	-1	Standard
	Se-1	77	4220.3	9.2	**51.2842**	4.477	8.7	ug/L	127	Standard
>	**Ga**	71	156.7	4.9				mg/L	175	Standard
	Rb	85	3142.0	11.6				ug/L	50	Standard
	Y	89	544670.3	1.6				ug/L	527499	Standard
>	**Rh**	103	31.7	18.2				ug/L	10	Standard
	Mo	98	399961.2	11.1	**95.5643**	8.667	9.1	ug/L	23	Standard
	Ag	107	292118.9	8.0	**50.3162**	2.902	5.8	ug/L	59	Standard
	Cd	111	87507.2	11.7	**48.2726**	4.612	9.6	mg/L	3	Standard
	Cd	114	240165.4	10.6	**51.3911**	4.335	8.4	ug/L	10	Standard
>	**In**	115	587546.9	2.4				ug/L	537195	Standard
	Sn	118	251353.4	11.9	**48.5173**	4.799	9.9	ug/L	281	Standard
	Sb	123	199716.7	10.5	**49.1365**	4.075	8.3	ug/L	167	Standard
	Ba	135	91747.8	9.9	**50.4408**	3.961	7.9	ug/L	10	Standard
	Ce	140	90.0	9.7				ug/L	27	Standard
>	**Tb**	159	827398.1	1.4				ug/L	758170	Standard
	Ho	165	6.3	9.1				ug/L	7	Standard
	Tl	203	288928.1	7.7	**49.9081**	3.199	6.4	ug/L	5	Standard
	Tl	205	7503.2	7.8	**49.5287**	3.215	6.5	ug/L	0	Standard
	Pb	206	229474.0	10.7	**50.1089**	4.722	9.4	ug/L	182	Standard
	Pb	207	195913.4	10.0	**50.3156**	4.382	8.7	ug/L	145	Standard
	Pb	208	277428.9	10.5	**49.6994**	4.568	9.2	ug/L	207	Standard
	U	238	237701.4	11.6	**48.5711**	5.016	10.3	ug/L	1	Standard
>	**Bi**	209	359551.0	1.4				ug/L	325207	Standard

Sample ID: QC Std 6
Report Date/Time: Tuesday, June 04, 2013 14:35:15
Page 1

Approved: June 05, 2013

	Na	23	26.7	39.0	**2.8503**	1.475	51.7	mg/L	0	Standard
	Mg	24	4904.1	15.1	**4.6364**	0.597	12.9	mg/L	25	Standard
	K	39	298.3	16.8	**4.8073**	0.747	15.5	mg/L	3	Standard
	Ca	43	1721.8	11.2	**4.4361**	0.461	10.4	mg/L	297	Standard
	Fe	54	5155.0	13.5	**5.3866**	0.579	10.7	mg/L	91	Standard
	Fe	57	1635.1	15.3	**3.6732**	0.544	14.8	mg/L	237	Standard
>	**Sc-1**	45	39117.1	3.1				mg/L	35084	Standard
	Cl	35	65188.7	2.8				ug/L	29808	Standard
	Kr	83	38.2	5.0				ug/L	38	Standard
	Br	81	849.2	2.5				ug/L	965	Standard
	P	31	247794.7	4.3				ug/L	176735	Standard
	S	34	65097.9	0.9				ug/L	28891	Standard
	Sr	88	37.5	17.6				ug/L	27	Standard
	C	12	1.7	173.2				mg/L	7	Standard
	N	14	1.7	173.2				mg/L	0	Standard
	Hg	202	1.7	173.2				mg/L	3	Standard
	Dy	164	9.8	58.6				mg/L	14	Standard
	Ho-1	165	6.3	9.1				mg/L	7	Standard
	Er	166	12.0	38.2				mg/L	8	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		117.000	
	Be	9	94.954		
	Al	27	102.028		
	Sc	45			
	Ti	47	112.208		
	V	51	101.633		
	Cr	52	101.485		
	Cr	53			
	Mn	55	98.408		
	Co	59	97.158		
	Ni	60	104.945		
	Cu	65	101.996		
	Zn	66	102.140		
>	Ge	72		94.517	
	As	75	100.568		
	Se	82	104.801		
	Se-1	77			
>	Ga	71			
	Rb	85			

Sample ID: QC Std 6
Report Date/Time: Tuesday, June 04, 2013 14:35:15
Page 2

Approved: June 05, 2013

	Y	89		
>	Rh	103		
	Mo	98	95.564	
	Ag	107	100.632	
	Cd	111	96.545	
	Cd	114		
>	In	115		109.373
	Sn	118	97.035	
	Sb	123	98.273	
	Ba	135	100.882	
	Ce	140		
>	Tb	159		
	Ho	165		
	Tl	203	99.816	
	Tl	205		
	Pb	206		
	Pb	207		
	Pb	208	99.399	
	U	238	97.142	
>	Bi	209		110.561
	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	Ti	47	

Sample ID: QC Std 6
Report Date/Time: Tuesday, June 04, 2013 14:35:15
Page 3

Approved: June 05, 2013

Method 6020 - Summary Report

Sample ID: QC Std 7
Sample Date/Time: Tuesday, June 04, 2013 14:36:09
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	646629.8	3.6				ug/L	552027	Standard
	Be	9	38.7	3.0	**0.0064**	0.001	17.3	ug/L	18	Standard
	Al	27	1290.1	2.8	**-0.0040**	0.000	6.9	ug/L	841	Standard
	Sc	45	38717.7	1.5				ug/L	35084	Standard
	Ti	47	17.3	14.5	**0.0012**	0.013	1068.5	ug/L	22	Standard
	V	51	1095.3	11.1	**0.0674**	0.022	32.1	ug/L	812	Standard
	Cr	52	4030.2	0.7	**-0.0115**	0.008	72.1	ug/L	4274	Standard
	Cr	53	631.7	4.6	**-0.3798**	0.039	10.2	ug/L	1106	Standard
	Mn	55	947.4	2.1	**-0.0342**	0.004	10.9	ug/L	1207	Standard
	Co	59	84.0	2.1	**0.0001**	0.000	317.1	ug/L	71	Standard
	Ni	60	200.7	2.9	**-0.0342**	0.003	9.6	ug/L	295	Standard
	Cu	65	85.3	10.5	**-0.0133**	0.004	29.4	ug/L	87	Standard
	Zn	66	439.7	7.2	**-0.3050**	0.025	8.1	ug/L	469	Standard
>	**Ge**	72	480788.1	1.2				ug/L	514704	Standard
	As	75	-135.6	9.9	**-0.0045**	0.010	227.3	ug/L	-121	Standard
	Se	82	5.6	73.8	**0.0443**	0.036	80.3	ug/L	-1	Standard
	Se-1	77	103.7	8.8	**-0.0606**	0.125	206.2	ug/L	127	Standard
>	**Ga**	71	80.0	25.0				mg/L	175	Standard
	Rb	85	48.3	11.9				ug/L	50	Standard
	Y	89	548981.9	1.6				ug/L	527499	Standard
>	**Rh**	103	10.0	50.0				ug/L	10	Standard
	Mo	98	123.2	19.5	**0.0223**	0.005	23.5	ug/L	23	Standard
	Ag	107	77.7	38.3	**0.0007**	0.005	685.4	ug/L	59	Standard
	Cd	111	6.9	88.3	**0.0018**	0.003	177.8	mg/L	3	Standard
	Cd	114	24.9	52.8	**-0.0000**	0.003	13611.2	ug/L	10	Standard
>	**In**	115	585648.6	2.0				ug/L	537195	Standard
	Sn	118	378.0	13.1	**0.0069**	0.011	157.3	ug/L	281	Standard
	Sb	123	1052.1	12.6	**0.2426**	0.028	11.4	ug/L	167	Standard
	Ba	135	14.3	22.4	**-0.0153**	0.002	10.5	ug/L	10	Standard
	Ce	140	11.7	21.6				ug/L	27	Standard
>	**Tb**	159	825861.0	1.5				ug/L	758170	Standard
	Ho	165	8.7	26.6				ug/L	7	Standard
	Tl	203	21.7	51.9	**0.0028**	0.002	65.0	ug/L	5	Standard
	Tl	205	1.0	100.0	**0.0141**	0.007	46.2	ug/L	0	Standard
	Pb	206	220.3	6.9	**-0.0001**	0.002	1662.1	ug/L	182	Standard
	Pb	207	173.7	8.2	**-0.0008**	0.003	332.8	ug/L	145	Standard
	Pb	208	243.7	9.7	**-0.0027**	0.003	117.9	ug/L	207	Standard
	U	238	16.0	12.5	**0.0025**	0.000	13.4	ug/L	1	Standard
>	**Bi**	209	363440.2	2.4				ug/L	325207	Standard

Sample ID: QC Std 7
Report Date/Time: Tuesday, June 04, 2013 14:39:01
Page 1

Approved: June 05, 2013

⌈	**Na**	23	1.7	173.2	**-0.8349**	0.441	52.8	mg/L	0	Standard
|	**Mg**	24	38.3	30.1	**-0.0030**	0.011	382.7	mg/L	25	Standard
|	**K**	39	3.3	86.6	**-0.0001**	0.048	78733.9	mg/L	3	Standard
|	**Ca**	43	258.3	12.6	**-0.1844**	0.117	63.3	mg/L	297	Standard
|	**Fe**	54	134.6	18.5	**0.0285**	0.029	100.8	mg/L	91	Standard
|	**Fe**	57	110.0	9.1	**-0.2276**	0.030	13.3	mg/L	237	Standard
⌊>	**Sc-1**	45	38717.7	1.5				mg/L	35084	Standard
	Cl	35	62829.4	2.6				ug/L	29808	Standard
	Kr	83	33.0	10.5				ug/L	38	Standard
	Br	81	763.4	2.2				ug/L	965	Standard
	P	31	235120.0	2.2				ug/L	176735	Standard
	S	34	61687.9	3.3				ug/L	28891	Standard
	Sr	88	35.8	44.9				ug/L	27	Standard
	C	12	3.3	86.6				mg/L	7	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	0.0					mg/L	3	Standard
	Dy	164	9.3	71.2				mg/L	14	Standard
	Ho-1	165	8.7	26.6				mg/L	7	Standard
	Er	166	8.7	40.5				mg/L	8	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		117.137	
|	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		93.411	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			

Sample ID: QC Std 7
Report Date/Time: Tuesday, June 04, 2013 14:39:01
Page 2

Approved: June 05, 2013

⌈	Y	89	
⌊>	Rh	103	
⌈	Mo	98	
|	Ag	107	
|	Cd	111	
|	Cd	114	
|>	In	115	109.020
|	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	111.757
⌈	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	Sb	123	

Sample ID: QC Std 7
Report Date/Time: Tuesday, June 04, 2013 14:39:01
Page 3

Approved: June 05, 2013

Method 6020 - Summary Report

Sample ID: PBS B7 WG432680-02
Sample Date/Time: Tuesday, June 04, 2013 14:46:39
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	627023.1	1.2				ug/L	552027	Standard
	Be	9	31.7	21.0	**0.0036**	0.003	82.6	ug/L	18	Standard
	Al	27	5958.2	6.6	**0.0262**	0.002	9.4	ug/L	841	Standard
	Sc	45	36943.3	1.0				ug/L	35084	Standard
	Ti	47	23.3	13.1	**0.0309**	0.014	45.6	ug/L	22	Standard
	V	51	999.8	8.6	**0.0517**	0.018	34.1	ug/L	812	Standard
	Cr	52	4022.9	2.8	**-0.0079**	0.025	322.4	ug/L	4274	Standard
	Cr	53	657.5	3.7	**-0.3489**	0.033	9.4	ug/L	1106	Standard
	Mn	55	997.0	2.4	**-0.0267**	0.005	17.6	ug/L	1207	Standard
	Co	59	56.7	9.7	**-0.0050**	0.001	20.9	ug/L	71	Standard
	Ni	60	361.3	4.2	**0.0456**	0.006	12.4	ug/L	295	Standard
	Cu	65	121.7	5.8	**0.0048**	0.003	63.5	ug/L	87	Standard
	Zn	66	1767.4	7.5	**0.9484**	0.105	11.1	ug/L	469	Standard
>	**Ge**	72	477848.0	1.3				ug/L	514704	Standard
	As	75	-123.8	2.5	**0.0045**	0.003	63.6	ug/L	-121	Standard
	Se	82	1.7	206.7	**0.0117**	0.030	257.9	ug/L	-1	Standard
	Se-1	77	102.3	16.6	**-0.0710**	0.209	294.0	ug/L	127	Standard
>	**Ga**	71	93.3	6.2				mg/L	175	Standard
	Rb	85	53.3	43.3				ug/L	50	Standard
	Y	89	543978.2	1.8				ug/L	527499	Standard
>	**Rh**	103	8.3	34.6				ug/L	10	Standard
	Mo	98	45.5	13.0	**0.0038**	0.002	40.8	ug/L	23	Standard
	Ag	107	63.7	7.4	**-0.0015**	0.001	59.3	ug/L	59	Standard
	Cd	111	2.9	33.7	**-0.0003**	0.001	207.2	mg/L	3	Standard
	Cd	114	13.3	40.9	**-0.0024**	0.001	49.0	ug/L	10	Standard
>	**In**	115	579304.4	1.4				ug/L	537195	Standard
	Sn	118	337.0	25.8	**-0.0004**	0.018	4959.7	ug/L	281	Standard
	Sb	123	560.8	9.3	**0.1230**	0.014	11.4	ug/L	167	Standard
	Ba	135	21.7	7.1	**-0.0111**	0.001	6.3	ug/L	10	Standard
	Ce	140	14.3	34.4				ug/L	27	Standard
>	**Tb**	159	821834.6	1.9				ug/L	758170	Standard
	Ho	165	7.0	28.6				ug/L	7	Standard
	Tl	203	8.0	50.0	**0.0005**	0.001	136.5	ug/L	5	Standard
	Tl	205	0.3	173.2	**0.0097**	0.004	38.3	ug/L	0	Standard
	Pb	206	206.3	7.8	**-0.0030**	0.004	135.5	ug/L	182	Standard
	Pb	207	182.7	10.1	**0.0016**	0.004	244.0	ug/L	145	Standard
	Pb	208	239.3	10.0	**-0.0032**	0.005	152.0	ug/L	207	Standard
	U	238	0.7	86.6	**-0.0006**	0.000	18.7	ug/L	1	Standard
>	**Bi**	209	362296.7	1.6				ug/L	325207	Standard

Sample ID: PBS B7 WG432680-02
Report Date/Time: Tuesday, June 04, 2013 14:49:31
Page 1

Approved: June 05, 2013

Na	23	3.3	86.6	**-0.5626**	0.456	81.1	mg/L	0	Standard
Mg	24	43.3	29.0	**0.0037**	0.012	338.4	mg/L	25	Standard
K	39	8.3	91.7	**0.0893**	0.132	147.7	mg/L	3	Standard
Ca	43	290.0	15.0	**-0.0401**	0.140	348.5	mg/L	297	Standard
Fe	54	99.5	32.8	**-0.0043**	0.038	894.5	mg/L	91	Standard
Fe	57	93.3	16.4	**-0.2592**	0.044	17.1	mg/L	237	Standard
> **Sc-1**	45	36943.3	1.0				mg/L	35084	Standard
Cl	35	61865.4	1.0				ug/L	29808	Standard
Kr	83	35.4	13.2				ug/L	38	Standard
Br	81	690.0	1.3				ug/L	965	Standard
P	31	192799.7	3.2				ug/L	176735	Standard
S	34	59486.5	0.4				ug/L	28891	Standard
Sr	88	33.3	26.3				ug/L	27	Standard
C	12	1.7	173.2				mg/L	7	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	1.7	173.2				mg/L	3	Standard
Dy	164	5.0	25.7				mg/L	14	Standard
Ho-1	165	7.0	28.6				mg/L	7	Standard
Er	166	14.0	25.8				mg/L	8	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
> Li	6		113.586	
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		92.839	
As	75			
Se	82			
Se-1	77			
> Ga	71			
Rb	85			

Sample ID: PBS B7 WG432680-02
Report Date/Time: Tuesday, June 04, 2013 14:49:31
Page 2

Approved: June 05, 2013

	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	107.839
	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	111.405
	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: PBS B7 WG432680-02
Report Date/Time: Tuesday, June 04, 2013 14:49:31
Page 3

Approved: June 05, 2013

Method 6020 - Summary Report

Sample ID: LCSS B7 WG432680-03
Sample Date/Time: Tuesday, June 04, 2013 14:50:25
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	662123.2	3.0				ug/L	552027	Standard
	Be	9	50247.4	10.4	**22.1851**	2.074	9.3	ug/L	18	Standard
	Al	27	4607.4	4.8	**0.0160**	0.001	7.5	ug/L	841	Standard
	Sc	45	39202.4	4.2				ug/L	35084	Standard
	Ti	47	25.3	35.4	**0.0382**	0.045	116.7	ug/L	22	Standard
	V	51	141774.0	10.2	**24.4858**	2.258	9.2	ug/L	812	Standard
	Cr	52	125076.2	12.6	**24.1810**	2.898	12.0	ug/L	4274	Standard
	Cr	53	25045.8	10.7	**24.4298**	2.517	10.3	ug/L	1106	Standard
	Mn	55	182188.5	11.4	**23.6297**	2.469	10.5	ug/L	1207	Standard
	Co	59	127935.6	12.0	**23.6456**	2.608	11.0	ug/L	71	Standard
	Ni	60	52747.0	10.2	**25.2087**	2.326	9.2	ug/L	295	Standard
	Cu	65	51784.4	10.9	**24.6737**	2.445	9.9	ug/L	87	Standard
	Zn	66	28301.6	10.0	**25.2653**	2.327	9.2	ug/L	469	Standard
>	**Ge**	72	490342.6	1.9				ug/L	514704	Standard
	As	75	29468.7	8.8	**23.9333**	1.862	7.8	ug/L	-121	Standard
	Se	82	3065.6	8.4	**25.1652**	1.828	7.3	ug/L	-1	Standard
	Se-1	77	2019.1	8.4	**23.6200**	1.789	7.6	ug/L	127	Standard
>	**Ga**	71	146.7	20.5				mg/L	175	Standard
	Rb	85	26.7	21.7				ug/L	50	Standard
	Y	89	557044.5	2.6				ug/L	527499	Standard
>	**Rh**	103	23.3	49.5				ug/L	10	Standard
	Mo	98	54.4	2.7	**0.0057**	0.001	11.1	ug/L	23	Standard
	Ag	107	141729.3	9.0	**24.1511**	1.622	6.7	ug/L	59	Standard
	Cd	111	43212.6	10.7	**23.5947**	2.015	8.5	mg/L	3	Standard
	Cd	114	114642.8	9.8	**24.2788**	1.849	7.6	ug/L	10	Standard
>	**In**	115	593658.9	2.6				ug/L	537195	Standard
	Sn	118	338.0	20.8	**-0.0017**	0.015	912.2	ug/L	281	Standard
	Sb	123	98053.0	9.8	**23.8701**	1.827	7.7	ug/L	167	Standard
	Ba	135	44785.2	9.7	**24.3570**	1.822	7.5	ug/L	10	Standard
	Ce	140	24.3	33.2				ug/L	27	Standard
>	**Tb**	159	846963.2	1.6				ug/L	758170	Standard
	Ho	165	7.7	30.1				ug/L	7	Standard
	Tl	203	141229.7	8.1	**23.6778**	1.587	6.7	ug/L	5	Standard
	Tl	205	3728.8	6.1	**23.8985**	1.102	4.6	ug/L	0	Standard
	Pb	206	113089.5	9.8	**23.9467**	2.019	8.4	ug/L	182	Standard
	Pb	207	97997.1	11.0	**24.4026**	2.340	9.6	ug/L	145	Standard
	Pb	208	136831.2	10.6	**23.7670**	2.176	9.2	ug/L	207	Standard
	U	238	114770.9	11.6	**22.7611**	2.299	10.1	ug/L	1	Standard
>	**Bi**	209	370424.3	1.8				ug/L	325207	Standard

Sample ID: LCSS B7 WG432680-03
Report Date/Time: Tuesday, June 04, 2013 14:53:17
Page 1

Approved: June 05, 2013

Na	23	0.0		**-1.0895**	0.000	0.0	mg/L	0	Standard
Mg	24	35.0	14.3	**-0.0067**	0.005	81.0	mg/L	25	Standard
K	39	5.0	100.0	**0.0269**	0.084	313.2	mg/L	3	Standard
Ca	43	230.0	15.1	**-0.2853**	0.107	37.5	mg/L	297	Standard
Fe	54	156.9	11.2	**0.0506**	0.023	45.8	mg/L	91	Standard
Fe	57	101.7	12.4	**-0.2525**	0.033	13.1	mg/L	237	Standard
> **Sc-1**	45	39202.4	4.2				mg/L	35084	Standard
Cl	35	65505.3	2.2				ug/L	29808	Standard
Kr	83	36.0	6.4				ug/L	38	Standard
Br	81	895.0	2.0				ug/L	965	Standard
P	31	234614.6	2.0				ug/L	176735	Standard
S	34	60400.2	1.4				ug/L	28891	Standard
Sr	88	45.8	19.2				ug/L	27	Standard
C	12	0.0					mg/L	7	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	1.7	173.2				mg/L	3	Standard
Dy	164	10.5	24.7				mg/L	14	Standard
Ho-1	165	7.7	30.1				mg/L	7	Standard
Er	166	10.3	11.2				mg/L	8	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
> Li	6		119.944	
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		95.267	
As	75			
Se	82			
Se-1	77			
> Ga	71			
Rb	85			

Sample ID: LCSS B7 WG432680-03
Report Date/Time: Tuesday, June 04, 2013 14:53:17
Page 2

Approved: June 05, 2013

	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	110.511
	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	113.904
	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: LCSS B7 WG432680-03
Report Date/Time: Tuesday, June 04, 2013 14:53:17
Page 3

Approved: June 05, 2013

Method 6020 - Summary Report

Sample ID: L1305159517 WG432680-01
Sample Date/Time: Tuesday, June 04, 2013 14:54:11
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	661066.8	0.1				ug/L	552027	Standard
	Be	9	1581.4	10.7	**0.6888**	0.074	10.8	ug/L	18	Standard
	Al	27	739124.8	8.8	**4.4781**	0.397	8.9	ug/L	841	Standard
	Sc	45	54809.1	4.4				ug/L	35084	Standard
	Ti	47	7349.1	11.3	**34.3823**	3.340	9.7	ug/L	22	Standard
	V	51	368968.2	12.9	**62.9803**	7.190	11.4	ug/L	812	Standard
	Cr	52	245068.7	11.4	**47.4749**	4.753	10.0	ug/L	4274	Standard
	Cr	53	49562.5	11.5	**48.6140**	4.874	10.0	ug/L	1106	Standard
	Mn	55	15225241.8	11.0	**1959.2286**	186.355	9.5	ug/L	1207	Standard
	Co	59	101421.5	11.3	**18.4706**	1.824	9.9	ug/L	71	Standard
	Ni	60	9147.4	9.7	**4.1987**	0.350	8.3	ug/L	295	Standard
	Cu	65	17247.5	9.8	**8.0630**	0.676	8.4	ug/L	87	Standard
	Zn	66	24333.0	10.0	**21.3004**	1.892	8.9	ug/L	469	Standard
>	**Ge**	72	497356.5	1.8				ug/L	514704	Standard
	As	75	6668.3	10.7	**5.4198**	0.483	8.9	ug/L	-121	Standard
	Se	82	25.5	20.6	**0.2028**	0.039	19.1	ug/L	-1	Standard
	Se-1	77	172.0	7.6	**0.7280**	0.121	16.6	ug/L	127	Standard
>	**Ga**	71	46754.5	12.8				mg/L	175	Standard
	Rb	85	193095.6	6.0				ug/L	50	Standard
	Y	89	757915.4	2.0				ug/L	527499	Standard
>	**Rh**	103	20.0	25.0				ug/L	10	Standard
	Mo	98	1173.9	8.6	**0.2723**	0.024	8.7	ug/L	23	Standard
	Ag	107	1368.1	14.8	**0.2221**	0.034	15.2	ug/L	59	Standard
	Cd	111	242.7	12.9	**0.1315**	0.017	12.6	mg/L	3	Standard
	Cd	114	503.7	13.8	**0.1021**	0.014	14.0	ug/L	10	Standard
>	**In**	115	590265.1	0.5				ug/L	537195	Standard
	Sn	118	794.4	6.5	**0.0865**	0.011	12.4	ug/L	281	Standard
	Sb	123	287.9	5.4	**0.0534**	0.004	6.7	ug/L	167	Standard
	Ba	135	141967.8	8.9	**77.7765**	6.652	8.6	ug/L	10	Standard
	Ce	140	4369686.3	11.0				ug/L	27	Standard
>	**Tb**	159	837017.5	1.0				ug/L	758170	Standard
	Ho	165	13789.3	12.5				ug/L	7	Standard
	Tl	203	3320.4	8.0	**0.5590**	0.042	7.5	ug/L	5	Standard
	Tl	205	88.3	10.5	**0.5764**	0.054	9.3	ug/L	0	Standard
	Pb	206	179692.6	9.8	**38.2984**	3.577	9.3	ug/L	182	Standard
	Pb	207	143011.3	9.4	**35.8436**	3.173	8.9	ug/L	145	Standard
	Pb	208	208203.8	10.3	**36.4002**	3.566	9.8	ug/L	207	Standard
	U	238	20464.3	12.4	**4.0817**	0.486	11.9	ug/L	1	Standard
>	**Bi**	209	368485.6	1.0				ug/L	325207	Standard

Sample ID: L1305159517 WG432680-01
Report Date/Time: Tuesday, June 04, 2013 14:57:03
Page 1

Approved: June 05, 2013

	Na	23	15.0	57.7	**0.5195**	0.950	182.9	mg/L	0	Standard
	Mg	24	61.7	12.4	**0.0022**	0.007	330.0	mg/L	25	Standard
	K	39	20.0	43.3	**0.1751**	0.093	53.2	mg/L	3	Standard
	Ca	43	716.7	1.1	**0.6104**	0.070	11.5	mg/L	297	Standard
	Fe	54	44416.1	13.9	**33.7060**	3.332	9.9	mg/L	91	Standard
	Fe	57	11345.9	10.8	**20.2247**	1.389	6.9	mg/L	237	Standard
>	**Sc-1**	45	54809.1	4.4				mg/L	35084	Standard
	Cl	35	61017.4	3.4				ug/L	29808	Standard
	Kr	83	66.7	1.8				ug/L	38	Standard
	Br	81	793.4	10.0				ug/L	965	Standard
	P	31	235923.5	3.8				ug/L	176735	Standard
	S	34	57454.7	4.9				ug/L	28891	Standard
	Sr	88	35.0	14.3				ug/L	27	Standard
	C	12	1.7	173.2				mg/L	7	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	333.3	4.8				mg/L	3	Standard
	Dy	164	21194.4	11.3				mg/L	14	Standard
	Ho-1	165	13789.3	12.5				mg/L	7	Standard
	Er	166	13858.1	11.8				mg/L	8	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		119.753	
	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		96.630	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			

Sample ID: L1305159517 WG432680-01
Report Date/Time: Tuesday, June 04, 2013 14:57:03
Page 2

Approved: June 05, 2013

	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	109.879
	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	113.308
	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	

Approved: June 05, 2013

Method 6020 - Summary Report

Sample ID: L1305159517S WG432680-04
Sample Date/Time: Tuesday, June 04, 2013 14:57:57
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	669406.8	1.3				ug/L	552027	Standard
	Be	9	51225.9	8.6	**22.3668**	1.636	7.3	ug/L	18	Standard
	Al	27	969346.2	8.2	**5.7999**	0.408	7.0	ug/L	841	Standard
	Sc	45	56123.8	3.6				ug/L	35084	Standard
	Ti	47	22589.6	10.1	**105.8142**	10.508	9.9	ug/L	22	Standard
	V	51	741035.1	10.6	**126.5749**	13.014	10.3	ug/L	812	Standard
	Cr	52	664109.0	11.3	**130.0086**	14.449	11.1	ug/L	4274	Standard
	Cr	53	136509.5	8.8	**135.6586**	11.557	8.5	ug/L	1106	Standard
	Mn	55	15328460.0	10.4	**1971.3846**	198.365	10.1	ug/L	1207	Standard
	Co	59	221856.4	10.3	**40.3978**	4.012	9.9	ug/L	71	Standard
	Ni	60	69031.9	9.9	**32.5323**	3.103	9.5	ug/L	295	Standard
	Cu	65	80076.6	9.4	**37.6100**	3.463	9.2	ug/L	87	Standard
	Zn	66	80578.4	8.6	**72.1424**	5.979	8.3	ug/L	469	Standard
>	**Ge**	72	498027.9	0.7				ug/L	514704	Standard
	As	75	39269.2	8.7	**31.3753**	2.616	8.3	ug/L	-121	Standard
	Se	82	1856.1	6.3	**15.0065**	0.913	6.1	ug/L	-1	Standard
	Se-1	77	1380.1	6.2	**15.4525**	0.955	6.2	ug/L	127	Standard
>	**Ga**	71	73411.5	7.9				mg/L	175	Standard
	Rb	85	368023.4	6.6				ug/L	50	Standard
	Y	89	795907.9	3.2				ug/L	527499	Standard
>	**Rh**	103	25.0	52.9				ug/L	10	Standard
	Mo	98	2525.1	8.4	**0.5974**	0.048	8.0	ug/L	23	Standard
	Ag	107	135837.4	6.9	**23.4327**	1.491	6.4	ug/L	59	Standard
	Cd	111	40174.4	9.9	**22.2092**	2.075	9.3	mg/L	3	Standard
	Cd	114	110175.9	9.6	**23.6206**	2.146	9.1	ug/L	10	Standard
>	**In**	115	586871.6	0.6				ug/L	537195	Standard
	Sn	118	1102.7	4.3	**0.1471**	0.011	7.2	ug/L	281	Standard
	Sb	123	1367.5	11.9	**0.3201**	0.039	12.1	ug/L	167	Standard
	Ba	135	188504.9	9.0	**103.8626**	8.764	8.4	ug/L	10	Standard
	Ce	140	5269995.7	9.7				ug/L	27	Standard
>	**Tb**	159	829039.4	0.6				ug/L	758170	Standard
	Ho	165	14168.4	12.4				ug/L	7	Standard
	Tl	203	137834.5	8.6	**23.2354**	1.806	7.8	ug/L	5	Standard
	Tl	205	3665.8	6.7	**23.6219**	1.380	5.8	ug/L	0	Standard
	Pb	206	284955.9	8.6	**60.7543**	4.755	7.8	ug/L	182	Standard
	Pb	207	232721.7	9.1	**58.3468**	4.827	8.3	ug/L	145	Standard
	Pb	208	335165.5	9.3	**58.6164**	4.966	8.5	ug/L	207	Standard
	U	238	131131.6	10.3	**26.1555**	2.468	9.4	ug/L	1	Standard
>	**Bi**	209	368474.8	1.3				ug/L	325207	Standard

Sample ID: L1305159517S WG432680-04
Report Date/Time: Tuesday, June 04, 2013 15:00:49
Page 1

Approved: June 05, 2013

	Na	23	11.7	24.7	**0.1275**	0.349	273.8	mg/L	0	Standard
	Mg	24	60.0	38.2	**-0.0003**	0.015	4543.6	mg/L	25	Standard
	K	39	25.0	20.0	**0.2298**	0.059	25.7	mg/L	3	Standard
	Ca	43	778.4	12.6	**0.7031**	0.161	22.9	mg/L	297	Standard
	Fe	54	61594.3	8.7	**45.7668**	2.492	5.4	mg/L	91	Standard
	Fe	57	15948.5	13.6	**27.9367**	2.912	10.4	mg/L	237	Standard
>	**Sc-1**	45	56123.8	3.6				mg/L	35084	Standard
	Cl	35	61127.4	1.3				ug/L	29808	Standard
	Kr	83	74.4	6.0				ug/L	38	Standard
	Br	81	946.7	5.5				ug/L	965	Standard
	P	31	241254.8	0.8				ug/L	176735	Standard
	S	34	57492.2	1.0				ug/L	28891	Standard
	Sr	88	35.8	14.5				ug/L	27	Standard
	C	12	3.3	86.6				mg/L	7	Standard
	N	14	1.7	173.2				mg/L	0	Standard
	Hg	202	335.0	23.5				mg/L	3	Standard
	Dy	164	21624.2	10.6				mg/L	14	Standard
	Ho-1	165	14168.4	12.4				mg/L	7	Standard
	Er	166	14154.3	11.1				mg/L	8	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		121.263	
	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		96.760	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			

Sample ID: L1305159517S WG432680-04
Report Date/Time: Tuesday, June 04, 2013 15:00:49
Page 2

Approved: June 05, 2013

	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	109.247
	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	113.305
	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
Li 6 Int Std for sample	Li	6	Rerun sample
Ti 47 Upper, S, EEE	Ti	47	
V 51 Upper, S, EEE	V	51	
Cr 52 Upper, S, EEE	Cr	52	
Cr 53 Upper, S, EEE	Cr	53	

Sample ID: L1305159517S WG432680-04
Report Date/Time: Tuesday, June 04, 2013 15:00:49
Page 3

Approved: June 05, 2013

Mn 55 Upper, S, EEE	Mn	55
Ba 135 Upper, S, EEE	Ba	135

Approved: June 05, 2013

Method 6020 - Summary Report

Sample ID: L1305159517SD WG432680-05
Sample Date/Time: Tuesday, June 04, 2013 15:01:44
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	674030.7	0.7				ug/L	552027	Standard
	Be	9	53090.8	9.7	**23.0293**	2.108	9.2	ug/L	18	Standard
	Al	27	1055190.3	10.1	**6.2729**	0.608	9.7	ug/L	841	Standard
	Sc	45	57017.2	4.7				ug/L	35084	Standard
	Ti	47	18652.2	10.9	**88.4931**	9.274	10.5	ug/L	22	Standard
	V	51	780329.5	10.4	**135.0438**	13.451	10.0	ug/L	812	Standard
	Cr	52	502205.3	12.9	**99.4010**	12.535	12.6	ug/L	4274	Standard
	Cr	53	103400.2	10.8	**103.8579**	10.878	10.5	ug/L	1106	Standard
	Mn	55	21172833.8	10.6	**2758.8497**	282.137	10.2	ug/L	1207	Standard
	Co	59	288826.8	11.5	**53.2880**	5.912	11.1	ug/L	71	Standard
	Ni	60	73361.1	10.2	**35.0368**	3.460	9.9	ug/L	295	Standard
	Cu	65	84379.7	9.6	**40.1534**	3.698	9.2	ug/L	87	Standard
	Zn	66	87671.7	9.2	**79.5968**	7.048	8.9	ug/L	469	Standard
>	**Ge**	72	491544.8	0.4				ug/L	514704	Standard
	As	75	38780.6	9.7	**31.3910**	2.914	9.3	ug/L	-121	Standard
	Se	82	1548.0	10.2	**12.6775**	1.241	9.8	ug/L	-1	Standard
	Se-1	77	1190.0	12.6	**13.3252**	1.788	13.4	ug/L	127	Standard
>	**Ga**	71	86977.1	9.6				mg/L	175	Standard
	Rb	85	392125.3	9.8				ug/L	50	Standard
	Y	89	819838.5	2.3				ug/L	527499	Standard
>	**Rh**	103	56.7	13.5				ug/L	10	Standard
	Mo	98	2627.3	8.9	**0.6354**	0.058	9.1	ug/L	23	Standard
	Ag	107	137272.5	6.7	**24.1865**	1.650	6.8	ug/L	59	Standard
	Cd	111	40885.3	10.4	**23.0891**	2.436	10.6	mg/L	3	Standard
	Cd	114	112499.8	9.1	**24.6379**	2.277	9.2	ug/L	10	Standard
>	**In**	115	574779.8	0.2				ug/L	537195	Standard
	Sn	118	1100.0	3.4	**0.1510**	0.008	5.1	ug/L	281	Standard
	Sb	123	1641.1	14.0	**0.3963**	0.059	14.8	ug/L	167	Standard
	Ba	135	243759.6	9.5	**137.1995**	13.202	9.6	ug/L	10	Standard
	Ce	140	7046938.9	10.0				ug/L	27	Standard
>	**Tb**	159	813767.8	0.3				ug/L	758170	Standard
	Ho	165	17391.4	10.5				ug/L	7	Standard
	Tl	203	144145.2	9.2	**24.5446**	2.104	8.6	ug/L	5	Standard
	Tl	205	3751.5	8.8	**24.4157**	1.995	8.2	ug/L	0	Standard
	Pb	206	431482.1	10.1	**92.9443**	8.834	9.5	ug/L	182	Standard
	Pb	207	347494.9	9.8	**88.0277**	8.069	9.2	ug/L	145	Standard
	Pb	208	505100.4	10.9	**89.2523**	9.234	10.3	ug/L	207	Standard
	U	238	136993.4	11.7	**27.6017**	3.050	11.1	ug/L	1	Standard
>	**Bi**	209	364809.7	0.7				ug/L	325207	Standard

Sample ID: L1305159517SD WG432680-05
Report Date/Time: Tuesday, June 04, 2013 15:04:35
Page 1

Approved: June 05, 2013

	Na	23	8.3	124.9	**-0.2620**	1.034	394.5	mg/L	0	Standard
	Mg	24	65.0	50.4	**0.0020**	0.020	989.3	mg/L	25	Standard
	K	39	33.3	56.8	**0.3145**	0.200	63.6	mg/L	3	Standard
	Ca	43	786.7	3.5	**0.6989**	0.044	6.3	mg/L	297	Standard
	Fe	54	69326.0	12.6	**50.6458**	4.138	8.2	mg/L	91	Standard
	Fe	57	17405.1	14.0	**30.0372**	2.977	9.9	mg/L	237	Standard
>	**Sc-1**	45	57017.2	4.7				mg/L	35084	Standard
	Cl	35	61544.5	3.0				ug/L	29808	Standard
	Kr	83	83.4	9.2				ug/L	38	Standard
	Br	81	1008.4	11.9				ug/L	965	Standard
	P	31	256070.6	4.1				ug/L	176735	Standard
	S	34	59048.2	1.8				ug/L	28891	Standard
	Sr	88	34.2	22.4				ug/L	27	Standard
	C	12	3.3	173.2				mg/L	7	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	336.7	8.2				mg/L	3	Standard
	Dy	164	26369.7	12.2				mg/L	14	Standard
	Ho-1	165	17391.4	10.5				mg/L	7	Standard
	Er	166	17507.9	11.5				mg/L	8	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		122.101	
	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		95.500	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			

Sample ID: L1305159517SD WG432680-05
Report Date/Time: Tuesday, June 04, 2013 15:04:35
Page 2

Approved: June 05, 2013

⌈	Y	89	
⌊>	Rh	103	
⌈	Mo	98	
|	Ag	107	
|	Cd	111	
|	Cd	114	
|>	In	115	106.996
|	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	112.178
⌈	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
V 51 Upper, S, EEE	V	51	
Cr 53 Upper, S, EEE	Cr	53	
Mn 55 Upper, S, EEE	Mn	55	
Ba 135 Upper, S, EEE	Ba	135	

Sample ID: L1305159517SD WG432680-05
Report Date/Time: Tuesday, June 04, 2013 15:04:35
Page 3

Approved: June 05, 2013

Method 6020 - Summary Report

Sample ID: L1305159501
Sample Date/Time: Tuesday, June 04, 2013 15:05:30
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	656838.0	1.4				ug/L	552027	Standard
	Be	9	1870.1	9.0	**0.8216**	0.067	8.2	ug/L	18	Standard
	Al	27	494292.0	9.1	**3.0087**	0.246	8.2	ug/L	841	Standard
	Sc	45	50542.5	1.7				ug/L	35084	Standard
	Ti	47	4212.3	11.1	**20.0033**	1.931	9.7	ug/L	22	Standard
	V	51	372322.7	11.2	**64.6355**	6.280	9.7	ug/L	812	Standard
	Cr	52	275513.4	11.4	**54.3859**	5.464	10.0	ug/L	4274	Standard
	Cr	53	55570.1	11.3	**55.5702**	5.581	10.0	ug/L	1106	Standard
	Mn	55	7377243.9	10.7	**965.1898**	89.007	9.2	ug/L	1207	Standard
	Co	59	45469.6	9.8	**8.4121**	0.701	8.3	ug/L	71	Standard
	Ni	60	4876.1	7.8	**2.2155**	0.147	6.6	ug/L	295	Standard
	Cu	65	16277.1	9.7	**7.7346**	0.636	8.2	ug/L	87	Standard
	Zn	66	15956.8	8.5	**13.9650**	1.034	7.4	ug/L	469	Standard
>	**Ge**	72	489163.4	1.6				ug/L	514704	Standard
	As	75	5476.2	8.9	**4.5442**	0.332	7.3	ug/L	-121	Standard
	Se	82	21.7	9.8	**0.1754**	0.015	8.8	ug/L	-1	Standard
	Se-1	77	169.7	9.6	**0.7338**	0.170	23.2	ug/L	127	Standard
>	**Ga**	71	37256.3	13.6				mg/L	175	Standard
	Rb	85	141195.8	7.8				ug/L	50	Standard
	Y	89	863840.4	5.3				ug/L	527499	Standard
>	**Rh**	103	18.3	83.3				ug/L	10	Standard
	Mo	98	1766.0	10.7	**0.4158**	0.040	9.5	ug/L	23	Standard
	Ag	107	1035.0	9.8	**0.1661**	0.016	9.6	ug/L	59	Standard
	Cd	111	142.7	11.0	**0.0770**	0.007	9.3	mg/L	3	Standard
	Cd	114	229.2	12.9	**0.0438**	0.005	12.4	ug/L	10	Standard
>	**In**	115	586371.1	1.8				ug/L	537195	Standard
	Sn	118	912.0	3.0	**0.1103**	0.008	6.9	ug/L	281	Standard
	Sb	123	268.4	15.2	**0.0490**	0.009	19.2	ug/L	167	Standard
	Ba	135	87306.8	9.8	**48.1257**	4.315	9.0	ug/L	10	Standard
	Ce	140	1846532.7	10.1				ug/L	27	Standard
>	**Tb**	159	826909.2	0.8				ug/L	758170	Standard
	Ho	165	16198.1	11.8				ug/L	7	Standard
	Tl	203	1901.1	8.1	**0.3247**	0.024	7.3	ug/L	5	Standard
	Tl	205	48.0	11.6	**0.3220**	0.040	12.4	ug/L	0	Standard
	Pb	206	160212.8	10.5	**34.6726**	3.424	9.9	ug/L	182	Standard
	Pb	207	126542.3	10.4	**32.2029**	3.096	9.6	ug/L	145	Standard
	Pb	208	186604.4	9.8	**33.1306**	3.042	9.2	ug/L	207	Standard
	U	238	20688.6	11.4	**4.1914**	0.457	10.9	ug/L	1	Standard
>	**Bi**	209	362796.3	1.3				ug/L	325207	Standard

Sample ID: L1305159501
Report Date/Time: Tuesday, June 04, 2013 15:08:21
Page 1

Approved: June 05, 2013

⌈	**Na**	23	5.0	100.0	**-0.5131**	0.583	113.5	mg/L	0	Standard
|	**Mg**	24	40.0		**-0.0105**	0.001	4.8	mg/L	25	Standard
|	**K**	39	16.7	45.8	**0.1543**	0.092	59.8	mg/L	3	Standard
|	**Ca**	43	618.3	6.1	**0.5038**	0.083	16.5	mg/L	297	Standard
|	**Fe**	54	48009.9	13.1	**39.6149**	4.864	12.3	mg/L	91	Standard
|	**Fe**	57	12231.6	11.9	**23.7585**	2.644	11.1	mg/L	237	Standard
⌊>	**Sc-1**	45	50542.5	1.7				mg/L	35084	Standard
	Cl	35	61800.1	1.9				ug/L	29808	Standard
	Kr	83	68.2	4.6				ug/L	38	Standard
	Br	81	821.7	8.9				ug/L	965	Standard
	P	31	259012.1	1.6				ug/L	176735	Standard
	S	34	62252.6	1.4				ug/L	28891	Standard
	Sr	88	40.8	12.7				ug/L	27	Standard
	C	12	5.0	0.0				mg/L	7	Standard
	N	14	1.7	173.2				mg/L	0	Standard
	Hg	202	123.3	34.5				mg/L	3	Standard
	Dy	164	23859.7	12.0				mg/L	14	Standard
	Ho-1	165	16198.1	11.8				mg/L	7	Standard
	Er	166	15513.7	12.2				mg/L	8	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		118.987	
|	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		95.038	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			

Sample ID: L1305159501
Report Date/Time: Tuesday, June 04, 2013 15:08:21
Page 2

Approved: June 05, 2013

	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	109.154
	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	111.559
	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
Mn 55 Upper, S, EEE	Mn	55	

Approved: June 05, 2013

Method 6020 - Summary Report

Sample ID: L1305159502
Sample Date/Time: Tuesday, June 04, 2013 15:09:16
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	647929.1	3.1				ug/L	552027	Standard
	Be	9	2766.9	10.1	**1.2380**	0.113	9.2	ug/L	18	Standard
	Al	27	739783.7	9.4	**4.5726**	0.399	8.7	ug/L	841	Standard
	Sc	45	57607.7	3.7				ug/L	35084	Standard
	Ti	47	8925.0	8.6	**42.9718**	3.980	9.3	ug/L	22	Standard
	V	51	515011.9	10.8	**90.4953**	10.192	11.3	ug/L	812	Standard
	Cr	52	304224.0	11.7	**60.8572**	7.520	12.4	ug/L	4274	Standard
	Cr	53	62975.7	10.4	**63.8675**	7.167	11.2	ug/L	1106	Standard
	Mn	55	28092735.9	10.1	**3718.6718**	397.941	10.7	ug/L	1207	Standard
	Co	59	116779.1	10.3	**21.8796**	2.392	10.9	ug/L	71	Standard
	Ni	60	15428.2	8.1	**7.3804**	0.653	8.8	ug/L	295	Standard
	Cu	65	59041.9	9.8	**28.5232**	2.930	10.3	ug/L	87	Standard
	Zn	66	45350.2	9.3	**41.4832**	4.148	10.0	ug/L	469	Standard
>	**Ge**	72	484241.7	1.4				ug/L	514704	Standard
	As	75	10903.8	10.2	**9.0425**	0.959	10.6	ug/L	-121	Standard
	Se	82	63.1	9.6	**0.5218**	0.049	9.4	ug/L	-1	Standard
	Se-1	77	276.7	9.2	**2.1013**	0.356	16.9	ug/L	127	Standard
>	**Ga**	71	57090.0	11.7				mg/L	175	Standard
	Rb	85	274743.6	7.2				ug/L	50	Standard
	Y	89	1267319.8	6.8				ug/L	527499	Standard
>	**Rh**	103	51.7	5.6				ug/L	10	Standard
	Mo	98	1872.8	12.1	**0.4492**	0.051	11.3	ug/L	23	Standard
	Ag	107	1495.7	11.8	**0.2501**	0.029	11.4	ug/L	59	Standard
	Cd	111	335.3	10.2	**0.1867**	0.017	9.1	mg/L	3	Standard
	Cd	114	728.3	12.0	**0.1536**	0.018	11.7	ug/L	10	Standard
>	**In**	115	576408.8	1.3				ug/L	537195	Standard
	Sn	118	922.0	2.3	**0.1153**	0.003	2.8	ug/L	281	Standard
	Sb	123	380.2	7.4	**0.0783**	0.007	8.4	ug/L	167	Standard
	Ba	135	410641.5	9.5	**230.3814**	20.419	8.9	ug/L	10	Standard
	Ce	140	4395022.0	10.6				ug/L	27	Standard
>	**Tb**	159	837594.2	1.5				ug/L	758170	Standard
	Ho	165	40081.4	11.7				ug/L	7	Standard
	Tl	203	3972.5	7.9	**0.6764**	0.051	7.5	ug/L	5	Standard
	Tl	205	101.7	9.7	**0.6696**	0.058	8.6	ug/L	0	Standard
	Pb	206	244235.7	10.2	**52.6524**	5.125	9.7	ug/L	182	Standard
	Pb	207	194738.5	10.7	**49.3695**	5.079	10.3	ug/L	145	Standard
	Pb	208	281045.6	10.6	**49.7014**	5.036	10.1	ug/L	207	Standard
	U	238	19055.1	11.6	**3.8434**	0.429	11.2	ug/L	1	Standard
>	**Bi**	209	364422.0	0.9				ug/L	325207	Standard

Sample ID: L1305159502
Report Date/Time: Tuesday, June 04, 2013 15:12:08
Page 1

Approved: June 05, 2013

	Na	23	15.0	88.2	**0.4135**	1.313	317.5	mg/L	0	Standard
	Mg	24	56.7	10.2	**-0.0032**	0.005	154.6	mg/L	25	Standard
	K	39	50.0	40.0	**0.4959**	0.206	41.5	mg/L	3	Standard
	Ca	43	730.0	0.7	**0.5597**	0.055	9.8	mg/L	297	Standard
	Fe	54	55824.9	10.6	**40.3949**	3.276	8.1	mg/L	91	Standard
	Fe	57	14021.5	9.9	**23.8917**	1.886	7.9	mg/L	237	Standard
>	**Sc-1**	45	57607.7	3.7				mg/L	35084	Standard
	Cl	35	60350.0	2.1				ug/L	29808	Standard
	Kr	83	113.3	4.8				ug/L	38	Standard
	Br	81	871.7	5.3				ug/L	965	Standard
	P	31	255067.4	2.5				ug/L	176735	Standard
	S	34	59854.7	2.0				ug/L	28891	Standard
	Sr	88	39.2	25.8				ug/L	27	Standard
	C	12	5.0	173.2				mg/L	7	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	246.7	9.1				mg/L	3	Standard
	Dy	164	58961.0	11.1				mg/L	14	Standard
	Ho-1	165	40081.4	11.7				mg/L	7	Standard
	Er	166	38819.8	11.5				mg/L	8	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		117.373	
	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		94.082	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			

Sample ID: L1305159502
Report Date/Time: Tuesday, June 04, 2013 15:12:08
Page 2

Approved: June 05, 2013

⌈	Y	89	
⌊>	Rh	103	
⌈	Mo	98	
|	Ag	107	
|	Cd	111	
|	Cd	114	
|>	In	115	107.300
|	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	112.058
⌈	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	

Sample ID: L1305159502
Report Date/Time: Tuesday, June 04, 2013 15:12:08
Page 3

Approved: June 05, 2013

Method 6020 - Summary Report

Sample ID: L1305159502PS WG432748-01
Sample Date/Time: Tuesday, June 04, 2013 15:13:02
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	740598.9	2.0				ug/L	552027	Standard
	Be	9	119477.0	6.9	**47.1641**	2.371	5.0	ug/L	18	Standard
	Al	27	853456.9	7.8	**4.6124**	0.271	5.9	ug/L	841	Standard
	Sc	45	63275.3	3.1				ug/L	35084	Standard
	Ti	47	10215.8	9.7	**44.3578**	3.457	7.8	ug/L	22	Standard
	V	51	909117.5	9.4	**144.1487**	11.205	7.8	ug/L	812	Standard
	Cr	52	631346.4	10.3	**114.6117**	10.058	8.8	ug/L	4274	Standard
	Cr	53	129569.6	10.2	**119.3746**	10.281	8.6	ug/L	1106	Standard
	Mn	55	32123041.3	9.2	**3835.2340**	296.481	7.7	ug/L	1207	Standard
	Co	59	425061.7	8.8	**71.8651**	5.247	7.3	ug/L	71	Standard
	Ni	60	139095.1	8.7	**60.9638**	4.318	7.1	ug/L	295	Standard
	Cu	65	182856.1	8.3	**79.7811**	5.283	6.6	ug/L	87	Standard
	Zn	66	106510.3	8.8	**88.6739**	6.294	7.1	ug/L	469	Standard
>	**Ge**	72	536213.9	2.1				ug/L	514704	Standard
	As	75	78360.3	8.3	**58.0240**	3.795	6.5	ug/L	-121	Standard
	Se	82	6672.6	6.2	**50.0938**	2.253	4.5	ug/L	-1	Standard
	Se-1	77	4543.0	7.0	**50.0469**	2.797	5.6	ug/L	127	Standard
>	**Ga**	71	64884.2	8.2				mg/L	175	Standard
	Rb	85	298405.3	7.4				ug/L	50	Standard
	Y	89	1398091.6	6.5				ug/L	527499	Standard
>	**Rh**	103	63.3	12.1				ug/L	10	Standard
	Mo	98	2144.6	7.9	**0.4641**	0.035	7.5	ug/L	23	Standard
	Ag	107	322255.7	6.5	**51.0316**	3.027	5.9	ug/L	59	Standard
	Cd	111	94913.0	8.1	**48.1581**	3.620	7.5	mg/L	3	Standard
	Cd	114	259589.4	8.5	**51.0825**	4.080	8.0	ug/L	10	Standard
>	**In**	115	639491.4	0.6				ug/L	537195	Standard
	Sn	118	1263.7	3.9	**0.1581**	0.008	5.4	ug/L	281	Standard
	Sb	123	219416.8	6.9	**49.6480**	3.145	6.3	ug/L	167	Standard
	Ba	135	544533.7	7.6	**275.3915**	19.486	7.1	ug/L	10	Standard
	Ce	140	4851097.4	8.3				ug/L	27	Standard
>	**Tb**	159	905597.4	1.4				ug/L	758170	Standard
	Ho	165	43987.3	7.7				ug/L	7	Standard
	Tl	203	326337.8	5.9	**52.5773**	2.749	5.2	ug/L	5	Standard
	Tl	205	8545.1	7.1	**52.6073**	3.381	6.4	ug/L	0	Standard
	Pb	206	515142.8	7.9	**104.9943**	7.706	7.3	ug/L	182	Standard
	Pb	207	427485.7	8.2	**102.4617**	7.735	7.5	ug/L	145	Standard
	Pb	208	625554.3	8.6	**104.5891**	8.394	8.0	ug/L	207	Standard
	U	238	288868.6	9.5	**55.0662**	4.914	8.9	ug/L	1	Standard
>	**Bi**	209	385622.8	0.7				ug/L	325207	Standard

Sample ID: L1305159502PS WG432748-01
Report Date/Time: Tuesday, June 04, 2013 15:15:54
Page 1

Approved: June 05, 2013

	Na	23	10.0	100.0	**-0.1541**	0.953	618.6	mg/L	0	Standard
	Mg	24	70.0	46.8	**0.0009**	0.019	2018.5	mg/L	25	Standard
	K	39	40.0	12.5	**0.3497**	0.063	17.9	mg/L	3	Standard
	Ca	43	826.7	9.7	**0.6052**	0.115	19.0	mg/L	297	Standard
	Fe	54	63607.8	8.7	**41.9106**	2.400	5.7	mg/L	91	Standard
	Fe	57	16399.0	14.0	**25.4397**	2.906	11.4	mg/L	237	Standard
>	**Sc-1**	45	63275.3	3.1				mg/L	35084	Standard
	Cl	35	67433.1	1.2				ug/L	29808	Standard
	Kr	83	131.8	4.1				ug/L	38	Standard
	Br	81	1104.2	6.6				ug/L	965	Standard
	P	31	408099.6	1.5				ug/L	176735	Standard
	S	34	60503.9	1.9				ug/L	28891	Standard
	Sr	88	44.2	11.8				ug/L	27	Standard
	C	12	15.0	33.3				mg/L	7	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	248.3	24.3				mg/L	3	Standard
	Dy	164	64752.0	8.6				mg/L	14	Standard
	Ho-1	165	43987.3	7.7				mg/L	7	Standard
	Er	166	42362.4	8.1				mg/L	8	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		134.160	
	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		104.179	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			

Sample ID: L1305159502PS WG432748-01
Report Date/Time: Tuesday, June 04, 2013 15:15:54
Page 2

Approved: June 05, 2013

	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	119.043
	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	118.578
	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
V 51 Upper, S, EEE	V	51	
Cr 52 Upper, S, EEE	Cr	52	
Cr 53 Upper, S, EEE	Cr	53	
Mn 55 Upper, S, EEE	Mn	55	

Sample ID: L1305159502PS WG432748-01
Report Date/Time: Tuesday, June 04, 2013 15:15:54
Page 3

Approved: June 05, 2013

Ba 135 Upper, S, EEE	Ba	135
Pb 206 Upper, S, EEE	Pb	206
Pb 207 Upper, S, EEE	Pb	207
Pb 208 Upper, S, EEE	Pb	208

Approved: June 05, 2013

Method 6020 - Summary Report

Sample ID: L1305159502SDL WG432748-02
Sample Date/Time: Tuesday, June 04, 2013 15:16:48
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	586481.7	0.8				ug/L	552027	Standard
	Be	9	612.3	17.1	**0.2946**	0.054	18.4	ug/L	18	Standard
	Al	27	141339.9	9.7	**0.9560**	0.096	10.0	ug/L	841	Standard
	Sc	45	38610.8	0.8				ug/L	35084	Standard
	Ti	47	1661.4	8.8	**8.7383**	0.792	9.1	ug/L	22	Standard
	V	51	94205.1	9.1	**18.1192**	1.711	9.4	ug/L	812	Standard
	Cr	52	58437.4	8.8	**12.2078**	1.193	9.8	ug/L	4274	Standard
	Cr	53	11914.7	9.9	**12.4802**	1.396	11.2	ug/L	1106	Standard
	Mn	55	5187780.9	9.7	**755.7621**	76.640	10.1	ug/L	1207	Standard
	Co	59	21566.4	10.2	**4.4351**	0.475	10.7	ug/L	71	Standard
	Ni	60	3170.3	7.1	**1.5668**	0.128	8.2	ug/L	295	Standard
	Cu	65	11427.7	9.4	**6.0339**	0.597	9.9	ug/L	87	Standard
	Zn	66	10451.0	8.5	**9.9882**	0.961	9.6	ug/L	469	Standard
>	**Ge**	72	439843.1	0.7				ug/L	514704	Standard
	As	75	2111.8	8.5	**2.0122**	0.172	8.5	ug/L	-121	Standard
	Se	82	10.4	57.5	**0.0922**	0.056	60.3	ug/L	-1	Standard
	Se-1	77	127.0	11.0	**0.3829**	0.193	50.5	ug/L	127	Standard
>	**Ga**	71	10772.2	8.6				mg/L	175	Standard
	Rb	85	51082.9	6.5				ug/L	50	Standard
	Y	89	638906.4	0.8				ug/L	527499	Standard
>	**Rh**	103	5.0	100.0				ug/L	10	Standard
	Mo	98	358.0	3.0	**0.0865**	0.003	3.5	ug/L	23	Standard
	Ag	107	339.3	18.6	**0.0513**	0.012	23.2	ug/L	59	Standard
	Cd	111	73.6	24.7	**0.0425**	0.011	25.8	mg/L	3	Standard
	Cd	114	191.6	13.3	**0.0396**	0.006	15.1	ug/L	10	Standard
>	**In**	115	537267.0	0.3				ug/L	537195	Standard
	Sn	118	1704.1	3.9	**0.2941**	0.013	4.4	ug/L	281	Standard
	Sb	123	737.1	8.1	**0.1814**	0.016	8.7	ug/L	167	Standard
	Ba	135	79240.0	8.6	**47.6870**	4.018	8.4	ug/L	10	Standard
	Ce	140	781533.5	9.5				ug/L	27	Standard
>	**Tb**	159	779997.9	1.4				ug/L	758170	Standard
	Ho	165	7651.6	9.7				ug/L	7	Standard
	Tl	203	788.4	5.2	**0.1406**	0.007	5.2	ug/L	5	Standard
	Tl	205	20.3	28.8	**0.1468**	0.039	26.5	ug/L	0	Standard
	Pb	206	47261.3	8.4	**10.6894**	0.914	8.6	ug/L	182	Standard
	Pb	207	37557.7	8.7	**9.9904**	0.908	9.1	ug/L	145	Standard
	Pb	208	53921.7	8.9	**10.0047**	0.927	9.3	ug/L	207	Standard
	U	238	3524.1	10.0	**0.7478**	0.076	10.2	ug/L	1	Standard
>	**Bi**	209	346257.8	1.0				ug/L	325207	Standard

Sample ID: L1305159502SDL WG432748-02
Report Date/Time: Tuesday, June 04, 2013 15:19:40
Page 1

Approved: June 05, 2013

Na	23	1.7	173.2	**-0.8386**	0.434	51.8	mg/L	0	Standard
Mg	24	35.0	51.5	**-0.0063**	0.017	276.0	mg/L	25	Standard
K	39	8.3	34.6	**0.0824**	0.047	57.0	mg/L	3	Standard
Ca	43	330.0	19.8	**0.0479**	0.216	452.1	mg/L	297	Standard
Fe	54	10445.4	9.6	**11.2120**	1.172	10.4	mg/L	91	Standard
Fe	57	2576.9	0.9	**6.1851**	0.017	0.3	mg/L	237	Standard
> **Sc-1**	45	38610.8	0.8				mg/L	35084	Standard
Cl	35	57031.5	1.9				ug/L	29808	Standard
Kr	83	50.7	7.8				ug/L	38	Standard
Br	81	664.2	3.7				ug/L	965	Standard
P	31	119270.5	3.8				ug/L	176735	Standard
S	34	60898.0	0.2				ug/L	28891	Standard
Sr	88	40.0	10.8				ug/L	27	Standard
C	12	5.0	100.0				mg/L	7	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	63.3	24.1				mg/L	3	Standard
Dy	164	11267.7	8.6				mg/L	14	Standard
Ho-1	165	7651.6	9.7				mg/L	7	Standard
Er	166	7280.4	10.7				mg/L	8	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
> Li	6		106.242	
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		85.456	
As	75			
Se	82			
Se-1	77			
> Ga	71			
Rb	85			

Sample ID: L1305159502SDL WG432748-02
Report Date/Time: Tuesday, June 04, 2013 15:19:40
Page 2

Approved: June 05, 2013

	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	100.013
	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	106.473
	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
Mn 55 Upper, S, EEE	Mn	55	

Sample ID: L1305159502SDL WG432748-02
Report Date/Time: Tuesday, June 04, 2013 15:19:40
Page 3

Approved: June 05, 2013

Method 6020 - Summary Report

Sample ID: L1305159502SDL WG432748-02
Sample Date/Time: Tuesday, June 04, 2013 15:20:34
Number of Replicates: 3
Autosampler Position: 310
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	571116.1	0.5				ug/L	552027	Standard
	Be	9	144.3	10.7	**0.0628**	0.008	12.6	ug/L	18	Standard
	Al	27	28502.2	6.8	**0.1885**	0.014	7.7	ug/L	841	Standard
	Sc	45	34632.9	0.5				ug/L	35084	Standard
	Ti	47	322.3	8.7	**1.6647**	0.140	8.4	ug/L	22	Standard
	V	51	19099.9	8.3	**3.6510**	0.287	7.9	ug/L	812	Standard
	Cr	52	13964.1	4.9	**2.3490**	0.140	6.0	ug/L	4274	Standard
	Cr	53	2714.4	9.9	**2.1083**	0.289	13.7	ug/L	1106	Standard
	Mn	55	985061.1	5.9	**146.4186**	7.632	5.2	ug/L	1207	Standard
	Co	59	4299.6	6.6	**0.8904**	0.053	6.0	ug/L	71	Standard
	Ni	60	855.4	7.1	**0.3357**	0.031	9.3	ug/L	295	Standard
	Cu	65	2368.5	6.6	**1.2339**	0.075	6.1	ug/L	87	Standard
	Zn	66	3767.8	6.1	**3.2245**	0.213	6.6	ug/L	469	Standard
>	**Ge**	72	430471.7	0.8				ug/L	514704	Standard
	As	75	294.0	23.3	**0.3778**	0.061	16.2	ug/L	-121	Standard
	Se	82	5.8	26.6	**0.0515**	0.015	28.3	ug/L	-1	Standard
	Se-1	77	107.3	5.6	**0.1438**	0.090	62.9	ug/L	127	Standard
>	**Ga**	71	2288.5	11.8				mg/L	175	Standard
	Rb	85	10060.0	2.8				ug/L	50	Standard
	Y	89	515639.2	2.5				ug/L	527499	Standard
>	**Rh**	103	10.0	50.0				ug/L	10	Standard
	Mo	98	81.7	7.5	**0.0145**	0.002	13.7	ug/L	23	Standard
	Ag	107	102.7	3.4	**0.0070**	0.000	4.9	ug/L	59	Standard
	Cd	111	16.2	21.6	**0.0081**	0.002	28.8	mg/L	3	Standard
	Cd	114	43.6	14.9	**0.0051**	0.002	33.7	ug/L	10	Standard
>	**In**	115	529484.2	1.7				ug/L	537195	Standard
	Sn	118	487.0	16.1	**0.0380**	0.017	44.8	ug/L	281	Standard
	Sb	123	360.9	7.9	**0.0815**	0.009	10.7	ug/L	167	Standard
	Ba	135	15913.4	6.2	**9.7019**	0.614	6.3	ug/L	10	Standard
	Ce	140	159227.9	6.5				ug/L	27	Standard
>	**Tb**	159	760947.0	1.7				ug/L	758170	Standard
	Ho	165	1531.7	6.2				ug/L	7	Standard
	Tl	203	164.3	12.5	**0.0290**	0.004	13.1	ug/L	5	Standard
	Tl	205	4.7	86.6	**0.0402**	0.029	71.3	ug/L	0	Standard
	Pb	206	9508.0	6.2	**2.1389**	0.143	6.7	ug/L	182	Standard
	Pb	207	7483.2	5.6	**1.9792**	0.127	6.4	ug/L	145	Standard
	Pb	208	10647.4	6.5	**1.9632**	0.144	7.3	ug/L	207	Standard
	U	238	709.7	8.3	**0.1519**	0.014	9.3	ug/L	1	Standard
>	**Bi**	209	342088.6	1.4				ug/L	325207	Standard

Sample ID: L1305159502SDL WG432748-02
Report Date/Time: Tuesday, June 04, 2013 15:23:26
Page 1

Approved: June 05, 2013

	Na	23	3.3	86.6	**-0.5300**	0.485	91.4	mg/L	0	Standard
	Mg	24	20.0	43.3	**-0.0185**	0.009	51.2	mg/L	25	Standard
	K	39	3.3	86.6	**0.0061**	0.053	863.8	mg/L	3	Standard
	Ca	43	285.0	11.0	**0.0074**	0.110	1483.9	mg/L	297	Standard
	Fe	54	2119.7	4.8	**2.4443**	0.113	4.6	mg/L	91	Standard
	Fe	57	585.0	10.7	**1.1819**	0.176	14.9	mg/L	237	Standard
>	**Sc-1**	45	34632.9	0.5				mg/L	35084	Standard
	Cl	35	57172.0	2.3				ug/L	29808	Standard
	Kr	83	35.6	5.7				ug/L	38	Standard
	Br	81	572.5	6.9				ug/L	965	Standard
	P	31	96187.4	5.1				ug/L	176735	Standard
	S	34	61187.5	0.4				ug/L	28891	Standard
	Sr	88	35.8	22.4				ug/L	27	Standard
	C	12	5.0	100.0				mg/L	7	Standard
	N	14	1.7	173.2				mg/L	0	Standard
	Hg	202	15.0	33.3				mg/L	3	Standard
	Dy	164	2250.3	5.8				mg/L	14	Standard
	Ho-1	165	1531.7	6.2				mg/L	7	Standard
	Er	166	1438.1	6.1				mg/L	8	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		103.458	
	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		83.635	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			

Sample ID: L1305159502SDL WG432748-02
Report Date/Time: Tuesday, June 04, 2013 15:23:26
Page 2

Approved: June 05, 2013

	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	98.565
	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	105.191
	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	

Approved: June 05, 2013

Method 6020 - Summary Report

Sample ID: QC Std 6
Sample Date/Time: Tuesday, June 04, 2013 15:24:23
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	666879.6	2.5				ug/L	552027	Standard
	Be	9	105480.7	10.8	**46.2440**	4.487	9.7	ug/L	18	Standard
	Al	27	8548661.8	9.6	**51.4443**	4.439	8.6	ug/L	841	Standard
	Sc	45	39063.7	3.3				ug/L	35084	Standard
	Ti	47	24145.7	10.6	**114.6440**	9.269	8.1	ug/L	22	Standard
	V	51	291927.6	12.5	**50.4485**	5.023	10.0	ug/L	812	Standard
	Cr	52	251592.7	13.8	**49.3829**	5.743	11.6	ug/L	4274	Standard
	Cr	53	50996.3	10.1	**50.7367**	4.088	8.1	ug/L	1106	Standard
	Mn	55	371042.7	11.9	**48.2032**	4.515	9.4	ug/L	1207	Standard
	Co	59	255484.8	11.8	**47.1442**	4.263	9.0	ug/L	71	Standard
	Ni	60	108804.2	10.7	**52.0529**	4.219	8.1	ug/L	295	Standard
	Cu	65	105152.6	11.1	**50.0720**	4.304	8.6	ug/L	87	Standard
	Zn	66	56412.9	10.5	**50.9854**	4.075	8.0	ug/L	469	Standard
>	**Ge**	72	490791.4	3.3				ug/L	514704	Standard
	As	75	61546.1	10.0	**49.7856**	3.688	7.4	ug/L	-121	Standard
	Se	82	6371.9	9.5	**52.2294**	3.619	6.9	ug/L	-1	Standard
	Se-1	77	4111.2	8.1	**49.4562**	2.958	6.0	ug/L	127	Standard
>	**Ga**	71	123.3	4.7				mg/L	175	Standard
	Rb	85	3467.1	2.5				ug/L	50	Standard
	Y	89	549872.3	1.9				ug/L	527499	Standard
>	**Rh**	103	41.7	30.2				ug/L	10	Standard
	Mo	98	401663.6	10.4	**95.2149**	8.519	8.9	ug/L	23	Standard
	Ag	107	293968.5	9.1	**50.2248**	3.838	7.6	ug/L	59	Standard
	Cd	111	88278.0	10.5	**48.3176**	4.309	8.9	mg/L	3	Standard
	Cd	114	241247.9	10.9	**51.2120**	4.861	9.5	ug/L	10	Standard
>	**In**	115	592471.7	2.2				ug/L	537195	Standard
	Sn	118	258550.4	13.0	**49.5100**	5.724	11.6	ug/L	281	Standard
	Sb	123	200913.2	9.8	**49.0435**	4.111	8.4	ug/L	167	Standard
	Ba	135	92120.6	10.6	**50.2441**	4.703	9.4	ug/L	10	Standard
	Ce	140	443.7	76.2				ug/L	27	Standard
>	**Tb**	159	829887.7	1.2				ug/L	758170	Standard
	Ho	165	10.0	20.0				ug/L	7	Standard
	Tl	203	292282.4	7.9	**50.3644**	3.555	7.1	ug/L	5	Standard
	Tl	205	7733.6	8.6	**50.9231**	3.948	7.8	ug/L	0	Standard
	Pb	206	230462.1	9.6	**50.2111**	4.415	8.8	ug/L	182	Standard
	Pb	207	198462.6	10.3	**50.8502**	4.788	9.4	ug/L	145	Standard
	Pb	208	281519.8	11.1	**50.3137**	5.148	10.2	ug/L	207	Standard
	U	238	238135.1	12.4	**48.5454**	5.593	11.5	ug/L	1	Standard
>	**Bi**	209	360482.4	0.9				ug/L	325207	Standard

Sample ID: QC Std 6
Report Date/Time: Tuesday, June 04, 2013 15:27:14
Page 1

Approved: June 05, 2013

	Na	23	23.3	86.6	**2.3926**	3.075	128.5	mg/L	0	Standard
	Mg	24	5020.8	8.7	**4.7627**	0.364	7.6	mg/L	25	Standard
	K	39	311.7	22.2	**5.0255**	1.028	20.4	mg/L	3	Standard
	Ca	43	1626.8	10.5	**4.1435**	0.395	9.5	mg/L	297	Standard
	Fe	54	5686.6	12.7	**5.9699**	0.675	11.3	mg/L	91	Standard
	Fe	57	1553.4	16.9	**3.4712**	0.599	17.2	mg/L	237	Standard
>	**Sc-1**	45	39063.7	3.3				mg/L	35084	Standard
	Cl	35	72148.4	1.2				ug/L	29808	Standard
	Kr	83	37.1	11.6				ug/L	38	Standard
	Br	81	811.7	10.1				ug/L	965	Standard
	P	31	279105.4	4.9				ug/L	176735	Standard
	S	34	72751.8	1.1				ug/L	28891	Standard
	Sr	88	32.5	20.4				ug/L	27	Standard
	C	12	6.7	114.6				mg/L	7	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	3.3	86.6				mg/L	3	Standard
	Dy	164	12.0	25.2				mg/L	14	Standard
	Ho-1	165	10.0	20.0				mg/L	7	Standard
	Er	166	13.0	35.3				mg/L	8	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		120.806	
	Be	9	92.488		
	Al	27	102.889		
	Sc	45			
	Ti	47	114.644		
	V	51	100.897		
	Cr	52	98.766		
	Cr	53			
	Mn	55	96.406		
	Co	59	94.288		
	Ni	60	104.106		
	Cu	65	100.144		
	Zn	66	101.971		
>	Ge	72		95.354	
	As	75	99.571		
	Se	82	104.459		
	Se-1	77			
>	Ga	71			
	Rb	85			

Sample ID: QC Std 6
Report Date/Time: Tuesday, June 04, 2013 15:27:14
Page 2

Approved: June 05, 2013

Y	89			
> Rh	103			
Mo	98	95.215		
Ag	107	100.450		
Cd	111	96.635		
Cd	114			
> In	115			110.290
Sn	118	99.020		
Sb	123	98.087		
Ba	135	100.488		
Ce	140			
> Tb	159			
Ho	165			
Tl	203	100.729		
Tl	205			
Pb	206			
Pb	207			
Pb	208	100.627		
U	238	97.091		
> Bi	209			110.847
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 QC Std	Li	6	Rerun sample
QC Std 6	Ti	47	

Sample ID: QC Std 6
Report Date/Time: Tuesday, June 04, 2013 15:27:14
Page 3

Approved: June 05, 2013

Method 6020 - Summary Report

Sample ID: QC Std 7
Sample Date/Time: Tuesday, June 04, 2013 15:28:09
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	671366.6	1.6				ug/L	552027	Standard
	Be	9	46.0	28.4	**0.0089**	0.006	64.3	ug/L	18	Standard
	Al	27	1915.1	33.6	**-0.0005**	0.004	815.0	ug/L	841	Standard
	Sc	45	38851.4	0.5				ug/L	35084	Standard
	Ti	47	19.7	24.0	**0.0114**	0.022	191.0	ug/L	22	Standard
	V	51	1153.2	8.3	**0.0756**	0.015	19.5	ug/L	812	Standard
	Cr	52	3863.2	4.0	**-0.0534**	0.027	49.9	ug/L	4274	Standard
	Cr	53	425.8	12.7	**-0.5983**	0.051	8.4	ug/L	1106	Standard
	Mn	55	1047.4	6.0	**-0.0223**	0.007	31.3	ug/L	1207	Standard
	Co	59	89.3	31.7	**0.0009**	0.005	555.6	ug/L	71	Standard
	Ni	60	171.7	15.0	**-0.0493**	0.013	25.5	ug/L	295	Standard
	Cu	65	91.3	15.7	**-0.0107**	0.007	66.4	ug/L	87	Standard
	Zn	66	585.7	4.2	**-0.1735**	0.018	10.2	ug/L	469	Standard
>	**Ge**	72	485502.6	1.2				ug/L	514704	Standard
	As	75	-105.2	13.8	**0.0213**	0.012	55.3	ug/L	-121	Standard
	Se	82	6.6	103.7	**0.0522**	0.057	109.3	ug/L	-1	Standard
	Se-1	77	102.7	6.8	**-0.0867**	0.081	93.3	ug/L	127	Standard
>	**Ga**	71	125.0	0.0				mg/L	175	Standard
	Rb	85	53.3	14.3				ug/L	50	Standard
	Y	89	548562.9	2.0				ug/L	527499	Standard
>	**Rh**	103	5.0	100.0				ug/L	10	Standard
	Mo	98	95.1	3.2	**0.0154**	0.001	3.5	ug/L	23	Standard
	Ag	107	76.0	9.2	**0.0003**	0.001	318.6	ug/L	59	Standard
	Cd	111	4.2	27.4	**0.0004**	0.001	169.1	mg/L	3	Standard
	Cd	114	12.8	12.3	**-0.0026**	0.000	11.1	ug/L	10	Standard
>	**In**	115	592188.8	1.5				ug/L	537195	Standard
	Sn	118	406.3	17.8	**0.0115**	0.015	128.2	ug/L	281	Standard
	Sb	123	990.2	9.9	**0.2248**	0.023	10.1	ug/L	167	Standard
	Ba	135	12.3	24.8	**-0.0165**	0.002	10.1	ug/L	10	Standard
	Ce	140	40.3	3.8				ug/L	27	Standard
>	**Tb**	159	828208.8	1.3				ug/L	758170	Standard
	Ho	165	11.7	4.9				ug/L	7	Standard
	Tl	203	13.3	49.9	**0.0014**	0.001	77.6	ug/L	5	Standard
	Tl	205	1.0	100.0	**0.0139**	0.006	45.2	ug/L	0	Standard
	Pb	206	213.0	3.1	**-0.0024**	0.001	56.0	ug/L	182	Standard
	Pb	207	182.0	10.6	**0.0006**	0.004	675.7	ug/L	145	Standard
	Pb	208	286.0	7.6	**0.0041**	0.003	65.2	ug/L	207	Standard
	U	238	19.3	72.7	**0.0031**	0.003	88.6	ug/L	1	Standard
>	**Bi**	209	369156.2	2.3				ug/L	325207	Standard

Sample ID: QC Std 7
Report Date/Time: Tuesday, June 04, 2013 15:31:00
Page 1

Approved: June 05, 2013

Na	23	0.0		**-1.0895**	0.000	0.0	mg/L	0	Standard
Mg	24	45.0	19.2	**0.0032**	0.008	261.6	mg/L	25	Standard
K	39	11.7	49.5	**0.1369**	0.096	69.8	mg/L	3	Standard
Ca	43	213.3	26.3	**-0.3321**	0.179	53.9	mg/L	297	Standard
Fe	54	189.4	15.9	**0.0866**	0.031	36.3	mg/L	91	Standard
Fe	57	93.3	36.5	**-0.2717**	0.089	32.6	mg/L	237	Standard
> **Sc-1**	45	38851.4	0.5				mg/L	35084	Standard
Cl	35	70113.6	2.1				ug/L	29808	Standard
Kr	83	30.7	18.6				ug/L	38	Standard
Br	81	762.5	7.7				ug/L	965	Standard
P	31	267784.1	2.5				ug/L	176735	Standard
S	34	68976.7	2.9				ug/L	28891	Standard
Sr	88	39.2	7.4				ug/L	27	Standard
C	12	3.3	173.2				mg/L	7	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	0.0					mg/L	3	Standard
Dy	164	8.1	17.4				mg/L	14	Standard
Ho-1	165	11.7	4.9				mg/L	7	Standard
Er	166	11.7	21.6				mg/L	8	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
> Li	6		121.619	
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		94.327	
As	75			
Se	82			
Se-1	77			
> Ga	71			
Rb	85			

Sample ID: QC Std 7
Report Date/Time: Tuesday, June 04, 2013 15:31:00
Page 2

Approved: June 05, 2013

	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	110.237
	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	113.514
	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 QC Std	Li	6	Rerun sample
QC Std 7	Sb	123	

Sample ID: QC Std 7
Report Date/Time: Tuesday, June 04, 2013 15:31:00
Page 3

Approved: June 05, 2013

Method 6020 - Summary Report

Sample ID: L1305159503
Sample Date/Time: Tuesday, June 04, 2013 15:31:57
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	674294.0	1.4				ug/L	552027	Standard
	Be	9	1994.8	10.1	**0.8545**	0.086	10.0	ug/L	18	Standard
	Al	27	779924.5	9.6	**4.6330**	0.443	9.6	ug/L	841	Standard
	Sc	45	54441.0	2.8				ug/L	35084	Standard
	Ti	47	9480.0	8.9	**45.1845**	3.137	6.9	ug/L	22	Standard
	V	51	462869.8	11.5	**80.4666**	7.796	9.7	ug/L	812	Standard
	Cr	52	151774.8	12.5	**29.6120**	3.201	10.8	ug/L	4274	Standard
	Cr	53	31246.6	11.0	**30.8297**	2.939	9.5	ug/L	1106	Standard
	Mn	55	32137254.4	11.4	**4209.6059**	407.589	9.7	ug/L	1207	Standard
	Co	59	138450.1	11.7	**25.6680**	2.536	9.9	ug/L	71	Standard
	Ni	60	15460.3	9.6	**7.3194**	0.583	8.0	ug/L	295	Standard
	Cu	65	127494.1	9.1	**61.0317**	4.399	7.2	ug/L	87	Standard
	Zn	66	49328.7	9.9	**44.7147**	3.642	8.1	ug/L	469	Standard
>	**Ge**	72	488537.3	2.1				ug/L	514704	Standard
	As	75	9489.6	10.3	**7.8030**	0.649	8.3	ug/L	-121	Standard
	Se	82	32.6	24.6	**0.2652**	0.064	24.0	ug/L	-1	Standard
	Se-1	77	182.0	9.9	**0.8949**	0.268	29.9	ug/L	127	Standard
>	**Ga**	71	52237.4	12.1				mg/L	175	Standard
	Rb	85	287190.4	5.8				ug/L	50	Standard
	Y	89	807895.2	4.1				ug/L	527499	Standard
>	**Rh**	103	58.3	35.7				ug/L	10	Standard
	Mo	98	1331.9	10.7	**0.3091**	0.032	10.3	ug/L	23	Standard
	Ag	107	1511.4	16.1	**0.2461**	0.042	16.9	ug/L	59	Standard
	Cd	111	368.5	12.1	**0.2003**	0.025	12.6	mg/L	3	Standard
	Cd	114	865.4	6.6	**0.1788**	0.013	7.1	ug/L	10	Standard
>	**In**	115	591655.8	1.5				ug/L	537195	Standard
	Sn	118	843.7	0.7	**0.0956**	0.003	3.6	ug/L	281	Standard
	Sb	123	523.7	6.3	**0.1111**	0.010	9.0	ug/L	167	Standard
	Ba	135	276857.7	10.0	**151.3711**	15.057	9.9	ug/L	10	Standard
	Ce	140	6231595.2	9.6				ug/L	27	Standard
>	**Tb**	159	832931.5	1.6				ug/L	758170	Standard
	Ho	165	15029.5	10.6				ug/L	7	Standard
	Tl	203	4767.4	6.1	**0.8045**	0.047	5.8	ug/L	5	Standard
	Tl	205	121.7	13.3	**0.7927**	0.102	12.9	ug/L	0	Standard
	Pb	206	338012.2	10.2	**72.2126**	7.088	9.8	ug/L	182	Standard
	Pb	207	270306.0	9.7	**67.9124**	6.345	9.3	ug/L	145	Standard
	Pb	208	393286.0	10.1	**68.9310**	6.725	9.8	ug/L	207	Standard
	U	238	14688.5	10.2	**2.9354**	0.290	9.9	ug/L	1	Standard
>	**Bi**	209	367843.5	1.4				ug/L	325207	Standard

Sample ID: L1305159503
Report Date/Time: Tuesday, June 04, 2013 15:34:49
Page 1

Approved: June 05, 2013

	Na	23	16.7	62.4	**0.6723**	1.084	161.2	mg/L	0	Standard
	Mg	24	58.3	27.6	**0.0001**	0.012	16098.6	mg/L	25	Standard
	K	39	38.3	27.2	**0.3934**	0.116	29.4	mg/L	3	Standard
	Ca	43	970.0	12.2	**1.1945**	0.237	19.8	mg/L	297	Standard
	Fe	54	52213.7	11.2	**39.9651**	3.489	8.7	mg/L	91	Standard
	Fe	57	13194.1	10.8	**23.7742**	1.989	8.4	mg/L	237	Standard
>	**Sc-1**	45	54441.0	2.8				mg/L	35084	Standard
	Cl	35	64721.3	2.9				ug/L	29808	Standard
	Kr	83	68.6	10.8				ug/L	38	Standard
	Br	81	840.9	2.8				ug/L	965	Standard
	P	31	255523.2	3.4				ug/L	176735	Standard
	S	34	59925.8	1.5				ug/L	28891	Standard
	Sr	88	47.5	13.9				ug/L	27	Standard
	C	12	8.3	124.9				mg/L	7	Standard
	N	14	1.7	173.2				mg/L	0	Standard
	Hg	202	241.7	9.8				mg/L	3	Standard
	Dy	164	22535.6	10.6				mg/L	14	Standard
	Ho-1	165	15029.5	10.6				mg/L	7	Standard
	Er	166	14314.5	10.6				mg/L	8	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		122.149	
	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		94.916	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			

Sample ID: L1305159503
Report Date/Time: Tuesday, June 04, 2013 15:34:49
Page 2

Approved: June 05, 2013

⌈	Y	89	
⌊>	Rh	103	
⌈	Mo	98	
|	Ag	107	
|	Cd	111	
|	Cd	114	
|>	In	115	110.138
|	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	113.111
⌈	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
Mn 55 Upper, S, EEE	Mn	55	
Ba 135 Upper, S, EEE	Ba	135	

Sample ID: L1305159503
Report Date/Time: Tuesday, June 04, 2013 15:34:49
Page 3

Approved: June 05, 2013

Method 6020 - Summary Report

Sample ID: L1305159504
Sample Date/Time: Tuesday, June 04, 2013 15:35:43
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	674019.1	1.3				ug/L	552027	Standard
	Be	9	1707.4	7.7	**0.7298**	0.051	7.0	ug/L	18	Standard
	Al	27	676866.9	10.2	**4.0183**	0.367	9.1	ug/L	841	Standard
	Sc	45	57171.1	4.6				ug/L	35084	Standard
	Ti	47	7527.5	9.0	**36.1423**	2.867	7.9	ug/L	22	Standard
	V	51	472155.8	9.3	**82.7480**	6.763	8.2	ug/L	812	Standard
	Cr	52	278084.1	12.3	**55.3927**	6.225	11.2	ug/L	4274	Standard
	Cr	53	56828.1	11.5	**57.3621**	5.937	10.4	ug/L	1106	Standard
	Mn	55	3272853.6	9.8	**431.9771**	37.489	8.7	ug/L	1207	Standard
	Co	59	29137.9	10.7	**5.4331**	0.526	9.7	ug/L	71	Standard
	Ni	60	5538.3	8.1	**2.5577**	0.181	7.1	ug/L	295	Standard
	Cu	65	18329.8	9.7	**8.7954**	0.762	8.7	ug/L	87	Standard
	Zn	66	19511.6	9.8	**17.3929**	1.565	9.0	ug/L	469	Standard
>	**Ge**	72	484945.2	1.7				ug/L	514704	Standard
	As	75	7366.0	10.2	**6.1276**	0.546	8.9	ug/L	-121	Standard
	Se	82	19.9	67.0	**0.1611**	0.108	67.2	ug/L	-1	Standard
	Se-1	77	147.3	9.7	**0.4730**	0.156	33.0	ug/L	127	Standard
>	**Ga**	71	43716.8	11.3				mg/L	175	Standard
	Rb	85	151660.5	6.2				ug/L	50	Standard
	Y	89	730601.5	4.4				ug/L	527499	Standard
>	**Rh**	103	35.0	14.3				ug/L	10	Standard
	Mo	98	1152.4	8.2	**0.2658**	0.021	7.9	ug/L	23	Standard
	Ag	107	1260.4	9.5	**0.2026**	0.020	10.0	ug/L	59	Standard
	Cd	111	133.7	13.1	**0.0712**	0.010	13.4	mg/L	3	Standard
	Cd	114	211.4	11.0	**0.0395**	0.005	11.9	ug/L	10	Standard
>	**In**	115	593247.0	1.2				ug/L	537195	Standard
	Sn	118	1240.7	3.7	**0.1712**	0.008	4.6	ug/L	281	Standard
	Sb	123	391.8	2.4	**0.0784**	0.002	2.1	ug/L	167	Standard
	Ba	135	77956.0	9.9	**42.4830**	4.052	9.5	ug/L	10	Standard
	Ce	140	1539677.9	11.0				ug/L	27	Standard
>	**Tb**	159	820203.5	0.5				ug/L	758170	Standard
	Ho	165	10482.7	12.2				ug/L	7	Standard
	Tl	203	1535.4	9.4	**0.2575**	0.023	8.9	ug/L	5	Standard
	Tl	205	41.3	7.8	**0.2731**	0.016	6.0	ug/L	0	Standard
	Pb	206	195379.9	10.2	**41.5597**	4.098	9.9	ug/L	182	Standard
	Pb	207	153442.6	9.5	**38.3852**	3.535	9.2	ug/L	145	Standard
	Pb	208	227212.9	10.5	**39.6471**	4.006	10.1	ug/L	207	Standard
	U	238	20015.3	11.7	**3.9841**	0.451	11.3	ug/L	1	Standard
>	**Bi**	209	369282.4	1.5				ug/L	325207	Standard

Sample ID: L1305159504
Report Date/Time: Tuesday, June 04, 2013 15:38:35
Page 1

Approved: June 05, 2013

	Na	23	16.7	96.4	**0.5834**	1.598	273.8	mg/L	0	Standard
	Mg	24	38.3	79.7	**-0.0148**	0.020	135.0	mg/L	25	Standard
	K	39	16.7	17.3	**0.1309**	0.030	22.9	mg/L	3	Standard
	Ca	43	565.0	13.9	**0.2109**	0.141	66.7	mg/L	297	Standard
	Fe	54	54870.2	14.0	**39.9371**	3.870	9.7	mg/L	91	Standard
	Fe	57	14345.2	13.3	**24.6013**	2.254	9.2	mg/L	237	Standard
>	**Sc-1**	45	57171.1	4.6				mg/L	35084	Standard
	Cl	35	65204.3	0.7				ug/L	29808	Standard
	Kr	83	60.1	15.1				ug/L	38	Standard
	Br	81	921.7	5.5				ug/L	965	Standard
	P	31	268439.4	2.0				ug/L	176735	Standard
	S	34	63824.1	0.6				ug/L	28891	Standard
	Sr	88	39.2	22.4				ug/L	27	Standard
	C	12	0.0					mg/L	7	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	246.7	14.2				mg/L	3	Standard
	Dy	164	15717.0	11.2				mg/L	14	Standard
	Ho-1	165	10482.7	12.2				mg/L	7	Standard
	Er	166	10188.1	10.8				mg/L	8	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		122.099	
	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		94.218	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			

Sample ID: L1305159504
Report Date/Time: Tuesday, June 04, 2013 15:38:35
Page 2

Approved: June 05, 2013

⌈	Y	89	
⌊>	Rh	103	
⌈	Mo	98	
|	Ag	107	
|	Cd	111	
|	Cd	114	
|>	In	115	110.434
|	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	113.553
⌈	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
Mn 55 Upper, S, EEE	Mn	55	

Sample ID: L1305159504
Report Date/Time: Tuesday, June 04, 2013 15:38:35
Page 3

Approved: June 05, 2013

Method 6020 - Summary Report

Sample ID: L1305159505
Sample Date/Time: Tuesday, June 04, 2013 15:39:29
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	673378.7	3.8				ug/L	552027	Standard
	Be	9	4979.5	10.5	**2.1528**	0.216	10.0	ug/L	18	Standard
	Al	27	1380308.7	9.6	**8.2231**	0.787	9.6	ug/L	841	Standard
	Sc	45	58936.1	1.4				ug/L	35084	Standard
	Ti	47	10906.6	8.8	**53.3709**	4.865	9.1	ug/L	22	Standard
	V	51	375075.5	11.6	**66.9317**	7.963	11.9	ug/L	812	Standard
	Cr	52	167032.5	12.7	**33.5798**	4.508	13.4	ug/L	4274	Standard
	Cr	53	34009.3	10.9	**34.5736**	4.010	11.6	ug/L	1106	Standard
	Mn	55	50784313.9	9.6	**6829.7986**	678.092	9.9	ug/L	1207	Standard
	Co	59	142531.4	10.8	**27.1348**	3.015	11.1	ug/L	71	Standard
	Ni	60	36736.4	9.9	**18.0443**	1.863	10.3	ug/L	295	Standard
	Cu	65	117749.4	8.0	**57.8511**	4.832	8.4	ug/L	87	Standard
	Zn	66	77502.4	8.7	**72.5507**	6.531	9.0	ug/L	469	Standard
>	**Ge**	72	476519.5	1.0				ug/L	514704	Standard
	As	75	10881.6	9.5	**9.1666**	0.882	9.6	ug/L	-121	Standard
	Se	82	159.7	5.0	**1.3467**	0.061	4.6	ug/L	-1	Standard
	Se-1	77	492.0	10.1	**4.9023**	0.682	13.9	ug/L	127	Standard
>	**Ga**	71	52031.4	9.2				mg/L	175	Standard
	Rb	85	525425.6	7.1				ug/L	50	Standard
	Y	89	2230559.7	12.8				ug/L	527499	Standard
>	**Rh**	103	38.3	19.9				ug/L	10	Standard
	Mo	98	1253.9	14.8	**0.2965**	0.048	16.1	ug/L	23	Standard
	Ag	107	1426.4	9.4	**0.2360**	0.021	8.9	ug/L	59	Standard
	Cd	111	469.6	9.4	**0.2606**	0.026	10.0	mg/L	3	Standard
	Cd	114	1117.1	7.0	**0.2368**	0.018	7.4	ug/L	10	Standard
>	**In**	115	580893.9	1.9				ug/L	537195	Standard
	Sn	118	655.0	4.8	**0.0616**	0.006	9.2	ug/L	281	Standard
	Sb	123	331.2	6.9	**0.0653**	0.005	7.1	ug/L	167	Standard
	Ba	135	699908.3	9.8	**389.9194**	39.339	10.1	ug/L	10	Standard
	Ce	140	7655323.6	10.4				ug/L	27	Standard
>	**Tb**	159	892913.2	1.1				ug/L	758170	Standard
	Ho	165	92221.8	11.1				ug/L	7	Standard
	Tl	203	4907.1	8.3	**0.8460**	0.062	7.3	ug/L	5	Standard
	Tl	205	129.3	7.9	**0.8604**	0.058	6.7	ug/L	0	Standard
	Pb	206	407131.4	9.6	**88.8711**	7.586	8.5	ug/L	182	Standard
	Pb	207	328281.2	9.2	**84.2754**	6.803	8.1	ug/L	145	Standard
	Pb	208	479314.7	9.9	**85.8299**	7.552	8.8	ug/L	207	Standard
	U	238	14856.0	12.2	**3.0323**	0.339	11.2	ug/L	1	Standard
>	**Bi**	209	359899.3	1.2				ug/L	325207	Standard

Sample ID: L1305159505
Report Date/Time: Tuesday, June 04, 2013 15:42:21
Page 1

Approved: June 05, 2013

	Na	23	13.3	78.1	**0.2194**	1.006	458.4	mg/L	0	Standard
	Mg	24	71.7	26.4	**0.0054**	0.012	226.0	mg/L	25	Standard
	K	39	75.0	13.3	**0.7564**	0.097	12.8	mg/L	3	Standard
	Ca	43	856.7	1.5	**0.7896**	0.028	3.5	mg/L	297	Standard
	Fe	54	43443.0	12.3	**30.7135**	3.511	11.4	mg/L	91	Standard
	Fe	57	11040.7	10.3	**18.2757**	1.735	9.5	mg/L	237	Standard
>	**Sc-1**	45	58936.1	1.4				mg/L	35084	Standard
	Cl	35	62490.6	1.2				ug/L	29808	Standard
	Kr	83	221.2	8.5				ug/L	38	Standard
	Br	81	961.7	10.9				ug/L	965	Standard
	P	31	254694.8	2.9				ug/L	176735	Standard
	S	34	58185.7	2.7				ug/L	28891	Standard
	Sr	88	33.3	30.3				ug/L	27	Standard
	C	12	8.3	91.7				mg/L	7	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	66.7	65.5				mg/L	3	Standard
	Dy	164	138976.9	10.7				mg/L	14	Standard
	Ho-1	165	92221.8	11.1				mg/L	7	Standard
	Er	166	87718.0	11.4				mg/L	8	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		121.983	
	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		92.581	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			

Sample ID: L1305159505
Report Date/Time: Tuesday, June 04, 2013 15:42:21
Page 2

Approved: June 05, 2013

⌈	Y	89	
⌊>	Rh	103	
⌈	Mo	98	
|	Ag	107	
|	Cd	111	
|	Cd	114	
|>	In	115	108.135
|	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	110.668
⌈	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
Mn 55 Upper, S, EEE	Mn	55	
Ba 135 Upper, S, EEE	Ba	135	

Sample ID: L1305159505
Report Date/Time: Tuesday, June 04, 2013 15:42:21
Page 3

Approved: June 05, 2013

Method 6020 - Summary Report

Sample ID: L1305159506
Sample Date/Time: Tuesday, June 04, 2013 15:43:15
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	672022.1	0.8				ug/L	552027	Standard
	Be	9	1651.4	9.3	**0.7083**	0.072	10.1	ug/L	18	Standard
	Al	27	760499.7	9.0	**4.5346**	0.439	9.7	ug/L	841	Standard
	Sc	45	55934.8	2.8				ug/L	35084	Standard
	Ti	47	16011.2	10.3	**75.8919**	8.170	10.8	ug/L	22	Standard
	V	51	567045.2	10.1	**98.0179**	10.381	10.6	ug/L	812	Standard
	Cr	52	233333.9	12.3	**45.7052**	5.916	12.9	ug/L	4274	Standard
	Cr	53	47597.9	12.4	**47.2105**	6.153	13.0	ug/L	1106	Standard
	Mn	55	12295941.7	11.0	**1600.7936**	182.889	11.4	ug/L	1207	Standard
	Co	59	97330.4	10.2	**17.9310**	1.891	10.5	ug/L	71	Standard
	Ni	60	17290.6	9.2	**8.1490**	0.793	9.7	ug/L	295	Standard
	Cu	65	27684.8	9.5	**13.1245**	1.291	9.8	ug/L	87	Standard
	Zn	66	44751.1	9.7	**40.2410**	4.117	10.2	ug/L	469	Standard
>	**Ge**	72	492264.6	0.9				ug/L	514704	Standard
	As	75	12292.6	9.3	**10.0142**	0.950	9.5	ug/L	-121	Standard
	Se	82	14.8	46.1	**0.1185**	0.056	47.4	ug/L	-1	Standard
	Se-1	77	161.7	5.3	**0.6238**	0.106	17.0	ug/L	127	Standard
>	**Ga**	71	66621.0	12.6				mg/L	175	Standard
	Rb	85	301773.1	8.0				ug/L	50	Standard
	Y	89	746217.4	2.4				ug/L	527499	Standard
>	**Rh**	103	30.0	60.1				ug/L	10	Standard
	Mo	98	1422.4	7.9	**0.3334**	0.029	8.8	ug/L	23	Standard
	Ag	107	1658.4	11.7	**0.2736**	0.035	12.9	ug/L	59	Standard
	Cd	111	281.1	10.8	**0.1535**	0.018	11.6	mg/L	3	Standard
	Cd	114	539.1	3.9	**0.1102**	0.005	4.7	ug/L	10	Standard
>	**In**	115	587293.2	0.7				ug/L	537195	Standard
	Sn	118	805.7	4.5	**0.0894**	0.006	7.0	ug/L	281	Standard
	Sb	123	271.2	5.5	**0.0497**	0.004	8.0	ug/L	167	Standard
	Ba	135	131739.1	9.7	**72.5836**	7.496	10.3	ug/L	10	Standard
	Ce	140	5938238.5	10.1				ug/L	27	Standard
>	**Tb**	159	822051.0	0.1				ug/L	758170	Standard
	Ho	165	13240.2	11.4				ug/L	7	Standard
	Tl	203	3858.8	8.3	**0.6509**	0.050	7.7	ug/L	5	Standard
	Tl	205	107.3	4.6	**0.7003**	0.025	3.6	ug/L	0	Standard
	Pb	206	205042.9	9.5	**43.7895**	3.971	9.1	ug/L	182	Standard
	Pb	207	163249.7	9.6	**40.9999**	3.767	9.2	ug/L	145	Standard
	Pb	208	237477.8	9.1	**41.6059**	3.626	8.7	ug/L	207	Standard
	U	238	17898.7	11.8	**3.5770**	0.413	11.5	ug/L	1	Standard
>	**Bi**	209	367808.4	0.9				ug/L	325207	Standard

Sample ID: L1305159506
Report Date/Time: Tuesday, June 04, 2013 15:46:07
Page 1

Approved: June 05, 2013

	Na	23	10.0	50.0	**-0.0514**	0.523	1016.4	mg/L	0	Standard
	Mg	24	58.3	52.4	**-0.0014**	0.020	1366.8	mg/L	25	Standard
	K	39	21.7	35.3	**0.1922**	0.088	46.0	mg/L	3	Standard
	Ca	43	561.7	13.6	**0.2339**	0.184	78.8	mg/L	297	Standard
	Fe	54	63370.3	12.1	**47.2701**	5.239	11.1	mg/L	91	Standard
	Fe	57	15850.0	11.2	**27.8993**	2.720	9.7	mg/L	237	Standard
>	**Sc-1**	45	55934.8	2.8				mg/L	35084	Standard
	Cl	35	65539.1	0.4				ug/L	29808	Standard
	Kr	83	76.0	10.3				ug/L	38	Standard
	Br	81	780.0	6.2				ug/L	965	Standard
	P	31	275429.6	1.5				ug/L	176735	Standard
	S	34	62144.7	1.0				ug/L	28891	Standard
	Sr	88	44.2	19.9				ug/L	27	Standard
	C	12	5.0	0.0				mg/L	7	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	353.3	12.2				mg/L	3	Standard
	Dy	164	20038.1	10.7				mg/L	14	Standard
	Ho-1	165	13240.2	11.4				mg/L	7	Standard
	Er	166	13334.6	11.6				mg/L	8	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		121.737	
	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		95.640	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			

Sample ID: L1305159506
Report Date/Time: Tuesday, June 04, 2013 15:46:07
Page 2

Approved: June 05, 2013

	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	109.326
	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	113.100
	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
Mn 55 Upper, S, EEE	Mn	55	

Sample ID: L1305159506
Report Date/Time: Tuesday, June 04, 2013 15:46:07
Page 3

Approved: June 05, 2013

Method 6020 - Summary Report

Sample ID: L1305159507
Sample Date/Time: Tuesday, June 04, 2013 15:47:01
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	666450.5	1.7				ug/L	552027	Standard
	Be	9	2885.9	10.5	**1.2550**	0.116	9.2	ug/L	18	Standard
	Al	27	913524.1	9.4	**5.4902**	0.466	8.5	ug/L	841	Standard
	Sc	45	54653.5	3.5				ug/L	35084	Standard
	Ti	47	16915.2	12.0	**81.8101**	9.036	11.0	ug/L	22	Standard
	V	51	515873.1	11.6	**90.9815**	9.703	10.7	ug/L	812	Standard
	Cr	52	433285.4	12.2	**87.3328**	9.847	11.3	ug/L	4274	Standard
	Cr	53	89453.4	12.3	**91.4699**	10.346	11.3	ug/L	1106	Standard
	Mn	55	27304093.1	10.2	**3627.6146**	332.607	9.2	ug/L	1207	Standard
	Co	59	135555.4	11.2	**25.4887**	2.564	10.1	ug/L	71	Standard
	Ni	60	24148.0	10.4	**11.6693**	1.075	9.2	ug/L	295	Standard
	Cu	65	70463.6	10.0	**34.1828**	3.137	9.2	ug/L	87	Standard
	Zn	66	53808.9	11.5	**49.5330**	5.227	10.6	ug/L	469	Standard
>	**Ge**	72	481945.2	1.8				ug/L	514704	Standard
	As	75	13452.9	9.9	**11.1729**	0.991	8.9	ug/L	-121	Standard
	Se	82	92.2	16.1	**0.7660**	0.110	14.4	ug/L	-1	Standard
	Se-1	77	313.3	10.3	**2.5746**	0.361	14.0	ug/L	127	Standard
>	**Ga**	71	59199.8	11.9				mg/L	175	Standard
	Rb	85	322334.7	7.4				ug/L	50	Standard
	Y	89	1345308.1	9.3				ug/L	527499	Standard
>	**Rh**	103	40.0	21.7				ug/L	10	Standard
	Mo	98	1824.9	11.8	**0.4333**	0.050	11.5	ug/L	23	Standard
	Ag	107	1675.1	11.8	**0.2786**	0.032	11.3	ug/L	59	Standard
	Cd	111	355.0	11.8	**0.1960**	0.023	11.8	mg/L	3	Standard
	Cd	114	2107.3	10.6	**0.4501**	0.044	9.7	ug/L	10	Standard
>	**In**	115	582171.9	1.3				ug/L	537195	Standard
	Sn	118	216746.1	11.5	**42.2530**	4.573	10.8	ug/L	281	Standard
	Sb	123	303.1	6.3	**0.0582**	0.004	6.9	ug/L	167	Standard
	Ba	135	423407.5	10.3	**235.1645**	22.321	9.5	ug/L	10	Standard
	Ce	140	5990259.6	10.4				ug/L	27	Standard
>	**Tb**	159	852233.6	1.4				ug/L	758170	Standard
	Ho	165	46321.6	10.8				ug/L	7	Standard
	Tl	203	4229.9	7.0	**0.7273**	0.049	6.8	ug/L	5	Standard
	Tl	205	120.7	8.9	**0.8009**	0.063	7.8	ug/L	0	Standard
	Pb	206	274303.1	8.7	**59.7164**	5.036	8.4	ug/L	182	Standard
	Pb	207	218114.5	9.5	**55.8404**	5.167	9.3	ug/L	145	Standard
	Pb	208	314991.9	10.1	**56.2550**	5.585	9.9	ug/L	207	Standard
	U	238	15779.0	12.0	**3.2133**	0.379	11.8	ug/L	1	Standard
>	**Bi**	209	360979.2	1.2				ug/L	325207	Standard

Sample ID: L1305159507
Report Date/Time: Tuesday, June 04, 2013 15:49:53
Page 1

Approved: June 05, 2013

	Na	23	31.7	39.7	**2.2692**	1.268	55.9	mg/L	0	Standard
	Mg	24	65.0	20.4	**0.0043**	0.008	188.2	mg/L	25	Standard
	K	39	46.7	16.4	**0.4885**	0.072	14.6	mg/L	3	Standard
	Ca	43	1101.7	17.0	**1.4787**	0.345	23.3	mg/L	297	Standard
	Fe	54	56417.5	13.0	**42.9944**	4.203	9.8	mg/L	91	Standard
	Fe	57	13991.5	12.3	**25.1301**	2.387	9.5	mg/L	237	Standard
>	**Sc-1**	45	54653.5	3.5				mg/L	35084	Standard
	Cl	35	64601.1	2.2				ug/L	29808	Standard
	Kr	83	133.6	7.1				ug/L	38	Standard
	Br	81	905.0	7.8				ug/L	965	Standard
	P	31	258321.1	3.6				ug/L	176735	Standard
	S	34	61369.1	2.6				ug/L	28891	Standard
	Sr	88	43.3	6.7				ug/L	27	Standard
	C	12	8.3	34.6				mg/L	7	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	258.3	17.6				mg/L	3	Standard
	Dy	164	68994.0	12.1				mg/L	14	Standard
	Ho-1	165	46321.6	10.8				mg/L	7	Standard
	Er	166	44482.4	11.5				mg/L	8	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		120.728	
	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		93.635	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			

Sample ID: L1305159507
Report Date/Time: Tuesday, June 04, 2013 15:49:53
Page 2

Approved: June 05, 2013

	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	108.373
	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	111.000
	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
Mn 55 Upper, S, EEE	Mn	55	
Ba 135 Upper, S, EEE	Ba	135	

Sample ID: L1305159507
Report Date/Time: Tuesday, June 04, 2013 15:49:53
Page 3

Approved: June 05, 2013

Method 6020 - Summary Report

Sample ID: L1305159508
Sample Date/Time: Tuesday, June 04, 2013 15:50:47
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	668705.8	1.4				ug/L	552027	Standard
	Be	9	1439.4	8.5	**0.6192**	0.061	9.8	ug/L	18	Standard
	Al	27	944809.0	8.9	**5.6672**	0.575	10.1	ug/L	841	Standard
	Sc	45	56311.2	3.6				ug/L	35084	Standard
	Ti	47	19127.1	9.3	**92.2523**	7.913	8.6	ug/L	22	Standard
	V	51	627333.5	10.6	**110.3351**	10.974	9.9	ug/L	812	Standard
	Cr	52	334680.2	11.5	**67.0748**	7.463	11.1	ug/L	4274	Standard
	Cr	53	68347.3	10.0	**69.4465**	6.628	9.5	ug/L	1106	Standard
	Mn	55	12034650.4	10.0	**1594.0609**	150.523	9.4	ug/L	1207	Standard
	Co	59	125664.1	9.0	**23.5628**	1.995	8.5	ug/L	71	Standard
	Ni	60	21341.4	8.5	**10.2671**	0.785	7.6	ug/L	295	Standard
	Cu	65	32196.3	8.6	**15.5424**	1.262	8.1	ug/L	87	Standard
	Zn	66	59076.9	9.0	**54.2995**	4.632	8.5	ug/L	469	Standard
>	**Ge**	72	483525.3	1.7				ug/L	514704	Standard
	As	75	14470.4	8.6	**11.9740**	0.944	7.9	ug/L	-121	Standard
	Se	82	20.3	29.0	**0.1653**	0.047	28.4	ug/L	-1	Standard
	Se-1	77	167.7	8.7	**0.7376**	0.218	29.5	ug/L	127	Standard
>	**Ga**	71	76038.3	10.1				mg/L	175	Standard
	Rb	85	371556.1	8.4				ug/L	50	Standard
	Y	89	701225.5	2.7				ug/L	527499	Standard
>	**Rh**	103	33.3	48.2				ug/L	10	Standard
	Mo	98	1724.0	11.5	**0.4083**	0.046	11.2	ug/L	23	Standard
	Ag	107	1854.8	11.3	**0.3096**	0.036	11.6	ug/L	59	Standard
	Cd	111	278.4	9.8	**0.1530**	0.014	9.3	mg/L	3	Standard
	Cd	114	608.9	11.0	**0.1261**	0.013	10.5	ug/L	10	Standard
>	**In**	115	582988.8	1.1				ug/L	537195	Standard
	Sn	118	612.0	9.8	**0.0528**	0.013	24.2	ug/L	281	Standard
	Sb	123	254.0	6.1	**0.0459**	0.003	6.9	ug/L	167	Standard
	Ba	135	151108.1	9.0	**83.8087**	7.035	8.4	ug/L	10	Standard
	Ce	140	5195065.5	9.1				ug/L	27	Standard
>	**Tb**	159	812348.1	0.8				ug/L	758170	Standard
	Ho	165	9967.6	10.3				ug/L	7	Standard
	Tl	203	4539.3	7.9	**0.7731**	0.061	7.8	ug/L	5	Standard
	Tl	205	114.0	10.5	**0.7501**	0.075	10.0	ug/L	0	Standard
	Pb	206	240703.2	8.8	**51.8962**	4.469	8.6	ug/L	182	Standard
	Pb	207	191906.4	9.0	**48.6571**	4.282	8.8	ug/L	145	Standard
	Pb	208	279701.2	9.3	**49.4700**	4.511	9.1	ug/L	207	Standard
	U	238	17988.8	12.3	**3.6288**	0.443	12.2	ug/L	1	Standard
>	**Bi**	209	364446.5	0.6				ug/L	325207	Standard

Sample ID: L1305159508
Report Date/Time: Tuesday, June 04, 2013 15:53:39
Page 1

Approved: June 05, 2013

	Na	23	13.3	86.6	**0.3033**	1.208	398.3	mg/L	0	Standard
	Mg	24	71.7	35.1	**0.0078**	0.018	233.2	mg/L	25	Standard
	K	39	35.0	37.8	**0.3396**	0.140	41.3	mg/L	3	Standard
	Ca	43	898.4	10.4	**0.9623**	0.143	14.8	mg/L	297	Standard
	Fe	54	68046.8	11.3	**50.3668**	3.957	7.9	mg/L	91	Standard
	Fe	57	16659.3	13.8	**29.1083**	3.118	10.7	mg/L	237	Standard
>	**Sc-1**	45	56311.2	3.6				mg/L	35084	Standard
	Cl	35	65498.6	1.0				ug/L	29808	Standard
	Kr	83	65.9	9.9				ug/L	38	Standard
	Br	81	805.9	6.1				ug/L	965	Standard
	P	31	262072.1	2.4				ug/L	176735	Standard
	S	34	61779.9	1.0				ug/L	28891	Standard
	Sr	88	35.0	43.4				ug/L	27	Standard
	C	12	6.7	86.6				mg/L	7	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	393.3	12.3				mg/L	3	Standard
	Dy	164	15039.5	9.9				mg/L	14	Standard
	Ho-1	165	9967.6	10.3				mg/L	7	Standard
	Er	166	9787.9	10.9				mg/L	8	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		121.137	
	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		93.942	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			

Sample ID: L1305159508
Report Date/Time: Tuesday, June 04, 2013 15:53:39
Page 2

Approved: June 05, 2013

	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	108.525
	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	112.066
	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
V 51 Upper, S, EEE	V	51	
Mn 55 Upper, S, EEE	Mn	55	

Approved: June 05, 2013

Method 6020 - Summary Report

Sample ID: L1305159509
Sample Date/Time: Tuesday, June 04, 2013 15:54:33
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	663827.1	1.5				ug/L	552027	Standard
	Be	9	3242.3	8.9	**1.4175**	0.115	8.1	ug/L	18	Standard
	Al	27	1230770.2	9.4	**7.4314**	0.655	8.8	ug/L	841	Standard
	Sc	45	55908.1	3.9				ug/L	35084	Standard
	Ti	47	15697.5	9.6	**75.1794**	6.645	8.8	ug/L	22	Standard
	V	51	497594.2	11.1	**86.8891**	8.982	10.3	ug/L	812	Standard
	Cr	52	396993.3	12.1	**79.1533**	8.979	11.3	ug/L	4274	Standard
	Cr	53	80799.4	12.1	**81.7025**	9.274	11.4	ug/L	1106	Standard
	Mn	55	32739645.9	9.6	**4306.7844**	371.817	8.6	ug/L	1207	Standard
	Co	59	139624.4	10.9	**25.9968**	2.614	10.1	ug/L	71	Standard
	Ni	60	30120.1	9.7	**14.4448**	1.292	8.9	ug/L	295	Standard
	Cu	65	32716.5	8.6	**15.6848**	1.227	7.8	ug/L	87	Standard
	Zn	66	58825.0	9.4	**53.6829**	4.607	8.6	ug/L	469	Standard
>	**Ge**	72	486782.4	1.2				ug/L	514704	Standard
	As	75	14333.9	8.6	**11.7813**	0.901	7.6	ug/L	-121	Standard
	Se	82	123.7	11.2	**1.0208**	0.119	11.7	ug/L	-1	Standard
	Se-1	77	324.3	10.0	**2.6730**	0.369	13.8	ug/L	127	Standard
>	**Ga**	71	61318.3	11.7				mg/L	175	Standard
	Rb	85	392078.9	6.6				ug/L	50	Standard
	Y	89	1322731.6	6.7				ug/L	527499	Standard
>	**Rh**	103	43.3	29.0				ug/L	10	Standard
	Mo	98	1933.9	9.9	**0.4606**	0.038	8.3	ug/L	23	Standard
	Ag	107	1509.4	9.8	**0.2505**	0.021	8.4	ug/L	59	Standard
	Cd	111	460.2	10.7	**0.2551**	0.023	9.1	mg/L	3	Standard
	Cd	114	1081.1	13.0	**0.2288**	0.027	11.6	ug/L	10	Standard
>	**In**	115	580469.0	1.9				ug/L	537195	Standard
	Sn	118	804.4	3.0	**0.0911**	0.008	8.5	ug/L	281	Standard
	Sb	123	275.6	3.7	**0.0515**	0.001	2.4	ug/L	167	Standard
	Ba	135	452456.8	9.2	**251.9366**	19.071	7.6	ug/L	10	Standard
	Ce	140	6268005.8	10.8				ug/L	27	Standard
>	**Tb**	159	847094.0	1.2				ug/L	758170	Standard
	Ho	165	46038.1	11.0				ug/L	7	Standard
	Tl	203	4289.9	7.3	**0.7332**	0.053	7.2	ug/L	5	Standard
	Tl	205	111.0	13.0	**0.7333**	0.094	12.9	ug/L	0	Standard
	Pb	206	272920.0	8.4	**59.0567**	4.873	8.3	ug/L	182	Standard
	Pb	207	215807.1	9.0	**54.9154**	4.849	8.8	ug/L	145	Standard
	Pb	208	313764.6	9.8	**55.6947**	5.357	9.6	ug/L	207	Standard
	U	238	14901.7	11.1	**3.0165**	0.331	11.0	ug/L	1	Standard
>	**Bi**	209	363171.3	0.5				ug/L	325207	Standard

Sample ID: L1305159509
Report Date/Time: Tuesday, June 04, 2013 15:57:25
Page 1

Approved: June 05, 2013

	Na	23	105.0	25.2	**9.7738**	2.306	23.6	mg/L	0	Standard
	Mg	24	61.7	32.8	**0.0014**	0.014	1022.8	mg/L	25	Standard
	K	39	45.0	19.2	**0.4591**	0.100	21.9	mg/L	3	Standard
	Ca	43	5744.4	7.1	**11.7179**	0.509	4.3	mg/L	297	Standard
	Fe	54	57025.7	12.5	**42.4904**	3.947	9.3	mg/L	91	Standard
	Fe	57	14887.4	10.0	**26.1798**	1.947	7.4	mg/L	237	Standard
>	**Sc-1**	45	55908.1	3.9				mg/L	35084	Standard
	Cl	35	67825.8	1.8				ug/L	29808	Standard
	Kr	83	123.8	10.8				ug/L	38	Standard
	Br	81	910.9	1.5				ug/L	965	Standard
	P	31	264419.1	4.1				ug/L	176735	Standard
	S	34	64890.4	3.4				ug/L	28891	Standard
	Sr	88	48.3	23.3				ug/L	27	Standard
	C	12	5.0	100.0				mg/L	7	Standard
	N	14	1.7	173.2				mg/L	0	Standard
	Hg	202	210.0	23.8				mg/L	3	Standard
	Dy	164	69062.7	11.0				mg/L	14	Standard
	Ho-1	165	46038.1	11.0				mg/L	7	Standard
	Er	166	44358.3	10.8				mg/L	8	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		120.253	
	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		94.575	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			

Sample ID: L1305159509
Report Date/Time: Tuesday, June 04, 2013 15:57:25
Page 2

Approved: June 05, 2013

	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	108.056
	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	111.674
	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
Li 6 Int Std for sample	Li	6	Rerun sample
Mn 55 Upper, S, EEE	Mn	55	
Ba 135 Upper, S, EEE	Ba	135	

Sample ID: L1305159509
Report Date/Time: Tuesday, June 04, 2013 15:57:25
Page 3

Approved: June 05, 2013

Method 6020 - Summary Report

Sample ID: L1305159510
Sample Date/Time: Tuesday, June 04, 2013 15:58:19
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	681799.0	2.0				ug/L	552027	Standard
	Be	9	947.4	8.6	**0.3958**	0.040	10.1	ug/L	18	Standard
	Al	27	564463.8	7.4	**3.3154**	0.284	8.6	ug/L	841	Standard
	Sc	45	56219.2	3.8				ug/L	35084	Standard
	Ti	47	6884.2	10.4	**32.7933**	3.058	9.3	ug/L	22	Standard
	V	51	401508.8	9.1	**69.8212**	5.638	8.1	ug/L	812	Standard
	Cr	52	232615.2	10.0	**45.8595**	4.152	9.1	ug/L	4274	Standard
	Cr	53	48327.4	9.8	**48.2680**	4.294	8.9	ug/L	1106	Standard
	Mn	55	6219054.6	10.1	**814.8185**	73.589	9.0	ug/L	1207	Standard
	Co	59	87031.0	10.3	**16.1369**	1.500	9.3	ug/L	71	Standard
	Ni	60	6187.6	8.0	**2.8509**	0.206	7.2	ug/L	295	Standard
	Cu	65	12987.3	8.1	**6.1696**	0.435	7.1	ug/L	87	Standard
	Zn	66	18158.9	9.5	**16.0125**	1.419	8.9	ug/L	469	Standard
>	**Ge**	72	488592.5	1.1				ug/L	514704	Standard
	As	75	5418.4	7.9	**4.5036**	0.300	6.7	ug/L	-121	Standard
	Se	82	13.1	84.3	**0.1051**	0.091	86.2	ug/L	-1	Standard
	Se-1	77	131.0	6.1	**0.2577**	0.100	38.8	ug/L	127	Standard
>	**Ga**	71	43800.2	9.1				mg/L	175	Standard
	Rb	85	127051.2	4.7				ug/L	50	Standard
	Y	89	641929.3	2.3				ug/L	527499	Standard
>	**Rh**	103	20.0	50.0				ug/L	10	Standard
	Mo	98	858.4	12.9	**0.1967**	0.027	13.6	ug/L	23	Standard
	Ag	107	1203.4	9.8	**0.1934**	0.021	10.7	ug/L	59	Standard
	Cd	111	185.1	10.8	**0.0995**	0.010	10.2	mg/L	3	Standard
	Cd	114	327.1	9.0	**0.0643**	0.007	10.3	ug/L	10	Standard
>	**In**	115	591894.4	1.0				ug/L	537195	Standard
	Sn	118	790.7	1.7	**0.0853**	0.003	3.2	ug/L	281	Standard
	Sb	123	281.9	10.2	**0.0518**	0.007	14.2	ug/L	167	Standard
	Ba	135	93547.8	8.1	**51.1206**	4.278	8.4	ug/L	10	Standard
	Ce	140	1781701.7	8.8				ug/L	27	Standard
>	**Tb**	159	820134.8	0.6				ug/L	758170	Standard
	Ho	165	6000.2	9.6				ug/L	7	Standard
	Tl	203	2669.6	8.3	**0.4510**	0.039	8.5	ug/L	5	Standard
	Tl	205	71.0	16.6	**0.4666**	0.075	16.1	ug/L	0	Standard
	Pb	206	284637.0	7.6	**60.9376**	4.784	7.9	ug/L	182	Standard
	Pb	207	228413.9	7.6	**57.5072**	4.503	7.8	ug/L	145	Standard
	Pb	208	333150.7	8.6	**58.5114**	5.204	8.9	ug/L	207	Standard
	U	238	19734.3	9.8	**3.9526**	0.397	10.0	ug/L	1	Standard
>	**Bi**	209	367160.4	0.3				ug/L	325207	Standard

Sample ID: L1305159510
Report Date/Time: Tuesday, June 04, 2013 16:01:11
Page 1

Approved: June 05, 2013

	Na	23	5.0	0.0	**-0.5718**	0.020	3.4	mg/L	0	Standard
	Mg	24	33.3	22.9	**-0.0178**	0.006	31.9	mg/L	25	Standard
	K	39	18.3	15.7	**0.1527**	0.028	18.5	mg/L	3	Standard
	Ca	43	501.7	16.1	**0.0928**	0.169	182.2	mg/L	297	Standard
	Fe	54	48832.8	8.6	**36.2221**	2.487	6.9	mg/L	91	Standard
	Fe	57	12395.1	10.1	**21.5980**	1.819	8.4	mg/L	237	Standard
>	**Sc-1**	45	56219.2	3.8				mg/L	35084	Standard
	Cl	35	66169.2	1.2				ug/L	29808	Standard
	Kr	83	55.7	11.0				ug/L	38	Standard
	Br	81	878.4	5.3				ug/L	965	Standard
	P	31	276374.8	1.4				ug/L	176735	Standard
	S	34	60944.8	1.6				ug/L	28891	Standard
	Sr	88	40.0	12.5				ug/L	27	Standard
	C	12	5.0	100.0				mg/L	7	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	368.3	11.4				mg/L	3	Standard
	Dy	164	9215.3	9.5				mg/L	14	Standard
	Ho-1	165	6000.2	9.6				mg/L	7	Standard
	Er	166	5992.2	10.8				mg/L	8	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		123.508	
	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		94.927	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			

Sample ID: L1305159510
Report Date/Time: Tuesday, June 04, 2013 16:01:11
Page 2

Approved: June 05, 2013

	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	110.182
	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	112.901
	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
Mn 55 Upper, S, EEE	Mn	55	

Sample ID: L1305159510
Report Date/Time: Tuesday, June 04, 2013 16:01:11
Page 3

Approved: June 05, 2013

Method 6020 - Summary Report

Sample ID: L1305159511
Sample Date/Time: Tuesday, June 04, 2013 16:03:45
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	677243.3	2.8				ug/L	552027	Standard
	Be	9	2478.5	8.0	**1.0598**	0.081	7.7	ug/L	18	Standard
	Al	27	602334.0	9.0	**3.5591**	0.295	8.3	ug/L	841	Standard
	Sc	45	51905.5	3.3				ug/L	35084	Standard
	Ti	47	9523.7	10.7	**46.1613**	5.379	11.7	ug/L	22	Standard
	V	51	376045.3	9.3	**66.4734**	6.841	10.3	ug/L	812	Standard
	Cr	52	249231.2	10.6	**50.0324**	5.863	11.7	ug/L	4274	Standard
	Cr	53	50731.3	10.6	**51.5849**	6.029	11.7	ug/L	1106	Standard
	Mn	55	23152877.8	10.6	**3084.8005**	355.404	11.5	ug/L	1207	Standard
	Co	59	141290.8	10.1	**26.6454**	2.913	10.9	ug/L	71	Standard
	Ni	60	15678.5	9.5	**7.5522**	0.802	10.6	ug/L	295	Standard
	Cu	65	16331.5	10.0	**7.9021**	0.870	11.0	ug/L	87	Standard
	Zn	66	31975.5	8.9	**29.2298**	2.930	10.0	ug/L	469	Standard
>	**Ge**	72	481229.2	1.0				ug/L	514704	Standard
	As	75	8025.3	9.2	**6.7261**	0.669	9.9	ug/L	-121	Standard
	Se	82	66.5	21.9	**0.5545**	0.126	22.7	ug/L	-1	Standard
	Se-1	77	249.0	9.9	**1.7717**	0.316	17.8	ug/L	127	Standard
>	**Ga**	71	45769.5	9.9				mg/L	175	Standard
	Rb	85	250258.3	5.0				ug/L	50	Standard
	Y	89	1128318.2	3.8				ug/L	527499	Standard
>	**Rh**	103	28.3	10.2				ug/L	10	Standard
	Mo	98	1106.4	7.6	**0.2590**	0.023	8.7	ug/L	23	Standard
	Ag	107	1306.4	10.3	**0.2138**	0.023	10.9	ug/L	59	Standard
	Cd	111	261.8	17.0	**0.1434**	0.024	16.9	mg/L	3	Standard
	Cd	114	597.5	9.7	**0.1233**	0.012	9.5	ug/L	10	Standard
>	**In**	115	584451.6	1.3				ug/L	537195	Standard
	Sn	118	664.7	8.7	**0.0626**	0.010	16.0	ug/L	281	Standard
	Sb	123	245.3	8.2	**0.0436**	0.006	12.9	ug/L	167	Standard
	Ba	135	363874.4	9.0	**201.5007**	19.330	9.6	ug/L	10	Standard
	Ce	140	4917364.2	9.6				ug/L	27	Standard
>	**Tb**	159	842973.2	1.4				ug/L	758170	Standard
	Ho	165	35415.0	11.2				ug/L	7	Standard
	Tl	203	3416.4	7.5	**0.5826**	0.046	8.0	ug/L	5	Standard
	Tl	205	72.7	6.2	**0.4816**	0.027	5.6	ug/L	0	Standard
	Pb	206	243366.8	9.2	**52.5646**	5.080	9.7	ug/L	182	Standard
	Pb	207	195068.6	8.7	**49.5477**	4.539	9.2	ug/L	145	Standard
	Pb	208	282930.9	9.7	**50.1318**	5.082	10.1	ug/L	207	Standard
	U	238	14341.5	11.0	**2.8982**	0.333	11.5	ug/L	1	Standard
>	**Bi**	209	363937.4	0.5				ug/L	325207	Standard

Sample ID: L1305159511
Report Date/Time: Tuesday, June 04, 2013 16:06:36
Page 1

Approved: June 05, 2013

Na	23	26.7	43.3	**1.9187**	1.376	71.7	mg/L	0	Standard
Mg	24	61.7	4.7	**0.0044**	0.003	66.7	mg/L	25	Standard
K	39	23.3	75.3	**0.2359**	0.221	93.5	mg/L	3	Standard
Ca	43	1123.4	16.5	**1.6634**	0.357	21.5	mg/L	297	Standard
Fe	54	44739.0	10.2	**35.9430**	3.280	9.1	mg/L	91	Standard
Fe	57	11734.6	11.1	**22.1454**	1.929	8.7	mg/L	237	Standard
Sc-1	45	51905.5	3.3				mg/L	35084	Standard
Cl	35	66282.7	1.9				ug/L	29808	Standard
Kr	83	115.7	6.5				ug/L	38	Standard
Br	81	869.2	3.5				ug/L	965	Standard
P	31	264853.4	2.6				ug/L	176735	Standard
S	34	61919.6	0.3				ug/L	28891	Standard
Sr	88	39.2	29.5				ug/L	27	Standard
C	12	6.7	114.6				mg/L	7	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	161.7	1.8				mg/L	3	Standard
Dy	164	53461.7	10.6				mg/L	14	Standard
Ho-1	165	35415.0	11.2				mg/L	7	Standard
Er	166	34377.3	10.9				mg/L	8	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
> Li	6		122.683	
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		93.496	
As	75			
Se	82			
Se-1	77			
> Ga	71			
Rb	85			

Sample ID: L1305159511
Report Date/Time: Tuesday, June 04, 2013 16:06:36
Page 2

Approved: June 05, 2013

⌈	Y	89	
⌊>	Rh	103	
⌈	Mo	98	
|	Ag	107	
|	Cd	111	
|	Cd	114	
|>	In	115	108.797
|	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	111.909
⌈	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
Mn 55 Upper, S, EEE	Mn	55	
Ba 135 Upper, S, EEE	Ba	135	

Sample ID: L1305159511
Report Date/Time: Tuesday, June 04, 2013 16:06:36
Page 3

Approved: June 05, 2013

Method 6020 - Summary Report

Sample ID: L1305159512
Sample Date/Time: Tuesday, June 04, 2013 16:07:31
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	673013.8	1.7				ug/L	552027	Standard
	Be	9	1427.4	8.4	**0.6097**	0.054	8.9	ug/L	18	Standard
	Al	27	993087.8	9.0	**5.9170**	0.573	9.7	ug/L	841	Standard
	Sc	45	59510.1	4.6				ug/L	35084	Standard
	Ti	47	17751.8	10.0	**84.6245**	8.165	9.6	ug/L	22	Standard
	V	51	781637.7	10.2	**135.9278**	13.511	9.9	ug/L	812	Standard
	Cr	52	642257.3	10.9	**127.9772**	13.507	10.6	ug/L	4274	Standard
	Cr	53	133584.9	9.7	**135.1624**	13.207	9.8	ug/L	1106	Standard
	Mn	55	6183510.2	9.4	**809.5783**	74.175	9.2	ug/L	1207	Standard
	Co	59	36183.8	10.6	**6.6954**	0.701	10.5	ug/L	71	Standard
	Ni	60	13771.3	8.5	**6.5024**	0.557	8.6	ug/L	295	Standard
	Cu	65	26372.7	8.5	**12.5723**	1.009	8.0	ug/L	87	Standard
	Zn	66	45017.5	9.3	**40.7170**	3.628	8.9	ug/L	469	Standard
>	**Ge**	72	489240.1	1.6				ug/L	514704	Standard
	As	75	12604.4	9.4	**10.3236**	0.917	8.9	ug/L	-121	Standard
	Se	82	13.9	57.1	**0.1112**	0.065	58.3	ug/L	-1	Standard
	Se-1	77	163.3	5.3	**0.6581**	0.138	21.0	ug/L	127	Standard
>	**Ga**	71	90806.5	10.2				mg/L	175	Standard
	Rb	85	221761.7	6.1				ug/L	50	Standard
	Y	89	692353.3	1.7				ug/L	527499	Standard
>	**Rh**	103	31.7	63.8				ug/L	10	Standard
	Mo	98	2218.9	11.2	**0.5198**	0.057	10.9	ug/L	23	Standard
	Ag	107	1835.4	13.0	**0.3015**	0.040	13.1	ug/L	59	Standard
	Cd	111	225.9	11.0	**0.1220**	0.014	11.3	mg/L	3	Standard
	Cd	114	346.4	4.7	**0.0684**	0.004	5.3	ug/L	10	Standard
>	**In**	115	591717.5	1.1				ug/L	537195	Standard
	Sn	118	892.7	1.4	**0.1050**	0.004	4.1	ug/L	281	Standard
	Sb	123	259.6	12.9	**0.0463**	0.008	16.5	ug/L	167	Standard
	Ba	135	99422.3	9.2	**54.3201**	4.667	8.6	ug/L	10	Standard
	Ce	140	2808481.3	9.6				ug/L	27	Standard
>	**Tb**	159	806286.4	0.3				ug/L	758170	Standard
	Ho	165	8933.3	10.7				ug/L	7	Standard
	Tl	203	2500.2	6.1	**0.4233**	0.024	5.8	ug/L	5	Standard
	Tl	205	60.0	3.3	**0.3965**	0.012	3.0	ug/L	0	Standard
	Pb	206	180354.3	9.2	**38.6756**	3.435	8.9	ug/L	182	Standard
	Pb	207	143088.8	9.1	**36.0835**	3.186	8.8	ug/L	145	Standard
	Pb	208	209660.3	9.1	**36.8821**	3.257	8.8	ug/L	207	Standard
	U	238	25902.0	12.5	**5.1984**	0.632	12.2	ug/L	1	Standard
>	**Bi**	209	366274.0	0.4				ug/L	325207	Standard

Sample ID: L1305159512
Report Date/Time: Tuesday, June 04, 2013 16:10:22
Page 1

Approved: June 05, 2013

	Na	23	13.3	57.3	**0.2260**	0.757	335.2	mg/L	0	Standard
	Mg	24	40.0	21.7	**-0.0149**	0.006	39.2	mg/L	25	Standard
	K	39	75.0	24.0	**0.7509**	0.195	25.9	mg/L	3	Standard
	Ca	43	1090.0	10.0	**1.2558**	0.151	12.0	mg/L	297	Standard
	Fe	54	83042.4	9.4	**58.2146**	3.225	5.5	mg/L	91	Standard
	Fe	57	21677.3	12.2	**35.9686**	3.074	8.5	mg/L	237	Standard
>	**Sc-1**	45	59510.1	4.6				mg/L	35084	Standard
	Cl	35	68646.2	0.3				ug/L	29808	Standard
	Kr	83	68.3	10.1				ug/L	38	Standard
	Br	81	965.0	4.2				ug/L	965	Standard
	P	31	283087.9	3.4				ug/L	176735	Standard
	S	34	64642.6	1.1				ug/L	28891	Standard
	Sr	88	58.3	17.3				ug/L	27	Standard
	C	12	1.7	173.2				mg/L	7	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	333.3	5.3				mg/L	3	Standard
	Dy	164	13209.7	10.4				mg/L	14	Standard
	Ho-1	165	8933.3	10.7				mg/L	7	Standard
	Er	166	8917.0	11.3				mg/L	8	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		121.917	
	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		95.053	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			

Sample ID: L1305159512
Report Date/Time: Tuesday, June 04, 2013 16:10:22
Page 2

Approved: June 05, 2013

	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	110.149
	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	112.628
	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
V 51 Upper, S, EEE	V	51	
Cr 52 Upper, S, EEE	Cr	52	
Cr 53 Upper, S, EEE	Cr	53	
Mn 55 Upper, S, EEE	Mn	55	

Sample ID: L1305159512
Report Date/Time: Tuesday, June 04, 2013 16:10:22
Page 3

Approved: June 05, 2013

Method 6020 - Summary Report

Sample ID: QC Std 6
Sample Date/Time: Tuesday, June 04, 2013 16:11:19
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	668495.3	2.7				ug/L	552027	Standard
	Be	9	104513.2	10.5	**45.6840**	3.844	8.4	ug/L	18	Standard
	Al	27	8745387.1	9.5	**52.4712**	3.838	7.3	ug/L	841	Standard
	Sc	45	39097.1	2.9				ug/L	35084	Standard
	Ti	47	24142.7	10.2	**118.1362**	10.087	8.5	ug/L	22	Standard
	V	51	289950.7	12.0	**51.6527**	5.407	10.5	ug/L	812	Standard
	Cr	52	246186.3	13.1	**49.8093**	5.694	11.4	ug/L	4274	Standard
	Cr	53	50155.2	10.8	**51.4209**	4.723	9.2	ug/L	1106	Standard
	Mn	55	361606.0	10.2	**48.4204**	4.044	8.4	ug/L	1207	Standard
	Co	59	249163.3	11.4	**47.3873**	4.493	9.5	ug/L	71	Standard
	Ni	60	106669.8	10.3	**52.5915**	4.454	8.5	ug/L	295	Standard
	Cu	65	103958.3	9.7	**51.0202**	3.962	7.8	ug/L	87	Standard
	Zn	66	55417.0	11.4	**51.6097**	4.910	9.5	ug/L	469	Standard
>	Ge	72	476424.8	2.7				ug/L	514704	Standard
	As	75	59774.4	9.6	**49.8262**	3.867	7.8	ug/L	-121	Standard
	Se	82	6109.6	9.4	**51.5990**	3.837	7.4	ug/L	-1	Standard
	Se-1	77	4069.5	8.8	**50.4542**	3.573	7.1	ug/L	127	Standard
>	Ga	71	300.0	7.6				mg/L	175	Standard
	Rb	85	3333.7	5.8				ug/L	50	Standard
	Y	89	551998.7	0.4				ug/L	527499	Standard
>	Rh	103	23.3	53.9				ug/L	10	Standard
	Mo	98	396971.4	10.3	**93.6168**	8.518	9.1	ug/L	23	Standard
	Ag	107	290837.0	8.3	**49.4327**	3.493	7.1	ug/L	59	Standard
	Cd	111	88164.6	10.7	**48.0091**	4.607	9.6	mg/L	3	Standard
	Cd	114	241467.5	10.2	**50.9974**	4.619	9.1	ug/L	10	Standard
>	In	115	595589.0	1.3				ug/L	537195	Standard
	Sn	118	261653.1	11.3	**49.8557**	5.083	10.2	ug/L	281	Standard
	Sb	123	201634.6	9.3	**48.9673**	4.015	8.2	ug/L	167	Standard
	Ba	135	92224.1	10.2	**50.0356**	4.495	9.0	ug/L	10	Standard
	Ce	140	617.0	68.7				ug/L	27	Standard
>	Tb	159	826164.3	1.4				ug/L	758170	Standard
	Ho	165	7.7	37.7				ug/L	7	Standard
	Tl	203	292727.8	7.4	**50.6015**	3.482	6.9	ug/L	5	Standard
	Tl	205	7670.9	7.3	**50.6752**	3.486	6.9	ug/L	0	Standard
	Pb	206	231326.1	9.1	**50.5572**	4.273	8.5	ug/L	182	Standard
	Pb	207	198906.3	9.0	**51.1264**	4.245	8.3	ug/L	145	Standard
	Pb	208	280476.2	10.9	**50.2872**	5.166	10.3	ug/L	207	Standard
	U	238	239374.6	10.9	**48.9626**	5.100	10.4	ug/L	1	Standard
>	Bi	209	359453.0	2.1				ug/L	325207	Standard

Sample ID: QC Std 6
Report Date/Time: Tuesday, June 04, 2013 16:14:10
Page 1

Approved: June 05, 2013

	Na	23	28.3	36.7	**3.1497**	1.648	52.3	mg/L	0	Standard
	Mg	24	4902.5	10.6	**4.6440**	0.444	9.6	mg/L	25	Standard
	K	39	288.3	10.2	**4.6492**	0.395	8.5	mg/L	3	Standard
	Ca	43	1690.1	4.3	**4.3455**	0.080	1.8	mg/L	297	Standard
	Fe	54	5700.5	8.7	**5.9828**	0.454	7.6	mg/L	91	Standard
	Fe	57	1725.1	12.3	**3.9119**	0.493	12.6	mg/L	237	Standard
>	**Sc-1**	45	39097.1	2.9				mg/L	35084	Standard
	Cl	35	72265.3	1.0				ug/L	29808	Standard
	Kr	83	41.6	10.7				ug/L	38	Standard
	Br	81	743.4	15.6				ug/L	965	Standard
	P	31	292752.1	3.8				ug/L	176735	Standard
	S	34	71788.0	0.6				ug/L	28891	Standard
	Sr	88	47.5	19.0				ug/L	27	Standard
	C	12	5.0	0.0				mg/L	7	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	8.3	34.6				mg/L	3	Standard
	Dy	164	15.7	39.3				mg/L	14	Standard
	Ho-1	165	7.7	37.7				mg/L	7	Standard
	Er	166	13.0	26.6				mg/L	8	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		121.098	
	Be	9	91.368		
	Al	27	104.942		
	Sc	45			
	Ti	47	118.136		
	V	51	103.305		
	Cr	52	99.619		
	Cr	53			
	Mn	55	96.841		
	Co	59	94.775		
	Ni	60	105.183		
	Cu	65	102.040		
	Zn	66	103.219		
>	Ge	72		92.563	
	As	75	99.652		
	Se	82	103.198		
	Se-1	77			
>	Ga	71			
	Rb	85			

Sample ID: QC Std 6
Report Date/Time: Tuesday, June 04, 2013 16:14:10
Page 2

Approved: June 05, 2013

	Y	89		
>	Rh	103		
	Mo	98	93.617	
	Ag	107	98.865	
	Cd	111	96.018	
	Cd	114		
>	In	115		110.870
	Sn	118	99.711	
	Sb	123	97.935	
	Ba	135	100.071	
	Ce	140		
>	Tb	159		
	Ho	165		
	Tl	203	101.203	
	Tl	205		
	Pb	206		
	Pb	207		
	Pb	208	100.574	
	U	238	97.925	
>	Bi	209		110.531
	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
Li 6 Int Std for QC Std	Li	6	Rerun sample
QC Std 6	Ti	47	

Sample ID: QC Std 6
Report Date/Time: Tuesday, June 04, 2013 16:14:10
Page 3

Approved: June 05, 2013

Method 6020 - Summary Report

Sample ID: QC Std 7
Sample Date/Time: Tuesday, June 04, 2013 16:15:05
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	677958.6	1.6				ug/L	552027	Standard
	Be	9	45.0	48.2	**0.0082**	0.009	112.0	ug/L	18	Standard
	Al	27	2974.0	51.3	**0.0056**	0.009	160.4	ug/L	841	Standard
	Sc	45	39314.3	3.2				ug/L	35084	Standard
	Ti	47	23.3	36.4	**0.0327**	0.043	132.4	ug/L	22	Standard
	V	51	1048.9	4.9	**0.0629**	0.007	11.9	ug/L	812	Standard
	Cr	52	3703.5	4.6	**-0.0633**	0.016	25.7	ug/L	4274	Standard
	Cr	53	444.2	13.1	**-0.5655**	0.060	10.7	ug/L	1106	Standard
	Mn	55	1765.4	21.4	**0.0795**	0.051	64.0	ug/L	1207	Standard
	Co	59	88.3	8.8	**0.0012**	0.001	86.3	ug/L	71	Standard
	Ni	60	185.0	9.5	**-0.0402**	0.007	17.4	ug/L	295	Standard
	Cu	65	113.7	31.8	**0.0016**	0.018	1101.7	ug/L	87	Standard
	Zn	66	665.0	7.6	**-0.0806**	0.058	72.2	ug/L	469	Standard
>	**Ge**	72	471340.2	2.5				ug/L	514704	Standard
	As	75	-109.0	18.1	**0.0152**	0.019	122.2	ug/L	-121	Standard
	Se	82	-0.2	2530.6	**-0.0053**	0.039	738.3	ug/L	-1	Standard
	Se-1	77	97.3	6.0	**-0.1158**	0.088	75.5	ug/L	127	Standard
>	**Ga**	71	291.7	12.6				mg/L	175	Standard
	Rb	85	143.3	35.3				ug/L	50	Standard
	Y	89	546463.3	2.8				ug/L	527499	Standard
>	**Rh**	103	5.0	100.0				ug/L	10	Standard
	Mo	98	94.9	34.7	**0.0148**	0.007	47.7	ug/L	23	Standard
	Ag	107	95.7	36.5	**0.0033**	0.006	169.8	ug/L	59	Standard
	Cd	111	10.6	71.5	**0.0037**	0.004	108.3	mg/L	3	Standard
	Cd	114	39.5	44.1	**0.0029**	0.004	122.5	ug/L	10	Standard
>	**In**	115	603176.9	2.7				ug/L	537195	Standard
	Sn	118	489.3	8.2	**0.0258**	0.010	39.1	ug/L	281	Standard
	Sb	123	924.2	9.8	**0.2044**	0.016	7.8	ug/L	167	Standard
	Ba	135	27.0	42.1	**-0.0088**	0.006	65.7	ug/L	10	Standard
	Ce	140	243.0	67.3				ug/L	27	Standard
>	**Tb**	159	828088.2	2.4				ug/L	758170	Standard
	Ho	165	9.7	41.8				ug/L	7	Standard
	Tl	203	29.3	59.6	**0.0040**	0.003	70.8	ug/L	5	Standard
	Tl	205	1.3	114.6	**0.0162**	0.010	62.1	ug/L	0	Standard
	Pb	206	226.7	15.7	**0.0003**	0.008	2163.6	ug/L	182	Standard
	Pb	207	195.0	5.9	**0.0038**	0.004	107.3	ug/L	145	Standard
	Pb	208	268.0	2.0	**0.0008**	0.002	254.5	ug/L	207	Standard
	U	238	33.7	58.7	**0.0059**	0.004	68.3	ug/L	1	Standard
>	**Bi**	209	370434.9	2.8				ug/L	325207	Standard

Sample ID: QC Std 7
Report Date/Time: Tuesday, June 04, 2013 16:17:57
Page 1

Approved: June 05, 2013

	Na	23	1.7	173.2	**-0.8375**	0.437	52.1	mg/L	0	Standard
	Mg	24	25.0	20.0	**-0.0162**	0.005	33.3	mg/L	25	Standard
	K	39	3.3	86.6	**-0.0000**	0.048321	352.2	mg/L	3	Standard
	Ca	43	228.3	18.6	**-0.2943**	0.120	40.7	mg/L	297	Standard
	Fe	54	199.3	34.4	**0.0936**	0.066	70.1	mg/L	91	Standard
	Fe	57	116.7	13.1	**-0.2152**	0.038	17.6	mg/L	237	Standard
>	**Sc-1**	45	39314.3	3.2				mg/L	35084	Standard
	Cl	35	70998.1	4.0				ug/L	29808	Standard
	Kr	83	37.4	4.1				ug/L	38	Standard
	Br	81	721.7	8.6				ug/L	965	Standard
	P	31	280380.1	1.8				ug/L	176735	Standard
	S	34	68840.3	3.1				ug/L	28891	Standard
	Sr	88	39.2	13.3				ug/L	27	Standard
	C	12	3.3	86.6				mg/L	7	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	6.7	114.6				mg/L	3	Standard
	Dy	164	9.4	26.8				mg/L	14	Standard
	Ho-1	165	9.7	41.8				mg/L	7	Standard
	Er	166	12.7	24.1				mg/L	8	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		122.813	
	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		91.575	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			

Sample ID: QC Std 7
Report Date/Time: Tuesday, June 04, 2013 16:17:57
Page 2

Approved: June 05, 2013

	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	112.283
	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	113.907
	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 QC Std	Li	6	Rerun sample
QC Std 7	Sb	123	

Sample ID: QC Std 7
Report Date/Time: Tuesday, June 04, 2013 16:17:57
Page 3

Approved: June 05, 2013

Method 6020 - Summary Report

Sample ID: L1305156101
Sample Date/Time: Tuesday, June 04, 2013 16:19:09
Number of Replicates: 3
Autosampler Position: 205
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	697764.7	0.4				ug/L	552027	Standard
	Be	9	53.7	18.4	**0.0114**	0.004	35.8	ug/L	18	Standard
	Al	27	1928092.7	9.9	**11.0852**	1.101	9.9	ug/L	841	Standard
	Sc	45	40565.9	1.0				ug/L	35084	Standard
	Ti	47	401.3	10.0	**1.8754**	0.190	10.1	ug/L	22	Standard
	V	51	326.0	106.9	**-0.0688**	0.061	89.3	ug/L	812	Standard
	Cr	52	6978.6	3.3	**0.5974**	0.051	8.5	ug/L	4274	Standard
	Cr	53	6071.2	3.7	**5.2952**	0.274	5.2	ug/L	1106	Standard
	Mn	55	155507.2	10.9	**20.6672**	2.291	11.1	ug/L	1207	Standard
	Co	59	514.0	9.9	**0.0818**	0.010	12.2	ug/L	71	Standard
	Ni	60	2529.2	7.6	**1.1136**	0.098	8.8	ug/L	295	Standard
	Cu	65	20742.9	9.0	**10.1032**	0.913	9.0	ug/L	87	Standard
	Zn	66	264154.6	9.6	**247.9763**	24.077	9.7	ug/L	469	Standard
>	**Ge**	72	478441.9	0.9				ug/L	514704	Standard
	As	75	202.8	35.6	**0.2756**	0.061	22.1	ug/L	-121	Standard
	Se	82	689.9	8.1	**5.8059**	0.485	8.4	ug/L	-1	Standard
	Se-1	77	1170.4	5.6	**13.4849**	0.859	6.4	ug/L	127	Standard
>	**Ga**	71	455.0	6.1				mg/L	175	Standard
	Rb	85	26354.6	7.0				ug/L	50	Standard
	Y	89	548488.3	0.8				ug/L	527499	Standard
>	**Rh**	103	11.7	89.2				ug/L	10	Standard
	Mo	98	1225.3	8.4	**0.2831**	0.023	8.2	ug/L	23	Standard
	Ag	107	112.7	17.4	**0.0066**	0.003	51.1	ug/L	59	Standard
	Cd	111	3579.4	11.1	**1.9562**	0.210	10.7	mg/L	3	Standard
	Cd	114	9498.2	9.3	**2.0101**	0.180	9.0	ug/L	10	Standard
>	**In**	115	593157.3	0.4				ug/L	537195	Standard
	Sn	118	2306.5	4.7	**0.3755**	0.019	5.0	ug/L	281	Standard
	Sb	123	1645.7	7.7	**0.3844**	0.030	7.7	ug/L	167	Standard
	Ba	135	11671.2	9.3	**6.3413**	0.569	9.0	ug/L	10	Standard
	Ce	140	1092.4	15.1				ug/L	27	Standard
>	**Tb**	159	828564.4	0.9				ug/L	758170	Standard
	Ho	165	21.0	29.7				ug/L	7	Standard
	Tl	203	241.0	9.5	**0.0353**	0.003	7.8	ug/L	5	Standard
	Tl	205	4.3	66.6	**0.0322**	0.016	50.4	ug/L	0	Standard
	Pb	206	14597.7	9.6	**2.7247**	0.205	7.5	ug/L	182	Standard
	Pb	207	11766.3	10.7	**2.5824**	0.219	8.5	ug/L	145	Standard
	Pb	208	16974.0	10.9	**2.5982**	0.230	8.9	ug/L	207	Standard
	U	238	60.0	13.6	**0.0099**	0.001	14.0	ug/L	1	Standard
>	**Bi**	209	413685.3	2.7				ug/L	325207	Standard

Sample ID: L1305156101
Report Date/Time: Tuesday, June 04, 2013 16:22:02
Page 1

Approved: June 05, 2013

	Na	23	161.7	27.7	**22.0683**	6.343	28.7	mg/L	0	Standard
	Mg	24	8033.8	9.7	**7.3607**	0.686	9.3	mg/L	25	Standard
	K	39	380.0	21.7	**5.9269**	1.315	22.2	mg/L	3	Standard
	Ca	43	5826.1	12.2	**16.7920**	2.149	12.8	mg/L	297	Standard
	Fe	54	181.1	16.1	**0.0694**	0.028	40.6	mg/L	91	Standard
	Fe	57	830.0	4.8	**1.5401**	0.084	5.4	mg/L	237	Standard
>	**Sc-1**	45	40565.9	1.0				mg/L	35084	Standard
	Cl	35	84154.4	1.7				ug/L	29808	Standard
	Kr	83	40.4	17.0				ug/L	38	Standard
	Br	81	1157.5	1.3				ug/L	965	Standard
	P	31	286559.8	2.6				ug/L	176735	Standard
	S	34	71067.9	0.2				ug/L	28891	Standard
	Sr	88	60.8	9.5				ug/L	27	Standard
	C	12	11.7	65.5				mg/L	7	Standard
	N	14	1.7	173.2				mg/L	0	Standard
	Hg	202	16.7	45.8				mg/L	3	Standard
	Dy	164	25.9	9.4				mg/L	14	Standard
	Ho-1	165	21.0	29.7				mg/L	7	Standard
	Er	166	23.7	20.0				mg/L	8	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		126.401	
	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		92.955	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			

Sample ID: L1305156101
Report Date/Time: Tuesday, June 04, 2013 16:22:02
Page 2

Approved: June 05, 2013

⌈	Y	89	
⌊>	Rh	103	
⌈	Mo	98	
|	Ag	107	
|	Cd	111	
|	Cd	114	
|>	In	115	110.417
|	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	127.207
⌈	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
Zn 66 Upper, S, EEE	Zn	66	
Bi 209 Int Std for sample	Bi	209	Rerun sample

Approved: June 05, 2013

Method 6020 - Summary Report

Sample ID: L1305159513
Sample Date/Time: Tuesday, June 04, 2013 16:23:13
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	690664.3	1.1				ug/L	552027	Standard
	Be	9	2195.2	7.4	**0.9185**	0.060	6.5	ug/L	18	Standard
	Al	27	1009135.8	7.9	**5.8532**	0.412	7.0	ug/L	841	Standard
	Sc	45	54175.3	6.3				ug/L	35084	Standard
	Ti	47	18137.3	10.3	**87.1916**	8.802	10.1	ug/L	22	Standard
	V	51	524736.5	10.8	**91.9774**	9.803	10.7	ug/L	812	Standard
	Cr	52	388216.1	10.9	**77.6854**	8.440	10.9	ug/L	4274	Standard
	Cr	53	81366.8	9.9	**82.6026**	8.089	9.8	ug/L	1106	Standard
	Mn	55	18083245.3	10.0	**2387.5936**	233.905	9.8	ug/L	1207	Standard
	Co	59	127959.5	11.6	**23.9133**	2.726	11.4	ug/L	71	Standard
	Ni	60	23384.1	9.1	**11.2267**	1.010	9.0	ug/L	295	Standard
	Cu	65	26145.7	9.7	**12.5693**	1.192	9.5	ug/L	87	Standard
	Zn	66	51832.8	10.1	**47.3957**	4.777	10.1	ug/L	469	Standard
>	**Ge**	72	485166.7	0.3				ug/L	514704	Standard
	As	75	14607.1	9.4	**12.0469**	1.094	9.1	ug/L	-121	Standard
	Se	82	72.7	10.6	**0.6000**	0.062	10.4	ug/L	-1	Standard
	Se-1	77	250.3	16.3	**1.7615**	0.502	28.5	ug/L	127	Standard
>	**Ga**	71	68276.7	12.2				mg/L	175	Standard
	Rb	85	352498.2	5.6				ug/L	50	Standard
	Y	89	1025970.6	4.8				ug/L	527499	Standard
>	**Rh**	103	30.0	28.9				ug/L	10	Standard
	Mo	98	2019.6	10.8	**0.4741**	0.052	11.0	ug/L	23	Standard
	Ag	107	1578.4	10.1	**0.2585**	0.027	10.6	ug/L	59	Standard
	Cd	111	230.8	12.4	**0.1251**	0.016	12.6	mg/L	3	Standard
	Cd	114	506.5	5.9	**0.1028**	0.006	6.1	ug/L	10	Standard
>	**In**	115	589847.0	0.3				ug/L	537195	Standard
	Sn	118	704.0	5.5	**0.0691**	0.007	10.6	ug/L	281	Standard
	Sb	123	380.5	8.4	**0.0762**	0.008	10.4	ug/L	167	Standard
	Ba	135	275993.4	9.6	**151.3631**	14.597	9.6	ug/L	10	Standard
	Ce	140	4802789.1	9.7				ug/L	27	Standard
>	**Tb**	159	838315.3	0.9				ug/L	758170	Standard
	Ho	165	26982.5	10.8				ug/L	7	Standard
	Tl	203	3686.8	7.7	**0.6274**	0.047	7.6	ug/L	5	Standard
	Tl	205	102.3	10.0	**0.6734**	0.059	8.8	ug/L	0	Standard
	Pb	206	204365.0	8.6	**44.0313**	3.749	8.5	ug/L	182	Standard
	Pb	207	162222.7	8.9	**41.0990**	3.570	8.7	ug/L	145	Standard
	Pb	208	238227.5	8.9	**42.1059**	3.714	8.8	ug/L	207	Standard
	U	238	15400.2	10.8	**3.1045**	0.328	10.6	ug/L	1	Standard
>	**Bi**	209	364662.8	1.1				ug/L	325207	Standard

Sample ID: L1305159513
Report Date/Time: Tuesday, June 04, 2013 16:26:05
Page 1

Approved: June 05, 2013

	Na	23	6.7	86.6	**-0.3625**	0.633	174.6	mg/L	0	Standard
	Mg	24	31.7	18.2	**-0.0184**	0.003	15.0	mg/L	25	Standard
	K	39	55.0	24.1	**0.5916**	0.136	22.9	mg/L	3	Standard
	Ca	43	521.7	6.2	**0.1813**	0.024	13.1	mg/L	297	Standard
	Fe	54	58338.8	13.1	**44.8237**	3.184	7.1	mg/L	91	Standard
	Fe	57	15004.1	10.5	**27.2325**	1.261	4.6	mg/L	237	Standard
>	**Sc-1**	45	54175.3	6.3				mg/L	35084	Standard
	Cl	35	69052.7	1.4				ug/L	29808	Standard
	Kr	83	100.0	7.5				ug/L	38	Standard
	Br	81	841.7	5.1				ug/L	965	Standard
	P	31	265943.1	1.5				ug/L	176735	Standard
	S	34	63109.5	0.7				ug/L	28891	Standard
	Sr	88	51.7	40.6				ug/L	27	Standard
	C	12	8.3	124.9				mg/L	7	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	195.0	24.5				mg/L	3	Standard
	Dy	164	40709.0	11.0				mg/L	14	Standard
	Ho-1	165	26982.5	10.8				mg/L	7	Standard
	Er	166	25952.4	10.2				mg/L	8	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		125.114	
	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		94.261	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			

Sample ID: L1305159513
Report Date/Time: Tuesday, June 04, 2013 16:26:05
Page 2

Approved: June 05, 2013

	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	109.801
	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	112.133
	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
Mn 55 Upper, S, EEE	Mn	55	
Ba 135 Upper, S, EEE	Ba	135	

Sample ID: L1305159513
Report Date/Time: Tuesday, June 04, 2013 16:26:05
Page 3

Approved: June 05, 2013

Method 6020 - Summary Report

Sample ID: L1305159514
Sample Date/Time: Tuesday, June 04, 2013 16:26:59
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	679616.7	2.8				ug/L	552027	Standard
	Be	9	1134.0	9.8	**0.4769**	0.041	8.7	ug/L	18	Standard
	Al	27	260875.5	8.7	**1.5292**	0.120	7.9	ug/L	841	Standard
	Sc	45	58047.9	6.3				ug/L	35084	Standard
	Ti	47	7077.3	9.9	**34.3329**	3.091	9.0	ug/L	22	Standard
	V	51	468499.3	10.1	**83.0035**	8.178	9.9	ug/L	812	Standard
	Cr	52	322892.3	11.4	**65.1814**	7.269	11.2	ug/L	4274	Standard
	Cr	53	66745.2	10.4	**68.3183**	6.965	10.2	ug/L	1106	Standard
	Mn	55	4930531.3	10.3	**657.8978**	64.266	9.8	ug/L	1207	Standard
	Co	59	51878.7	11.2	**9.7903**	1.044	10.7	ug/L	71	Standard
	Ni	60	6642.8	9.5	**3.1289**	0.288	9.2	ug/L	295	Standard
	Cu	65	18405.6	9.1	**8.9281**	0.765	8.6	ug/L	87	Standard
	Zn	66	22815.6	8.6	**20.6936**	1.785	8.6	ug/L	469	Standard
>	**Ge**	72	479942.8	1.8				ug/L	514704	Standard
	As	75	5994.5	8.9	**5.0608**	0.426	8.4	ug/L	-121	Standard
	Se	82	6.7	96.0	**0.0528**	0.053	99.9	ug/L	-1	Standard
	Se-1	77	151.0	6.1	**0.5389**	0.081	15.1	ug/L	127	Standard
>	**Ga**	71	54562.2	10.8				mg/L	175	Standard
	Rb	85	152267.7	7.8				ug/L	50	Standard
	Y	89	659853.8	3.3				ug/L	527499	Standard
>	**Rh**	103	16.7	17.3				ug/L	10	Standard
	Mo	98	1146.0	12.9	**0.2668**	0.031	11.7	ug/L	23	Standard
	Ag	107	1360.7	11.7	**0.2218**	0.024	10.7	ug/L	59	Standard
	Cd	111	161.1	12.7	**0.0870**	0.010	11.6	mg/L	3	Standard
	Cd	114	314.3	4.7	**0.0620**	0.002	3.4	ug/L	10	Standard
>	**In**	115	587267.8	1.6				ug/L	537195	Standard
	Sn	118	14863.6	6.9	**2.8135**	0.227	8.1	ug/L	281	Standard
	Sb	123	323.0	5.3	**0.0624**	0.003	4.9	ug/L	167	Standard
	Ba	135	77946.5	9.4	**42.8912**	3.532	8.2	ug/L	10	Standard
	Ce	140	3393250.3	9.9				ug/L	27	Standard
>	**Tb**	159	813585.3	1.8				ug/L	758170	Standard
	Ho	165	7924.8	11.8				ug/L	7	Standard
	Tl	203	2298.2	5.1	**0.3899**	0.015	3.9	ug/L	5	Standard
	Tl	205	66.3	22.7	**0.4378**	0.093	21.3	ug/L	0	Standard
	Pb	206	230034.6	9.5	**49.4358**	4.099	8.3	ug/L	182	Standard
	Pb	207	182570.0	8.8	**46.1430**	3.538	7.7	ug/L	145	Standard
	Pb	208	267373.2	10.3	**47.1368**	4.341	9.2	ug/L	207	Standard
	U	238	22006.7	9.7	**4.4254**	0.381	8.6	ug/L	1	Standard
>	**Bi**	209	365412.0	1.7				ug/L	325207	Standard

Sample ID: L1305159514
Report Date/Time: Tuesday, June 04, 2013 16:29:51
Page 1

Approved: June 05, 2013

Na	23	1.7	173.2	**-0.9097**	0.311	34.2	mg/L	0	Standard
Mg	24	71.7	28.2	**0.0065**	0.015	236.4	mg/L	25	Standard
K	39	11.7	24.7	**0.0726**	0.026	36.0	mg/L	3	Standard
Ca	43	255.0	18.7	**-0.4707**	0.071	15.1	mg/L	297	Standard
Fe	54	57479.0	12.2	**41.2244**	2.598	6.3	mg/L	91	Standard
Fe	57	14165.0	11.4	**23.9368**	1.610	6.7	mg/L	237	Standard
> **Sc-1**	45	58047.9	6.3				mg/L	35084	Standard
Cl	35	67568.0	1.8				ug/L	29808	Standard
Kr	83	62.4	5.9				ug/L	38	Standard
Br	81	972.5	16.3				ug/L	965	Standard
P	31	266348.5	2.8				ug/L	176735	Standard
S	34	64471.1	2.1				ug/L	28891	Standard
Sr	88	50.0	13.2				ug/L	27	Standard
C	12	5.0	0.0				mg/L	7	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	418.3	8.4				mg/L	3	Standard
Dy	164	12091.8	10.4				mg/L	14	Standard
Ho-1	165	7924.8	11.8				mg/L	7	Standard
Er	166	7996.5	11.0				mg/L	8	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
> Li	6		123.113	
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		93.246	
As	75			
Se	82			
Se-1	77			
> Ga	71			
Rb	85			

Sample ID: L1305159514
Report Date/Time: Tuesday, June 04, 2013 16:29:51
Page 2

Approved: June 05, 2013

	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	109.321
	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	112.363
	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
Mn 55 Upper, S, EEE	Mn	55	

Sample ID: L1305159514
Report Date/Time: Tuesday, June 04, 2013 16:29:51
Page 3

Approved: June 05, 2013

Method 6020 - Summary Report

Sample ID: L1305159515
Sample Date/Time: Tuesday, June 04, 2013 16:30:45
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	687819.6	0.8				ug/L	552027	Standard
	Be	9	2886.9	10.1	**1.2165**	0.114	9.4	ug/L	18	Standard
	Al	27	2778686.8	7.8	**16.2059**	1.150	7.1	ug/L	841	Standard
	Sc	45	54032.9	2.9				ug/L	35084	Standard
	Ti	47	7339.5	11.2	**35.4517**	3.898	11.0	ug/L	22	Standard
	V	51	333062.9	10.5	**58.6942**	6.024	10.3	ug/L	812	Standard
	Cr	52	201930.7	10.5	**40.2598**	4.222	10.5	ug/L	4274	Standard
	Cr	53	41660.1	9.8	**42.0525**	4.100	9.7	ug/L	1106	Standard
	Mn	55	32229305.9	9.4	**4281.7417**	394.149	9.2	ug/L	1207	Standard
	Co	59	131652.7	10.9	**24.7567**	2.655	10.7	ug/L	71	Standard
	Ni	60	22926.7	8.1	**11.0735**	0.885	8.0	ug/L	295	Standard
	Cu	65	1047061.8	9.1	**508.6337**	45.016	8.9	ug/L	87	Standard
	Zn	66	156591.3	10.0	**145.5303**	14.221	9.8	ug/L	469	Standard
>	**Ge**	72	482181.7	0.3				ug/L	514704	Standard
	As	75	10649.9	8.3	**8.8663**	0.705	7.9	ug/L	-121	Standard
	Se	82	95.4	14.7	**0.7938**	0.116	14.6	ug/L	-1	Standard
	Se-1	77	301.7	6.3	**2.4282**	0.233	9.6	ug/L	127	Standard
>	**Ga**	71	36835.1	11.4				mg/L	175	Standard
	Rb	85	219804.9	6.0				ug/L	50	Standard
	Y	89	1442412.7	4.6				ug/L	527499	Standard
>	**Rh**	103	206.7	1.4				ug/L	10	Standard
	Mo	98	1686.8	7.7	**0.3924**	0.033	8.3	ug/L	23	Standard
	Ag	107	2040.8	8.2	**0.3357**	0.030	8.8	ug/L	59	Standard
	Cd	111	1510.2	10.1	**0.8242**	0.087	10.5	mg/L	3	Standard
	Cd	114	4091.5	9.4	**0.8626**	0.085	9.8	ug/L	10	Standard
>	**In**	115	593599.5	0.6				ug/L	537195	Standard
	Sn	118	2116.5	8.5	**0.3390**	0.036	10.7	ug/L	281	Standard
	Sb	123	794.7	10.0	**0.1767**	0.020	11.6	ug/L	167	Standard
	Ba	135	477017.5	8.5	**260.0464**	23.327	9.0	ug/L	10	Standard
	Ce	140	4959488.1	9.7				ug/L	27	Standard
>	**Tb**	159	869982.6	1.0				ug/L	758170	Standard
	Ho	165	46651.6	10.6				ug/L	7	Standard
	Tl	203	3075.3	7.2	**0.5155**	0.039	7.6	ug/L	5	Standard
	Tl	205	82.7	2.5	**0.5379**	0.017	3.2	ug/L	0	Standard
	Pb	206	633213.6	9.1	**134.5230**	12.449	9.3	ug/L	182	Standard
	Pb	207	519322.3	8.7	**129.7438**	11.564	8.9	ug/L	145	Standard
	Pb	208	754173.2	9.1	**131.4303**	12.092	9.2	ug/L	207	Standard
	U	238	12988.6	10.5	**2.5800**	0.273	10.6	ug/L	1	Standard
>	**Bi**	209	370156.8	0.7				ug/L	325207	Standard

Sample ID: L1305159515
Report Date/Time: Tuesday, June 04, 2013 16:33:37
Page 1

Approved: June 05, 2013

	Na	23	61.7	40.8	**5.5201**	2.645	47.9	mg/L	0	Standard
	Mg	24	66.7	15.6	**0.0059**	0.006	108.4	mg/L	25	Standard
	K	39	43.3	6.7	**0.4572**	0.037	8.1	mg/L	3	Standard
	Ca	43	2851.9	11.8	**5.5239**	0.656	11.9	mg/L	297	Standard
	Fe	54	37117.7	12.6	**28.5924**	3.000	10.5	mg/L	91	Standard
	Fe	57	9583.1	11.0	**17.2720**	1.696	9.8	mg/L	237	Standard
>	**Sc-1**	45	54032.9	2.9				mg/L	35084	Standard
	Cl	35	70936.7	1.1				ug/L	29808	Standard
	Kr	83	130.0	10.3				ug/L	38	Standard
	Br	81	976.7	7.2				ug/L	965	Standard
	P	31	270336.0	3.1				ug/L	176735	Standard
	S	34	66491.4	0.8				ug/L	28891	Standard
	Sr	88	47.5	10.5				ug/L	27	Standard
	C	12	11.7	24.7				mg/L	7	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	283.3	17.7				mg/L	3	Standard
	Dy	164	68902.2	10.8				mg/L	14	Standard
	Ho-1	165	46651.6	10.6				mg/L	7	Standard
	Er	166	44252.3	10.5				mg/L	8	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		124.599	
	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		93.681	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			

Sample ID: L1305159515
Report Date/Time: Tuesday, June 04, 2013 16:33:37
Page 2

Approved: June 05, 2013

	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	110.500
	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	113.822
	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
Mn 55 Upper, S, EEE	Mn	55	
Cu 65 Upper, S, EEE	Cu	65	
Zn 66 Upper, S, EEE	Zn	66	
Ba 135 Upper, S, EEE	Ba	135	

Sample ID: L1305159515
Report Date/Time: Tuesday, June 04, 2013 16:33:37
Page 3

Approved: June 05, 2013

Pb 206 Upper, S, EEE	Pb	206
Pb 207 Upper, S, EEE	Pb	207
Pb 208 Upper, S, EEE	Pb	208

Approved: June 05, 2013

Method 6020 - Summary Report

Sample ID: L1305159516
Sample Date/Time: Tuesday, June 04, 2013 16:34:31
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	683374.5	2.4				ug/L	552027	Standard
	Be	9	3025.3	8.6	**1.2842**	0.105	8.2	ug/L	18	Standard
	Al	27	1033453.3	9.7	**6.0607**	0.566	9.3	ug/L	841	Standard
	Sc	45	61660.4	4.3				ug/L	35084	Standard
	Ti	47	22597.3	12.4	**108.4782**	12.547	11.6	ug/L	22	Standard
	V	51	840278.2	9.9	**147.1711**	13.750	9.3	ug/L	812	Standard
	Cr	52	376319.0	10.5	**75.1733**	7.521	10.0	ug/L	4274	Standard
	Cr	53	78575.6	10.8	**79.6188**	8.169	10.3	ug/L	1106	Standard
	Mn	55	19322155.2	10.0	**2547.5973**	236.374	9.3	ug/L	1207	Standard
	Co	59	94469.4	10.5	**17.6260**	1.728	9.8	ug/L	71	Standard
	Ni	60	15830.3	9.8	**7.5465**	0.693	9.2	ug/L	295	Standard
	Cu	65	36779.2	10.1	**17.6783**	1.659	9.4	ug/L	87	Standard
	Zn	66	69576.4	9.9	**63.7730**	5.925	9.3	ug/L	469	Standard
>	**Ge**	72	485701.6	1.0				ug/L	514704	Standard
	As	75	20654.5	8.7	**16.9681**	1.357	8.0	ug/L	-121	Standard
	Se	82	11.9	137.6	**0.0952**	0.135	141.5	ug/L	-1	Standard
	Se-1	77	206.3	11.6	**1.2076**	0.279	23.1	ug/L	127	Standard
>	**Ga**	71	94926.4	9.2				mg/L	175	Standard
	Rb	85	308073.0	7.3				ug/L	50	Standard
	Y	89	967201.5	5.1				ug/L	527499	Standard
>	**Rh**	103	21.7	35.3				ug/L	10	Standard
	Mo	98	4433.1	10.2	**1.0637**	0.107	10.1	ug/L	23	Standard
	Ag	107	1657.1	9.1	**0.2759**	0.025	9.2	ug/L	59	Standard
	Cd	111	323.5	6.7	**0.1785**	0.012	7.0	mg/L	3	Standard
	Cd	114	578.2	9.5	**0.1198**	0.011	9.5	ug/L	10	Standard
>	**In**	115	581832.0	1.1				ug/L	537195	Standard
	Sn	118	974.0	2.9	**0.1238**	0.007	5.6	ug/L	281	Standard
	Sb	123	300.6	12.8	**0.0576**	0.010	16.8	ug/L	167	Standard
	Ba	135	117979.0	8.9	**65.5761**	5.769	8.8	ug/L	10	Standard
	Ce	140	3929535.4	9.2				ug/L	27	Standard
>	**Tb**	159	810159.2	0.7				ug/L	758170	Standard
	Ho	165	21580.8	11.4				ug/L	7	Standard
	Tl	203	3686.8	6.9	**0.6292**	0.046	7.3	ug/L	5	Standard
	Tl	205	94.0	18.1	**0.6213**	0.112	18.0	ug/L	0	Standard
	Pb	206	154537.8	8.0	**33.3799**	2.846	8.5	ug/L	182	Standard
	Pb	207	122128.4	8.2	**31.0191**	2.663	8.6	ug/L	145	Standard
	Pb	208	177788.8	9.1	**31.5019**	2.994	9.5	ug/L	207	Standard
	U	238	24599.1	10.0	**4.9744**	0.519	10.4	ug/L	1	Standard
>	**Bi**	209	363746.2	1.2				ug/L	325207	Standard

Sample ID: L1305159516
Report Date/Time: Tuesday, June 04, 2013 16:37:23
Page 1

Approved: June 05, 2013

	Na	23	13.3	78.1	**0.1433**	0.922	643.7	mg/L	0	Standard
	Mg	24	66.7	37.7	**-0.0001**	0.014	16534.2	mg/L	25	Standard
	K	39	45.0	11.1	**0.4108**	0.047	11.5	mg/L	3	Standard
	Ca	43	756.7	10.1	**0.5063**	0.092	18.2	mg/L	297	Standard
	Fe	54	101524.1	10.7	**68.6994**	5.152	7.5	mg/L	91	Standard
	Fe	57	25516.7	11.7	**40.9396**	3.339	8.2	mg/L	237	Standard
>	**Sc-1**	45	61660.4	4.3				mg/L	35084	Standard
	Cl	35	70207.3	0.7				ug/L	29808	Standard
	Kr	83	106.4	10.0				ug/L	38	Standard
	Br	81	801.7	2.9				ug/L	965	Standard
	P	31	275509.9	2.4				ug/L	176735	Standard
	S	34	65704.7	0.1				ug/L	28891	Standard
	Sr	88	49.2	28.0				ug/L	27	Standard
	C	12	1.7	173.2				mg/L	7	Standard
	N	14	1.7	173.2				mg/L	0	Standard
	Hg	202	161.7	38.7				mg/L	3	Standard
	Dy	164	31070.7	10.4				mg/L	14	Standard
	Ho-1	165	21580.8	11.4				mg/L	7	Standard
	Er	166	20298.7	11.0				mg/L	8	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		123.794	
	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		94.365	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			

Sample ID: L1305159516
Report Date/Time: Tuesday, June 04, 2013 16:37:23
Page 2

Approved: June 05, 2013

	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	108.309
	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	111.851
	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
Ti 47 Upper, S, EEE	Ti	47	
V 51 Upper, S, EEE	V	51	
Mn 55 Upper, S, EEE	Mn	55	

Sample ID: L1305159516
Report Date/Time: Tuesday, June 04, 2013 16:37:23
Page 3

Approved: June 05, 2013

Method 6020 - Summary Report

Sample ID: L1305150701
Sample Date/Time: Tuesday, June 04, 2013 16:38:17
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	669388.6	1.1				ug/L	552027	Standard
	Be	9	2775.9	9.2	**1.2017**	0.100	8.3	ug/L	18	Standard
	Al	27	67473696.3	9.2	**404.5659**	33.528	8.3	ug/L	841	Standard
	Sc	45	48960.7	4.1				ug/L	35084	Standard
	Ti	47	3888.5	9.6	**19.8936**	1.754	8.8	ug/L	22	Standard
	V	51	172552.4	11.1	**32.1960**	3.194	9.9	ug/L	812	Standard
	Cr	52	105715.6	10.5	**21.9868**	2.135	9.7	ug/L	4274	Standard
	Cr	53	21834.2	12.5	**22.9180**	2.741	12.0	ug/L	1106	Standard
	Mn	55	7637151.1	9.8	**1076.3079**	94.062	8.7	ug/L	1207	Standard
	Co	59	118109.4	9.7	**23.5602**	1.999	8.5	ug/L	71	Standard
	Ni	60	141466.3	9.9	**73.2142**	6.367	8.7	ug/L	295	Standard
	Cu	65	97142.5	8.2	**50.0135**	3.444	6.9	ug/L	87	Standard
	Zn	66	164591.7	9.7	**162.3354**	13.512	8.3	ug/L	469	Standard
>	Ge	72	454333.6	2.3				ug/L	514704	Standard
	As	75	28417.8	9.1	**24.9020**	1.965	7.9	ug/L	-121	Standard
	Se	82	110.9	6.0	**0.9809**	0.070	7.2	ug/L	-1	Standard
	Se-1	77	245.3	8.3	**1.9085**	0.268	14.0	ug/L	127	Standard
>	Ga	71	24832.1	10.1				mg/L	175	Standard
	Rb	85	261843.1	6.7				ug/L	50	Standard
	Y	89	977966.3	5.7				ug/L	527499	Standard
>	Rh	103	41.7	27.7				ug/L	10	Standard
	Mo	98	35195.6	9.3	**8.8019**	0.875	9.9	ug/L	23	Standard
	Ag	107	880.0	11.9	**0.1460**	0.019	13.2	ug/L	59	Standard
	Cd	111	1105.3	8.1	**0.6365**	0.049	7.7	mg/L	3	Standard
	Cd	114	2981.3	11.2	**0.6629**	0.078	11.8	ug/L	10	Standard
>	In	115	561951.3	1.7				ug/L	537195	Standard
	Sn	118	682.0	18.2	**0.0713**	0.024	33.6	ug/L	281	Standard
	Sb	123	555.1	14.1	**0.1258**	0.020	15.7	ug/L	167	Standard
	Ba	135	197240.6	9.4	**113.5983**	11.467	10.1	ug/L	10	Standard
	Ce	140	984190.0	10.7				ug/L	27	Standard
>	Tb	159	806363.4	1.0				ug/L	758170	Standard
	Ho	165	24664.6	12.2				ug/L	7	Standard
	Tl	203	7096.3	10.4	**1.2850**	0.127	9.9	ug/L	5	Standard
	Tl	205	194.0	6.4	**1.3513**	0.090	6.6	ug/L	0	Standard
	Pb	206	146691.1	10.1	**33.5958**	3.244	9.7	ug/L	182	Standard
	Pb	207	114188.3	10.3	**30.7525**	3.009	9.8	ug/L	145	Standard
	Pb	208	164316.0	10.0	**30.8686**	2.943	9.5	ug/L	207	Standard
	U	238	12468.8	10.8	**2.6727**	0.273	10.2	ug/L	1	Standard
>	Bi	209	342848.8	0.8				ug/L	325207	Standard

Sample ID: L1305150701
Report Date/Time: Tuesday, June 04, 2013 16:41:09
Page 1

Approved: June 05, 2013

⌈	**Na**	23	480.0	8.3	**56.0326**	5.959	10.6	mg/L	0	Standard
|	**Mg**	24	138.3	5.5	**0.0658**	0.010	14.7	mg/L	25	Standard
|	**K**	39	123.3	2.3	**1.5556**	0.094	6.0	mg/L	3	Standard
|	**Ca**	43	21693.9	7.7	**53.8701**	2.030	3.8	mg/L	297	Standard
|	**Fe**	54	53421.6	12.5	**45.4457**	3.933	8.7	mg/L	91	Standard
|	**Fe**	57	16293.8	9.7	**32.8343**	1.922	5.9	mg/L	237	Standard
⌊>	**Sc-1**	45	48960.7	4.1				mg/L	35084	Standard
	Cl	35	78147.7	1.6				ug/L	29808	Standard
	Kr	83	95.1	16.9				ug/L	38	Standard
	Br	81	1400.9	3.7				ug/L	965	Standard
	P	31	289604.2	3.2				ug/L	176735	Standard
	S	34	78978.7	1.1				ug/L	28891	Standard
	Sr	88	52.5	21.8				ug/L	27	Standard
	C	12	30.0	33.3				mg/L	7	Standard
	N	14	1.7	173.2				mg/L	0	Standard
	Hg	202	76.7	13.6				mg/L	3	Standard
	Dy	164	38705.6	11.2				mg/L	14	Standard
	Ho-1	165	24664.6	12.2				mg/L	7	Standard
	Er	166	22287.5	11.3				mg/L	8	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		121.260	
|	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		88.271	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			

Sample ID: L1305150701
Report Date/Time: Tuesday, June 04, 2013 16:41:09
Page 2

Approved: June 05, 2013

⌈	Y	89	
⌊>	Rh	103	
⌈	Mo	98	
|	Ag	107	
|	Cd	111	
|	Cd	114	
|>	In	115	104.608
|	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	105.425
⌈	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	
Zn 66 Upper, S, EEE	Zn	66	
Ba 135 Upper, S, EEE	Ba	135	

Sample ID: L1305150701
Report Date/Time: Tuesday, June 04, 2013 16:41:09
Page 3

Approved: June 05, 2013

Method 6020 - Summary Report

Sample ID: L1305150702
Sample Date/Time: Tuesday, June 04, 2013 16:42:03
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	639020.2	2.0				ug/L	552027	Standard
	Be	9	2308.8	8.8	**1.0453**	0.076	7.3	ug/L	18	Standard
	Al	27	116025531.5	10.0	**728.4508**	60.907	8.4	ug/L	841	Standard
	Sc	45	48761.7	2.0				ug/L	35084	Standard
	Ti	47	3924.8	9.7	**20.5634**	2.033	9.9	ug/L	22	Standard
	V	51	147083.5	11.0	**28.0899**	3.048	10.9	ug/L	812	Standard
	Cr	52	94285.9	12.7	**20.0067**	2.588	12.9	ug/L	4274	Standard
	Cr	53	19425.0	10.5	**20.7904**	2.272	10.9	ug/L	1106	Standard
	Mn	55	6041118.1	10.7	**871.7430**	92.499	10.6	ug/L	1207	Standard
	Co	59	97464.5	11.4	**19.9087**	2.276	11.4	ug/L	71	Standard
	Ni	60	118986.7	8.6	**63.0501**	5.436	8.6	ug/L	295	Standard
	Cu	65	85837.3	8.7	**45.2470**	3.871	8.6	ug/L	87	Standard
	Zn	66	137336.0	9.1	**138.6159**	12.351	8.9	ug/L	469	Standard
>	**Ge**	72	443929.8	1.5				ug/L	514704	Standard
	As	75	24677.0	8.8	**22.1551**	1.917	8.7	ug/L	-121	Standard
	Se	82	105.9	15.3	**0.9568**	0.132	13.8	ug/L	-1	Standard
	Se-1	77	227.3	4.4	**1.7386**	0.112	6.5	ug/L	127	Standard
>	**Ga**	71	20584.0	7.8				mg/L	175	Standard
	Rb	85	212666.8	7.0				ug/L	50	Standard
	Y	89	954777.4	4.8				ug/L	527499	Standard
>	**Rh**	103	76.7	54.7				ug/L	10	Standard
	Mo	98	31688.5	10.7	**8.2054**	0.781	9.5	ug/L	23	Standard
	Ag	107	746.4	12.7	**0.1267**	0.016	12.9	ug/L	59	Standard
	Cd	111	869.5	7.7	**0.5185**	0.034	6.6	mg/L	3	Standard
	Cd	114	2423.9	9.4	**0.5573**	0.047	8.4	ug/L	10	Standard
>	**In**	115	541982.6	1.2				ug/L	537195	Standard
	Sn	118	783.0	4.6	**0.0977**	0.009	9.4	ug/L	281	Standard
	Sb	123	438.9	0.2	**0.1001**	0.001	1.3	ug/L	167	Standard
	Ba	135	149044.6	9.3	**88.8888**	7.217	8.1	ug/L	10	Standard
	Ce	140	865061.9	10.0				ug/L	27	Standard
>	**Tb**	159	799169.4	1.2				ug/L	758170	Standard
	Ho	165	23576.5	10.5				ug/L	7	Standard
	Tl	203	5904.5	7.2	**1.1253**	0.065	5.8	ug/L	5	Standard
	Tl	205	148.0	13.3	**1.0852**	0.125	11.6	ug/L	0	Standard
	Pb	206	126830.9	10.6	**30.5611**	2.817	9.2	ug/L	182	Standard
	Pb	207	97526.4	10.2	**27.6333**	2.428	8.8	ug/L	145	Standard
	Pb	208	140120.2	10.0	**27.6953**	2.369	8.6	ug/L	207	Standard
	U	238	13033.0	11.0	**2.9397**	0.282	9.6	ug/L	1	Standard
>	**Bi**	209	325663.8	2.3				ug/L	325207	Standard

Sample ID: L1305150702
Report Date/Time: Tuesday, June 04, 2013 16:44:55
Page 1

Approved: June 05, 2013

	Na	23	911.7	1.1	**107.6696**	3.076	2.9	mg/L	0	Standard
	Mg	24	211.7	22.7	**0.1225**	0.039	31.8	mg/L	25	Standard
	K	39	101.7	7.5	**1.2775**	0.124	9.7	mg/L	3	Standard
	Ca	43	43826.8	7.1	**110.4837**	8.754	7.9	mg/L	297	Standard
	Fe	54	44837.8	8.0	**38.3884**	3.304	8.6	mg/L	91	Standard
	Fe	57	16484.1	12.6	**33.4600**	4.780	14.3	mg/L	237	Standard
>	**Sc-1**	45	48761.7	2.0				mg/L	35084	Standard
	Cl	35	78616.5	1.8				ug/L	29808	Standard
	Kr	83	92.3	9.0				ug/L	38	Standard
	Br	81	1365.1	5.3				ug/L	965	Standard
	P	31	277070.6	2.6				ug/L	176735	Standard
	S	34	76154.3	1.9				ug/L	28891	Standard
	Sr	88	108.3	18.5				ug/L	27	Standard
	C	12	36.7	28.4				mg/L	7	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	85.0	20.4				mg/L	3	Standard
	Dy	164	36969.9	11.6				mg/L	14	Standard
	Ho-1	165	23576.5	10.5				mg/L	7	Standard
	Er	166	21449.3	10.4				mg/L	8	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		115.759	
	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		86.250	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			

Sample ID: L1305150702
Report Date/Time: Tuesday, June 04, 2013 16:44:55
Page 2

Approved: June 05, 2013

⌈	Y	89	
⌊>	Rh	103	
⌈	Mo	98	
|	Ag	107	
|	Cd	111	
|	Cd	114	
|>	In	115	100.891
|	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	100.140
⌈	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
Al 27 Upper, S, EEE	Al	27	
Mn 55 Upper, S, EEE	Mn	55	
Zn 66 Upper, S, EEE	Zn	66	

Approved: June 05, 2013

Method 6020 - Summary Report

Sample ID: L1305150703
Sample Date/Time: Tuesday, June 04, 2013 16:45:49
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	645165.7	2.4				ug/L	552027	Standard
	Be	9	2324.2	9.1	**1.0425**	0.085	8.2	ug/L	18	Standard
	Al	27	82921929.4	8.8	**515.9650**	40.946	7.9	ug/L	841	Standard
	Sc	45	49345.3	3.4				ug/L	35084	Standard
	Ti	47	3939.5	11.5	**20.4921**	2.314	11.3	ug/L	22	Standard
	V	51	147460.9	9.7	**27.9669**	2.687	9.6	ug/L	812	Standard
	Cr	52	90393.0	11.1	**19.0090**	2.159	11.4	ug/L	4274	Standard
	Cr	53	18072.5	10.2	**19.1279**	2.017	10.5	ug/L	1106	Standard
	Mn	55	6551260.4	10.0	**938.7889**	92.496	9.9	ug/L	1207	Standard
	Co	59	104234.2	10.3	**21.1425**	2.155	10.2	ug/L	71	Standard
	Ni	60	125025.1	8.9	**65.7905**	5.792	8.8	ug/L	295	Standard
	Cu	65	82343.5	8.4	**43.0973**	3.477	8.1	ug/L	87	Standard
	Zn	66	136448.4	9.7	**136.7590**	13.146	9.6	ug/L	469	Standard
>	**Ge**	72	447011.8	0.9				ug/L	514704	Standard
	As	75	22327.4	8.2	**19.9165**	1.588	8.0	ug/L	-121	Standard
	Se	82	103.4	7.0	**0.9286**	0.057	6.1	ug/L	-1	Standard
	Se-1	77	218.0	11.5	**1.5910**	0.343	21.5	ug/L	127	Standard
>	**Ga**	71	20418.9	12.1				mg/L	175	Standard
	Rb	85	228892.2	8.4				ug/L	50	Standard
	Y	89	933028.0	4.6				ug/L	527499	Standard
>	**Rh**	103	75.0	37.1				ug/L	10	Standard
	Mo	98	31205.5	9.6	**8.0634**	0.787	9.8	ug/L	23	Standard
	Ag	107	788.0	7.9	**0.1342**	0.012	8.9	ug/L	59	Standard
	Cd	111	1012.7	10.4	**0.6029**	0.064	10.6	mg/L	3	Standard
	Cd	114	2808.1	8.4	**0.6451**	0.056	8.7	ug/L	10	Standard
>	**In**	115	543578.8	0.3				ug/L	537195	Standard
	Sn	118	629.0	3.5	**0.0650**	0.004	6.6	ug/L	281	Standard
	Sb	123	550.5	11.5	**0.1295**	0.017	13.2	ug/L	167	Standard
	Ba	135	158936.9	9.5	**94.5839**	9.130	9.7	ug/L	10	Standard
	Ce	140	881830.8	9.7				ug/L	27	Standard
>	**Tb**	159	801097.3	0.3				ug/L	758170	Standard
	Ho	165	22643.4	10.6				ug/L	7	Standard
	Tl	203	6372.3	7.5	**1.2013**	0.092	7.7	ug/L	5	Standard
	Tl	205	174.3	19.3	**1.2640**	0.242	19.1	ug/L	0	Standard
	Pb	206	120595.1	9.3	**28.7468**	2.729	9.5	ug/L	182	Standard
	Pb	207	92984.7	10.0	**26.0648**	2.657	10.2	ug/L	145	Standard
	Pb	208	132823.4	9.3	**25.9707**	2.458	9.5	ug/L	207	Standard
	U	238	11443.0	10.1	**2.5539**	0.263	10.3	ug/L	1	Standard
>	**Bi**	209	329454.0	0.3				ug/L	325207	Standard

Sample ID: L1305150703
Report Date/Time: Tuesday, June 04, 2013 16:48:41
Page 1

Approved: June 05, 2013

	Na	23	753.4	18.0	**87.6392**	14.980	17.1	mg/L	0	Standard
	Mg	24	153.3	19.1	**0.0756**	0.019	24.8	mg/L	25	Standard
	K	39	88.3	11.8	**1.0877**	0.125	11.5	mg/L	3	Standard
	Ca	43	32693.8	10.8	**80.9949**	6.252	7.7	mg/L	297	Standard
	Fe	54	44803.9	11.2	**37.8199**	3.035	8.0	mg/L	91	Standard
	Fe	57	15344.5	11.9	**30.6384**	2.743	9.0	mg/L	237	Standard
>	**Sc-1**	45	49345.3	3.4				mg/L	35084	Standard
	Cl	35	78091.4	0.9				ug/L	29808	Standard
	Kr	83	85.1	15.1				ug/L	38	Standard
	Br	81	1253.4	6.6				ug/L	965	Standard
	P	31	275861.6	1.8				ug/L	176735	Standard
	S	34	76934.0	0.4				ug/L	28891	Standard
	Sr	88	67.5	14.8				ug/L	27	Standard
	C	12	20.0	25.0				mg/L	7	Standard
	N	14	1.7	173.2				mg/L	0	Standard
	Hg	202	81.7	9.4				mg/L	3	Standard
	Dy	164	35241.6	11.9				mg/L	14	Standard
	Ho-1	165	22643.4	10.6				mg/L	7	Standard
	Er	166	20249.6	11.7				mg/L	8	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		116.872	
	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		86.848	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			

Sample ID: L1305150703
Report Date/Time: Tuesday, June 04, 2013 16:48:41
Page 2

Approved: June 05, 2013

⌈	Y	89	
⌊>	Rh	103	
⌈	Mo	98	
|	Ag	107	
|	Cd	111	
|	Cd	114	
|>	In	115	101.188
|	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	101.306
⌈	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
Al 27 Upper, S, EEE	Al	27	
Mn 55 Upper, S, EEE	Mn	55	
Zn 66 Upper, S, EEE	Zn	66	

Approved: June 05, 2013

Method 6020 - Summary Report

Sample ID: L1305159517 WG432680-01
Sample Date/Time: Tuesday, June 04, 2013 16:49:35
Number of Replicates: 3
Autosampler Position: 328
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	555747.7	1.0				ug/L	552027	Standard
	Be	9	52.7	9.6	**0.0166**	0.002	14.3	ug/L	18	Standard
	Al	27	21926.7	12.9	**0.1464**	0.019	12.9	ug/L	841	Standard
	Sc	45	36841.4	0.9				ug/L	35084	Standard
	Ti	47	176.7	11.9	**0.9217**	0.131	14.3	ug/L	22	Standard
	V	51	8392.7	3.4	**1.6126**	0.049	3.0	ug/L	812	Standard
	Cr	52	8011.5	2.3	**1.0791**	0.044	4.1	ug/L	4274	Standard
	Cr	53	1310.1	4.0	**0.5553**	0.085	15.3	ug/L	1106	Standard
	Mn	55	302589.4	4.6	**47.0190**	2.248	4.8	ug/L	1207	Standard
	Co	59	2049.8	3.2	**0.4369**	0.014	3.2	ug/L	71	Standard
	Ni	60	989.4	5.1	**0.4350**	0.034	7.7	ug/L	295	Standard
	Cu	65	433.7	5.0	**0.1924**	0.010	5.3	ug/L	87	Standard
	Zn	66	2153.2	2.6	**1.6432**	0.060	3.7	ug/L	469	Standard
>	**Ge**	72	410976.3	1.5				ug/L	514704	Standard
	As	75	56.5	43.0	**0.1617**	0.023	14.3	ug/L	-121	Standard
	Se	82	3.6	96.4	**0.0324**	0.035	106.3	ug/L	-1	Standard
	Se-1	77	85.3	13.1	**-0.1086**	0.177	162.8	ug/L	127	Standard
>	**Ga**	71	1070.0	5.6				mg/L	175	Standard
	Rb	85	4130.6	2.4				ug/L	50	Standard
	Y	89	474043.4	0.7				ug/L	527499	Standard
>	**Rh**	103	3.3	86.6				ug/L	10	Standard
	Mo	98	47.8	20.6	**0.0058**	0.003	45.3	ug/L	23	Standard
	Ag	107	70.3	9.7	**0.0012**	0.001	111.5	ug/L	59	Standard
	Cd	111	7.3	21.0	**0.0027**	0.001	37.0	mg/L	3	Standard
	Cd	114	27.0	31.1	**0.0013**	0.002	161.3	ug/L	10	Standard
>	**In**	115	514676.7	0.4				ug/L	537195	Standard
	Sn	118	361.0	24.0	**0.0131**	0.019	145.1	ug/L	281	Standard
	Sb	123	181.6	2.0	**0.0339**	0.001	3.6	ug/L	167	Standard
	Ba	135	3207.0	3.2	**1.9928**	0.067	3.4	ug/L	10	Standard
	Ce	140	92231.5	3.9				ug/L	27	Standard
>	**Tb**	159	735075.3	1.9				ug/L	758170	Standard
	Ho	165	314.0	6.7				ug/L	7	Standard
	Tl	203	73.0	11.2	**0.0129**	0.002	13.4	ug/L	5	Standard
	Tl	205	2.7	94.4	**0.0265**	0.018	66.9	ug/L	0	Standard
	Pb	206	4096.9	3.1	**0.9284**	0.035	3.7	ug/L	182	Standard
	Pb	207	3261.0	3.6	**0.8688**	0.036	4.1	ug/L	145	Standard
	Pb	208	4624.6	2.4	**0.8578**	0.009	1.1	ug/L	207	Standard
	U	238	416.0	3.8	**0.0919**	0.005	5.0	ug/L	1	Standard
>	**Bi**	209	330170.1	1.8				ug/L	325207	Standard

Sample ID: L1305159517 WG432680-01
Report Date/Time: Tuesday, June 04, 2013 16:52:27
Page 1

Approved: June 05, 2013

Na	23	0.0		**-1.0895**	0.000	0.0	mg/L	0	Standard
Mg	24	36.7	55.1	**-0.0030**	0.020	669.7	mg/L	25	Standard
K	39	11.7	49.5	**0.1476**	0.101	68.6	mg/L	3	Standard
Ca	43	220.0	25.3	**-0.2728**	0.186	68.0	mg/L	297	Standard
Fe	54	1124.3	6.4	**1.1596**	0.071	6.1	mg/L	91	Standard
Fe	57	365.0	17.2	**0.4808**	0.165	34.3	mg/L	237	Standard
> **Sc-1**	45	36841.4	0.9				mg/L	35084	Standard
Cl	35	68082.6	1.1				ug/L	29808	Standard
Kr	83	33.1	13.3				ug/L	38	Standard
Br	81	575.0	10.1				ug/L	965	Standard
P	31	90917.3	4.4				ug/L	176735	Standard
S	34	72779.4	1.0				ug/L	28891	Standard
Sr	88	45.0	53.0				ug/L	27	Standard
C	12	1.7	173.2				mg/L	7	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	10.0	50.0				mg/L	3	Standard
Dy	164	485.8	10.6				mg/L	14	Standard
Ho-1	165	314.0	6.7				mg/L	7	Standard
Er	166	302.7	8.3				mg/L	8	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
> Li	6		100.674	
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		79.847	
As	75			
Se	82			
Se-1	77			
> Ga	71			
Rb	85			

Sample ID: L1305159517 WG432680-01
Report Date/Time: Tuesday, June 04, 2013 16:52:27
Page 2

Approved: June 05, 2013

	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	95.808
	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	101.526
	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: June 05, 2013

Method 6020 - Summary Report

Sample ID: L1305159517S WG432680-04
Sample Date/Time: Tuesday, June 04, 2013 16:57:02
Number of Replicates: 3
Autosampler Position: 329
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	562613.7	1.5				ug/L	552027	Standard
	Be	9	1084.7	4.8	**0.5530**	0.025	4.5	ug/L	18	Standard
	Al	27	21362.5	9.8	**0.1406**	0.016	11.6	ug/L	841	Standard
	Sc	45	36602.5	1.1				ug/L	35084	Standard
	Ti	47	461.3	11.9	**2.5045**	0.294	11.7	ug/L	22	Standard
	V	51	14942.0	9.0	**2.9306**	0.260	8.9	ug/L	812	Standard
	Cr	52	15566.3	5.4	**2.8364**	0.180	6.3	ug/L	4274	Standard
	Cr	53	2847.8	1.5	**2.3780**	0.045	1.9	ug/L	1106	Standard
	Mn	55	279016.5	4.6	**42.7928**	1.747	4.1	ug/L	1207	Standard
	Co	59	4214.6	6.7	**0.9031**	0.057	6.3	ug/L	71	Standard
	Ni	60	2224.8	7.1	**1.1273**	0.082	7.3	ug/L	295	Standard
	Cu	65	1593.1	2.4	**0.8421**	0.018	2.2	ug/L	87	Standard
	Zn	66	3320.0	4.5	**2.8762**	0.143	5.0	ug/L	469	Standard
>	**Ge**	72	416131.8	0.6				ug/L	514704	Standard
	As	75	677.4	13.7	**0.7527**	0.085	11.3	ug/L	-121	Standard
	Se	82	43.6	7.9	**0.4192**	0.031	7.5	ug/L	-1	Standard
	Se-1	77	126.3	8.2	**0.4726**	0.145	30.6	ug/L	127	Standard
>	**Ga**	71	1445.1	9.3				mg/L	175	Standard
	Rb	85	6933.3	6.9				ug/L	50	Standard
	Y	89	484725.5	1.1				ug/L	527499	Standard
>	**Rh**	103	8.3	34.6				ug/L	10	Standard
	Mo	98	62.6	46.2	**0.0097**	0.008	80.4	ug/L	23	Standard
	Ag	107	2762.3	2.3	**0.5258**	0.013	2.5	ug/L	59	Standard
	Cd	111	823.3	2.6	**0.5122**	0.013	2.5	mg/L	3	Standard
	Cd	114	2288.9	6.5	**0.5491**	0.037	6.7	ug/L	10	Standard
>	**In**	115	519789.3	0.2				ug/L	537195	Standard
	Sn	118	956.0	2.3	**0.1425**	0.005	3.2	ug/L	281	Standard
	Sb	123	189.2	13.4	**0.0355**	0.007	19.8	ug/L	167	Standard
	Ba	135	3914.2	5.5	**2.4132**	0.135	5.6	ug/L	10	Standard
	Ce	140	102492.0	6.0				ug/L	27	Standard
>	**Tb**	159	742353.1	0.3				ug/L	758170	Standard
	Ho	165	294.0	9.2				ug/L	7	Standard
	Tl	203	1928.5	5.0	**0.3602**	0.018	4.9	ug/L	5	Standard
	Tl	205	56.7	21.8	**0.4128**	0.088	21.3	ug/L	0	Standard
	Pb	206	5857.5	4.0	**1.3402**	0.058	4.3	ug/L	182	Standard
	Pb	207	4671.4	0.4	**1.2567**	0.007	0.6	ug/L	145	Standard
	Pb	208	6507.9	3.9	**1.2192**	0.051	4.2	ug/L	207	Standard
	U	238	2405.2	8.2	**0.5321**	0.044	8.3	ug/L	1	Standard
>	**Bi**	209	331949.6	0.2				ug/L	325207	Standard

Sample ID: L1305159517S WG432680-04
Report Date/Time: Tuesday, June 04, 2013 16:59:54
Page 1

Approved: June 05, 2013

	Na	23	1.7	173.2	**-0.8246**	0.459	55.6	mg/L	0	Standard
	Mg	24	45.0	11.1	**0.0058**	0.005	84.3	mg/L	25	Standard
	K	39	5.0	100.0	**0.0327**	0.088	269.6	mg/L	3	Standard
	Ca	43	236.7	9.8	**-0.2111**	0.078	37.2	mg/L	297	Standard
	Fe	54	1333.2	12.2	**1.4087**	0.202	14.3	mg/L	91	Standard
	Fe	57	433.3	4.8	**0.6749**	0.045	6.7	mg/L	237	Standard
>	**Sc-1**	45	36602.5	1.1				mg/L	35084	Standard
	Cl	35	67532.9	1.6				ug/L	29808	Standard
	Kr	83	31.6	5.8				ug/L	38	Standard
	Br	81	539.2	2.6				ug/L	965	Standard
	P	31	90314.8	5.7				ug/L	176735	Standard
	S	34	69663.1	1.2				ug/L	28891	Standard
	Sr	88	45.8	27.5				ug/L	27	Standard
	C	12	3.3	86.6				mg/L	7	Standard
	N	14	1.7	173.2				mg/L	0	Standard
	Hg	202	20.0	50.0				mg/L	3	Standard
	Dy	164	431.3	2.5				mg/L	14	Standard
	Ho-1	165	294.0	9.2				mg/L	7	Standard
	Er	166	272.0	7.2				mg/L	8	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		101.918	
	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		80.849	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			

Sample ID: L1305159517S WG432680-04
Report Date/Time: Tuesday, June 04, 2013 16:59:54
Page 2

Approved: June 05, 2013

Y	89	
> Rh	103	
Mo	98	
Ag	107	
Cd	111	
Cd	114	
> In	115	96.760
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	102.073
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: L1305159517S WG432680-04
Report Date/Time: Tuesday, June 04, 2013 16:59:54
Page 3

Approved: June 05, 2013

Method 6020 - Summary Report

Sample ID: QC Std 6
Sample Date/Time: Tuesday, June 04, 2013 17:00:50
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	668150.4	2.1				ug/L	552027	Standard
	Be	9	106869.2	9.5	**46.7879**	4.310	9.2	ug/L	18	Standard
	Al	27	8977217.5	9.8	**53.9409**	5.098	9.5	ug/L	841	Standard
	Sc	45	40236.7	2.2				ug/L	35084	Standard
	Ti	47	24854.9	10.6	**122.6276**	12.133	9.9	ug/L	22	Standard
	V	51	288258.6	11.4	**51.7796**	5.483	10.6	ug/L	812	Standard
	Cr	52	245453.4	12.1	**50.0992**	5.828	11.6	ug/L	4274	Standard
	Cr	53	50485.6	11.8	**52.2109**	5.983	11.5	ug/L	1106	Standard
	Mn	55	360108.9	11.1	**48.6268**	5.138	10.6	ug/L	1207	Standard
	Co	59	250107.2	12.2	**47.9724**	5.547	11.6	ug/L	71	Standard
	Ni	60	107919.8	10.6	**53.6654**	5.530	10.3	ug/L	295	Standard
	Cu	65	104241.5	10.8	**51.5965**	5.419	10.5	ug/L	87	Standard
	Zn	66	54664.2	10.6	**51.3452**	5.224	10.2	ug/L	469	Standard
>	Ge	72	472766.5	1.7				ug/L	514704	Standard
	As	75	59388.2	9.4	**49.9218**	4.462	8.9	ug/L	-121	Standard
	Se	82	6101.5	8.1	**51.9697**	3.959	7.6	ug/L	-1	Standard
	Se-1	77	4035.5	7.3	**50.4519**	3.452	6.8	ug/L	127	Standard
>	Ga	71	115.0	27.2				mg/L	175	Standard
	Rb	85	3163.7	4.2				ug/L	50	Standard
	Y	89	535320.6	1.5				ug/L	527499	Standard
>	Rh	103	35.0	42.9				ug/L	10	Standard
	Mo	98	401196.4	9.5	**95.7622**	8.623	9.0	ug/L	23	Standard
	Ag	107	299007.9	7.8	**51.4338**	3.777	7.3	ug/L	59	Standard
	Cd	111	85755.0	10.7	**47.2611**	4.839	10.2	mg/L	3	Standard
	Cd	114	244183.0	10.1	**52.1954**	5.035	9.6	ug/L	10	Standard
>	In	115	588735.5	0.9				ug/L	537195	Standard
	Sn	118	253185.9	10.3	**48.8311**	4.872	10.0	ug/L	281	Standard
	Sb	123	196747.9	9.0	**48.3583**	4.188	8.7	ug/L	167	Standard
	Ba	135	91637.4	10.0	**50.3239**	4.844	9.6	ug/L	10	Standard
	Ce	140	131.0	26.4				ug/L	27	Standard
>	Tb	159	817989.7	0.8				ug/L	758170	Standard
	Ho	165	10.7	44.3				ug/L	7	Standard
	Tl	203	287083.4	7.5	**50.4484**	3.724	7.4	ug/L	5	Standard
	Tl	205	7540.9	8.0	**50.6390**	4.000	7.9	ug/L	0	Standard
	Pb	206	225307.7	9.5	**50.0641**	4.713	9.4	ug/L	182	Standard
	Pb	207	194068.0	10.0	**50.7156**	5.017	9.9	ug/L	145	Standard
	Pb	208	267387.8	9.6	**48.7419**	4.660	9.6	ug/L	207	Standard
	U	238	227281.5	10.9	**47.2615**	5.088	10.8	ug/L	1	Standard
>	Bi	209	353615.9	0.2				ug/L	325207	Standard

Sample ID: QC Std 6
Report Date/Time: Tuesday, June 04, 2013 17:03:42
Page 1

Approved: June 05, 2013

	Na	23	36.7	15.7	**4.2075**	0.812	19.3	mg/L	0	Standard
	Mg	24	5122.5	10.9	**4.7147**	0.453	9.6	mg/L	25	Standard
	K	39	338.3	19.7	**5.3017**	0.959	18.1	mg/L	3	Standard
	Ca	43	1765.1	10.4	**4.4199**	0.445	10.1	mg/L	297	Standard
	Fe	54	6091.2	10.9	**6.2140**	0.607	9.8	mg/L	91	Standard
	Fe	57	1595.1	14.5	**3.4660**	0.581	16.8	mg/L	237	Standard
>	**Sc-1**	45	40236.7	2.2				mg/L	35084	Standard
	Cl	35	81004.4	2.4				ug/L	29808	Standard
	Kr	83	36.3	3.3				ug/L	38	Standard
	Br	81	690.0	1.3				ug/L	965	Standard
	P	31	295889.7	0.8				ug/L	176735	Standard
	S	34	79042.3	0.5				ug/L	28891	Standard
	Sr	88	45.0	25.5				ug/L	27	Standard
	C	12	6.7	86.6				mg/L	7	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	1.7	173.2				mg/L	3	Standard
	Dy	164	7.6	38.7				mg/L	14	Standard
	Ho-1	165	10.7	44.3				mg/L	7	Standard
	Er	166	8.7	40.5				mg/L	8	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		121.036	
	Be	9	93.576		
	Al	27	107.882		
	Sc	45			
	Ti	47	122.628		
	V	51	103.559		
	Cr	52	100.198		
	Cr	53			
	Mn	55	97.254		
	Co	59	95.945		
	Ni	60	107.331		
	Cu	65	103.193		
	Zn	66	102.690		
>	Ge	72		91.852	
	As	75	99.844		
	Se	82	103.939		
	Se-1	77			
>	Ga	71			
	Rb	85			

Sample ID: QC Std 6
Report Date/Time: Tuesday, June 04, 2013 17:03:42
Page 2

Approved: June 05, 2013

Y	89			
> Rh	103			
Mo	98	95.762		
Ag	107	102.868		
Cd	111	94.522		
Cd	114			
> In	115			109.594
Sn	118	97.662		
Sb	123	96.717		
Ba	135	100.648		
Ce	140			
> Tb	159			
Ho	165			
Tl	203	100.897		
Tl	205			
Pb	206			
Pb	207			
Pb	208	97.484		
U	238	94.523		
> Bi	209			108.736
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 QC Std	Li	6	Rerun sample
QC Std 6	Ti	47	

Sample ID: QC Std 6
Report Date/Time: Tuesday, June 04, 2013 17:03:42
Page 3

Approved: June 05, 2013

Method 6020 - Summary Report

Sample ID: QC Std 7
Sample Date/Time: Tuesday, June 04, 2013 17:04:36
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	689363.9	1.9				ug/L	552027	Standard
	Be	9	62.0	10.6	**0.0152**	0.002	15.2	ug/L	18	Standard
	Al	27	10490.6	116.9	**0.0499**	0.073	146.5	ug/L	841	Standard
	Sc	45	40621.1	1.2				ug/L	35084	Standard
	Ti	47	20.0	22.9	**0.0155**	0.025	161.5	ug/L	22	Standard
	V	51	1203.8	7.2	**0.0889**	0.016	17.7	ug/L	812	Standard
	Cr	52	3973.2	4.0	**-0.0149**	0.019	125.4	ug/L	4274	Standard
	Cr	53	273.3	8.7	**-0.7486**	0.030	3.9	ug/L	1106	Standard
	Mn	55	1068.7	6.8	**-0.0163**	0.013	82.5	ug/L	1207	Standard
	Co	59	111.0	48.9	**0.0054**	0.010	191.5	ug/L	71	Standard
	Ni	60	143.7	12.0	**-0.0613**	0.010	16.8	ug/L	295	Standard
	Cu	65	116.0	12.9	**0.0024**	0.009	360.8	ug/L	87	Standard
	Zn	66	647.7	2.8	**-0.1034**	0.023	21.9	ug/L	469	Standard
>	**Ge**	72	475848.9	2.6				ug/L	514704	Standard
	As	75	-134.1	4.7	**-0.0045**	0.003	67.9	ug/L	-121	Standard
	Se	82	0.4	654.2	**0.0003**	0.022	7901.7	ug/L	-1	Standard
	Se-1	77	95.3	10.1	**-0.1514**	0.153	101.2	ug/L	127	Standard
>	**Ga**	71	98.3	10.6				mg/L	175	Standard
	Rb	85	80.0	6.3				ug/L	50	Standard
	Y	89	553657.3	2.2				ug/L	527499	Standard
>	**Rh**	103	1.7	173.2				ug/L	10	Standard
	Mo	98	114.4	15.2	**0.0193**	0.004	20.7	ug/L	23	Standard
	Ag	107	89.0	4.1	**0.0022**	0.000	22.1	ug/L	59	Standard
	Cd	111	5.9	44.9	**0.0012**	0.001	118.5	mg/L	3	Standard
	Cd	114	26.6	9.3	**0.0002**	0.001	279.8	ug/L	10	Standard
>	**In**	115	606050.1	1.6				ug/L	537195	Standard
	Sn	118	475.3	8.9	**0.0226**	0.009	38.2	ug/L	281	Standard
	Sb	123	950.2	7.1	**0.2098**	0.014	6.8	ug/L	167	Standard
	Ba	135	16.0	10.8	**-0.0146**	0.001	7.2	ug/L	10	Standard
	Ce	140	31.7	71.8				ug/L	27	Standard
>	**Tb**	159	838530.6	1.7				ug/L	758170	Standard
	Ho	165	7.7	37.7				ug/L	7	Standard
	Tl	203	42.3	87.8	**0.0064**	0.006	100.5	ug/L	5	Standard
	Tl	205	2.0	173.2	**0.0206**	0.023	109.8	ug/L	0	Standard
	Pb	206	239.7	11.1	**0.0038**	0.006	149.1	ug/L	182	Standard
	Pb	207	196.0	18.8	**0.0047**	0.010	203.8	ug/L	145	Standard
	Pb	208	315.0	31.8	**0.0098**	0.018	183.8	ug/L	207	Standard
	U	238	55.0	122.9	**0.0104**	0.014	132.6	ug/L	1	Standard
>	**Bi**	209	365223.9	1.4				ug/L	325207	Standard

Sample ID: QC Std 7
Report Date/Time: Tuesday, June 04, 2013 17:07:28
Page 1

Approved: June 05, 2013

	Na	23	0.0		**-1.0895**	0.000	0.0	mg/L	0	Standard
	Mg	24	33.3	34.6	**-0.0095**	0.010	109.2	mg/L	25	Standard
	K	39	6.7	114.6	**0.0500**	0.120	240.1	mg/L	3	Standard
	Ca	43	228.3	20.2	**-0.3158**	0.141	44.7	mg/L	297	Standard
	Fe	54	144.5	9.2	**0.0315**	0.012	38.0	mg/L	91	Standard
	Fe	57	105.0	20.8	**-0.2539**	0.052	20.4	mg/L	237	Standard
>	**Sc-1**	45	40621.1	1.2				mg/L	35084	Standard
	Cl	35	81054.0	2.1				ug/L	29808	Standard
	Kr	83	34.1	8.9				ug/L	38	Standard
	Br	81	710.0	3.7				ug/L	965	Standard
	P	31	282479.9	2.4				ug/L	176735	Standard
	S	34	75553.1	3.5				ug/L	28891	Standard
	Sr	88	27.5	27.3				ug/L	27	Standard
	C	12	8.3	91.7				mg/L	7	Standard
	N	14	1.7	173.2				mg/L	0	Standard
	Hg	202	5.0	100.0				mg/L	3	Standard
	Dy	164	9.3	59.0				mg/L	14	Standard
	Ho-1	165	7.7	37.7				mg/L	7	Standard
	Er	166	14.7	27.6				mg/L	8	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		124.879	
	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		92.451	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			

Sample ID: QC Std 7
Report Date/Time: Tuesday, June 04, 2013 17:07:28
Page 2

Approved: June 05, 2013

	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	112.817
	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	112.305
	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
Li 6 Int Std for QC Std	Li	6	Rerun sample
QC Std 7	Sb	123	

Sample ID: QC Std 7
Report Date/Time: Tuesday, June 04, 2013 17:07:28
Page 3

Approved: June 05, 2013

Method 6020 - Summary Report

Sample ID: L1305159517SD WG432680-05
Sample Date/Time: Tuesday, June 04, 2013 17:08:24
Number of Replicates: 3
Autosampler Position: 330
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	569601.6	1.6				ug/L	552027	Standard
	Be	9	1042.0	6.0	**0.5240**	0.025	4.7	ug/L	18	Standard
	Al	27	20736.9	6.5	**0.1342**	0.008	6.2	ug/L	841	Standard
	Sc	45	36445.5	1.8				ug/L	35084	Standard
	Ti	47	407.3	5.4	**2.2232**	0.135	6.1	ug/L	22	Standard
	V	51	14619.3	6.5	**2.8920**	0.196	6.8	ug/L	812	Standard
	Cr	52	11727.5	4.9	**1.9561**	0.134	6.9	ug/L	4274	Standard
	Cr	53	2016.8	4.7	**1.4038**	0.128	9.1	ug/L	1106	Standard
	Mn	55	354997.2	7.0	**54.9807**	3.829	7.0	ug/L	1207	Standard
	Co	59	4940.5	6.4	**1.0710**	0.067	6.2	ug/L	71	Standard
	Ni	60	1552.7	1.6	**0.7547**	0.012	1.6	ug/L	295	Standard
	Cu	65	1661.1	3.2	**0.8887**	0.032	3.7	ug/L	87	Standard
	Zn	66	3302.7	5.2	**2.8897**	0.187	6.5	ug/L	469	Standard
>	**Ge**	72	412484.9	0.8				ug/L	514704	Standard
	As	75	610.3	10.4	**0.6940**	0.059	8.5	ug/L	-121	Standard
	Se	82	32.7	21.0	**0.3162**	0.066	20.8	ug/L	-1	Standard
	Se-1	77	117.0	13.6	**0.3520**	0.234	66.6	ug/L	127	Standard
>	**Ga**	71	1485.1	9.3				mg/L	175	Standard
	Rb	85	6811.5	1.7				ug/L	50	Standard
	Y	89	471969.8	2.6				ug/L	527499	Standard
>	**Rh**	103	3.3	173.2				ug/L	10	Standard
	Mo	98	64.1	3.5	**0.0101**	0.001	5.4	ug/L	23	Standard
	Ag	107	2677.9	4.2	**0.5100**	0.023	4.5	ug/L	59	Standard
	Cd	111	775.6	6.9	**0.4831**	0.035	7.3	mg/L	3	Standard
	Cd	114	2273.4	10.4	**0.5457**	0.054	9.8	ug/L	10	Standard
>	**In**	115	519186.3	1.1				ug/L	537195	Standard
	Sn	118	1222.0	5.9	**0.2010**	0.015	7.3	ug/L	281	Standard
	Sb	123	295.5	9.4	**0.0652**	0.008	12.7	ug/L	167	Standard
	Ba	135	4832.1	4.8	**2.9877**	0.134	4.5	ug/L	10	Standard
	Ce	140	128949.3	6.5				ug/L	27	Standard
>	**Tb**	159	738601.7	0.9				ug/L	758170	Standard
	Ho	165	332.3	9.0				ug/L	7	Standard
	Tl	203	1958.5	6.8	**0.3667**	0.023	6.3	ug/L	5	Standard
	Tl	205	59.0	17.7	**0.4305**	0.073	17.0	ug/L	0	Standard
	Pb	206	8082.2	4.0	**1.8726**	0.087	4.6	ug/L	182	Standard
	Pb	207	6626.5	4.4	**1.8065**	0.086	4.8	ug/L	145	Standard
	Pb	208	9157.4	6.6	**1.7391**	0.124	7.1	ug/L	207	Standard
	U	238	2326.8	10.8	**0.5161**	0.056	10.8	ug/L	1	Standard
>	**Bi**	209	331080.0	0.8				ug/L	325207	Standard

Sample ID: L1305159517SD WG432680-05
Report Date/Time: Tuesday, June 04, 2013 17:11:15
Page 1

Approved: June 05, 2013

Na	23	0.0		**-1.0895**	0.000	0.0	mg/L	0	Standard
Mg	24	45.0	40.1	**0.0063**	0.019	310.0	mg/L	25	Standard
K	39	1.7	173.2	**-0.0263**	0.050	190.2	mg/L	3	Standard
Ca	43	235.0	11.8	**-0.2122**	0.107	50.4	mg/L	297	Standard
Fe	54	1345.7	11.5	**1.4286**	0.180	12.6	mg/L	91	Standard
Fe	57	450.0	8.8	**0.7268**	0.116	16.0	mg/L	237	Standard
> **Sc-1**	45	36445.5	1.8				mg/L	35084	Standard
Cl	35	66578.6	1.0				ug/L	29808	Standard
Kr	83	35.7	10.1				ug/L	38	Standard
Br	81	526.7	7.5				ug/L	965	Standard
P	31	87996.9	5.3				ug/L	176735	Standard
S	34	68856.2	2.7				ug/L	28891	Standard
Sr	88	45.0	19.2				ug/L	27	Standard
C	12	1.7	173.2				mg/L	7	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	8.3	34.6				mg/L	3	Standard
Dy	164	521.5	6.8				mg/L	14	Standard
Ho-1	165	332.3	9.0				mg/L	7	Standard
Er	166	331.3	5.5				mg/L	8	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
> Li	6		103.184	
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		80.140	
As	75			
Se	82			
Se-1	77			
> Ga	71			
Rb	85			

Sample ID: L1305159517SD WG432680-05
Report Date/Time: Tuesday, June 04, 2013 17:11:15
Page 2

Approved: June 05, 2013

	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	96.648
	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	101.806
	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: June 05, 2013

Method 6020 - Summary Report

Sample ID: L1305159501
Sample Date/Time: Tuesday, June 04, 2013 17:12:10
Number of Replicates: 3
Autosampler Position: 331
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	576810.8	0.8				ug/L	552027	Standard
	Be	9	85.7	17.9	**0.0324**	0.008	24.7	ug/L	18	Standard
	Al	27	11136.4	3.1	**0.0656**	0.003	4.2	ug/L	841	Standard
	Sc	45	36243.3	2.5				ug/L	35084	Standard
	Ti	47	103.7	3.4	**0.4954**	0.014	2.9	ug/L	22	Standard
	V	51	8445.7	4.4	**1.5922**	0.057	3.6	ug/L	812	Standard
	Cr	52	8678.2	2.6	**1.2014**	0.041	3.4	ug/L	4274	Standard
	Cr	53	1407.6	10.4	**0.6414**	0.154	24.0	ug/L	1106	Standard
	Mn	55	142118.6	3.6	**21.5990**	0.530	2.5	ug/L	1207	Standard
	Co	59	988.4	7.0	**0.1985**	0.012	6.1	ug/L	71	Standard
	Ni	60	231.0	6.0	**-0.0025**	0.008	340.0	ug/L	295	Standard
	Cu	65	444.3	7.7	**0.1942**	0.022	11.3	ug/L	87	Standard
	Zn	66	1890.5	0.9	**1.3184**	0.015	1.1	ug/L	469	Standard
>	**Ge**	72	418400.6	1.4				ug/L	514704	Standard
	As	75	12.7	115.2	**0.1192**	0.014	11.6	ug/L	-121	Standard
	Se	82	-0.7	1277.7	**-0.0109**	0.090	831.3	ug/L	-1	Standard
	Se-1	77	95.3	7.1	**0.0127**	0.090	704.8	ug/L	127	Standard
>	**Ga**	71	756.7	8.4				mg/L	175	Standard
	Rb	85	3007.0	1.8				ug/L	50	Standard
	Y	89	484150.0	1.7				ug/L	527499	Standard
>	**Rh**	103	8.3	34.6				ug/L	10	Standard
	Mo	98	52.5	11.4	**0.0069**	0.002	23.3	ug/L	23	Standard
	Ag	107	66.7	14.6	**0.0003**	0.002	761.5	ug/L	59	Standard
	Cd	111	12.3	57.8	**0.0057**	0.004	77.7	mg/L	3	Standard
	Cd	114	51.8	8.2	**0.0071**	0.001	13.6	ug/L	10	Standard
>	**In**	115	522854.1	0.6				ug/L	537195	Standard
	Sn	118	406.7	21.1	**0.0218**	0.018	83.1	ug/L	281	Standard
	Sb	123	164.8	9.6	**0.0285**	0.005	15.9	ug/L	167	Standard
	Ba	135	1912.1	2.9	**1.1601**	0.040	3.4	ug/L	10	Standard
	Ce	140	42885.0	3.9				ug/L	27	Standard
>	**Tb**	159	743720.3	0.9				ug/L	758170	Standard
	Ho	165	342.0	4.5				ug/L	7	Standard
	Tl	203	71.7	13.2	**0.0124**	0.002	14.2	ug/L	5	Standard
	Tl	205	1.3	43.3	**0.0170**	0.004	23.9	ug/L	0	Standard
	Pb	206	3564.1	4.6	**0.7900**	0.034	4.4	ug/L	182	Standard
	Pb	207	2855.3	3.0	**0.7443**	0.020	2.7	ug/L	145	Standard
	Pb	208	4066.5	3.1	**0.7383**	0.021	2.9	ug/L	207	Standard
	U	238	418.7	9.7	**0.0912**	0.009	9.4	ug/L	1	Standard
>	**Bi**	209	334582.9	0.5				ug/L	325207	Standard

Sample ID: L1305159501
Report Date/Time: Tuesday, June 04, 2013 17:15:01
Page 1

Approved: June 05, 2013

	Na	23	1.7	173.2	**-0.8190**	0.469	57.2	mg/L	0	Standard
	Mg	24	31.7	24.1	**-0.0076**	0.007	92.8	mg/L	25	Standard
	K	39	1.7	173.2	**-0.0266**	0.049	185.7	mg/L	3	Standard
	Ca	43	210.0	7.1	**-0.2949**	0.035	12.0	mg/L	297	Standard
	Fe	54	1185.9	7.0	**1.2544**	0.128	10.2	mg/L	91	Standard
	Fe	57	390.0	11.2	**0.5694**	0.146	25.6	mg/L	237	Standard
>	**Sc-1**	45	36243.3	2.5				mg/L	35084	Standard
	Cl	35	66209.7	1.3				ug/L	29808	Standard
	Kr	83	36.2	14.3				ug/L	38	Standard
	Br	81	482.5	6.3				ug/L	965	Standard
	P	31	85820.2	4.4				ug/L	176735	Standard
	S	34	66240.3	0.8				ug/L	28891	Standard
	Sr	88	48.3	14.9				ug/L	27	Standard
	C	12	8.3	34.6				mg/L	7	Standard
	N	14	1.7	173.2				mg/L	0	Standard
	Hg	202	5.0	100.0				mg/L	3	Standard
	Dy	164	512.4	7.3				mg/L	14	Standard
	Ho-1	165	342.0	4.5				mg/L	7	Standard
	Er	166	333.7	4.7				mg/L	8	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		104.490	
	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		81.290	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			

Sample ID: L1305159501
Report Date/Time: Tuesday, June 04, 2013 17:15:01
Page 2

Approved: June 05, 2013

	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	97.330
	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	102.883
	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: L1305159501
Report Date/Time: Tuesday, June 04, 2013 17:15:01
Page 3

Approved: June 05, 2013

Method 6020 - Summary Report

Sample ID: L1305159502
Sample Date/Time: Tuesday, June 04, 2013 17:15:56
Number of Replicates: 3
Autosampler Position: 332
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	569962.2	1.5				ug/L	552027	Standard
	Be	9	77.0	6.9	**0.0284**	0.003	11.5	ug/L	18	Standard
	Al	27	15222.0	6.0	**0.0952**	0.005	5.2	ug/L	841	Standard
	Sc	45	36393.7	1.7				ug/L	35084	Standard
	Ti	47	189.0	7.4	**0.9736**	0.068	7.0	ug/L	22	Standard
	V	51	10106.0	7.4	**1.9354**	0.160	8.2	ug/L	812	Standard
	Cr	52	8642.8	4.3	**1.1981**	0.109	9.1	ug/L	4274	Standard
	Cr	53	1415.1	10.6	**0.6552**	0.178	27.2	ug/L	1106	Standard
	Mn	55	487730.7	6.5	**74.7153**	5.463	7.3	ug/L	1207	Standard
	Co	59	2134.8	8.1	**0.4486**	0.043	9.6	ug/L	71	Standard
	Ni	60	445.7	5.8	**0.1191**	0.017	14.0	ug/L	295	Standard
	Cu	65	1246.7	3.5	**0.6450**	0.031	4.8	ug/L	87	Standard
	Zn	66	2794.6	6.4	**2.2987**	0.207	9.0	ug/L	469	Standard
>	**Ge**	72	417544.5	1.7				ug/L	514704	Standard
	As	75	99.1	36.3	**0.2018**	0.036	17.9	ug/L	-121	Standard
	Se	82	-0.6	0.5	**-0.0088**	0.000	1.3	ug/L	-1	Standard
	Se-1	77	100.0	16.5	**0.0867**	0.266	307.0	ug/L	127	Standard
>	**Ga**	71	971.7	11.1				mg/L	175	Standard
	Rb	85	5204.2	3.9				ug/L	50	Standard
	Y	89	488049.3	1.9				ug/L	527499	Standard
>	**Rh**	103	1.7	173.2				ug/L	10	Standard
	Mo	98	45.8	6.1	**0.0050**	0.001	12.6	ug/L	23	Standard
	Ag	107	78.3	10.7	**0.0024**	0.002	66.8	ug/L	59	Standard
	Cd	111	7.9	33.3	**0.0030**	0.002	56.2	mg/L	3	Standard
	Cd	114	39.0	9.0	**0.0040**	0.001	25.3	ug/L	10	Standard
>	**In**	115	526193.1	1.9				ug/L	537195	Standard
	Sn	118	474.0	8.0	**0.0359**	0.010	28.4	ug/L	281	Standard
	Sb	123	222.7	7.8	**0.0440**	0.004	8.5	ug/L	167	Standard
	Ba	135	8060.8	7.6	**4.9301**	0.303	6.1	ug/L	10	Standard
	Ce	140	81194.0	7.2				ug/L	27	Standard
>	**Tb**	159	737709.6	1.7				ug/L	758170	Standard
	Ho	165	754.4	6.5				ug/L	7	Standard
	Tl	203	79.7	8.1	**0.0139**	0.001	6.3	ug/L	5	Standard
	Tl	205	2.7	78.1	**0.0266**	0.015	56.6	ug/L	0	Standard
	Pb	206	4824.4	4.4	**1.0851**	0.041	3.8	ug/L	182	Standard
	Pb	207	3850.8	5.9	**1.0182**	0.048	4.8	ug/L	145	Standard
	Pb	208	5333.7	6.4	**0.9813**	0.053	5.4	ug/L	207	Standard
	U	238	328.3	2.5	**0.0713**	0.002	2.2	ug/L	1	Standard
>	**Bi**	209	334926.1	2.2				ug/L	325207	Standard

Sample ID: L1305159502
Report Date/Time: Tuesday, June 04, 2013 17:18:47
Page 1

Approved: June 05, 2013

⌈	**Na**	23	1.7	173.2	**-0.8182**	0.470	57.4	mg/L	0	Standard
|	**Mg**	24	26.7	54.1	**-0.0126**	0.015	119.7	mg/L	25	Standard
|	**K**	39	5.0	0.0	**0.0326**	0.001	4.6	mg/L	3	Standard
|	**Ca**	43	245.0	8.9	**-0.1779**	0.077	43.3	mg/L	297	Standard
|	**Fe**	54	1258.9	8.3	**1.3321**	0.145	10.9	mg/L	91	Standard
|	**Fe**	57	388.3	9.8	**0.5593**	0.124	22.2	mg/L	237	Standard
⌊>	**Sc-1**	45	36393.7	1.7				mg/L	35084	Standard
	Cl	35	65457.4	0.3				ug/L	29808	Standard
	Kr	83	32.8	1.2				ug/L	38	Standard
	Br	81	545.8	7.7				ug/L	965	Standard
	P	31	86780.5	3.1				ug/L	176735	Standard
	S	34	64558.1	2.3				ug/L	28891	Standard
	Sr	88	43.3	8.8				ug/L	27	Standard
	C	12	3.3	86.6				mg/L	7	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	3.3	86.6				mg/L	3	Standard
	Dy	164	1099.7	8.4				mg/L	14	Standard
	Ho-1	165	754.4	6.5				mg/L	7	Standard
	Er	166	724.0	9.9				mg/L	8	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		103.249	
|	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		81.123	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			

Sample ID: L1305159502
Report Date/Time: Tuesday, June 04, 2013 17:18:47
Page 2

Approved: June 05, 2013

	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	97.952
	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	102.989
	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: L1305159502
Report Date/Time: Tuesday, June 04, 2013 17:18:47
Page 3

Approved: June 05, 2013

Method 6020 - Summary Report

Sample ID: L1305159502PS WG432748-01
Sample Date/Time: Tuesday, June 04, 2013 17:19:42
Number of Replicates: 3
Autosampler Position: 333
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	697137.6	2.2				ug/L	552027	Standard
	Be	9	110380.9	9.9	**46.2976**	4.186	9.0	ug/L	18	Standard
	Al	27	18881.2	10.8	**0.0967**	0.010	10.1	ug/L	841	Standard
	Sc	45	41468.3	1.4				ug/L	35084	Standard
	Ti	47	219.7	4.1	**0.9871**	0.032	3.2	ug/L	22	Standard
	V	51	304085.1	11.1	**53.8878**	5.519	10.2	ug/L	812	Standard
	Cr	52	257658.5	12.6	**51.8956**	6.093	11.7	ug/L	4274	Standard
	Cr	53	52454.6	10.0	**53.5334**	4.955	9.3	ug/L	1106	Standard
	Mn	55	915354.8	10.3	**122.1551**	11.311	9.3	ug/L	1207	Standard
	Co	59	256901.0	10.9	**48.6044**	4.833	9.9	ug/L	71	Standard
	Ni	60	111987.5	10.2	**54.9230**	5.079	9.2	ug/L	295	Standard
	Cu	65	111339.6	9.3	**54.3526**	4.481	8.2	ug/L	87	Standard
	Zn	66	57813.4	9.2	**53.5959**	4.474	8.3	ug/L	469	Standard
>	**Ge**	72	479172.0	1.2				ug/L	514704	Standard
	As	75	61360.0	8.9	**50.8689**	3.969	7.8	ug/L	-121	Standard
	Se	82	6281.0	8.2	**52.7652**	3.799	7.2	ug/L	-1	Standard
	Se-1	77	4061.5	6.5	**50.0806**	2.897	5.8	ug/L	127	Standard
>	**Ga**	71	1140.0	13.3				mg/L	175	Standard
	Rb	85	5792.8	10.8				ug/L	50	Standard
	Y	89	571020.5	1.2				ug/L	527499	Standard
>	**Rh**	103	50.0	10.0				ug/L	10	Standard
	Mo	98	81.1	14.6	**0.0115**	0.003	21.8	ug/L	23	Standard
	Ag	107	314540.9	9.1	**52.4084**	3.900	7.4	ug/L	59	Standard
	Cd	111	88618.6	10.6	**47.3040**	4.246	9.0	mg/L	3	Standard
	Cd	114	246196.3	10.1	**50.9704**	4.299	8.4	ug/L	10	Standard
>	**In**	115	607402.2	1.8				ug/L	537195	Standard
	Sn	118	1306.7	3.2	**0.1781**	0.009	4.9	ug/L	281	Standard
	Sb	123	204737.6	9.8	**48.7384**	3.937	8.1	ug/L	167	Standard
	Ba	135	104262.0	10.4	**55.4536**	4.808	8.7	ug/L	10	Standard
	Ce	140	89060.5	10.5				ug/L	27	Standard
>	**Tb**	159	837156.4	1.2				ug/L	758170	Standard
	Ho	165	864.7	13.9				ug/L	7	Standard
	Tl	203	296634.0	7.6	**50.4259**	4.115	8.2	ug/L	5	Standard
	Tl	205	7743.7	6.6	**50.3095**	3.779	7.5	ug/L	0	Standard
	Pb	206	240447.6	8.5	**51.6892**	4.719	9.1	ug/L	182	Standard
	Pb	207	205513.4	9.8	**51.9508**	5.228	10.1	ug/L	145	Standard
	Pb	208	287649.0	9.8	**50.7294**	5.265	10.4	ug/L	207	Standard
	U	238	233156.6	10.9	**46.9071**	5.374	11.5	ug/L	1	Standard
>	**Bi**	209	365710.7	1.6				ug/L	325207	Standard

Sample ID: L1305159502PS WG432748-01
Report Date/Time: Tuesday, June 04, 2013 17:22:33
Page 1

Approved: June 05, 2013

	Na	23	5.0	100.0	**-0.3823**	0.713	186.4	mg/L	0	Standard
	Mg	24	31.7	59.8	**-0.0115**	0.017	150.5	mg/L	25	Standard
	K	39	10.0	50.0	**0.0989**	0.077	77.4	mg/L	3	Standard
	Ca	43	221.7	13.0	**-0.3504**	0.081	23.1	mg/L	297	Standard
	Fe	54	1435.5	6.0	**1.3313**	0.076	5.7	mg/L	91	Standard
	Fe	57	416.7	6.8	**0.4949**	0.055	11.2	mg/L	237	Standard
>	**Sc-1**	45	41468.3	1.4				mg/L	35084	Standard
	Cl	35	74866.3	3.0				ug/L	29808	Standard
	Kr	83	32.8	4.2				ug/L	38	Standard
	Br	81	767.5	3.3				ug/L	965	Standard
	P	31	264570.6	3.1				ug/L	176735	Standard
	S	34	63876.1	1.8				ug/L	28891	Standard
	Sr	88	40.0	21.7				ug/L	27	Standard
	C	12	6.7	86.6				mg/L	7	Standard
	N	14	1.7	173.2				mg/L	0	Standard
	Hg	202	3.3	86.6				mg/L	3	Standard
	Dy	164	1215.3	14.9				mg/L	14	Standard
	Ho-1	165	864.7	13.9				mg/L	7	Standard
	Er	166	787.7	12.1				mg/L	8	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		126.287	
	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		93.097	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			

Sample ID: L1305159502PS WG432748-01
Report Date/Time: Tuesday, June 04, 2013 17:22:33
Page 2

Approved: June 05, 2013

	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	113.069
	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	112.455
	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
Mn 55 Upper, S, EEE	Mn	55	

Sample ID: L1305159502PS WG432748-01
Report Date/Time: Tuesday, June 04, 2013 17:22:33
Page 3

Approved: June 05, 2013

Method 6020 - Summary Report

Sample ID: L1305159502SDL WG432748-02
Sample Date/Time: Tuesday, June 04, 2013 17:23:28
Number of Replicates: 3
Autosampler Position: 334
Sample Description: 250
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	570249.1	2.0				ug/L	552027	Standard
	Be	9	48.3	43.9	**0.0136**	0.010	76.6	ug/L	18	Standard
	Al	27	5400.9	64.3	**0.0258**	0.023	91.1	ug/L	841	Standard
	Sc	45	35551.7	1.2				ug/L	35084	Standard
	Ti	47	47.7	16.3	**0.1896**	0.043	22.4	ug/L	22	Standard
	V	51	2682.7	5.7	**0.4335**	0.028	6.6	ug/L	812	Standard
	Cr	52	4205.9	2.5	**0.1780**	0.030	16.9	ug/L	4274	Standard
	Cr	53	492.5	11.0	**-0.4329**	0.069	15.9	ug/L	1106	Standard
	Mn	55	98263.1	4.6	**15.2738**	0.595	3.9	ug/L	1207	Standard
	Co	59	501.0	8.5	**0.0957**	0.009	9.0	ug/L	71	Standard
	Ni	60	399.3	5.9	**0.0981**	0.012	12.3	ug/L	295	Standard
	Cu	65	309.7	13.3	**0.1230**	0.023	18.4	ug/L	87	Standard
	Zn	66	1941.5	4.8	**1.4269**	0.086	6.0	ug/L	469	Standard
>	**Ge**	72	407832.1	0.8				ug/L	514704	Standard
	As	75	-62.8	31.0	**0.0462**	0.019	41.3	ug/L	-121	Standard
	Se	82	3.1	67.6	**0.0272**	0.020	74.9	ug/L	-1	Standard
	Se-1	77	101.3	7.4	**0.1378**	0.102	74.0	ug/L	127	Standard
>	**Ga**	71	288.3	10.2				mg/L	175	Standard
	Rb	85	1045.0	5.8				ug/L	50	Standard
	Y	89	477725.2	1.3				ug/L	527499	Standard
>	**Rh**	103	0.0					ug/L	10	Standard
	Mo	98	20.0	43.8	**-0.0017**	0.002	133.6	ug/L	23	Standard
	Ag	107	75.0	21.2	**0.0021**	0.003	139.1	ug/L	59	Standard
	Cd	111	8.0	86.7	**0.0031**	0.004	139.3	mg/L	3	Standard
	Cd	114	28.7	15.2	**0.0017**	0.001	58.2	ug/L	10	Standard
>	**In**	115	512120.6	0.9				ug/L	537195	Standard
	Sn	118	482.0	8.8	**0.0404**	0.010	24.5	ug/L	281	Standard
	Sb	123	658.0	4.7	**0.1688**	0.009	5.2	ug/L	167	Standard
	Ba	135	1590.4	3.2	**0.9814**	0.023	2.3	ug/L	10	Standard
	Ce	140	16909.1	3.3				ug/L	27	Standard
>	**Tb**	159	733514.8	1.4				ug/L	758170	Standard
	Ho	165	152.3	9.9				ug/L	7	Standard
	Tl	203	44.0	41.1	**0.0074**	0.003	44.9	ug/L	5	Standard
	Tl	205	2.0	86.6	**0.0218**	0.012	55.9	ug/L	0	Standard
	Pb	206	1097.0	2.5	**0.2128**	0.004	2.0	ug/L	182	Standard
	Pb	207	864.7	5.3	**0.1966**	0.010	5.3	ug/L	145	Standard
	Pb	208	1259.7	2.9	**0.1996**	0.005	2.4	ug/L	207	Standard
	U	238	82.7	6.7	**0.0176**	0.001	7.7	ug/L	1	Standard
>	**Bi**	209	331065.2	1.2				ug/L	325207	Standard

Sample ID: L1305159502SDL WG432748-02
Report Date/Time: Tuesday, June 04, 2013 17:26:19
Page 1

Approved: June 05, 2013

Na	23	0.0		**-1.0895**	0.000	0.0	mg/L	0	Standard
Mg	24	35.0	24.7	**-0.0033**	0.009	270.2	mg/L	25	Standard
K	39	10.0		**0.1245**	0.002	1.8	mg/L	3	Standard
Ca	43	196.7	15.5	**-0.3261**	0.115	35.1	mg/L	297	Standard
Fe	54	287.6	7.9	**0.2211**	0.023	10.3	mg/L	91	Standard
Fe	57	185.0	4.7	**0.0094**	0.027	288.5	mg/L	237	Standard
Sc-1	45	35551.7	1.2				mg/L	35084	Standard
Cl	35	62942.8	0.9				ug/L	29808	Standard
Kr	83	33.3	1.7				ug/L	38	Standard
Br	81	493.3	4.6				ug/L	965	Standard
P	31	81286.9	4.6				ug/L	176735	Standard
S	34	60032.9	1.0				ug/L	28891	Standard
Sr	88	40.8	7.1				ug/L	27	Standard
C	12	0.0					mg/L	7	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	5.0	100.0				mg/L	3	Standard
Dy	164	227.3	10.0				mg/L	14	Standard
Ho-1	165	152.3	9.9				mg/L	7	Standard
Er	166	161.3	8.4				mg/L	8	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
> Li	6		103.301	
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		79.236	
As	75			
Se	82			
Se-1	77			
> Ga	71			
Rb	85			

Sample ID: L1305159502SDL WG432748-02
Report Date/Time: Tuesday, June 04, 2013 17:26:19
Page 2

Approved: June 05, 2013

	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	95.332
	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	101.801
	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: L1305159502SDL WG432748-02
Report Date/Time: Tuesday, June 04, 2013 17:26:19
Page 3

Approved: June 05, 2013

Method 6020 - Summary Report

Sample ID: L1305159503
Sample Date/Time: Tuesday, June 04, 2013 17:27:14
Number of Replicates: 3
Autosampler Position: 335
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	576236.3	0.6				ug/L	552027	Standard
	Be	9	63.7	11.4	**0.0212**	0.004	18.2	ug/L	18	Standard
	Al	27	14115.9	3.6	**0.0864**	0.004	4.1	ug/L	841	Standard
	Sc	45	36640.9	3.0				ug/L	35084	Standard
	Ti	47	178.3	2.3	**0.9176**	0.034	3.7	ug/L	22	Standard
	V	51	8619.9	5.6	**1.6372**	0.100	6.1	ug/L	812	Standard
	Cr	52	5635.0	2.6	**0.4946**	0.039	7.8	ug/L	4274	Standard
	Cr	53	720.9	5.9	**-0.1717**	0.048	27.9	ug/L	1106	Standard
	Mn	55	516249.3	7.4	**79.3118**	5.988	7.5	ug/L	1207	Standard
	Co	59	2297.8	7.2	**0.4853**	0.039	8.0	ug/L	71	Standard
	Ni	60	435.3	4.4	**0.1140**	0.014	12.2	ug/L	295	Standard
	Cu	65	2273.8	3.5	**1.2249**	0.038	3.1	ug/L	87	Standard
	Zn	66	2784.9	5.0	**2.2966**	0.144	6.3	ug/L	469	Standard
>	**Ge**	72	416255.4	1.3				ug/L	514704	Standard
	As	75	48.7	42.4	**0.1536**	0.019	12.4	ug/L	-121	Standard
	Se	82	4.1	80.5	**0.0364**	0.032	87.6	ug/L	-1	Standard
	Se-1	77	96.7	6.7	**0.0401**	0.102	253.6	ug/L	127	Standard
>	**Ga**	71	961.7	6.3				mg/L	175	Standard
	Rb	85	5032.5	5.1				ug/L	50	Standard
	Y	89	479211.5	3.1				ug/L	527499	Standard
>	**Rh**	103	1.7	173.2				ug/L	10	Standard
	Mo	98	30.0	10.5	**0.0009**	0.001	102.6	ug/L	23	Standard
	Ag	107	94.0	8.3	**0.0057**	0.001	24.9	ug/L	59	Standard
	Cd	111	11.0	27.4	**0.0049**	0.002	36.8	mg/L	3	Standard
	Cd	114	37.0	27.8	**0.0036**	0.002	65.9	ug/L	10	Standard
>	**In**	115	519179.7	1.1				ug/L	537195	Standard
	Sn	118	434.0	15.9	**0.0285**	0.016	54.9	ug/L	281	Standard
	Sb	123	322.7	4.9	**0.0728**	0.005	6.9	ug/L	167	Standard
	Ba	135	4914.8	4.4	**3.0393**	0.123	4.0	ug/L	10	Standard
	Ce	140	105022.5	5.7				ug/L	27	Standard
>	**Tb**	159	738716.0	0.8				ug/L	758170	Standard
	Ho	165	257.0	4.7				ug/L	7	Standard
	Tl	203	82.0	4.9	**0.0145**	0.001	5.6	ug/L	5	Standard
	Tl	205	0.7	86.6	**0.0124**	0.004	33.7	ug/L	0	Standard
	Pb	206	6010.5	4.8	**1.3816**	0.073	5.3	ug/L	182	Standard
	Pb	207	4866.1	4.2	**1.3158**	0.060	4.5	ug/L	145	Standard
	Pb	208	6726.2	4.2	**1.2663**	0.060	4.8	ug/L	207	Standard
	U	238	239.3	8.8	**0.0525**	0.005	9.4	ug/L	1	Standard
>	**Bi**	209	330805.7	1.3				ug/L	325207	Standard

Sample ID: L1305159503
Report Date/Time: Tuesday, June 04, 2013 17:30:05
Page 1

Approved: June 05, 2013

Na	23	0.0		**-1.0895**	0.000	0.0	mg/L	0	Standard
Mg	24	25.0	72.1	**-0.0145**	0.019	129.3	mg/L	25	Standard
K	39	13.3	86.6	**0.1740**	0.199	114.1	mg/L	3	Standard
Ca	43	190.0	10.5	**-0.3700**	0.063	17.1	mg/L	297	Standard
Fe	54	994.1	6.6	**1.0203**	0.104	10.2	mg/L	91	Standard
Fe	57	370.0	6.8	**0.5016**	0.087	17.3	mg/L	237	Standard
Sc-1	45	36640.9	3.0				mg/L	35084	Standard
Cl	35	62620.5	1.2				ug/L	29808	Standard
Kr	83	30.4	6.4				ug/L	38	Standard
Br	81	500.0	4.3				ug/L	965	Standard
P	31	85528.8	6.1				ug/L	176735	Standard
S	34	60174.3	0.7				ug/L	28891	Standard
Sr	88	48.3	10.8				ug/L	27	Standard
C	12	3.3	86.6				mg/L	7	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	8.3	124.9				mg/L	3	Standard
Dy	164	411.4	9.4				mg/L	14	Standard
Ho-1	165	257.0	4.7				mg/L	7	Standard
Er	166	256.7	8.5				mg/L	8	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
> Li	6		104.386	
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		80.873	
As	75			
Se	82			
Se-1	77			
> Ga	71			
Rb	85			

Sample ID: L1305159503
Report Date/Time: Tuesday, June 04, 2013 17:30:05
Page 2

Approved: June 05, 2013

	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	96.646
	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	101.722
	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: L1305159503
Report Date/Time: Tuesday, June 04, 2013 17:30:05
Page 3

Approved: June 05, 2013

Method 6020 - Summary Report

Sample ID: L1305159504
Sample Date/Time: Tuesday, June 04, 2013 17:31:00
Number of Replicates: 3
Autosampler Position: 336
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	587795.6	0.6				ug/L	552027	Standard
	Be	9	57.3	2.7	**0.0174**	0.001	3.8	ug/L	18	Standard
	Al	27	13475.0	8.0	**0.0801**	0.007	8.6	ug/L	841	Standard
	Sc	45	37143.8	0.6				ug/L	35084	Standard
	Ti	47	135.3	15.4	**0.6674**	0.122	18.3	ug/L	22	Standard
	V	51	9302.3	8.9	**1.7541**	0.178	10.2	ug/L	812	Standard
	Cr	52	7917.7	4.6	**1.0100**	0.094	9.3	ug/L	4274	Standard
	Cr	53	1250.9	4.8	**0.4452**	0.076	17.1	ug/L	1106	Standard
	Mn	55	56272.2	6.3	**8.3967**	0.580	6.9	ug/L	1207	Standard
	Co	59	573.7	2.9	**0.1078**	0.003	3.0	ug/L	71	Standard
	Ni	60	244.0	12.4	**0.0039**	0.018	451.9	ug/L	295	Standard
	Cu	65	414.7	4.0	**0.1758**	0.011	6.1	ug/L	87	Standard
	Zn	66	2071.8	3.7	**1.4980**	0.098	6.6	ug/L	469	Standard
>	**Ge**	72	421442.5	0.8				ug/L	514704	Standard
	As	75	-6.6	529.0	**0.1011**	0.032	32.1	ug/L	-121	Standard
	Se	82	-2.7	129.7	**-0.0291**	0.034	115.3	ug/L	-1	Standard
	Se-1	77	84.7	14.1	**-0.1496**	0.183	122.1	ug/L	127	Standard
>	**Ga**	71	840.0	10.8				mg/L	175	Standard
	Rb	85	2928.6	3.6				ug/L	50	Standard
	Y	89	476010.8	1.2				ug/L	527499	Standard
>	**Rh**	103	5.0	100.0				ug/L	10	Standard
	Mo	98	22.8	11.2	**-0.0011**	0.001	65.1	ug/L	23	Standard
	Ag	107	61.3	4.7	**-0.0008**	0.001	73.1	ug/L	59	Standard
	Cd	111	7.0	43.0	**0.0024**	0.002	78.9	mg/L	3	Standard
	Cd	114	13.2	39.5	**-0.0022**	0.001	59.7	ug/L	10	Standard
>	**In**	115	523063.2	0.8				ug/L	537195	Standard
	Sn	118	638.7	4.9	**0.0722**	0.007	9.6	ug/L	281	Standard
	Sb	123	271.9	5.1	**0.0581**	0.004	7.6	ug/L	167	Standard
	Ba	135	1533.1	8.0	**0.9252**	0.078	8.5	ug/L	10	Standard
	Ce	140	30736.2	6.8				ug/L	27	Standard
>	**Tb**	159	733042.6	0.3				ug/L	758170	Standard
	Ho	165	201.0	10.6				ug/L	7	Standard
	Tl	203	50.3	32.1	**0.0085**	0.003	35.3	ug/L	5	Standard
	Tl	205	2.3	24.7	**0.0242**	0.004	17.1	ug/L	0	Standard
	Pb	206	3767.5	5.4	**0.8424**	0.048	5.7	ug/L	182	Standard
	Pb	207	2928.3	6.2	**0.7687**	0.050	6.5	ug/L	145	Standard
	Pb	208	4220.9	4.6	**0.7723**	0.037	4.8	ug/L	207	Standard
	U	238	344.3	4.0	**0.0753**	0.003	4.0	ug/L	1	Standard
>	**Bi**	209	332870.1	0.1				ug/L	325207	Standard

Sample ID: L1305159504
Report Date/Time: Tuesday, June 04, 2013 17:33:51
Page 1

Approved: June 05, 2013

Na	23	0.0		**-1.0895**	0.000	0.0	mg/L	0	Standard
Mg	24	25.0	40.0	**-0.0149**	0.010	67.3	mg/L	25	Standard
K	39	0.0		**-0.0552**	0.000	0.0	mg/L	3	Standard
Ca	43	183.3	35.6	**-0.4001**	0.221	55.1	mg/L	297	Standard
Fe	54	1133.7	9.9	**1.1608**	0.134	11.6	mg/L	91	Standard
Fe	57	370.0	8.4	**0.4871**	0.091	18.6	mg/L	237	Standard
> **Sc-1**	45	37143.8	0.6				mg/L	35084	Standard
Cl	35	63356.6	2.0				ug/L	29808	Standard
Kr	83	35.4	2.4				ug/L	38	Standard
Br	81	518.3	16.4				ug/L	965	Standard
P	31	84837.1	4.0				ug/L	176735	Standard
S	34	60289.7	1.0				ug/L	28891	Standard
Sr	88	53.3	15.1				ug/L	27	Standard
C	12	1.7	173.2				mg/L	7	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	6.7	114.6				mg/L	3	Standard
Dy	164	293.0	13.4				mg/L	14	Standard
Ho-1	165	201.0	10.6				mg/L	7	Standard
Er	166	202.3	6.5				mg/L	8	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
> Li	6		106.480	
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		81.881	
As	75			
Se	82			
Se-1	77			
> Ga	71			
Rb	85			

Sample ID: L1305159504
Report Date/Time: Tuesday, June 04, 2013 17:33:51
Page 2

Approved: June 05, 2013

	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	97.369
	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	102.356
	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

Sample ID: L1305159504
Report Date/Time: Tuesday, June 04, 2013 17:33:51
Page 3

Approved: June 05, 2013

Method 6020 - Summary Report

Sample ID: L1305159505
Sample Date/Time: Tuesday, June 04, 2013 17:34:46
Number of Replicates: 3
Autosampler Position: 337
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	580528.7	1.8				ug/L	552027	Standard
	Be	9	73.0	16.7	**0.0256**	0.005	21.2	ug/L	18	Standard
	Al	27	16410.9	3.1	**0.1016**	0.005	4.7	ug/L	841	Standard
	Sc	45	36036.1	0.6				ug/L	35084	Standard
	Ti	47	133.7	9.8	**0.6673**	0.073	10.9	ug/L	22	Standard
	V	51	4971.4	2.2	**0.8913**	0.022	2.5	ug/L	812	Standard
	Cr	52	4941.5	0.7	**0.3318**	0.005	1.5	ug/L	4274	Standard
	Cr	53	553.3	1.9	**-0.3719**	0.009	2.4	ug/L	1106	Standard
	Mn	55	531753.3	4.2	**81.7566**	3.609	4.4	ug/L	1207	Standard
	Co	59	1583.4	4.4	**0.3298**	0.017	5.1	ug/L	71	Standard
	Ni	60	556.0	3.5	**0.1825**	0.013	7.1	ug/L	295	Standard
	Cu	65	1425.7	3.7	**0.7482**	0.025	3.3	ug/L	87	Standard
	Zn	66	2774.6	7.3	**2.2873**	0.209	9.1	ug/L	469	Standard
>	**Ge**	72	415939.0	0.6				ug/L	514704	Standard
	As	75	7.7	301.9	**0.1145**	0.022	19.3	ug/L	-121	Standard
	Se	82	2.3	443.3	**0.0186**	0.098	527.1	ug/L	-1	Standard
	Se-1	77	99.7	8.1	**0.0842**	0.113	133.8	ug/L	127	Standard
>	**Ga**	71	651.7	2.5				mg/L	175	Standard
	Rb	85	5846.1	2.1				ug/L	50	Standard
	Y	89	497319.5	1.5				ug/L	527499	Standard
>	**Rh**	103	3.3	173.2				ug/L	10	Standard
	Mo	98	21.2	10.3	**-0.0015**	0.001	38.2	ug/L	23	Standard
	Ag	107	65.7	9.3	**0.0000**	0.001	9501.0	ug/L	59	Standard
	Cd	111	8.6	17.7	**0.0034**	0.001	29.5	mg/L	3	Standard
	Cd	114	23.6	19.9	**0.0003**	0.001	334.9	ug/L	10	Standard
>	**In**	115	524826.6	1.3				ug/L	537195	Standard
	Sn	118	438.0	12.1	**0.0284**	0.013	44.9	ug/L	281	Standard
	Sb	123	241.0	1.3	**0.0493**	0.001	1.6	ug/L	167	Standard
	Ba	135	8324.0	2.4	**5.1081**	0.101	2.0	ug/L	10	Standard
	Ce	140	84676.0	1.7				ug/L	27	Standard
>	**Tb**	159	746001.8	1.6				ug/L	758170	Standard
	Ho	165	1037.0	2.5				ug/L	7	Standard
	Tl	203	58.3	18.2	**0.0100**	0.002	18.9	ug/L	5	Standard
	Tl	205	1.3	173.2	**0.0170**	0.016	96.2	ug/L	0	Standard
	Pb	206	4747.7	2.2	**1.0774**	0.023	2.1	ug/L	182	Standard
	Pb	207	3953.2	2.1	**1.0567**	0.012	1.1	ug/L	145	Standard
	Pb	208	5352.0	2.6	**0.9948**	0.035	3.5	ug/L	207	Standard
	U	238	154.0	2.3	**0.0334**	0.001	2.3	ug/L	1	Standard
>	**Bi**	209	331892.9	1.0				ug/L	325207	Standard

Sample ID: L1305159505
Report Date/Time: Tuesday, June 04, 2013 17:37:37
Page 1

Approved: June 05, 2013

	Na	23	1.7	173.2	**-0.8187**	0.469	57.3	mg/L	0	Standard
	Mg	24	45.0	38.5	**0.0065**	0.018	272.1	mg/L	25	Standard
	K	39	11.7	49.5	**0.1518**	0.103	67.7	mg/L	3	Standard
	Ca	43	198.3	11.4	**-0.3307**	0.074	22.4	mg/L	297	Standard
	Fe	54	582.9	1.9	**0.5598**	0.016	2.8	mg/L	91	Standard
	Fe	57	213.3	11.1	**0.0814**	0.070	85.4	mg/L	237	Standard
>	**Sc-1**	45	36036.1	0.6				mg/L	35084	Standard
	Cl	35	63467.0	0.2				ug/L	29808	Standard
	Kr	83	35.9	20.2				ug/L	38	Standard
	Br	81	535.0	5.4				ug/L	965	Standard
	P	31	83126.8	3.9				ug/L	176735	Standard
	S	34	58977.9	1.1				ug/L	28891	Standard
	Sr	88	40.8	3.5				ug/L	27	Standard
	C	12	6.7	114.6				mg/L	7	Standard
	N	14	3.3	86.6				mg/L	0	Standard
	Hg	202	3.3	86.6				mg/L	3	Standard
	Dy	164	1592.4	5.2				mg/L	14	Standard
	Ho-1	165	1037.0	2.5				mg/L	7	Standard
	Er	166	960.7	3.4				mg/L	8	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		105.163	
	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		80.811	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			

Sample ID: L1305159505
Report Date/Time: Tuesday, June 04, 2013 17:37:37
Page 2

Approved: June 05, 2013

	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	97.698
	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	102.056
	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: L1305159505
Report Date/Time: Tuesday, June 04, 2013 17:37:37
Page 3

Approved: June 05, 2013

Method 6020 - Summary Report

Sample ID: L1305159506
Sample Date/Time: Tuesday, June 04, 2013 17:38:31
Number of Replicates: 3
Autosampler Position: 338
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	577882.8	2.1				ug/L	552027	Standard
	Be	9	56.3	16.8	**0.0173**	0.004	24.6	ug/L	18	Standard
	Al	27	17882.2	1.3	**0.1124**	0.004	3.4	ug/L	841	Standard
	Sc	45	36914.9	1.9				ug/L	35084	Standard
	Ti	47	379.0	6.2	**2.0256**	0.148	7.3	ug/L	22	Standard
	V	51	12816.2	4.7	**2.4741**	0.144	5.8	ug/L	812	Standard
	Cr	52	8069.1	0.6	**1.0522**	0.025	2.4	ug/L	4274	Standard
	Cr	53	1250.1	9.4	**0.4503**	0.150	33.3	ug/L	1106	Standard
	Mn	55	251932.2	4.7	**38.2979**	2.115	5.5	ug/L	1207	Standard
	Co	59	2076.5	3.8	**0.4332**	0.020	4.6	ug/L	71	Standard
	Ni	60	940.0	11.1	**0.3948**	0.054	13.7	ug/L	295	Standard
	Cu	65	697.3	6.9	**0.3344**	0.029	8.6	ug/L	87	Standard
	Zn	66	2729.2	2.2	**2.2116**	0.087	3.9	ug/L	469	Standard
>	**Ge**	72	419850.9	0.9				ug/L	514704	Standard
	As	75	193.4	10.8	**0.2901**	0.021	7.3	ug/L	-121	Standard
	Se	82	4.9	83.5	**0.0436**	0.039	90.0	ug/L	-1	Standard
	Se-1	77	92.7	15.6	**-0.0290**	0.220	756.8	ug/L	127	Standard
>	**Ga**	71	1373.4	3.0				mg/L	175	Standard
	Rb	85	6606.4	1.3				ug/L	50	Standard
	Y	89	488297.3	0.9				ug/L	527499	Standard
>	**Rh**	103	10.0	50.0				ug/L	10	Standard
	Mo	98	49.5	41.4	**0.0060**	0.006	91.9	ug/L	23	Standard
	Ag	107	90.0	37.5	**0.0047**	0.007	140.7	ug/L	59	Standard
	Cd	111	14.6	91.7	**0.0071**	0.008	117.3	mg/L	3	Standard
	Cd	114	47.3	35.5	**0.0060**	0.004	67.6	ug/L	10	Standard
>	**In**	115	525778.0	0.6				ug/L	537195	Standard
	Sn	118	1565.4	1.8	**0.2720**	0.006	2.1	ug/L	281	Standard
	Sb	123	226.7	13.9	**0.0453**	0.009	19.9	ug/L	167	Standard
	Ba	135	3048.6	1.2	**1.8529**	0.032	1.8	ug/L	10	Standard
	Ce	140	126630.5	3.9				ug/L	27	Standard
>	**Tb**	159	743932.6	0.4				ug/L	758170	Standard
	Ho	165	304.0	4.3				ug/L	7	Standard
	Tl	203	102.3	15.5	**0.0183**	0.003	16.8	ug/L	5	Standard
	Tl	205	1.0	100.0	**0.0147**	0.007	48.6	ug/L	0	Standard
	Pb	206	4620.4	3.1	**1.0474**	0.034	3.2	ug/L	182	Standard
	Pb	207	3767.1	0.2	**1.0051**	0.007	0.7	ug/L	145	Standard
	Pb	208	5273.4	2.4	**0.9794**	0.019	1.9	ug/L	207	Standard
	U	238	367.7	8.7	**0.0807**	0.007	8.3	ug/L	1	Standard
>	**Bi**	209	331840.3	0.6				ug/L	325207	Standard

Sample ID: L1305159506
Report Date/Time: Tuesday, June 04, 2013 17:41:23
Page 1

Approved: June 05, 2013

	Na	23	3.3	86.6	**-0.5679**	0.452	79.6	mg/L	0	Standard
	Mg	24	40.0	21.7	**0.0003**	0.008	2603.7	mg/L	25	Standard
	K	39	5.0	100.0	**0.0312**	0.087	279.7	mg/L	3	Standard
	Ca	43	180.0	9.6	**-0.4074**	0.069	16.8	mg/L	297	Standard
	Fe	54	1515.6	9.2	**1.6030**	0.183	11.4	mg/L	91	Standard
	Fe	57	421.7	8.3	**0.6338**	0.101	15.9	mg/L	237	Standard
>	**Sc-1**	45	36914.9	1.9				mg/L	35084	Standard
	Cl	35	62659.0	0.9				ug/L	29808	Standard
	Kr	83	31.8	11.5				ug/L	38	Standard
	Br	81	543.3	3.3				ug/L	965	Standard
	P	31	84144.9	3.7				ug/L	176735	Standard
	S	34	58769.6	1.0				ug/L	28891	Standard
	Sr	88	45.0	27.8				ug/L	27	Standard
	C	12	5.0	100.0				mg/L	7	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	11.7	24.7				mg/L	3	Standard
	Dy	164	450.3	5.9				mg/L	14	Standard
	Ho-1	165	304.0	4.3				mg/L	7	Standard
	Er	166	301.0	8.9				mg/L	8	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		104.684	
	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		81.571	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			

Sample ID: L1305159506
Report Date/Time: Tuesday, June 04, 2013 17:41:23
Page 2

Approved: June 05, 2013

	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	97.875
	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	102.040
	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: L1305159506
Report Date/Time: Tuesday, June 04, 2013 17:41:23
Page 3

Approved: June 05, 2013

Method 6020 - Summary Report

Sample ID: L1305159507
Sample Date/Time: Tuesday, June 04, 2013 17:42:17
Number of Replicates: 3
Autosampler Position: 339
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	588004.9	0.7				ug/L	552027	Standard
	Be	9	94.7	15.9	**0.0360**	0.007	20.2	ug/L	18	Standard
	Al	27	22413.9	4.3	**0.1411**	0.006	4.0	ug/L	841	Standard
	Sc	45	37376.0	1.0				ug/L	35084	Standard
	Ti	47	424.7	14.5	**2.2750**	0.359	15.8	ug/L	22	Standard
	V	51	12438.3	6.2	**2.3913**	0.169	7.1	ug/L	812	Standard
	Cr	52	12689.3	4.4	**2.1256**	0.141	6.6	ug/L	4274	Standard
	Cr	53	2186.8	7.4	**1.5564**	0.187	12.0	ug/L	1106	Standard
	Mn	55	601954.6	6.1	**91.5094**	6.061	6.6	ug/L	1207	Standard
	Co	59	3186.3	6.2	**0.6715**	0.045	6.7	ug/L	71	Standard
	Ni	60	713.4	7.4	**0.2671**	0.032	12.1	ug/L	295	Standard
	Cu	65	1759.8	7.1	**0.9252**	0.076	8.2	ug/L	87	Standard
	Zn	66	3199.7	4.0	**2.7084**	0.154	5.7	ug/L	469	Standard
>	**Ge**	72	420825.0	0.9				ug/L	514704	Standard
	As	75	202.3	14.0	**0.2981**	0.028	9.4	ug/L	-121	Standard
	Se	82	7.5	84.0	**0.0684**	0.060	87.8	ug/L	-1	Standard
	Se-1	77	101.0	2.0	**0.0870**	0.041	46.6	ug/L	127	Standard
>	**Ga**	71	1456.7	14.9				mg/L	175	Standard
	Rb	85	7486.9	6.0				ug/L	50	Standard
	Y	89	495138.8	0.6				ug/L	527499	Standard
>	**Rh**	103	3.3	173.2				ug/L	10	Standard
	Mo	98	302.1	6.0	**0.0733**	0.004	5.2	ug/L	23	Standard
	Ag	107	394.7	6.0	**0.0632**	0.005	8.6	ug/L	59	Standard
	Cd	111	10.7	65.0	**0.0047**	0.004	93.3	mg/L	3	Standard
	Cd	114	35.7	14.0	**0.0032**	0.001	39.0	ug/L	10	Standard
>	**In**	115	527251.7	1.3				ug/L	537195	Standard
	Sn	118	456.7	9.1	**0.0319**	0.009	29.2	ug/L	281	Standard
	Sb	123	228.5	4.8	**0.0456**	0.002	5.2	ug/L	167	Standard
	Ba	135	10230.8	6.0	**6.2544**	0.364	5.8	ug/L	10	Standard
	Ce	140	135696.5	4.7				ug/L	27	Standard
>	**Tb**	159	746021.6	1.3				ug/L	758170	Standard
	Ho	165	1060.7	6.0				ug/L	7	Standard
	Tl	203	108.3	8.0	**0.0191**	0.002	9.6	ug/L	5	Standard
	Tl	205	1.3	114.6	**0.0170**	0.011	63.8	ug/L	0	Standard
	Pb	206	6578.4	4.4	**1.4885**	0.055	3.7	ug/L	182	Standard
	Pb	207	5251.2	6.1	**1.3972**	0.080	5.7	ug/L	145	Standard
	Pb	208	7284.3	3.3	**1.3497**	0.036	2.7	ug/L	207	Standard
	U	238	329.7	5.0	**0.0712**	0.004	5.4	ug/L	1	Standard
>	**Bi**	209	336749.8	1.3				ug/L	325207	Standard

Sample ID: L1305159507
Report Date/Time: Tuesday, June 04, 2013 17:45:09
Page 1

Approved: June 05, 2013

	Na	23	5.0	173.2	**-0.3049**	1.359	445.7	mg/L	0	Standard
	Mg	24	33.3	17.3	**-0.0068**	0.005	80.0	mg/L	25	Standard
	K	39	8.3	69.3	**0.0873**	0.099	113.3	mg/L	3	Standard
	Ca	43	221.7	26.4	**-0.2763**	0.200	72.2	mg/L	297	Standard
	Fe	54	1545.4	9.8	**1.6128**	0.160	9.9	mg/L	91	Standard
	Fe	57	433.3	11.6	**0.6512**	0.141	21.7	mg/L	237	Standard
>	**Sc-1**	45	37376.0	1.0				mg/L	35084	Standard
	Cl	35	63228.0	1.5				ug/L	29808	Standard
	Kr	83	34.9	3.1				ug/L	38	Standard
	Br	81	550.0	4.5				ug/L	965	Standard
	P	31	84066.2	4.0				ug/L	176735	Standard
	S	34	57460.4	0.6				ug/L	28891	Standard
	Sr	88	43.3	18.5				ug/L	27	Standard
	C	12	5.0	0.0				mg/L	7	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	5.0	100.0				mg/L	3	Standard
	Dy	164	1657.2	6.5				mg/L	14	Standard
	Ho-1	165	1060.7	6.0				mg/L	7	Standard
	Er	166	1027.7	5.8				mg/L	8	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		106.517	
	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		81.761	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			

Sample ID: L1305159507
Report Date/Time: Tuesday, June 04, 2013 17:45:09
Page 2

Approved: June 05, 2013

	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	98.149
	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	103.549
	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: L1305159507
Report Date/Time: Tuesday, June 04, 2013 17:45:09
Page 3

Approved: June 05, 2013

Method 6020 - Summary Report

Sample ID: QC Std 6
Sample Date/Time: Tuesday, June 04, 2013 17:46:05
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	696604.9	1.9				ug/L	552027	Standard
	Be	9	107169.5	8.4	**45.0234**	3.990	8.9	ug/L	18	Standard
	Al	27	9262802.2	9.0	**53.4068**	4.989	9.3	ug/L	841	Standard
	Sc	45	42283.9	0.2				ug/L	35084	Standard
	Ti	47	25210.1	10.0	**123.8240**	13.011	10.5	ug/L	22	Standard
	V	51	288644.5	12.4	**51.6246**	6.670	12.9	ug/L	812	Standard
	Cr	52	244195.1	12.2	**49.6190**	6.421	12.9	ug/L	4274	Standard
	Cr	53	51169.3	9.5	**52.6854**	5.333	10.1	ug/L	1106	Standard
	Mn	55	355314.0	10.9	**47.7631**	5.475	11.5	ug/L	1207	Standard
	Co	59	246067.2	11.5	**46.9885**	5.632	12.0	ug/L	71	Standard
	Ni	60	106928.8	9.3	**52.9224**	5.222	9.9	ug/L	295	Standard
	Cu	65	104751.2	10.6	**51.6076**	5.763	11.2	ug/L	87	Standard
	Zn	66	54851.9	8.5	**51.2835**	4.683	9.1	ug/L	469	Standard
>	Ge	72	475264.3	1.0				ug/L	514704	Standard
	As	75	59928.2	9.4	**50.1369**	4.937	9.8	ug/L	-121	Standard
	Se	82	6165.5	9.1	**52.2638**	4.971	9.5	ug/L	-1	Standard
	Se-1	77	4065.9	8.6	**50.5961**	4.774	9.4	ug/L	127	Standard
>	Ga	71	105.0	17.2				mg/L	175	Standard
	Rb	85	3157.0	6.6				ug/L	50	Standard
	Y	89	541065.6	1.2				ug/L	527499	Standard
>	Rh	103	23.3	61.9				ug/L	10	Standard
	Mo	98	402119.4	9.7	**93.7333**	9.159	9.8	ug/L	23	Standard
	Ag	107	300131.8	8.1	**50.4057**	3.926	7.8	ug/L	59	Standard
	Cd	111	85338.6	9.5	**45.9369**	4.466	9.7	mg/L	3	Standard
	Cd	114	243405.4	9.5	**50.8101**	4.827	9.5	ug/L	10	Standard
>	In	115	603079.8	1.5				ug/L	537195	Standard
	Sn	118	257503.5	10.0	**48.4975**	4.829	10.0	ug/L	281	Standard
	Sb	123	199164.5	8.8	**47.8051**	4.279	9.0	ug/L	167	Standard
	Ba	135	92783.0	8.9	**49.7615**	4.520	9.1	ug/L	10	Standard
	Ce	140	116.7	27.9				ug/L	27	Standard
>	Tb	159	829076.8	1.5				ug/L	758170	Standard
	Ho	165	8.3	48.5				ug/L	7	Standard
	Tl	203	287698.7	7.3	**50.0960**	3.883	7.8	ug/L	5	Standard
	Tl	205	7438.5	6.1	**49.5086**	3.569	7.2	ug/L	0	Standard
	Pb	206	228190.6	8.9	**50.2459**	4.685	9.3	ug/L	182	Standard
	Pb	207	196407.9	8.8	**50.8682**	4.806	9.4	ug/L	145	Standard
	Pb	208	273405.7	9.2	**49.3966**	4.916	10.0	ug/L	207	Standard
	U	238	229653.0	10.0	**47.3381**	5.139	10.9	ug/L	1	Standard
>	Bi	209	357036.6	2.2				ug/L	325207	Standard

Sample ID: QC Std 6
Report Date/Time: Tuesday, June 04, 2013 17:48:57
Page 1

Approved: June 05, 2013

	Na	23	38.3	65.7	**4.1851**	3.465	82.8	mg/L	0	Standard
	Mg	24	5195.9	8.6	**4.5536**	0.406	8.9	mg/L	25	Standard
	K	39	305.0	19.9	**4.5516**	0.926	20.3	mg/L	3	Standard
	Ca	43	1653.4	9.6	**3.8361**	0.476	12.4	mg/L	297	Standard
	Fe	54	6055.6	10.3	**5.8780**	0.629	10.7	mg/L	91	Standard
	Fe	57	1633.4	8.8	**3.3642**	0.345	10.2	mg/L	237	Standard
>	**Sc-1**	45	42283.9	0.2				mg/L	35084	Standard
	Cl	35	79779.2	1.8				ug/L	29808	Standard
	Kr	83	36.9	10.0				ug/L	38	Standard
	Br	81	739.2	6.3				ug/L	965	Standard
	P	31	271194.0	0.9				ug/L	176735	Standard
	S	34	75161.0	1.1				ug/L	28891	Standard
	Sr	88	48.3	25.5				ug/L	27	Standard
	C	12	8.3	91.7				mg/L	7	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	3.3	173.2				mg/L	3	Standard
	Dy	164	9.9	25.6				mg/L	14	Standard
	Ho-1	165	8.3	48.5				mg/L	7	Standard
	Er	166	10.0	45.8				mg/L	8	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		126.190	
	Be	9	90.047		
	Al	27	106.814		
	Sc	45			
	Ti	47	123.824		
	V	51	103.249		
	Cr	52	99.238		
	Cr	53			
	Mn	55	95.526		
	Co	59	93.977		
	Ni	60	105.845		
	Cu	65	103.215		
	Zn	66	102.567		
>	Ge	72		92.337	
	As	75	100.274		
	Se	82	104.528		
	Se-1	77			
>	Ga	71			
	Rb	85			

Sample ID: QC Std 6
Report Date/Time: Tuesday, June 04, 2013 17:48:57
Page 2

Approved: June 05, 2013

Y	89			
> Rh	103			
Mo	98	93.733		
Ag	107	100.811		
Cd	111	91.874		
Cd	114			
> In	115			112.265
Sn	118	96.995		
Sb	123	95.610		
Ba	135	99.523		
Ce	140			
> Tb	159			
Ho	165			
Tl	203	100.192		
Tl	205			
Pb	206			
Pb	207			
Pb	208	98.793		
U	238	94.676		
> Bi	209			109.787
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 QC Std	Li	6	Rerun sample
QC Std 6	Ti	47	

Sample ID: QC Std 6
Report Date/Time: Tuesday, June 04, 2013 17:48:57
Page 3

Approved: June 05, 2013

Method 6020 - Summary Report

Sample ID: QC Std 7
Sample Date/Time: Tuesday, June 04, 2013 17:49:51
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	712138.8	2.4				ug/L	552027	Standard
	Be	9	32.3	9.4	**0.0021**	0.001	46.8	ug/L	18	Standard
	Al	27	1854.1	21.3	**-0.0015**	0.002	137.7	ug/L	841	Standard
	Sc	45	42357.5	1.8				ug/L	35084	Standard
	Ti	47	21.0	19.0	**0.0194**	0.019	99.1	ug/L	22	Standard
	V	51	1173.5	0.5	**0.0822**	0.002	2.6	ug/L	812	Standard
	Cr	52	3872.5	1.1	**-0.0401**	0.010	24.8	ug/L	4274	Standard
	Cr	53	275.0	9.5	**-0.7488**	0.027	3.6	ug/L	1106	Standard
	Mn	55	975.7	5.4	**-0.0298**	0.007	23.4	ug/L	1207	Standard
	Co	59	86.3	26.9	**0.0006**	0.004	701.7	ug/L	71	Standard
	Ni	60	120.3	9.6	**-0.0734**	0.006	7.6	ug/L	295	Standard
	Cu	65	88.0	5.0	**-0.0118**	0.002	15.7	ug/L	87	Standard
	Zn	66	552.7	2.5	**-0.1966**	0.014	7.1	ug/L	469	Standard
>	**Ge**	72	478608.6	0.7				ug/L	514704	Standard
	As	75	-142.3	7.2	**-0.0107**	0.009	87.4	ug/L	-121	Standard
	Se	82	5.3	78.0	**0.0415**	0.035	84.1	ug/L	-1	Standard
	Se-1	77	95.0	11.1	**-0.1654**	0.130	78.7	ug/L	127	Standard
>	**Ga**	71	91.7	25.8				mg/L	175	Standard
	Rb	85	46.7	40.6				ug/L	50	Standard
	Y	89	554348.2	3.5				ug/L	527499	Standard
>	**Rh**	103	1.7	173.2				ug/L	10	Standard
	Mo	98	95.2	25.9	**0.0148**	0.006	37.7	ug/L	23	Standard
	Ag	107	70.3	12.8	**-0.0010**	0.001	128.0	ug/L	59	Standard
	Cd	111	3.9	50.8	**0.0001**	0.001	765.8	mg/L	3	Standard
	Cd	114	21.3	56.0	**-0.0009**	0.003	274.1	ug/L	10	Standard
>	**In**	115	608505.4	2.8				ug/L	537195	Standard
	Sn	118	536.7	5.6	**0.0338**	0.007	21.1	ug/L	281	Standard
	Sb	123	1093.0	9.6	**0.2429**	0.025	10.3	ug/L	167	Standard
	Ba	135	15.7	29.5	**-0.0149**	0.002	14.7	ug/L	10	Standard
	Ce	140	28.7	10.7				ug/L	27	Standard
>	**Tb**	159	839400.3	2.9				ug/L	758170	Standard
	Ho	165	9.0	38.5				ug/L	7	Standard
	Tl	203	15.0	41.6	**0.0017**	0.001	60.9	ug/L	5	Standard
	Tl	205	0.7	173.2	**0.0117**	0.007	61.9	ug/L	0	Standard
	Pb	206	215.0	12.2	**-0.0019**	0.005	246.5	ug/L	182	Standard
	Pb	207	183.0	3.8	**0.0010**	0.002	161.7	ug/L	145	Standard
	Pb	208	289.3	8.9	**0.0048**	0.003	70.4	ug/L	207	Standard
	U	238	28.7	77.2	**0.0049**	0.004	86.7	ug/L	1	Standard
>	**Bi**	209	367906.8	2.4				ug/L	325207	Standard

Sample ID: QC Std 7
Report Date/Time: Tuesday, June 04, 2013 17:52:43
Page 1

Approved: June 05, 2013

	Na	23	1.7	173.2	**-0.8594**	0.398	46.4	mg/L	0	Standard
	Mg	24	33.3	45.8	**-0.0108**	0.013	119.6	mg/L	25	Standard
	K	39	8.3	69.3	**0.0708**	0.088	124.2	mg/L	3	Standard
	Ca	43	201.7	22.9	**-0.4219**	0.139	32.8	mg/L	297	Standard
	Fe	54	161.2	1.9	**0.0420**	0.001	2.2	mg/L	91	Standard
	Fe	57	96.7	21.5	**-0.2844**	0.045	15.9	mg/L	237	Standard
>	**Sc-1**	45	42357.5	1.8				mg/L	35084	Standard
	Cl	35	79419.6	1.5				ug/L	29808	Standard
	Kr	83	34.4	4.4				ug/L	38	Standard
	Br	81	705.8	2.2				ug/L	965	Standard
	P	31	266983.9	5.5				ug/L	176735	Standard
	S	34	71367.7	2.3				ug/L	28891	Standard
	Sr	88	46.7	20.3				ug/L	27	Standard
	C	12	5.0	100.0				mg/L	7	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	1.7	173.2				mg/L	3	Standard
	Dy	164	13.4	34.8				mg/L	14	Standard
	Ho-1	165	9.0	38.5				mg/L	7	Standard
	Er	166	12.0	16.7				mg/L	8	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		129.004	
	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		92.987	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			

Sample ID: QC Std 7
Report Date/Time: Tuesday, June 04, 2013 17:52:43
Page 2

Approved: June 05, 2013

	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	113.275
	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	113.130
	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 QC Std	Li	6	Rerun sample
QC Std 7	Sb	123	

Sample ID: QC Std 7
Report Date/Time: Tuesday, June 04, 2013 17:52:43
Page 3

Approved: June 05, 2013

Method 6020 - Summary Report

Sample ID: L1305159508
Sample Date/Time: Tuesday, June 04, 2013 17:53:38
Number of Replicates: 3
Autosampler Position: 340
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	600872.5	2.0				ug/L	552027	Standard
	Be	9	56.0	3.1	**0.0161**	0.001	7.0	ug/L	18	Standard
	Al	27	22775.5	3.4	**0.1402**	0.002	1.6	ug/L	841	Standard
	Sc	45	37656.7	1.9				ug/L	35084	Standard
	Ti	47	450.7	7.6	**2.4185**	0.206	8.5	ug/L	22	Standard
	V	51	14505.8	5.7	**2.8091**	0.160	5.7	ug/L	812	Standard
	Cr	52	10343.9	4.5	**1.5781**	0.104	6.6	ug/L	4274	Standard
	Cr	53	1702.6	2.9	**0.9826**	0.051	5.2	ug/L	1106	Standard
	Mn	55	249894.4	5.6	**37.8824**	1.948	5.1	ug/L	1207	Standard
	Co	59	2776.9	6.1	**0.5830**	0.034	5.8	ug/L	71	Standard
	Ni	60	629.0	1.5	**0.2197**	0.007	3.0	ug/L	295	Standard
	Cu	65	792.4	6.5	**0.3862**	0.026	6.8	ug/L	87	Standard
	Zn	66	3166.0	4.4	**2.6713**	0.119	4.5	ug/L	469	Standard
>	**Ge**	72	420818.1	1.2				ug/L	514704	Standard
	As	75	206.5	10.3	**0.3020**	0.020	6.8	ug/L	-121	Standard
	Se	82	-2.3	116.5	**-0.0249**	0.025	101.2	ug/L	-1	Standard
	Se-1	77	92.0	4.3	**-0.0425**	0.072	169.4	ug/L	127	Standard
>	**Ga**	71	1796.8	9.1				mg/L	175	Standard
	Rb	85	8265.6	4.4				ug/L	50	Standard
	Y	89	488301.8	1.7				ug/L	527499	Standard
>	**Rh**	103	0.0					ug/L	10	Standard
	Mo	98	67.5	8.7	**0.0107**	0.002	15.3	ug/L	23	Standard
	Ag	107	92.7	30.3	**0.0050**	0.005	100.7	ug/L	59	Standard
	Cd	111	6.9	14.5	**0.0023**	0.001	24.0	mg/L	3	Standard
	Cd	114	33.5	20.8	**0.0026**	0.002	65.4	ug/L	10	Standard
>	**In**	115	529725.5	1.6				ug/L	537195	Standard
	Sn	118	466.0	15.9	**0.0335**	0.016	49.0	ug/L	281	Standard
	Sb	123	285.0	11.0	**0.0607**	0.009	15.0	ug/L	167	Standard
	Ba	135	3663.4	3.7	**2.2143**	0.075	3.4	ug/L	10	Standard
	Ce	140	116551.1	4.5				ug/L	27	Standard
>	**Tb**	159	762590.9	1.9				ug/L	758170	Standard
	Ho	165	212.0	10.2				ug/L	7	Standard
	Tl	203	111.7	2.3	**0.0195**	0.000	2.5	ug/L	5	Standard
	Tl	205	4.3	26.6	**0.0376**	0.008	20.0	ug/L	0	Standard
	Pb	206	5813.4	3.2	**1.2915**	0.012	0.9	ug/L	182	Standard
	Pb	207	4536.7	3.7	**1.1843**	0.036	3.1	ug/L	145	Standard
	Pb	208	6361.2	3.7	**1.1563**	0.023	2.0	ug/L	207	Standard
	U	238	368.7	6.0	**0.0787**	0.005	6.3	ug/L	1	Standard
>	**Bi**	209	341384.2	2.6				ug/L	325207	Standard

Sample ID: L1305159508
Report Date/Time: Tuesday, June 04, 2013 17:56:29
Page 1

Approved: June 05, 2013

⌈	**Na**	23	1.7	173.2	**-0.8263**	0.456	55.2	mg/L	0	Standard
|	**Mg**	24	15.0	33.3	**-0.0252**	0.005	20.9	mg/L	25	Standard
|	**K**	39	18.3	56.8	**0.2580**	0.184	71.4	mg/L	3	Standard
|	**Ca**	43	225.0	5.9	**-0.2716**	0.050	18.5	mg/L	297	Standard
|	**Fe**	54	1736.6	10.9	**1.8150**	0.232	12.8	mg/L	91	Standard
|	**Fe**	57	490.0	9.8	**0.7922**	0.113	14.3	mg/L	237	Standard
⌊>	**Sc-1**	45	37656.7	1.9				mg/L	35084	Standard
	Cl	35	68333.4	0.3				ug/L	29808	Standard
	Kr	83	37.9	10.2				ug/L	38	Standard
	Br	81	535.8	8.9				ug/L	965	Standard
	P	31	88586.6	2.2				ug/L	176735	Standard
	S	34	67784.7	2.5				ug/L	28891	Standard
	Sr	88	53.3	33.9				ug/L	27	Standard
	C	12	1.7	173.2				mg/L	7	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	13.3	114.6				mg/L	3	Standard
	Dy	164	366.5	5.6				mg/L	14	Standard
	Ho-1	165	212.0	10.2				mg/L	7	Standard
	Er	166	239.3	8.2				mg/L	8	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		108.848	
|	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		81.759	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			

Sample ID: L1305159508
Report Date/Time: Tuesday, June 04, 2013 17:56:29
Page 2

Approved: June 05, 2013

	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	98.610
	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	104.974
	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: L1305159508
Report Date/Time: Tuesday, June 04, 2013 17:56:29
Page 3

Approved: June 05, 2013

Method 6020 - Summary Report

Sample ID: L1305159509
Sample Date/Time: Tuesday, June 04, 2013 17:57:24
Number of Replicates: 3
Autosampler Position: 341
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	585737.8	0.5				ug/L	552027	Standard
	Be	9	46.0	18.6	**0.0119**	0.004	36.7	ug/L	18	Standard
	Al	27	11296.2	4.1	**0.0655**	0.003	4.7	ug/L	841	Standard
	Sc	45	37264.1	1.9				ug/L	35084	Standard
	Ti	47	153.7	8.1	**0.7692**	0.072	9.3	ug/L	22	Standard
	V	51	4969.8	6.1	**0.8781**	0.047	5.4	ug/L	812	Standard
	Cr	52	6362.7	3.4	**0.6484**	0.023	3.5	ug/L	4274	Standard
	Cr	53	910.9	5.1	**0.0430**	0.037	85.7	ug/L	1106	Standard
	Mn	55	260261.7	6.3	**39.4242**	2.052	5.2	ug/L	1207	Standard
	Co	59	1182.4	7.6	**0.2389**	0.016	6.7	ug/L	71	Standard
	Ni	60	457.3	6.9	**0.1232**	0.014	11.0	ug/L	295	Standard
	Cu	65	361.0	2.4	**0.1461**	0.007	5.1	ug/L	87	Standard
	Zn	66	2175.2	5.3	**1.6094**	0.107	6.7	ug/L	469	Standard
>	**Ge**	72	421117.3	1.9				ug/L	514704	Standard
	As	75	21.0	101.9	**0.1271**	0.020	15.9	ug/L	-121	Standard
	Se	82	-0.3	1687.9	**-0.0062**	0.046	754.0	ug/L	-1	Standard
	Se-1	77	85.7	15.9	**-0.1351**	0.198	146.9	ug/L	127	Standard
>	**Ga**	71	588.3	5.7				mg/L	175	Standard
	Rb	85	3338.7	0.4				ug/L	50	Standard
	Y	89	485508.6	2.3				ug/L	527499	Standard
>	**Rh**	103	6.7	43.3				ug/L	10	Standard
	Mo	98	33.2	24.4	**0.0016**	0.002	135.6	ug/L	23	Standard
	Ag	107	66.0	19.3	**-0.0001**	0.002	4584.4	ug/L	59	Standard
	Cd	111	5.0	20.1	**0.0011**	0.001	56.2	mg/L	3	Standard
	Cd	114	20.0	22.0	**-0.0006**	0.001	183.1	ug/L	10	Standard
>	**In**	115	529667.6	0.5				ug/L	537195	Standard
	Sn	118	335.3	12.8	**0.0054**	0.009	175.7	ug/L	281	Standard
	Sb	123	241.8	3.9	**0.0489**	0.002	4.9	ug/L	167	Standard
	Ba	135	4071.2	4.2	**2.4634**	0.098	4.0	ug/L	10	Standard
	Ce	140	53078.2	3.4				ug/L	27	Standard
>	**Tb**	159	750713.2	1.8				ug/L	758170	Standard
	Ho	165	396.0	4.6				ug/L	7	Standard
	Tl	203	42.0	4.1	**0.0068**	0.000	3.3	ug/L	5	Standard
	Tl	205	0.3	173.2	**0.0099**	0.004	41.3	ug/L	0	Standard
	Pb	206	2597.6	2.4	**0.5555**	0.017	3.1	ug/L	182	Standard
	Pb	207	2023.8	2.6	**0.5076**	0.008	1.5	ug/L	145	Standard
	Pb	208	2876.1	2.5	**0.5019**	0.007	1.3	ug/L	207	Standard
	U	238	116.0	8.3	**0.0244**	0.002	8.2	ug/L	1	Standard
>	**Bi**	209	338716.6	1.3				ug/L	325207	Standard

Sample ID: L1305159509
Report Date/Time: Tuesday, June 04, 2013 18:00:15
Page 1

Approved: June 05, 2013

	Na	23	1.7	173.2	**-0.8351**	0.441	52.8	mg/L	0	Standard
	Mg	24	25.0	40.0	**-0.0151**	0.010	63.3	mg/L	25	Standard
	K	39	3.3	173.2	**0.0026**	0.100	3811.7	mg/L	3	Standard
	Ca	43	248.3	19.3	**-0.1861**	0.164	88.2	mg/L	297	Standard
	Fe	54	494.1	6.1	**0.4374**	0.025	5.8	mg/L	91	Standard
	Fe	57	231.7	18.4	**0.1116**	0.120	107.8	mg/L	237	Standard
>	**Sc-1**	45	37264.1	1.9				mg/L	35084	Standard
	Cl	35	66092.5	1.5				ug/L	29808	Standard
	Kr	83	36.3	1.8				ug/L	38	Standard
	Br	81	515.0	2.1				ug/L	965	Standard
	P	31	82990.3	4.7				ug/L	176735	Standard
	S	34	62736.3	1.3				ug/L	28891	Standard
	Sr	88	38.3	27.2				ug/L	27	Standard
	C	12	8.3	124.9				mg/L	7	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	1.7	173.2				mg/L	3	Standard
	Dy	164	644.1	3.1				mg/L	14	Standard
	Ho-1	165	396.0	4.6				mg/L	7	Standard
	Er	166	401.7	3.3				mg/L	8	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		106.107	
	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		81.817	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			

Sample ID: L1305159509
Report Date/Time: Tuesday, June 04, 2013 18:00:15
Page 2

Approved: June 05, 2013

	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	98.599
	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	104.154
	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: June 05, 2013

Method 6020 - Summary Report

Sample ID: L1305159510
Sample Date/Time: Tuesday, June 04, 2013 18:01:10
Number of Replicates: 3
Autosampler Position: 342
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	589847.6	0.8				ug/L	552027	Standard
	Be	9	44.0	4.5	**0.0107**	0.001	10.8	ug/L	18	Standard
	Al	27	11445.0	5.2	**0.0660**	0.004	6.1	ug/L	841	Standard
	Sc	45	36559.1	2.6				ug/L	35084	Standard
	Ti	47	148.7	15.1	**0.7422**	0.122	16.4	ug/L	22	Standard
	V	51	8094.6	6.9	**1.5128**	0.106	7.0	ug/L	812	Standard
	Cr	52	7150.0	3.7	**0.8346**	0.053	6.3	ug/L	4274	Standard
	Cr	53	1083.4	6.1	**0.2496**	0.074	29.6	ug/L	1106	Standard
	Mn	55	110244.7	5.4	**16.6369**	0.830	5.0	ug/L	1207	Standard
	Co	59	1618.1	3.6	**0.3335**	0.011	3.4	ug/L	71	Standard
	Ni	60	226.3	2.4	**-0.0058**	0.003	44.4	ug/L	295	Standard
	Cu	65	335.3	3.8	**0.1321**	0.008	6.0	ug/L	87	Standard
	Zn	66	2560.2	4.2	**2.0256**	0.104	5.1	ug/L	469	Standard
>	**Ge**	72	420445.8	0.5				ug/L	514704	Standard
	As	75	2.1	892.7	**0.1092**	0.018	16.1	ug/L	-121	Standard
	Se	82	3.5	172.9	**0.0308**	0.058	190.0	ug/L	-1	Standard
	Se-1	77	102.3	1.5	**0.1074**	0.017	15.7	ug/L	127	Standard
>	**Ga**	71	850.0	9.6				mg/L	175	Standard
	Rb	85	2490.2	8.1				ug/L	50	Standard
	Y	89	481313.8	0.4				ug/L	527499	Standard
>	**Rh**	103	8.3	34.6				ug/L	10	Standard
	Mo	98	31.2	47.0	**0.0010**	0.004	358.8	ug/L	23	Standard
	Ag	107	92.0	44.2	**0.0049**	0.007	152.9	ug/L	59	Standard
	Cd	111	10.6	43.3	**0.0046**	0.003	59.1	mg/L	3	Standard
	Cd	114	37.7	57.3	**0.0036**	0.005	137.8	ug/L	10	Standard
>	**In**	115	528889.5	1.7				ug/L	537195	Standard
	Sn	118	369.7	13.3	**0.0129**	0.011	84.7	ug/L	281	Standard
	Sb	123	242.1	10.4	**0.0490**	0.006	11.8	ug/L	167	Standard
	Ba	135	1914.5	8.3	**1.1474**	0.087	7.6	ug/L	10	Standard
	Ce	140	37707.7	6.5				ug/L	27	Standard
>	**Tb**	159	741225.9	1.4				ug/L	758170	Standard
	Ho	165	112.3	16.4				ug/L	7	Standard
	Tl	203	60.3	13.8	**0.0104**	0.002	14.6	ug/L	5	Standard
	Tl	205	2.0	100.0	**0.0218**	0.014	65.3	ug/L	0	Standard
	Pb	206	5751.4	5.6	**1.3069**	0.073	5.6	ug/L	182	Standard
	Pb	207	4579.7	3.6	**1.2236**	0.043	3.5	ug/L	145	Standard
	Pb	208	6359.5	4.8	**1.1829**	0.055	4.7	ug/L	207	Standard
	U	238	359.3	2.2	**0.0784**	0.002	2.6	ug/L	1	Standard
>	**Bi**	209	333907.9	0.3				ug/L	325207	Standard

Sample ID: L1305159510
Report Date/Time: Tuesday, June 04, 2013 18:04:01
Page 1

Approved: June 05, 2013

	Na	23	3.3	173.2	**-0.5440**	0.945	173.7	mg/L	0	Standard
	Mg	24	41.7	27.7	**0.0024**	0.011	458.7	mg/L	25	Standard
	K	39	6.7	43.3	**0.0612**	0.050	81.5	mg/L	3	Standard
	Ca	43	186.7	4.1	**-0.3797**	0.023	6.1	mg/L	297	Standard
	Fe	54	1083.8	2.8	**1.1245**	0.061	5.5	mg/L	91	Standard
	Fe	57	355.0	2.8	**0.4622**	0.043	9.3	mg/L	237	Standard
>	**Sc-1**	45	36559.1	2.6				mg/L	35084	Standard
	Cl	35	64444.8	0.4				ug/L	29808	Standard
	Kr	83	32.3	14.3				ug/L	38	Standard
	Br	81	523.3	2.4				ug/L	965	Standard
	P	31	85532.6	3.6				ug/L	176735	Standard
	S	34	60568.3	1.1				ug/L	28891	Standard
	Sr	88	50.0	26.5				ug/L	27	Standard
	C	12	0.0					mg/L	7	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	15.0	33.3				mg/L	3	Standard
	Dy	164	178.1	6.7				mg/L	14	Standard
	Ho-1	165	112.3	16.4				mg/L	7	Standard
	Er	166	123.0	4.5				mg/L	8	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		106.851	
	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		81.687	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			

Sample ID: L1305159510
Report Date/Time: Tuesday, June 04, 2013 18:04:01
Page 2

Approved: June 05, 2013

	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	98.454
	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	102.675
	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: L1305159510
Report Date/Time: Tuesday, June 04, 2013 18:04:01
Page 3

Approved: June 05, 2013

Method 6020 - Summary Report

Sample ID: L1305159511
Sample Date/Time: Tuesday, June 04, 2013 18:04:55
Number of Replicates: 3
Autosampler Position: 343
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	594053.8	1.4				ug/L	552027	Standard
	Be	9	74.0	11.8	**0.0253**	0.004	15.0	ug/L	18	Standard
	Al	27	13197.1	5.0	**0.0772**	0.004	4.8	ug/L	841	Standard
	Sc	45	36975.1	2.9				ug/L	35084	Standard
	Ti	47	211.0	5.3	**1.0981**	0.060	5.4	ug/L	22	Standard
	V	51	8446.6	8.1	**1.5977**	0.130	8.1	ug/L	812	Standard
	Cr	52	8057.5	4.3	**1.0618**	0.080	7.6	ug/L	4274	Standard
	Cr	53	1243.4	11.0	**0.4506**	0.150	33.3	ug/L	1106	Standard
	Mn	55	444211.1	6.1	**68.0670**	3.882	5.7	ug/L	1207	Standard
	Co	59	2878.3	5.7	**0.6103**	0.032	5.2	ug/L	71	Standard
	Ni	60	441.7	5.9	**0.1169**	0.012	9.9	ug/L	295	Standard
	Cu	65	424.0	8.7	**0.1832**	0.019	10.2	ug/L	87	Standard
	Zn	66	2222.8	3.3	**1.6833**	0.060	3.6	ug/L	469	Standard
>	**Ge**	72	417100.4	1.3				ug/L	514704	Standard
	As	75	74.9	30.3	**0.1784**	0.021	11.8	ug/L	-121	Standard
	Se	82	1.2	281.1	**0.0081**	0.032	396.1	ug/L	-1	Standard
	Se-1	77	91.3	1.7	**-0.0409**	0.011	26.9	ug/L	127	Standard
>	**Ga**	71	926.7	9.8				mg/L	175	Standard
	Rb	85	5165.9	5.3				ug/L	50	Standard
	Y	89	492696.4	1.0				ug/L	527499	Standard
>	**Rh**	103	3.3	86.6				ug/L	10	Standard
	Mo	98	32.2	31.1	**0.0014**	0.003	203.0	ug/L	23	Standard
	Ag	107	81.3	20.0	**0.0029**	0.003	101.0	ug/L	59	Standard
	Cd	111	10.0	30.0	**0.0042**	0.002	46.1	mg/L	3	Standard
	Cd	114	28.0	5.5	**0.0013**	0.000	17.2	ug/L	10	Standard
>	**In**	115	527677.5	2.0				ug/L	537195	Standard
	Sn	118	385.3	13.5	**0.0165**	0.012	74.4	ug/L	281	Standard
	Sb	123	275.2	6.5	**0.0583**	0.003	5.8	ug/L	167	Standard
	Ba	135	7892.1	5.4	**4.8161**	0.260	5.4	ug/L	10	Standard
	Ce	140	99331.9	5.7				ug/L	27	Standard
>	**Tb**	159	742575.6	1.8				ug/L	758170	Standard
	Ho	165	735.4	5.7				ug/L	7	Standard
	Tl	203	76.7	17.8	**0.0133**	0.003	20.9	ug/L	5	Standard
	Tl	205	1.3	86.6	**0.0170**	0.008	48.1	ug/L	0	Standard
	Pb	206	5288.9	4.4	**1.1877**	0.068	5.7	ug/L	182	Standard
	Pb	207	4168.9	4.9	**1.1003**	0.069	6.3	ug/L	145	Standard
	Pb	208	5983.1	3.0	**1.1005**	0.046	4.2	ug/L	207	Standard
	U	238	274.7	4.3	**0.0592**	0.002	3.5	ug/L	1	Standard
>	**Bi**	209	336880.0	1.8				ug/L	325207	Standard

Sample ID: L1305159511
Report Date/Time: Tuesday, June 04, 2013 18:07:47
Page 1

Approved: June 05, 2013

Na	23	0.0		**-1.0895**	0.000	0.0	mg/L	0	Standard
Mg	24	33.3	22.9	**-0.0065**	0.007	104.3	mg/L	25	Standard
K	39	8.3	34.6	**0.0889**	0.050	56.6	mg/L	3	Standard
Ca	43	190.0	2.6	**-0.3755**	0.017	4.5	mg/L	297	Standard
Fe	54	1019.2	2.5	**1.0374**	0.055	5.3	mg/L	91	Standard
Fe	57	346.7	10.1	**0.4278**	0.088	20.5	mg/L	237	Standard
Sc-1	45	36975.1	2.9				mg/L	35084	Standard
Cl	35	64140.5	1.0				ug/L	29808	Standard
Kr	83	34.9	11.0				ug/L	38	Standard
Br	81	519.2	5.6				ug/L	965	Standard
P	31	84346.0	3.8				ug/L	176735	Standard
S	34	58598.1	1.0				ug/L	28891	Standard
Sr	88	38.3	39.8				ug/L	27	Standard
C	12	0.0					mg/L	7	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	15.0	0.0				mg/L	3	Standard
Dy	164	1129.0	6.1				mg/L	14	Standard
Ho-1	165	735.4	5.7				mg/L	7	Standard
Er	166	711.7	6.1				mg/L	8	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
> Li	6		107.613	
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		81.037	
As	75			
Se	82			
Se-1	77			
> Ga	71			
Rb	85			

Sample ID: L1305159511
Report Date/Time: Tuesday, June 04, 2013 18:07:47
Page 2

Approved: June 05, 2013

	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	98.228
	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	103.589
	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

Approved: June 05, 2013

Method 6020 - Summary Report

Sample ID: L1305159512
Sample Date/Time: Tuesday, June 04, 2013 18:08:41
Number of Replicates: 3
Autosampler Position: 344
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	591972.5	2.0				ug/L	552027	Standard
	Be	9	63.0	6.3	**0.0200**	0.002	9.4	ug/L	18	Standard
	Al	27	24206.0	3.3	**0.1522**	0.003	2.0	ug/L	841	Standard
	Sc	45	37514.7	1.9				ug/L	35084	Standard
	Ti	47	441.3	4.7	**2.3504**	0.135	5.7	ug/L	22	Standard
	V	51	18612.5	4.4	**3.6144**	0.114	3.1	ug/L	812	Standard
	Cr	52	17170.7	3.7	**3.1428**	0.082	2.6	ug/L	4274	Standard
	Cr	53	3064.5	3.8	**2.5719**	0.085	3.3	ug/L	1106	Standard
	Mn	55	132584.2	4.2	**19.8863**	0.516	2.6	ug/L	1207	Standard
	Co	59	809.4	4.6	**0.1576**	0.008	5.3	ug/L	71	Standard
	Ni	60	924.4	5.3	**0.3818**	0.029	7.5	ug/L	295	Standard
	Cu	65	707.0	2.8	**0.3362**	0.007	2.1	ug/L	87	Standard
	Zn	66	2992.6	1.0	**2.4654**	0.052	2.1	ug/L	469	Standard
>	**Ge**	72	423640.3	1.7				ug/L	514704	Standard
	As	75	193.3	17.6	**0.2882**	0.031	10.6	ug/L	-121	Standard
	Se	82	4.7	124.1	**0.0413**	0.056	134.8	ug/L	-1	Standard
	Se-1	77	102.0	18.0	**0.0935**	0.277	295.7	ug/L	127	Standard
>	**Ga**	71	2038.5	2.8				mg/L	175	Standard
	Rb	85	5142.5	2.2				ug/L	50	Standard
	Y	89	476213.8	1.4				ug/L	527499	Standard
>	**Rh**	103	6.7	114.6				ug/L	10	Standard
	Mo	98	59.8	10.4	**0.0089**	0.002	17.9	ug/L	23	Standard
	Ag	107	84.7	10.3	**0.0037**	0.002	42.1	ug/L	59	Standard
	Cd	111	5.3	61.0	**0.0013**	0.002	150.3	mg/L	3	Standard
	Cd	114	27.1	7.0	**0.0012**	0.001	42.4	ug/L	10	Standard
>	**In**	115	522613.3	0.8				ug/L	537195	Standard
	Sn	118	293.0	11.1	**-0.0028**	0.007	262.2	ug/L	281	Standard
	Sb	123	227.2	7.0	**0.0458**	0.005	10.4	ug/L	167	Standard
	Ba	135	2419.9	3.7	**1.4746**	0.044	3.0	ug/L	10	Standard
	Ce	140	64512.1	3.3				ug/L	27	Standard
>	**Tb**	159	742201.8	0.7				ug/L	758170	Standard
	Ho	165	222.3	5.3				ug/L	7	Standard
	Tl	203	61.0	2.8	**0.0105**	0.000	3.6	ug/L	5	Standard
	Tl	205	1.0	100.0	**0.0146**	0.007	48.1	ug/L	0	Standard
	Pb	206	4475.0	2.5	**1.0092**	0.042	4.2	ug/L	182	Standard
	Pb	207	3536.4	1.4	**0.9370**	0.012	1.3	ug/L	145	Standard
	Pb	208	4921.3	2.3	**0.9076**	0.033	3.6	ug/L	207	Standard
	U	238	573.3	12.5	**0.1258**	0.015	12.2	ug/L	1	Standard
>	**Bi**	209	333123.8	1.5				ug/L	325207	Standard

Sample ID: L1305159512
Report Date/Time: Tuesday, June 04, 2013 18:11:33
Page 1

Approved: June 05, 2013

Na	23	1.7	173.2	**-0.8281**	0.453	54.7	mg/L	0	Standard
Mg	24	31.7	39.7	**-0.0085**	0.013	150.1	mg/L	25	Standard
K	39	10.0	50.0	**0.1150**	0.086	74.7	mg/L	3	Standard
Ca	43	166.7	11.4	**-0.4623**	0.057	12.4	mg/L	297	Standard
Fe	54	2173.4	4.2	**2.3085**	0.120	5.2	mg/L	91	Standard
Fe	57	553.3	12.3	**0.9679**	0.188	19.4	mg/L	237	Standard
Sc-1	45	37514.7	1.9				mg/L	35084	Standard
Cl	35	62540.8	0.4				ug/L	29808	Standard
Kr	83	34.3	5.4				ug/L	38	Standard
Br	81	508.3	3.3				ug/L	965	Standard
P	31	84719.6	2.3				ug/L	176735	Standard
S	34	57360.0	0.1				ug/L	28891	Standard
Sr	88	50.8	24.3				ug/L	27	Standard
C	12	3.3	86.6				mg/L	7	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	8.3	91.7				mg/L	3	Standard
Dy	164	324.7	1.8				mg/L	14	Standard
Ho-1	165	222.3	5.3				mg/L	7	Standard
Er	166	215.3	7.7				mg/L	8	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		107.236	
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		82.308	
As	75			
Se	82			
Se-1	77			
Ga	71			
Rb	85			

Sample ID: L1305159512
Report Date/Time: Tuesday, June 04, 2013 18:11:33
Page 2

Approved: June 05, 2013

	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	97.286
	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	102.434
	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: L1305159512
Report Date/Time: Tuesday, June 04, 2013 18:11:33
Page 3

Approved: June 05, 2013

Method 6020 - Summary Report

Sample ID: L1305159513
Sample Date/Time: Tuesday, June 04, 2013 18:12:27
Number of Replicates: 3
Autosampler Position: 345
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	602145.3	1.5				ug/L	552027	Standard
	Be	9	72.7	14.3	**0.0242**	0.006	22.9	ug/L	18	Standard
	Al	27	21812.7	4.0	**0.1335**	0.005	4.0	ug/L	841	Standard
	Sc	45	37264.1	0.9				ug/L	35084	Standard
	Ti	47	419.3	13.4	**2.2283**	0.303	13.6	ug/L	22	Standard
	V	51	11748.5	3.0	**2.2358**	0.062	2.8	ug/L	812	Standard
	Cr	52	10988.7	4.3	**1.7118**	0.097	5.7	ug/L	4274	Standard
	Cr	53	1892.6	6.4	**1.1933**	0.139	11.7	ug/L	1106	Standard
	Mn	55	350711.9	5.4	**52.8867**	2.637	5.0	ug/L	1207	Standard
	Co	59	2616.2	2.9	**0.5448**	0.014	2.6	ug/L	71	Standard
	Ni	60	608.0	3.7	**0.2058**	0.014	6.7	ug/L	295	Standard
	Cu	65	613.0	2.4	**0.2843**	0.007	2.3	ug/L	87	Standard
	Zn	66	2775.6	3.7	**2.2347**	0.098	4.4	ug/L	469	Standard
>	**Ge**	72	423530.6	0.5				ug/L	514704	Standard
	As	75	185.8	18.1	**0.2812**	0.031	11.0	ug/L	-121	Standard
	Se	82	-1.4	205.2	**-0.0166**	0.028	166.3	ug/L	-1	Standard
	Se-1	77	103.0	11.4	**0.1057**	0.163	153.9	ug/L	127	Standard
>	**Ga**	71	1421.7	6.6				mg/L	175	Standard
	Rb	85	7481.9	5.8				ug/L	50	Standard
	Y	89	492098.7	0.4				ug/L	527499	Standard
>	**Rh**	103	11.7	65.5				ug/L	10	Standard
	Mo	98	46.2	11.9	**0.0049**	0.001	27.9	ug/L	23	Standard
	Ag	107	89.3	4.2	**0.0042**	0.001	19.3	ug/L	59	Standard
	Cd	111	8.9	33.5	**0.0035**	0.002	51.1	mg/L	3	Standard
	Cd	114	29.3	29.6	**0.0016**	0.002	131.4	ug/L	10	Standard
>	**In**	115	535086.7	1.6				ug/L	537195	Standard
	Sn	118	400.3	25.2	**0.0185**	0.022	116.5	ug/L	281	Standard
	Sb	123	242.1	2.6	**0.0483**	0.001	1.6	ug/L	167	Standard
	Ba	135	6117.6	3.7	**3.6767**	0.163	4.4	ug/L	10	Standard
	Ce	140	96172.2	3.4				ug/L	27	Standard
>	**Tb**	159	754571.5	1.2				ug/L	758170	Standard
	Ho	165	579.7	3.8				ug/L	7	Standard
	Tl	203	90.7	7.5	**0.0157**	0.001	9.1	ug/L	5	Standard
	Tl	205	1.0	0.0	**0.0145**	0.000	0.5	ug/L	0	Standard
	Pb	206	4551.7	3.2	**1.0037**	0.032	3.2	ug/L	182	Standard
	Pb	207	3610.1	3.1	**0.9358**	0.028	3.0	ug/L	145	Standard
	Pb	208	5107.0	2.8	**0.9220**	0.026	2.8	ug/L	207	Standard
	U	238	300.0	9.6	**0.0640**	0.006	8.9	ug/L	1	Standard
>	**Bi**	209	340480.1	1.1				ug/L	325207	Standard

Sample ID: L1305159513
Report Date/Time: Tuesday, June 04, 2013 18:15:19
Page 1

Approved: June 05, 2013

	Na	23	3.3	173.2	**-0.5671**	0.905	159.5	mg/L	0	Standard
	Mg	24	25.0	20.0	**-0.0150**	0.005	32.1	mg/L	25	Standard
	K	39	8.3	34.6	**0.0879**	0.050	57.4	mg/L	3	Standard
	Ca	43	168.3	14.0	**-0.4523**	0.082	18.2	mg/L	297	Standard
	Fe	54	1301.6	9.4	**1.3440**	0.124	9.2	mg/L	91	Standard
	Fe	57	405.0	6.9	**0.5779**	0.078	13.5	mg/L	237	Standard
>	**Sc-1**	45	37264.1	0.9				mg/L	35084	Standard
	Cl	35	62280.4	1.6				ug/L	29808	Standard
	Kr	83	39.4	13.1				ug/L	38	Standard
	Br	81	578.3	10.6				ug/L	965	Standard
	P	31	82741.3	2.8				ug/L	176735	Standard
	S	34	55791.7	0.2				ug/L	28891	Standard
	Sr	88	42.5	25.6				ug/L	27	Standard
	C	12	1.7	173.2				mg/L	7	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	5.0	173.2				mg/L	3	Standard
	Dy	164	893.2	2.9				mg/L	14	Standard
	Ho-1	165	579.7	3.8				mg/L	7	Standard
	Er	166	568.0	8.7				mg/L	8	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		109.079	
	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		82.286	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			

Sample ID: L1305159513
Report Date/Time: Tuesday, June 04, 2013 18:15:19
Page 2

Approved: June 05, 2013

	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	99.608
	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	104.696
	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: L1305159513
Report Date/Time: Tuesday, June 04, 2013 18:15:19
Page 3

Approved: June 05, 2013

Method 6020 - Summary Report

Sample ID: L1305159514
Sample Date/Time: Tuesday, June 04, 2013 18:16:13
Number of Replicates: 3
Autosampler Position: 346
Sample Description: 50
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	601040.9	1.2				ug/L	552027	Standard
	Be	9	45.7	14.1	**0.0111**	0.003	28.6	ug/L	18	Standard
	Al	27	6570.8	6.2	**0.0319**	0.002	7.3	ug/L	841	Standard
	Sc	45	37524.8	1.6				ug/L	35084	Standard
	Ti	47	180.3	8.6	**0.8999**	0.081	9.0	ug/L	22	Standard
	V	51	11170.3	5.4	**2.0939**	0.097	4.6	ug/L	812	Standard
	Cr	52	10150.1	1.9	**1.4914**	0.020	1.3	ug/L	4274	Standard
	Cr	53	1792.6	3.9	**1.0518**	0.065	6.2	ug/L	1106	Standard
	Mn	55	104995.2	5.2	**15.5416**	0.657	4.2	ug/L	1207	Standard
	Co	59	1172.7	6.8	**0.2326**	0.015	6.3	ug/L	71	Standard
	Ni	60	248.0	2.8	**0.0039**	0.005	127.4	ug/L	295	Standard
	Cu	65	484.0	9.4	**0.2098**	0.023	11.1	ug/L	87	Standard
	Zn	66	2177.8	5.9	**1.5726**	0.112	7.1	ug/L	469	Standard
>	**Ge**	72	428310.6	1.1				ug/L	514704	Standard
	As	75	6.2	78.5	**0.1130**	0.005	4.0	ug/L	-121	Standard
	Se	82	-3.2	222.8	**-0.0333**	0.067	201.4	ug/L	-1	Standard
	Se-1	77	102.3	1.5	**0.0803**	0.020	24.6	ug/L	127	Standard
>	**Ga**	71	1258.4	5.2				mg/L	175	Standard
	Rb	85	3502.1	2.3				ug/L	50	Standard
	Y	89	484394.7	0.5				ug/L	527499	Standard
>	**Rh**	103	1.7	173.2				ug/L	10	Standard
	Mo	98	43.1	24.6	**0.0041**	0.003	65.8	ug/L	23	Standard
	Ag	107	93.3	18.4	**0.0050**	0.003	65.2	ug/L	59	Standard
	Cd	111	6.0	67.0	**0.0017**	0.002	144.5	mg/L	3	Standard
	Cd	114	19.2	54.2	**-0.0008**	0.002	290.2	ug/L	10	Standard
>	**In**	115	535742.7	1.4				ug/L	537195	Standard
	Sn	118	366.7	24.8	**0.0114**	0.021	180.1	ug/L	281	Standard
	Sb	123	234.5	16.9	**0.0462**	0.011	23.1	ug/L	167	Standard
	Ba	135	1846.1	6.5	**1.0912**	0.061	5.6	ug/L	10	Standard
	Ce	140	73701.8	4.8				ug/L	27	Standard
>	**Tb**	159	755311.8	1.0				ug/L	758170	Standard
	Ho	165	182.3	11.1				ug/L	7	Standard
	Tl	203	85.0	49.0	**0.0146**	0.007	50.4	ug/L	5	Standard
	Tl	205	1.3	114.6	**0.0168**	0.010	62.5	ug/L	0	Standard
	Pb	206	5492.0	2.1	**1.2214**	0.026	2.2	ug/L	182	Standard
	Pb	207	4323.0	4.0	**1.1297**	0.043	3.8	ug/L	145	Standard
	Pb	208	6062.1	3.1	**1.1032**	0.027	2.5	ug/L	207	Standard
	U	238	470.3	7.8	**0.1008**	0.007	7.0	ug/L	1	Standard
>	**Bi**	209	340381.3	1.3				ug/L	325207	Standard

Sample ID: L1305159514
Report Date/Time: Tuesday, June 04, 2013 18:19:05
Page 1

Approved: June 05, 2013

	Na	23	5.0	0.0	**-0.3146**	0.012	3.9	mg/L	0	Standard
	Mg	24	26.7	47.2	**-0.0135**	0.013	93.0	mg/L	25	Standard
	K	39	5.0	100.0	**0.0308**	0.086	279.8	mg/L	3	Standard
	Ca	43	191.7	1.5	**-0.3793**	0.018	4.7	mg/L	297	Standard
	Fe	54	1508.7	9.8	**1.5644**	0.144	9.2	mg/L	91	Standard
	Fe	57	466.7	2.7	**0.7350**	0.015	2.0	mg/L	237	Standard
>	**Sc-1**	45	37524.8	1.6				mg/L	35084	Standard
	Cl	35	64304.5	0.4				ug/L	29808	Standard
	Kr	83	36.1	8.9				ug/L	38	Standard
	Br	81	543.3	1.9				ug/L	965	Standard
	P	31	84768.3	2.8				ug/L	176735	Standard
	S	34	56610.6	0.6				ug/L	28891	Standard
	Sr	88	33.3	4.3				ug/L	27	Standard
	C	12	5.0	100.0				mg/L	7	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	16.7	17.3				mg/L	3	Standard
	Dy	164	267.1	16.9				mg/L	14	Standard
	Ho-1	165	182.3	11.1				mg/L	7	Standard
	Er	166	193.7	12.0				mg/L	8	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		108.879	
	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		83.215	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			

Sample ID: L1305159514
Report Date/Time: Tuesday, June 04, 2013 18:19:05
Page 2

Approved: June 05, 2013

	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	99.730
	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	104.666
	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: L1305159514
Report Date/Time: Tuesday, June 04, 2013 18:19:05
Page 3

Approved: June 05, 2013

Method 6020 - Summary Report

Sample ID: L1305159515
Sample Date/Time: Tuesday, June 04, 2013 18:19:59
Number of Replicates: 3
Autosampler Position: 347
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	596763.5	0.6				ug/L	552027	Standard
	Be	9	72.7	4.4	**0.0245**	0.001	6.0	ug/L	18	Standard
	Al	27	57439.2	5.6	**0.3745**	0.020	5.4	ug/L	841	Standard
	Sc	45	37498.0	2.0				ug/L	35084	Standard
	Ti	47	167.0	8.4	**0.8406**	0.081	9.7	ug/L	22	Standard
	V	51	7255.0	5.5	**1.3366**	0.077	5.7	ug/L	812	Standard
	Cr	52	6938.3	3.6	**0.7784**	0.055	7.1	ug/L	4274	Standard
	Cr	53	1080.0	7.8	**0.2403**	0.098	40.8	ug/L	1106	Standard
	Mn	55	603396.0	6.6	**91.3890**	5.823	6.4	ug/L	1207	Standard
	Co	59	2643.9	5.4	**0.5524**	0.029	5.3	ug/L	71	Standard
	Ni	60	601.3	6.1	**0.2030**	0.020	9.8	ug/L	295	Standard
	Cu	65	22437.3	6.3	**12.3936**	0.752	6.1	ug/L	87	Standard
	Zn	66	5229.6	3.2	**4.8614**	0.169	3.5	ug/L	469	Standard
>	**Ge**	72	422252.0	0.5				ug/L	514704	Standard
	As	75	123.3	43.7	**0.2230**	0.050	22.6	ug/L	-121	Standard
	Se	82	8.0	134.3	**0.0728**	0.102	140.4	ug/L	-1	Standard
	Se-1	77	100.0	7.5	**0.0678**	0.114	168.4	ug/L	127	Standard
>	**Ga**	71	850.0	14.4				mg/L	175	Standard
	Rb	85	4375.6	3.4				ug/L	50	Standard
	Y	89	496795.9	1.4				ug/L	527499	Standard
>	**Rh**	103	8.3	91.7				ug/L	10	Standard
	Mo	98	39.4	4.5	**0.0032**	0.000	15.1	ug/L	23	Standard
	Ag	107	88.7	14.0	**0.0042**	0.002	54.2	ug/L	59	Standard
	Cd	111	30.0	12.0	**0.0163**	0.002	12.9	mg/L	3	Standard
	Cd	114	99.5	15.1	**0.0181**	0.003	18.8	ug/L	10	Standard
>	**In**	115	532999.0	0.7				ug/L	537195	Standard
	Sn	118	505.0	14.2	**0.0412**	0.016	39.2	ug/L	281	Standard
	Sb	123	255.7	4.1	**0.0523**	0.003	5.4	ug/L	167	Standard
	Ba	135	10128.1	5.3	**6.1232**	0.281	4.6	ug/L	10	Standard
	Ce	140	96501.4	4.6				ug/L	27	Standard
>	**Tb**	159	749023.9	1.6				ug/L	758170	Standard
	Ho	165	905.7	6.1				ug/L	7	Standard
	Tl	203	65.7	14.1	**0.0112**	0.002	14.3	ug/L	5	Standard
	Tl	205	1.7	91.7	**0.0193**	0.011	56.0	ug/L	0	Standard
	Pb	206	13527.4	3.7	**3.0991**	0.099	3.2	ug/L	182	Standard
	Pb	207	10962.3	6.1	**2.9536**	0.164	5.6	ug/L	145	Standard
	Pb	208	15133.9	4.8	**2.8419**	0.117	4.1	ug/L	207	Standard
	U	238	236.0	13.9	**0.0505**	0.007	13.8	ug/L	1	Standard
>	**Bi**	209	338084.6	1.0				ug/L	325207	Standard

Sample ID: L1305159515
Report Date/Time: Tuesday, June 04, 2013 18:22:51
Page 1

Approved: June 05, 2013

Na	23	0.0		**-1.0895**	0.000	0.0	mg/L	0	Standard
Mg	24	31.7	32.9	**-0.0084**	0.011	128.0	mg/L	25	Standard
K	39	6.7	43.3	**0.0578**	0.047	80.6	mg/L	3	Standard
Ca	43	268.3	8.4	**-0.1259**	0.066	52.4	mg/L	297	Standard
Fe	54	810.8	11.7	**0.7889**	0.117	14.9	mg/L	91	Standard
Fe	57	308.3	6.6	**0.3131**	0.069	22.1	mg/L	237	Standard
> **Sc-1**	45	37498.0	2.0				mg/L	35084	Standard
Cl	35	63378.3	1.2				ug/L	29808	Standard
Kr	83	33.8	13.1				ug/L	38	Standard
Br	81	532.5	4.9				ug/L	965	Standard
P	31	84747.5	4.8				ug/L	176735	Standard
S	34	56262.6	0.6				ug/L	28891	Standard
Sr	88	46.7	3.1				ug/L	27	Standard
C	12	3.3	173.2				mg/L	7	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	8.3	91.7				mg/L	3	Standard
Dy	164	1416.8	5.2				mg/L	14	Standard
Ho-1	165	905.7	6.1				mg/L	7	Standard
Er	166	903.7	7.4				mg/L	8	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
> Li	6		108.104	
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		82.038	
As	75			
Se	82			
Se-1	77			
> Ga	71			
Rb	85			

Sample ID: L1305159515
Report Date/Time: Tuesday, June 04, 2013 18:22:51
Page 2

Approved: June 05, 2013

	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	99.219
	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	103.960
	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: June 05, 2013

Method 6020 - Summary Report

Sample ID: L1305159516
Sample Date/Time: Tuesday, June 04, 2013 18:23:45
Number of Replicates: 3
Autosampler Position: 348
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	608534.7	0.5				ug/L	552027	Standard
	Be	9	86.3	9.3	**0.0304**	0.004	12.7	ug/L	18	Standard
	Al	27	23454.5	6.5	**0.1428**	0.009	6.5	ug/L	841	Standard
	Sc	45	38528.9	0.1				ug/L	35084	Standard
	Ti	47	510.3	6.2	**2.7107**	0.169	6.2	ug/L	22	Standard
	V	51	18515.2	8.2	**3.5702**	0.293	8.2	ug/L	812	Standard
	Cr	52	10661.4	5.2	**1.6189**	0.119	7.4	ug/L	4274	Standard
	Cr	53	1811.8	5.7	**1.0832**	0.115	10.6	ug/L	1106	Standard
	Mn	55	385773.3	6.7	**57.7859**	3.737	6.5	ug/L	1207	Standard
	Co	59	2042.8	9.0	**0.4188**	0.038	9.1	ug/L	71	Standard
	Ni	60	460.7	1.7	**0.1220**	0.005	4.1	ug/L	295	Standard
	Cu	65	894.7	4.1	**0.4366**	0.019	4.3	ug/L	87	Standard
	Zn	66	3194.3	5.0	**2.6564**	0.159	6.0	ug/L	469	Standard
>	**Ge**	72	426496.4	0.3				ug/L	514704	Standard
	As	75	359.8	12.7	**0.4418**	0.041	9.4	ug/L	-121	Standard
	Se	82	-0.4	1313.9	**-0.0070**	0.051	727.7	ug/L	-1	Standard
	Se-1	77	88.7	1.7	**-0.1081**	0.021	19.6	ug/L	127	Standard
>	**Ga**	71	2093.5	8.1				mg/L	175	Standard
	Rb	85	6769.9	8.0				ug/L	50	Standard
	Y	89	495591.6	1.9				ug/L	527499	Standard
>	**Rh**	103	8.3	34.6				ug/L	10	Standard
	Mo	98	144.6	69.7	**0.0312**	0.027	85.3	ug/L	23	Standard
	Ag	107	127.3	73.9	**0.0117**	0.018	153.1	ug/L	59	Standard
	Cd	111	18.8	96.3	**0.0096**	0.011	115.1	mg/L	3	Standard
	Cd	114	59.3	90.3	**0.0088**	0.013	144.7	ug/L	10	Standard
>	**In**	115	528513.4	0.8				ug/L	537195	Standard
	Sn	118	375.0	18.0	**0.0141**	0.015	107.2	ug/L	281	Standard
	Sb	123	215.4	22.7	**0.0418**	0.013	31.2	ug/L	167	Standard
	Ba	135	2744.2	4.4	**1.6564**	0.061	3.7	ug/L	10	Standard
	Ce	140	83023.9	6.8				ug/L	27	Standard
>	**Tb**	159	747639.5	1.0				ug/L	758170	Standard
	Ho	165	468.3	4.5				ug/L	7	Standard
	Tl	203	88.3	15.5	**0.0153**	0.002	16.0	ug/L	5	Standard
	Tl	205	1.7	34.6	**0.0192**	0.004	20.8	ug/L	0	Standard
	Pb	206	3559.1	5.6	**0.7773**	0.044	5.7	ug/L	182	Standard
	Pb	207	2779.3	6.4	**0.7128**	0.049	6.8	ug/L	145	Standard
	Pb	208	3932.5	5.8	**0.7021**	0.045	6.4	ug/L	207	Standard
	U	238	495.7	7.0	**0.1067**	0.007	6.9	ug/L	1	Standard
>	**Bi**	209	339283.7	0.5				ug/L	325207	Standard

Sample ID: L1305159516
Report Date/Time: Tuesday, June 04, 2013 18:26:37
Page 1

Approved: June 05, 2013

	Na	23	1.7	173.2	**-0.8379**	0.436	52.0	mg/L	0	Standard
	Mg	24	50.0	26.5	**0.0084**	0.013	152.3	mg/L	25	Standard
	K	39	5.0	173.2	**0.0278**	0.144	517.2	mg/L	3	Standard
	Ca	43	196.7	24.7	**-0.3798**	0.157	41.3	mg/L	297	Standard
	Fe	54	2395.3	5.9	**2.4849**	0.152	6.1	mg/L	91	Standard
	Fe	57	686.7	12.5	**1.2758**	0.225	17.7	mg/L	237	Standard
>	**Sc-1**	45	38528.9	0.1				mg/L	35084	Standard
	Cl	35	62878.2	1.1				ug/L	29808	Standard
	Kr	83	38.0	4.6				ug/L	38	Standard
	Br	81	586.7	2.0				ug/L	965	Standard
	P	31	84000.9	4.5				ug/L	176735	Standard
	S	34	56193.2	0.5				ug/L	28891	Standard
	Sr	88	47.5	13.9				ug/L	27	Standard
	C	12	1.7	173.2				mg/L	7	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	3.3	86.6				mg/L	3	Standard
	Dy	164	668.8	9.3				mg/L	14	Standard
	Ho-1	165	468.3	4.5				mg/L	7	Standard
	Er	166	443.0	6.7				mg/L	8	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		110.236	
	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		82.862	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			

Sample ID: L1305159516
Report Date/Time: Tuesday, June 04, 2013 18:26:37
Page 2

Approved: June 05, 2013

	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	98.384
	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	104.329
	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

Sample ID: L1305159516
Report Date/Time: Tuesday, June 04, 2013 18:26:37
Page 3

Approved: June 05, 2013

Method 6020 - Summary Report

Sample ID: QC Std 6
Sample Date/Time: Tuesday, June 04, 2013 18:27:32
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	702147.7	3.0				ug/L	552027	Standard
	Be	9	106620.4	9.6	**44.4187**	3.999	9.0	ug/L	18	Standard
	Al	27	9353800.7	8.9	**53.4961**	4.685	8.8	ug/L	841	Standard
	Sc	45	41735.8	3.7				ug/L	35084	Standard
	Ti	47	25367.0	9.2	**123.9263**	9.811	7.9	ug/L	22	Standard
	V	51	286709.2	11.7	**50.9824**	5.254	10.3	ug/L	812	Standard
	Cr	52	241279.1	11.9	**48.7224**	5.171	10.6	ug/L	4274	Standard
	Cr	53	50394.3	10.7	**51.5904**	5.122	9.9	ug/L	1106	Standard
	Mn	55	352838.8	11.6	**47.1600**	4.883	10.4	ug/L	1207	Standard
	Co	59	242793.6	11.6	**46.1011**	4.768	10.3	ug/L	71	Standard
	Ni	60	107353.0	9.7	**52.8420**	4.415	8.4	ug/L	295	Standard
	Cu	65	104464.8	9.7	**51.1791**	4.182	8.2	ug/L	87	Standard
	Zn	66	54687.4	9.5	**50.8477**	4.158	8.2	ug/L	469	Standard
>	**Ge**	72	477351.9	2.2				ug/L	514704	Standard
	As	75	59790.1	9.3	**49.7545**	3.974	8.0	ug/L	-121	Standard
	Se	82	6125.7	7.9	**51.6594**	3.447	6.7	ug/L	-1	Standard
	Se-1	77	4069.5	7.6	**50.3728**	3.257	6.5	ug/L	127	Standard
>	**Ga**	71	93.3	3.1				mg/L	175	Standard
	Rb	85	3105.3	9.2				ug/L	50	Standard
	Y	89	542146.8	2.1				ug/L	527499	Standard
>	**Rh**	103	35.0	37.8				ug/L	10	Standard
	Mo	98	400914.0	10.2	**93.8411**	8.000	8.5	ug/L	23	Standard
	Ag	107	303968.4	8.9	**51.2752**	3.542	6.9	ug/L	59	Standard
	Cd	111	84755.1	9.9	**45.8082**	3.710	8.1	mg/L	3	Standard
	Cd	114	245019.7	10.7	**51.3527**	4.526	8.8	ug/L	10	Standard
>	**In**	115	599926.0	2.3				ug/L	537195	Standard
	Sn	118	257958.2	11.2	**48.7756**	4.536	9.3	ug/L	281	Standard
	Sb	123	198890.7	9.1	**47.9376**	3.444	7.2	ug/L	167	Standard
	Ba	135	93646.5	9.4	**50.4299**	3.755	7.4	ug/L	10	Standard
	Ce	140	106.0	11.1				ug/L	27	Standard
>	**Tb**	159	830793.6	0.6				ug/L	758170	Standard
	Ho	165	9.7	26.0				ug/L	7	Standard
	Tl	203	291475.5	7.1	**50.0090**	3.494	7.0	ug/L	5	Standard
	Tl	205	7454.8	7.9	**48.8782**	3.782	7.7	ug/L	0	Standard
	Pb	206	230828.6	9.4	**50.0781**	4.662	9.3	ug/L	182	Standard
	Pb	207	197792.4	9.1	**50.4664**	4.544	9.0	ug/L	145	Standard
	Pb	208	273415.0	10.0	**48.6606**	4.794	9.9	ug/L	207	Standard
	U	238	231914.1	10.6	**47.0852**	4.942	10.5	ug/L	1	Standard
>	**Bi**	209	362173.1	0.2				ug/L	325207	Standard

Sample ID: QC Std 6
Report Date/Time: Tuesday, June 04, 2013 18:30:24
Page 1

Approved: June 05, 2013

	Na	23	28.3	44.4	**2.8981**	1.891	65.3	mg/L	0	Standard
	Mg	24	5010.8	8.8	**4.4577**	0.516	11.6	mg/L	25	Standard
	K	39	243.3	10.3	**3.6700**	0.392	10.7	mg/L	3	Standard
	Ca	43	1771.8	9.7	**4.2592**	0.592	13.9	mg/L	297	Standard
	Fe	54	6048.6	10.0	**5.9643**	0.775	13.0	mg/L	91	Standard
	Fe	57	1736.8	3.3	**3.6704**	0.290	7.9	mg/L	237	Standard
>	**Sc-1**	45	41735.8	3.7				mg/L	35084	Standard
	Cl	35	80091.8	1.4				ug/L	29808	Standard
	Kr	83	40.4	11.0				ug/L	38	Standard
	Br	81	687.5	5.4				ug/L	965	Standard
	P	31	274170.2	5.7				ug/L	176735	Standard
	S	34	74805.1	1.0				ug/L	28891	Standard
	Sr	88	50.8	2.8				ug/L	27	Standard
	C	12	5.0	173.2				mg/L	7	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	1.7	173.2				mg/L	3	Standard
	Dy	164	9.7	41.4				mg/L	14	Standard
	Ho-1	165	9.7	26.0				mg/L	7	Standard
	Er	166	12.7	19.9				mg/L	8	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		127.195	
	Be	9	88.837		
	Al	27	106.992		
	Sc	45			
	Ti	47	123.926		
	V	51	101.965		
	Cr	52	97.445		
	Cr	53			
	Mn	55	94.320		
	Co	59	92.202		
	Ni	60	105.684		
	Cu	65	102.358		
	Zn	66	101.695		
>	Ge	72		92.743	
	As	75	99.509		
	Se	82	103.319		
	Se-1	77			
>	Ga	71			
	Rb	85			

Sample ID: QC Std 6
Report Date/Time: Tuesday, June 04, 2013 18:30:24
Page 2

Approved: June 05, 2013

	Y	89		
>	Rh	103		
	Mo	98	93.841	
	Ag	107	102.550	
	Cd	111	91.616	
	Cd	114		
>	In	115		111.677
	Sn	118	97.551	
	Sb	123	95.875	
	Ba	135	100.860	
	Ce	140		
>	Tb	159		
	Ho	165		
	Tl	203	100.018	
	Tl	205		
	Pb	206		
	Pb	207		
	Pb	208	97.321	
	U	238	94.170	
>	Bi	209		111.367
	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 QC Std	Li	6	Rerun sample
QC Std 6	Be	9	
QC Std 6	Ti	47	

Sample ID: QC Std 6
Report Date/Time: Tuesday, June 04, 2013 18:30:24
Page 3

Approved: June 05, 2013

Method 6020 - Summary Report

Sample ID: QC Std 7
Sample Date/Time: Tuesday, June 04, 2013 18:31:18
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	720006.0	1.9				ug/L	552027	Standard
	Be	9	40.0	63.1	**0.0050**	0.010	197.4	ug/L	18	Standard
	Al	27	2554.3	74.2	**0.0022**	0.010	474.2	ug/L	841	Standard
	Sc	45	41829.4	3.4				ug/L	35084	Standard
	Ti	47	18.7	39.5	**0.0092**	0.035	376.5	ug/L	22	Standard
	V	51	1101.1	8.0	**0.0726**	0.013	18.1	ug/L	812	Standard
	Cr	52	3754.5	5.2	**-0.0514**	0.027	52.5	ug/L	4274	Standard
	Cr	53	250.0	14.2	**-0.7699**	0.043	5.5	ug/L	1106	Standard
	Mn	55	912.7	2.8	**-0.0361**	0.006	15.9	ug/L	1207	Standard
	Co	59	79.7	5.1	**-0.0004**	0.001	285.5	ug/L	71	Standard
	Ni	60	114.0	15.3	**-0.0756**	0.008	10.0	ug/L	295	Standard
	Cu	65	94.3	24.5	**-0.0080**	0.011	132.4	ug/L	87	Standard
	Zn	66	518.7	6.2	**-0.2205**	0.022	9.9	ug/L	469	Standard
>	**Ge**	72	470540.6	2.0				ug/L	514704	Standard
	As	75	-107.3	44.4	**0.0171**	0.039	226.9	ug/L	-121	Standard
	Se	82	5.9	125.0	**0.0485**	0.064	131.6	ug/L	-1	Standard
	Se-1	77	97.7	9.5	**-0.1110**	0.105	94.4	ug/L	127	Standard
>	**Ga**	71	71.7	8.1				mg/L	175	Standard
	Rb	85	48.3	29.9				ug/L	50	Standard
	Y	89	551340.7	1.8				ug/L	527499	Standard
>	**Rh**	103	5.0	100.0				ug/L	10	Standard
	Mo	98	94.9	34.7	**0.0146**	0.007	51.3	ug/L	23	Standard
	Ag	107	85.3	7.1	**0.0015**	0.001	73.0	ug/L	59	Standard
	Cd	111	4.6	87.9	**0.0005**	0.002	430.4	mg/L	3	Standard
	Cd	114	26.1	12.1	**0.0000**	0.001	1358.6	ug/L	10	Standard
>	**In**	115	611621.3	1.4				ug/L	537195	Standard
	Sn	118	491.7	6.7	**0.0249**	0.007	29.6	ug/L	281	Standard
	Sb	123	1091.6	6.7	**0.2411**	0.014	5.7	ug/L	167	Standard
	Ba	135	18.7	6.2	**-0.0133**	0.001	4.4	ug/L	10	Standard
	Ce	140	24.0	20.8				ug/L	27	Standard
>	**Tb**	159	839880.0	2.1				ug/L	758170	Standard
	Ho	165	9.0	29.4				ug/L	7	Standard
	Tl	203	16.3	3.5	**0.0019**	0.000	1.9	ug/L	5	Standard
	Tl	205	1.0	100.0	**0.0140**	0.007	46.5	ug/L	0	Standard
	Pb	206	224.3	8.5	**0.0002**	0.004	2118.6	ug/L	182	Standard
	Pb	207	188.7	6.3	**0.0025**	0.003	112.8	ug/L	145	Standard
	Pb	208	269.0	1.0	**0.0013**	0.001	96.3	ug/L	207	Standard
	U	238	13.3	37.0	**0.0019**	0.001	53.2	ug/L	1	Standard
>	**Bi**	209	367873.4	2.4				ug/L	325207	Standard

Sample ID: QC Std 7
Report Date/Time: Tuesday, June 04, 2013 18:34:10
Page 1

Approved: June 05, 2013

⌈	**Na**	23	1.7	173.2	**-0.8499**	0.415	48.8	mg/L	0	Standard
|	**Mg**	24	38.3	41.9	**-0.0061**	0.014	227.0	mg/L	25	Standard
|	**K**	39	3.3	86.6	**-0.0034**	0.045	1328.5	mg/L	3	Standard
|	**Ca**	43	201.7	10.3	**-0.4159**	0.042	10.1	mg/L	297	Standard
|	**Fe**	54	169.5	30.9	**0.0513**	0.047	90.6	mg/L	91	Standard
|	**Fe**	57	125.0	22.3	**-0.2114**	0.077	36.5	mg/L	237	Standard
⌊>	**Sc-1**	45	41829.4	3.4				mg/L	35084	Standard
	Cl	35	78982.8	2.8				ug/L	29808	Standard
	Kr	83	36.7	3.1				ug/L	38	Standard
	Br	81	638.3	2.0				ug/L	965	Standard
	P	31	268170.6	3.2				ug/L	176735	Standard
	S	34	71073.1	3.3				ug/L	28891	Standard
	Sr	88	52.5	34.3				ug/L	27	Standard
	C	12	5.0	100.0				mg/L	7	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	1.7	173.2				mg/L	3	Standard
	Dy	164	12.5	16.8				mg/L	14	Standard
	Ho-1	165	9.0	29.4				mg/L	7	Standard
	Er	166	10.7	32.9				mg/L	8	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		130.430	
|	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		91.420	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			

Sample ID: QC Std 7
Report Date/Time: Tuesday, June 04, 2013 18:34:10
Page 2

Approved: June 05, 2013

⌈	Y	89	
⌊>	Rh	103	
⌈	Mo	98	
|	Ag	107	
|	Cd	111	
|	Cd	114	
|>	In	115	113.855
|	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	113.120
⌈	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 QC Std	Li	6	Rerun sample
QC Std 7	Sb	123	

Sample ID: QC Std 7
Report Date/Time: Tuesday, June 04, 2013 18:34:10
Page 3

Approved: June 05, 2013

Method 6020 - Summary Report

Sample ID: L1305124201
Sample Date/Time: Tuesday, June 04, 2013 18:35:05
Number of Replicates: 3
Autosampler Position: 401
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	731203.4	1.8				ug/L	552027	Standard
	Be	9	33.0	25.9	**0.0021**	0.004	170.9	ug/L	18	Standard
	Al	27	4539867.7	7.2	**24.9167**	1.649	6.6	ug/L	841	Standard
	Sc	45	42855.5	2.0				ug/L	35084	Standard
	Ti	47	279.3	14.5	**1.2787**	0.167	13.0	ug/L	22	Standard
	V	51	18050.3	11.3	**3.0847**	0.303	9.8	ug/L	812	Standard
	Cr	52	9827.5	9.0	**1.1811**	0.144	12.2	ug/L	4274	Standard
	Cr	53	1561.7	7.5	**0.5952**	0.144	24.1	ug/L	1106	Standard
	Mn	55	4007.5	6.7	**0.3763**	0.028	7.5	ug/L	1207	Standard
	Co	59	231.3	7.4	**0.0281**	0.003	9.7	ug/L	71	Standard
	Ni	60	1476.4	6.8	**0.5951**	0.045	7.5	ug/L	295	Standard
	Cu	65	569.7	12.4	**0.2239**	0.029	13.0	ug/L	87	Standard
	Zn	66	5262.6	8.8	**4.2366**	0.356	8.4	ug/L	469	Standard
>	**Ge**	72	478163.5	2.3				ug/L	514704	Standard
	As	75	801.4	9.7	**0.7715**	0.053	6.9	ug/L	-121	Standard
	Se	82	117.6	7.8	**0.9875**	0.075	7.6	ug/L	-1	Standard
	Se-1	77	164.3	4.1	**0.7176**	0.114	15.9	ug/L	127	Standard
>	**Ga**	71	96.7	23.3				mg/L	175	Standard
	Rb	85	9653.1	6.6				ug/L	50	Standard
	Y	89	553374.7	1.9				ug/L	527499	Standard
>	**Rh**	103	65.0	27.7				ug/L	10	Standard
	Mo	98	6048.1	9.5	**1.3683**	0.127	9.3	ug/L	23	Standard
	Ag	107	82.0	15.9	**0.0008**	0.002	274.0	ug/L	59	Standard
	Cd	111	13.3	30.7	**0.0051**	0.002	42.8	mg/L	3	Standard
	Cd	114	64.6	1.4	**0.0078**	0.000	2.5	ug/L	10	Standard
>	**In**	115	617978.7	0.4				ug/L	537195	Standard
	Sn	118	611.3	4.4	**0.0459**	0.005	11.9	ug/L	281	Standard
	Sb	123	656.8	9.3	**0.1367**	0.015	10.8	ug/L	167	Standard
	Ba	135	61806.7	8.5	**32.3290**	2.668	8.3	ug/L	10	Standard
	Ce	140	594.0	7.0				ug/L	27	Standard
>	**Tb**	159	858557.9	1.1				ug/L	758170	Standard
	Ho	165	13.0	7.7				ug/L	7	Standard
	Tl	203	78.7	11.5	**0.0124**	0.001	11.9	ug/L	5	Standard
	Tl	205	1.7	91.7	**0.0183**	0.010	53.7	ug/L	0	Standard
	Pb	206	583.0	6.9	**0.0764**	0.008	10.6	ug/L	182	Standard
	Pb	207	458.0	3.4	**0.0698**	0.005	6.9	ug/L	145	Standard
	Pb	208	641.3	6.2	**0.0662**	0.006	9.6	ug/L	207	Standard
	U	238	1338.4	8.5	**0.2658**	0.023	8.6	ug/L	1	Standard
>	**Bi**	209	369240.4	1.1				ug/L	325207	Standard

Sample ID: L1305124201
Report Date/Time: Tuesday, June 04, 2013 18:37:57
Page 1

Approved: June 05, 2013

	Na	23	85.0	31.1	**10.4377**	3.567	34.2	mg/L	0	Standard
	Mg	24	8805.9	8.1	**7.6365**	0.529	6.9	mg/L	25	Standard
	K	39	61.7	20.4	**0.8613**	0.169	19.6	mg/L	3	Standard
	Ca	43	4659.1	8.4	**12.4573**	0.937	7.5	mg/L	297	Standard
	Fe	54	172.3	17.3	**0.0514**	0.033	63.3	mg/L	91	Standard
	Fe	57	460.0	12.2	**0.5645**	0.133	23.5	mg/L	237	Standard
>	**Sc-1**	45	42855.5	2.0				mg/L	35084	Standard
	Cl	35	87758.2	2.3				ug/L	29808	Standard
	Kr	83	36.1	5.4				ug/L	38	Standard
	Br	81	2926.1	5.7				ug/L	965	Standard
	P	31	363705.5	4.7				ug/L	176735	Standard
	S	34	61636.0	3.4				ug/L	28891	Standard
	Sr	88	107.5	12.9				ug/L	27	Standard
	C	12	6.7	86.6				mg/L	7	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	6.7	114.6				mg/L	3	Standard
	Dy	164	19.0	4.9				mg/L	14	Standard
	Ho-1	165	13.0	7.7				mg/L	7	Standard
	Er	166	20.0	8.7				mg/L	8	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		132.458	
	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		92.901	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			

Sample ID: L1305124201
Report Date/Time: Tuesday, June 04, 2013 18:37:57
Page 2

Approved: June 05, 2013

⌈	Y	89	
⌊>	Rh	103	
⌈	Mo	98	
|	Ag	107	
|	Cd	111	
|	Cd	114	
|>	In	115	115.038
|	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	113.540
⌈	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

Sample ID: L1305124201
Report Date/Time: Tuesday, June 04, 2013 18:37:57
Page 3

Approved: June 05, 2013

Method 6020 - Summary Report

Sample ID: L1305124202
Sample Date/Time: Tuesday, June 04, 2013 18:38:51
Number of Replicates: 3
Autosampler Position: 402
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	741293.9	0.9				ug/L	552027	Standard
	Be	9	38.3	6.6	**0.0040**	0.001	27.7	ug/L	18	Standard
	Al	27	9619266.9	8.4	**52.1122**	4.549	8.7	ug/L	841	Standard
	Sc	45	43554.2	3.0				ug/L	35084	Standard
	Ti	47	249.0	17.4	**1.1381**	0.183	16.1	ug/L	22	Standard
	V	51	9510.5	8.5	**1.5777**	0.128	8.1	ug/L	812	Standard
	Cr	52	7095.0	4.3	**0.6311**	0.031	4.9	ug/L	4274	Standard
	Cr	53	1956.8	8.4	**1.0215**	0.205	20.1	ug/L	1106	Standard
	Mn	55	4276.6	10.0	**0.4159**	0.049	11.7	ug/L	1207	Standard
	Co	59	431.3	5.1	**0.0667**	0.005	7.2	ug/L	71	Standard
	Ni	60	2378.9	9.0	**1.0469**	0.088	8.4	ug/L	295	Standard
	Cu	65	1130.0	7.2	**0.5022**	0.030	6.1	ug/L	87	Standard
	Zn	66	5839.1	8.0	**4.8166**	0.374	7.8	ug/L	469	Standard
>	**Ge**	72	475064.8	2.3				ug/L	514704	Standard
	As	75	1396.4	7.3	**1.2727**	0.071	5.6	ug/L	-121	Standard
	Se	82	615.1	5.7	**5.2120**	0.284	5.4	ug/L	-1	Standard
	Se-1	77	237.0	2.2	**1.6592**	0.058	3.5	ug/L	127	Standard
>	**Ga**	71	100.0	22.9				mg/L	175	Standard
	Rb	85	24792.0	9.0				ug/L	50	Standard
	Y	89	559038.2	2.3				ug/L	527499	Standard
>	**Rh**	103	115.0	4.3				ug/L	10	Standard
	Mo	98	2471.0	8.3	**0.5569**	0.038	6.8	ug/L	23	Standard
	Ag	107	95.3	21.9	**0.0031**	0.004	119.1	ug/L	59	Standard
	Cd	111	25.6	23.8	**0.0116**	0.003	29.8	mg/L	3	Standard
	Cd	114	83.3	8.4	**0.0117**	0.002	13.2	ug/L	10	Standard
>	**In**	115	615328.3	2.1				ug/L	537195	Standard
	Sn	118	522.7	13.7	**0.0301**	0.015	49.8	ug/L	281	Standard
	Sb	123	487.1	4.6	**0.0974**	0.004	4.1	ug/L	167	Standard
	Ba	135	51584.0	8.1	**27.0812**	1.773	6.5	ug/L	10	Standard
	Ce	140	714.7	10.6				ug/L	27	Standard
>	**Tb**	159	854806.8	0.5				ug/L	758170	Standard
	Ho	165	16.7	39.0				ug/L	7	Standard
	Tl	203	103.3	13.6	**0.0167**	0.002	14.9	ug/L	5	Standard
	Tl	205	1.3	86.6	**0.0162**	0.007	46.3	ug/L	0	Standard
	Pb	206	528.7	11.7	**0.0659**	0.012	18.9	ug/L	182	Standard
	Pb	207	441.0	5.0	**0.0666**	0.005	7.5	ug/L	145	Standard
	Pb	208	631.3	1.8	**0.0655**	0.001	1.7	ug/L	207	Standard
	U	238	1124.7	11.4	**0.2254**	0.025	11.2	ug/L	1	Standard
>	**Bi**	209	365556.9	0.9				ug/L	325207	Standard

Sample ID: L1305124202
Report Date/Time: Tuesday, June 04, 2013 18:41:43
Page 1

Approved: June 05, 2013

	Na	23	201.7	22.4	**25.7459**	5.310	20.6	mg/L	0	Standard
	Mg	24	13839.7	9.0	**11.8333**	0.956	8.1	mg/L	25	Standard
	K	39	50.0	10.0	**0.6794**	0.091	13.4	mg/L	3	Standard
	Ca	43	8794.2	6.2	**24.0132**	1.100	4.6	mg/L	297	Standard
	Fe	54	290.7	17.2	**0.1616**	0.043	26.5	mg/L	91	Standard
	Fe	57	861.7	6.9	**1.4717**	0.101	6.9	mg/L	237	Standard
>	**Sc-1**	45	43554.2	3.0				mg/L	35084	Standard
	Cl	35	101233.8	1.8				ug/L	29808	Standard
	Kr	83	33.9	4.4				ug/L	38	Standard
	Br	81	23689.3	2.8				ug/L	965	Standard
	P	31	375436.4	3.4				ug/L	176735	Standard
	S	34	62026.7	1.0				ug/L	28891	Standard
	Sr	88	148.3	18.9				ug/L	27	Standard
	C	12	6.7	43.3				mg/L	7	Standard
	N	14	1.7	173.2				mg/L	0	Standard
	Hg	202	8.3	34.6				mg/L	3	Standard
	Dy	164	20.8	3.8				mg/L	14	Standard
	Ho-1	165	16.7	39.0				mg/L	7	Standard
	Er	166	18.7	31.4				mg/L	8	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		134.286	
	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		92.299	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			

Sample ID: L1305124202
Report Date/Time: Tuesday, June 04, 2013 18:41:43
Page 2

Approved: June 05, 2013

	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	114.545
	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	112.407
	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
Li 6 Int Std for sample	Li	6	Rerun sample

Sample ID: L1305124202
Report Date/Time: Tuesday, June 04, 2013 18:41:43
Page 3

Approved: June 05, 2013

Method 6020 - Summary Report

Sample ID: L1305124203
Sample Date/Time: Tuesday, June 04, 2013 18:42:37
Number of Replicates: 3
Autosampler Position: 403
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	763376.7	2.8				ug/L	552027	Standard
	Be	9	41.3	18.8	**0.0048**	0.003	70.7	ug/L	18	Standard
	Al	27	9609379.0	9.1	**50.4904**	3.510	7.0	ug/L	841	Standard
	Sc	45	42969.2	3.2				ug/L	35084	Standard
	Ti	47	261.7	13.1	**1.1926**	0.139	11.6	ug/L	22	Standard
	V	51	9249.5	8.4	**1.5193**	0.104	6.9	ug/L	812	Standard
	Cr	52	7000.3	4.0	**0.6021**	0.030	4.9	ug/L	4274	Standard
	Cr	53	2196.8	3.8	**1.2578**	0.134	10.6	ug/L	1106	Standard
	Mn	55	12278.1	16.9	**1.4895**	0.316	21.2	ug/L	1207	Standard
	Co	59	466.7	2.4	**0.0729**	0.004	5.3	ug/L	71	Standard
	Ni	60	3170.3	5.0	**1.4303**	0.078	5.5	ug/L	295	Standard
	Cu	65	1535.4	4.3	**0.6979**	0.042	6.0	ug/L	87	Standard
	Zn	66	15944.8	12.9	**14.3337**	2.248	15.7	ug/L	469	Standard
>	**Ge**	72	478224.9	2.4				ug/L	514704	Standard
	As	75	2082.1	11.2	**1.8318**	0.156	8.5	ug/L	-121	Standard
	Se	82	896.2	10.6	**7.5353**	0.641	8.5	ug/L	-1	Standard
	Se-1	77	272.3	10.1	**2.0876**	0.340	16.3	ug/L	127	Standard
>	**Ga**	71	113.3	17.8				mg/L	175	Standard
	Rb	85	23845.5	8.0				ug/L	50	Standard
	Y	89	554906.8	1.5				ug/L	527499	Standard
>	**Rh**	103	128.3	12.5				ug/L	10	Standard
	Mo	98	2586.9	7.5	**0.5802**	0.034	5.8	ug/L	23	Standard
	Ag	107	83.7	2.5	**0.0010**	0.000	46.9	ug/L	59	Standard
	Cd	111	26.5	10.2	**0.0120**	0.002	14.5	mg/L	3	Standard
	Cd	114	80.2	12.1	**0.0110**	0.002	17.3	ug/L	10	Standard
>	**In**	115	618711.6	2.2				ug/L	537195	Standard
	Sn	118	1321.7	17.3	**0.1770**	0.047	26.7	ug/L	281	Standard
	Sb	123	708.1	10.0	**0.1487**	0.019	12.7	ug/L	167	Standard
	Ba	135	51606.6	9.2	**26.9356**	1.913	7.1	ug/L	10	Standard
	Ce	140	648.0	10.5				ug/L	27	Standard
>	**Tb**	159	869103.8	2.5				ug/L	758170	Standard
	Ho	165	18.0	24.2				ug/L	7	Standard
	Tl	203	85.0	15.4	**0.0135**	0.002	17.3	ug/L	5	Standard
	Tl	205	4.7	81.1	**0.0376**	0.025	65.2	ug/L	0	Standard
	Pb	206	653.3	2.4	**0.0914**	0.003	3.1	ug/L	182	Standard
	Pb	207	526.3	6.2	**0.0870**	0.009	10.8	ug/L	145	Standard
	Pb	208	743.0	13.1	**0.0840**	0.018	21.2	ug/L	207	Standard
	U	238	1132.4	7.1	**0.2247**	0.014	6.2	ug/L	1	Standard
>	**Bi**	209	369194.9	1.0				ug/L	325207	Standard

Sample ID: L1305124203
Report Date/Time: Tuesday, June 04, 2013 18:45:29
Page 1

Approved: June 05, 2013

	Na	23	210.0	7.1	**27.3149**	1.449	5.3	mg/L	0	Standard
	Mg	24	13674.5	9.4	**11.8412**	0.792	6.7	mg/L	25	Standard
	K	39	63.3	24.1	**0.8823**	0.201	22.8	mg/L	3	Standard
	Ca	43	8861.0	12.8	**24.5038**	2.527	10.3	mg/L	297	Standard
	Fe	54	266.9	2.8	**0.1429**	0.013	8.9	mg/L	91	Standard
	Fe	57	815.0	13.2	**1.3913**	0.247	17.8	mg/L	237	Standard
>	**Sc-1**	45	42969.2	3.2				mg/L	35084	Standard
	Cl	35	103756.0	5.1				ug/L	29808	Standard
	Kr	83	35.9	8.4				ug/L	38	Standard
	Br	81	37321.2	9.7				ug/L	965	Standard
	P	31	381043.1	6.7				ug/L	176735	Standard
	S	34	62627.5	1.6				ug/L	28891	Standard
	Sr	88	146.7	13.7				ug/L	27	Standard
	C	12	11.7	24.7				mg/L	7	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	13.3	57.3				mg/L	3	Standard
	Dy	164	27.0	24.4				mg/L	14	Standard
	Ho-1	165	18.0	24.2				mg/L	7	Standard
	Er	166	20.3	2.8				mg/L	8	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		138.286	
	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		92.913	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			

Sample ID: L1305124203
Report Date/Time: Tuesday, June 04, 2013 18:45:29
Page 2

Approved: June 05, 2013

	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	115.174
	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	113.526
	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

Sample ID: L1305124203
Report Date/Time: Tuesday, June 04, 2013 18:45:29
Page 3

Approved: June 05, 2013

Method 6020 - Summary Report

Sample ID: L1305124204
Sample Date/Time: Tuesday, June 04, 2013 18:46:24
Number of Replicates: 3
Autosampler Position: 404
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	769547.2	1.4				ug/L	552027	Standard
	Be	9	35.3	15.6	**0.0023**	0.002	95.6	ug/L	18	Standard
	Al	27	5314835.0	8.6	**27.7057**	2.019	7.3	ug/L	841	Standard
	Sc	45	43955.3	1.3				ug/L	35084	Standard
	Ti	47	368.0	11.9	**1.6972**	0.185	10.9	ug/L	22	Standard
	V	51	16900.7	9.2	**2.8572**	0.246	8.6	ug/L	812	Standard
	Cr	52	11069.1	8.3	**1.4181**	0.172	12.2	ug/L	4274	Standard
	Cr	53	2396.9	8.8	**1.4443**	0.225	15.5	ug/L	1106	Standard
	Mn	55	10236.5	9.9	**1.1995**	0.130	10.9	ug/L	1207	Standard
	Co	59	263.3	4.8	**0.0338**	0.002	7.3	ug/L	71	Standard
	Ni	60	2068.8	9.1	**0.8784**	0.086	9.7	ug/L	295	Standard
	Cu	65	585.0	4.6	**0.2293**	0.010	4.2	ug/L	87	Standard
	Zn	66	24965.7	9.1	**22.5988**	2.047	9.1	ug/L	469	Standard
>	**Ge**	72	482219.8	1.8				ug/L	514704	Standard
	As	75	726.0	12.2	**0.7044**	0.073	10.3	ug/L	-121	Standard
	Se	82	133.3	8.3	**1.1110**	0.104	9.4	ug/L	-1	Standard
	Se-1	77	189.3	7.0	**1.0136**	0.164	16.2	ug/L	127	Standard
>	**Ga**	71	93.3	34.9				mg/L	175	Standard
	Rb	85	20577.4	9.4				ug/L	50	Standard
	Y	89	565680.8	2.6				ug/L	527499	Standard
>	**Rh**	103	56.7	25.5				ug/L	10	Standard
	Mo	98	6396.6	10.6	**1.4209**	0.138	9.7	ug/L	23	Standard
	Ag	107	865.7	9.5	**0.1268**	0.014	11.1	ug/L	59	Standard
	Cd	111	14.0	57.3	**0.0053**	0.004	79.7	mg/L	3	Standard
	Cd	114	68.5	48.2	**0.0084**	0.007	80.3	ug/L	10	Standard
>	**In**	115	629327.4	2.0				ug/L	537195	Standard
	Sn	118	479.3	8.6	**0.0201**	0.008	42.0	ug/L	281	Standard
	Sb	123	466.5	7.0	**0.0901**	0.006	6.5	ug/L	167	Standard
	Ba	135	90635.5	9.2	**46.5525**	3.880	8.3	ug/L	10	Standard
	Ce	140	2899.6	5.9				ug/L	27	Standard
>	**Tb**	159	886332.3	1.4				ug/L	758170	Standard
	Ho	165	25.3	21.7				ug/L	7	Standard
	Tl	203	83.3	18.4	**0.0128**	0.003	19.8	ug/L	5	Standard
	Tl	205	0.7	173.2	**0.0117**	0.007	61.5	ug/L	0	Standard
	Pb	206	464.7	4.9	**0.0483**	0.004	7.7	ug/L	182	Standard
	Pb	207	388.3	5.6	**0.0495**	0.005	9.4	ug/L	145	Standard
	Pb	208	550.0	11.0	**0.0474**	0.010	20.3	ug/L	207	Standard
	U	238	1289.7	7.9	**0.2485**	0.018	7.1	ug/L	1	Standard
>	**Bi**	209	380349.5	1.1				ug/L	325207	Standard

Sample ID: L1305124204
Report Date/Time: Tuesday, June 04, 2013 18:49:15
Page 1

Approved: June 05, 2013

	Na	23	86.7	21.8	**10.3881**	2.583	24.9	mg/L	0	Standard
	Mg	24	8749.2	9.3	**7.3946**	0.597	8.1	mg/L	25	Standard
	K	39	41.7	38.6	**0.5491**	0.228	41.5	mg/L	3	Standard
	Ca	43	4844.1	9.5	**12.6412**	1.118	8.8	mg/L	297	Standard
	Fe	54	206.8	2.6	**0.0796**	0.005	6.0	mg/L	91	Standard
	Fe	57	470.0	11.3	**0.5601**	0.118	21.1	mg/L	237	Standard
>	**Sc-1**	45	43955.3	1.3				mg/L	35084	Standard
	Cl	35	88815.1	3.3				ug/L	29808	Standard
	Kr	83	34.2	6.6				ug/L	38	Standard
	Br	81	3855.5	6.9				ug/L	965	Standard
	P	31	395935.8	5.3				ug/L	176735	Standard
	S	34	63636.7	2.2				ug/L	28891	Standard
	Sr	88	105.0	18.9				ug/L	27	Standard
	C	12	3.3	86.6				mg/L	7	Standard
	N	14	3.3	173.2				mg/L	0	Standard
	Hg	202	11.7	65.5				mg/L	3	Standard
	Dy	164	41.5	2.6				mg/L	14	Standard
	Ho-1	165	25.3	21.7				mg/L	7	Standard
	Er	166	37.3	6.7				mg/L	8	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		139.404	
	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		93.689	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			

Sample ID: L1305124204
Report Date/Time: Tuesday, June 04, 2013 18:49:15
Page 2

Approved: June 05, 2013

	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	117.151
	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	116.956
	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

Sample ID: L1305124204
Report Date/Time: Tuesday, June 04, 2013 18:49:15
Page 3

Approved: June 05, 2013

Method 6020 - Summary Report

Sample ID: L1305130401
Sample Date/Time: Tuesday, June 04, 2013 18:50:10
Number of Replicates: 3
Autosampler Position: 405
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	764164.4	0.6				ug/L	552027	Standard
	Be	9	29.3	5.2	**0.0001**	0.001	540.5	ug/L	18	Standard
	Al	27	6073472.7	8.3	**31.8998**	2.524	7.9	ug/L	841	Standard
	Sc	45	43193.2	4.6				ug/L	35084	Standard
	Ti	47	218.0	11.3	**0.9724**	0.106	10.9	ug/L	22	Standard
	V	51	9089.1	10.6	**1.4788**	0.153	10.4	ug/L	812	Standard
	Cr	52	4419.6	2.6	**0.0659**	0.012	18.4	ug/L	4274	Standard
	Cr	53	974.2	6.4	**-0.0273**	0.056	204.7	ug/L	1106	Standard
	Mn	55	5342.3	8.3	**0.5495**	0.051	9.2	ug/L	1207	Standard
	Co	59	182.0	3.8	**0.0185**	0.001	5.1	ug/L	71	Standard
	Ni	60	1150.4	8.0	**0.4298**	0.037	8.7	ug/L	295	Standard
	Cu	65	432.3	9.4	**0.1553**	0.018	11.7	ug/L	87	Standard
	Zn	66	11099.7	8.3	**9.6529**	0.749	7.8	ug/L	469	Standard
>	**Ge**	72	481854.4	1.4				ug/L	514704	Standard
	As	75	137.5	39.2	**0.2201**	0.043	19.4	ug/L	-121	Standard
	Se	82	119.7	7.7	**0.9972**	0.063	6.3	ug/L	-1	Standard
	Se-1	77	194.0	4.1	**1.0736**	0.070	6.5	ug/L	127	Standard
>	**Ga**	71	75.0	6.7				mg/L	175	Standard
	Rb	85	1566.7	3.0				ug/L	50	Standard
	Y	89	560563.1	0.5				ug/L	527499	Standard
>	**Rh**	103	53.3	5.4				ug/L	10	Standard
	Mo	98	8543.8	8.3	**1.9035**	0.139	7.3	ug/L	23	Standard
	Ag	107	69.0	12.9	**-0.0015**	0.001	94.6	ug/L	59	Standard
	Cd	111	19.9	31.5	**0.0083**	0.003	37.2	mg/L	3	Standard
	Cd	114	77.8	12.9	**0.0102**	0.002	17.4	ug/L	10	Standard
>	**In**	115	628255.0	1.4				ug/L	537195	Standard
	Sn	118	739.4	5.1	**0.0673**	0.009	12.9	ug/L	281	Standard
	Sb	123	351.5	9.2	**0.0638**	0.007	11.6	ug/L	167	Standard
	Ba	135	54128.5	9.9	**27.8325**	2.442	8.8	ug/L	10	Standard
	Ce	140	294.3	12.8				ug/L	27	Standard
>	**Tb**	159	877961.1	1.9				ug/L	758170	Standard
	Ho	165	11.7	51.7				ug/L	7	Standard
	Tl	203	60.3	8.3	**0.0091**	0.001	7.6	ug/L	5	Standard
	Tl	205	1.0	100.0	**0.0139**	0.006	45.2	ug/L	0	Standard
	Pb	206	282.0	3.2	**0.0110**	0.003	24.8	ug/L	182	Standard
	Pb	207	222.7	2.9	**0.0096**	0.002	24.7	ug/L	145	Standard
	Pb	208	332.3	3.2	**0.0110**	0.002	17.2	ug/L	207	Standard
	U	238	360.3	6.1	**0.0694**	0.003	4.8	ug/L	1	Standard
>	**Bi**	209	377269.9	1.5				ug/L	325207	Standard

Sample ID: L1305130401
Report Date/Time: Tuesday, June 04, 2013 18:53:02
Page 1

Approved: June 05, 2013

	Na	23	88.3	22.9	**10.7482**	2.223	20.7	mg/L	0	Standard
	Mg	24	9863.2	5.4	**8.4997**	0.423	5.0	mg/L	25	Standard
	K	39	41.7	54.1	**0.5534**	0.305	55.2	mg/L	3	Standard
	Ca	43	3937.2	12.2	**10.2985**	1.431	13.9	mg/L	297	Standard
	Fe	54	184.6	16.9	**0.0609**	0.022	35.3	mg/L	91	Standard
	Fe	57	403.3	10.1	**0.4270**	0.124	29.1	mg/L	237	Standard
>	**Sc-1**	45	43193.2	4.6				mg/L	35084	Standard
	Cl	35	94068.9	2.4				ug/L	29808	Standard
	Kr	83	33.6	16.1				ug/L	38	Standard
	Br	81	2905.3	8.5				ug/L	965	Standard
	P	31	392933.4	4.3				ug/L	176735	Standard
	S	34	63387.3	1.8				ug/L	28891	Standard
	Sr	88	84.2	10.4				ug/L	27	Standard
	C	12	6.7	86.6				mg/L	7	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	0.0					mg/L	3	Standard
	Dy	164	13.6	29.6				mg/L	14	Standard
	Ho-1	165	11.7	51.7				mg/L	7	Standard
	Er	166	16.0	21.7				mg/L	8	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		138.429	
	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		93.618	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			

Sample ID: L1305130401
Report Date/Time: Tuesday, June 04, 2013 18:53:02
Page 2

Approved: June 05, 2013

	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	116.951
	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	116.009
	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

Sample ID: L1305130401
Report Date/Time: Tuesday, June 04, 2013 18:53:02
Page 3

Approved: June 05, 2013

Method 6020 - Summary Report

Sample ID: L1305130402
Sample Date/Time: Tuesday, June 04, 2013 18:53:56
Number of Replicates: 3
Autosampler Position: 406
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	790403.2	2.7				ug/L	552027	Standard
	Be	9	41.3	28.4	**0.0041**	0.004	102.1	ug/L	18	Standard
	Al	27	6524346.1	8.6	**33.1197**	2.386	7.2	ug/L	841	Standard
	Sc	45	44632.3	1.9				ug/L	35084	Standard
	Ti	47	223.0	13.0	**0.9783**	0.122	12.4	ug/L	22	Standard
	V	51	8000.7	12.7	**1.2626**	0.158	12.5	ug/L	812	Standard
	Cr	52	27516.9	11.7	**4.6704**	0.543	11.6	ug/L	4274	Standard
	Cr	53	5971.2	9.1	**5.0367**	0.425	8.4	ug/L	1106	Standard
	Mn	55	6249.3	9.1	**0.6560**	0.060	9.1	ug/L	1207	Standard
	Co	59	373.3	10.4	**0.0533**	0.006	10.8	ug/L	71	Standard
	Ni	60	58007.7	8.4	**27.7491**	1.819	6.6	ug/L	295	Standard
	Cu	65	1149.7	9.9	**0.4944**	0.044	8.9	ug/L	87	Standard
	Zn	66	7881.7	8.3	**6.5231**	0.482	7.4	ug/L	469	Standard
>	**Ge**	72	490000.3	2.2				ug/L	514704	Standard
	As	75	209.2	13.2	**0.2770**	0.026	9.4	ug/L	-121	Standard
	Se	82	134.9	3.2	**1.1066**	0.047	4.3	ug/L	-1	Standard
	Se-1	77	191.7	7.3	**1.0029**	0.125	12.4	ug/L	127	Standard
>	**Ga**	71	66.7	37.7				mg/L	175	Standard
	Rb	85	2236.8	5.3				ug/L	50	Standard
	Y	89	561635.4	2.9				ug/L	527499	Standard
>	**Rh**	103	60.0					ug/L	10	Standard
	Mo	98	7522.8	9.3	**1.6649**	0.147	8.9	ug/L	23	Standard
	Ag	107	67.3	17.9	**-0.0019**	0.002	104.2	ug/L	59	Standard
	Cd	111	21.1	6.5	**0.0089**	0.001	7.9	mg/L	3	Standard
	Cd	114	86.1	10.9	**0.0118**	0.002	14.2	ug/L	10	Standard
>	**In**	115	632265.2	1.1				ug/L	537195	Standard
	Sn	118	655.0	2.7	**0.0512**	0.004	8.1	ug/L	281	Standard
	Sb	123	368.2	10.9	**0.0671**	0.009	12.8	ug/L	167	Standard
	Ba	135	61449.7	8.7	**31.4101**	2.537	8.1	ug/L	10	Standard
	Ce	140	376.0	8.5				ug/L	27	Standard
>	**Tb**	159	879675.9	1.9				ug/L	758170	Standard
	Ho	165	10.0	26.5				ug/L	7	Standard
	Tl	203	82.0	11.6	**0.0126**	0.002	14.4	ug/L	5	Standard
	Tl	205	2.3	24.7	**0.0221**	0.003	14.5	ug/L	0	Standard
	Pb	206	322.7	8.8	**0.0191**	0.005	25.2	ug/L	182	Standard
	Pb	207	262.3	9.8	**0.0190**	0.006	30.9	ug/L	145	Standard
	Pb	208	391.3	6.1	**0.0206**	0.003	13.7	ug/L	207	Standard
	U	238	477.3	15.2	**0.0916**	0.013	13.9	ug/L	1	Standard
>	**Bi**	209	379342.1	2.6				ug/L	325207	Standard

Sample ID: L1305130402
Report Date/Time: Tuesday, June 04, 2013 18:56:48
Page 1

Approved: June 05, 2013

	Na	23	93.3	35.7	**11.0446**	4.257	38.5	mg/L	0	Standard
	Mg	24	10748.8	9.6	**8.9570**	0.772	8.6	mg/L	25	Standard
	K	39	60.0	22.0	**0.8011**	0.172	21.5	mg/L	3	Standard
	Ca	43	4664.1	8.2	**11.9406**	0.989	8.3	mg/L	297	Standard
	Fe	54	213.5	20.0	**0.0833**	0.042	51.0	mg/L	91	Standard
	Fe	57	433.3	12.0	**0.4611**	0.113	24.4	mg/L	237	Standard
>	**Sc-1**	45	44632.3	1.9				mg/L	35084	Standard
	Cl	35	93838.4	2.0				ug/L	29808	Standard
	Kr	83	35.9	17.2				ug/L	38	Standard
	Br	81	3917.2	5.1				ug/L	965	Standard
	P	31	414471.5	5.0				ug/L	176735	Standard
	S	34	62765.6	2.1				ug/L	28891	Standard
	Sr	88	105.0	8.6				ug/L	27	Standard
	C	12	5.0	173.2				mg/L	7	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	1.7	173.2				mg/L	3	Standard
	Dy	164	12.0	20.4				mg/L	14	Standard
	Ho-1	165	10.0	26.5				mg/L	7	Standard
	Er	166	13.7	22.4				mg/L	8	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		143.182	
	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		95.200	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			

Sample ID: L1305130402
Report Date/Time: Tuesday, June 04, 2013 18:56:48
Page 2

Approved: June 05, 2013

	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	117.697
	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	116.646
	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

Approved: June 05, 2013

Method 6020 - Summary Report

Sample ID: L1305130403
Sample Date/Time: Tuesday, June 04, 2013 18:57:42
Number of Replicates: 3
Autosampler Position: 407
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	773309.2	2.0				ug/L	552027	Standard
	Be	9	55.7	21.1	**0.0100**	0.005	47.7	ug/L	18	Standard
	Al	27	8092284.0	8.6	**42.0000**	3.289	7.8	ug/L	841	Standard
	Sc	45	44266.3	3.4				ug/L	35084	Standard
	Ti	47	448.3	6.6	**2.1169**	0.162	7.7	ug/L	22	Standard
	V	51	11785.4	10.7	**1.9804**	0.206	10.4	ug/L	812	Standard
	Cr	52	5981.9	7.4	**0.3985**	0.079	19.7	ug/L	4274	Standard
	Cr	53	2131.8	1.5	**1.1985**	0.048	4.0	ug/L	1106	Standard
	Mn	55	9708.5	12.3	**1.1444**	0.136	11.9	ug/L	1207	Standard
	Co	59	368.0	8.7	**0.0543**	0.004	7.6	ug/L	71	Standard
	Ni	60	1799.8	11.1	**0.7583**	0.097	12.8	ug/L	295	Standard
	Cu	65	768.7	4.8	**0.3234**	0.013	4.1	ug/L	87	Standard
	Zn	66	5594.7	9.1	**4.5715**	0.383	8.4	ug/L	469	Standard
>	**Ge**	72	476143.0	2.7				ug/L	514704	Standard
	As	75	457.4	3.1	**0.4884**	0.009	1.9	ug/L	-121	Standard
	Se	82	215.3	3.1	**1.8188**	0.078	4.3	ug/L	-1	Standard
	Se-1	77	229.3	2.8	**1.5552**	0.097	6.3	ug/L	127	Standard
>	**Ga**	71	125.0	50.1				mg/L	175	Standard
	Rb	85	12445.2	11.4				ug/L	50	Standard
	Y	89	554771.9	4.5				ug/L	527499	Standard
>	**Rh**	103	81.7	23.2				ug/L	10	Standard
	Mo	98	5393.6	9.2	**1.2032**	0.086	7.2	ug/L	23	Standard
	Ag	107	111.3	11.1	**0.0054**	0.002	38.0	ug/L	59	Standard
	Cd	111	31.4	27.2	**0.0143**	0.004	28.9	mg/L	3	Standard
	Cd	114	114.7	8.8	**0.0178**	0.002	12.4	ug/L	10	Standard
>	**In**	115	625819.8	2.5				ug/L	537195	Standard
	Sn	118	929.7	2.6	**0.1024**	0.007	7.1	ug/L	281	Standard
	Sb	123	399.5	7.6	**0.0753**	0.008	11.1	ug/L	167	Standard
	Ba	135	52088.7	10.4	**26.8817**	2.389	8.9	ug/L	10	Standard
	Ce	140	2751.9	29.2				ug/L	27	Standard
>	**Tb**	159	878516.4	2.2				ug/L	758170	Standard
	Ho	165	35.7	15.4				ug/L	7	Standard
	Tl	203	139.3	10.1	**0.0221**	0.002	8.2	ug/L	5	Standard
	Tl	205	3.0	33.3	**0.0266**	0.007	24.6	ug/L	0	Standard
	Pb	206	452.7	2.2	**0.0469**	0.001	1.7	ug/L	182	Standard
	Pb	207	406.3	7.2	**0.0549**	0.006	11.2	ug/L	145	Standard
	Pb	208	574.7	6.7	**0.0527**	0.007	13.2	ug/L	207	Standard
	U	238	1326.1	9.8	**0.2583**	0.022	8.4	ug/L	1	Standard
>	**Bi**	209	376071.4	2.2				ug/L	325207	Standard

Sample ID: L1305130403
Report Date/Time: Tuesday, June 04, 2013 19:00:34
Page 1

Approved: June 05, 2013

	Na	23	103.3	17.0	**12.5438**	2.717	21.7	mg/L	0	Standard
	Mg	24	11697.9	9.4	**9.8350**	0.835	8.5	mg/L	25	Standard
	K	39	58.3	17.8	**0.7837**	0.121	15.5	mg/L	3	Standard
	Ca	43	6423.0	9.7	**16.9741**	1.591	9.4	mg/L	297	Standard
	Fe	54	195.8	10.3	**0.0680**	0.020	29.9	mg/L	91	Standard
	Fe	57	520.0	15.9	**0.6636**	0.157	23.7	mg/L	237	Standard
>	**Sc-1**	45	44266.3	3.4				mg/L	35084	Standard
	Cl	35	93139.0	4.1				ug/L	29808	Standard
	Kr	83	38.1	6.7				ug/L	38	Standard
	Br	81	7395.1	6.6				ug/L	965	Standard
	P	31	417588.1	3.7				ug/L	176735	Standard
	S	34	63458.5	1.2				ug/L	28891	Standard
	Sr	88	126.7	16.4				ug/L	27	Standard
	C	12	6.7	43.3				mg/L	7	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	6.7	114.6				mg/L	3	Standard
	Dy	164	54.9	9.6				mg/L	14	Standard
	Ho-1	165	35.7	15.4				mg/L	7	Standard
	Er	166	37.3	16.1				mg/L	8	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		140.085	
	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		92.508	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			

Sample ID: L1305130403
Report Date/Time: Tuesday, June 04, 2013 19:00:34
Page 2

Approved: June 05, 2013

	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	116.498
	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	115.641
	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

Sample ID: L1305130403
Report Date/Time: Tuesday, June 04, 2013 19:00:34
Page 3

Approved: June 05, 2013

Method 6020 - Summary Report

Sample ID: L1305132101
Sample Date/Time: Tuesday, June 04, 2013 19:01:28
Number of Replicates: 3
Autosampler Position: 408
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	778029.4	4.1				ug/L	552027	Standard
	Be	9	551.7	7.6	**0.1962**	0.008	4.0	ug/L	18	Standard
	Al	27	2827056.9	8.6	**14.5628**	0.687	4.7	ug/L	841	Standard
	Sc	45	42551.4	2.5				ug/L	35084	Standard
	Ti	47	428.0	21.4	**1.9901**	0.430	21.6	ug/L	22	Standard
	V	51	2032.3	10.3	**0.2327**	0.034	14.7	ug/L	812	Standard
	Cr	52	10716.8	7.4	**1.3488**	0.130	9.7	ug/L	4274	Standard
	Cr	53	1780.9	6.1	**0.8091**	0.105	12.9	ug/L	1106	Standard
	Mn	55	466439.0	11.2	**61.8553**	6.229	10.1	ug/L	1207	Standard
	Co	59	9620.4	12.6	**1.7957**	0.208	11.6	ug/L	71	Standard
	Ni	60	10569.4	6.6	**5.0391**	0.283	5.6	ug/L	295	Standard
	Cu	65	3502.1	7.9	**1.6483**	0.117	7.1	ug/L	87	Standard
	Zn	66	19392.5	11.2	**17.4085**	1.825	10.5	ug/L	469	Standard
>	**Ge**	72	481531.0	1.6				ug/L	514704	Standard
	As	75	103.7	17.8	**0.1929**	0.016	8.5	ug/L	-121	Standard
	Se	82	93.0	7.4	**0.7741**	0.048	6.2	ug/L	-1	Standard
	Se-1	77	136.3	8.8	**0.3481**	0.139	40.0	ug/L	127	Standard
>	**Ga**	71	101.7	57.0				mg/L	175	Standard
	Rb	85	4457.3	11.5				ug/L	50	Standard
	Y	89	566737.9	1.5				ug/L	527499	Standard
>	**Rh**	103	13.3	57.3				ug/L	10	Standard
	Mo	98	43.4	19.7	**0.0024**	0.002	76.9	ug/L	23	Standard
	Ag	107	65.0	21.8	**-0.0023**	0.002	86.7	ug/L	59	Standard
	Cd	111	128.0	3.4	**0.0634**	0.001	1.5	mg/L	3	Standard
	Cd	114	331.2	9.4	**0.0602**	0.005	9.1	ug/L	10	Standard
>	**In**	115	635692.8	2.1				ug/L	537195	Standard
	Sn	118	863.7	2.4	**0.0879**	0.006	6.3	ug/L	281	Standard
	Sb	123	323.3	2.2	**0.0565**	0.002	3.5	ug/L	167	Standard
	Ba	135	65253.2	10.3	**33.1617**	2.976	9.0	ug/L	10	Standard
	Ce	140	2180.5	10.3				ug/L	27	Standard
>	**Tb**	159	883746.4	1.8				ug/L	758170	Standard
	Ho	165	182.0	9.7				ug/L	7	Standard
	Tl	203	63.7	7.7	**0.0095**	0.001	7.5	ug/L	5	Standard
	Tl	205	2.7	57.3	**0.0240**	0.009	38.7	ug/L	0	Standard
	Pb	206	326.7	9.0	**0.0193**	0.005	26.9	ug/L	182	Standard
	Pb	207	295.3	11.9	**0.0263**	0.008	29.9	ug/L	145	Standard
	Pb	208	378.7	9.8	**0.0179**	0.006	31.9	ug/L	207	Standard
	U	238	24.3	15.6	**0.0039**	0.001	17.6	ug/L	1	Standard
>	**Bi**	209	382941.0	1.2				ug/L	325207	Standard

Sample ID: L1305132101
Report Date/Time: Tuesday, June 04, 2013 19:04:20
Page 1

Approved: June 05, 2013

	Na	23	16.7	62.4	**1.1866**	1.407	118.6	mg/L	0	Standard
	Mg	24	2920.3	9.5	**2.5287**	0.285	11.3	mg/L	25	Standard
	K	39	10.0	50.0	**0.0954**	0.076	79.1	mg/L	3	Standard
	Ca	43	840.0	16.2	**1.4392**	0.425	29.5	mg/L	297	Standard
	Fe	54	195.9	14.2	**0.0756**	0.029	38.4	mg/L	91	Standard
	Fe	57	218.3	14.7	**0.0013**	0.067	5110.2	mg/L	237	Standard
>	**Sc-1**	45	42551.4	2.5				mg/L	35084	Standard
	Cl	35	80435.1	2.9				ug/L	29808	Standard
	Kr	83	32.6	11.2				ug/L	38	Standard
	Br	81	4578.2	8.1				ug/L	965	Standard
	P	31	326709.2	5.1				ug/L	176735	Standard
	S	34	63027.5	1.9				ug/L	28891	Standard
	Sr	88	77.5	0.0				ug/L	27	Standard
	C	12	55.0	9.1				mg/L	7	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	951.7	6.3				mg/L	3	Standard
	Dy	164	236.6	7.0				mg/L	14	Standard
	Ho-1	165	182.0	9.7				mg/L	7	Standard
	Er	166	182.3	7.8				mg/L	8	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		140.941	
	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		93.555	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			

Sample ID: L1305132101
Report Date/Time: Tuesday, June 04, 2013 19:04:20
Page 2

Approved: June 05, 2013

	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	118.336
	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	117.753
	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

Approved: June 05, 2013

Method 6020 - Summary Report

Sample ID: L1305132102
Sample Date/Time: Tuesday, June 04, 2013 19:05:14
Number of Replicates: 3
Autosampler Position: 409
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	797311.0	0.7				ug/L	552027	Standard
	Be	9	42.7	29.7	**0.0045**	0.005	102.6	ug/L	18	Standard
	Al	27	884431.2	8.3	**4.4414**	0.346	7.8	ug/L	841	Standard
	Sc	45	45819.2	1.2				ug/L	35084	Standard
	Ti	47	669.7	36.0	**3.1211**	1.142	36.6	ug/L	22	Standard
	V	51	8816.8	10.0	**1.4127**	0.132	9.4	ug/L	812	Standard
	Cr	52	5471.7	4.5	**0.2672**	0.034	12.7	ug/L	4274	Standard
	Cr	53	725.0	6.6	**-0.2938**	0.040	13.8	ug/L	1106	Standard
	Mn	55	8894.6	9.4	**1.0080**	0.097	9.6	ug/L	1207	Standard
	Co	59	264.3	5.0	**0.0334**	0.002	5.5	ug/L	71	Standard
	Ni	60	1301.4	13.2	**0.4960**	0.074	15.0	ug/L	295	Standard
	Cu	65	911.4	12.7	**0.3827**	0.049	12.9	ug/L	87	Standard
	Zn	66	2998.6	8.3	**2.0523**	0.193	9.4	ug/L	469	Standard
>	**Ge**	72	487440.7	1.5				ug/L	514704	Standard
	As	75	-96.3	33.3	**0.0289**	0.026	90.8	ug/L	-121	Standard
	Se	82	14.8	45.1	**0.1188**	0.055	46.3	ug/L	-1	Standard
	Se-1	77	108.7	6.1	**-0.0171**	0.072	419.5	ug/L	127	Standard
>	**Ga**	71	145.0	29.5				mg/L	175	Standard
	Rb	85	2283.5	6.6				ug/L	50	Standard
	Y	89	555865.0	0.8				ug/L	527499	Standard
>	**Rh**	103	25.0	20.0				ug/L	10	Standard
	Mo	98	34.5	10.2	**0.0004**	0.001	181.6	ug/L	23	Standard
	Ag	107	61.3	3.4	**-0.0029**	0.000	7.7	ug/L	59	Standard
	Cd	111	35.0	14.9	**0.0158**	0.002	15.0	mg/L	3	Standard
	Cd	114	87.8	12.4	**0.0120**	0.002	18.3	ug/L	10	Standard
>	**In**	115	639050.5	1.4				ug/L	537195	Standard
	Sn	118	816.0	4.4	**0.0786**	0.006	7.2	ug/L	281	Standard
	Sb	123	282.2	5.9	**0.0467**	0.004	7.8	ug/L	167	Standard
	Ba	135	13333.2	8.6	**6.7256**	0.544	8.1	ug/L	10	Standard
	Ce	140	2792.3	11.0				ug/L	27	Standard
>	**Tb**	159	889766.9	1.6				ug/L	758170	Standard
	Ho	165	27.7	12.7				ug/L	7	Standard
	Tl	203	32.0	15.6	**0.0043**	0.001	17.0	ug/L	5	Standard
	Tl	205	0.7	86.6	**0.0117**	0.004	30.8	ug/L	0	Standard
	Pb	206	327.0	6.0	**0.0193**	0.003	17.7	ug/L	182	Standard
	Pb	207	258.3	13.6	**0.0173**	0.008	45.4	ug/L	145	Standard
	Pb	208	383.0	4.5	**0.0186**	0.003	15.9	ug/L	207	Standard
	U	238	10.3	20.1	**0.0012**	0.000	35.1	ug/L	1	Standard
>	**Bi**	209	383248.9	1.5				ug/L	325207	Standard

Sample ID: L1305132102
Report Date/Time: Tuesday, June 04, 2013 19:08:06
Page 1

Approved: June 05, 2013

	Na	23	13.3	21.7	**0.6055**	0.383	63.2	mg/L	0	Standard
	Mg	24	5726.1	8.8	**4.6284**	0.363	7.8	mg/L	25	Standard
	K	39	10.0	86.6	**0.0851**	0.121	142.7	mg/L	3	Standard
	Ca	43	976.7	7.8	**1.6287**	0.174	10.7	mg/L	297	Standard
	Fe	54	195.7	14.5	**0.0613**	0.024	39.0	mg/L	91	Standard
	Fe	57	163.3	21.7	**-0.1546**	0.082	53.0	mg/L	237	Standard
>	**Sc-1**	45	45819.2	1.2				mg/L	35084	Standard
	Cl	35	78092.0	4.3				ug/L	29808	Standard
	Kr	83	31.1	1.2				ug/L	38	Standard
	Br	81	1300.1	7.2				ug/L	965	Standard
	P	31	477822.8	5.2				ug/L	176735	Standard
	S	34	58005.2	5.3				ug/L	28891	Standard
	Sr	88	70.0	9.4				ug/L	27	Standard
	C	12	30.0	16.7				mg/L	7	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	38.3	82.8				mg/L	3	Standard
	Dy	164	39.5	17.3				mg/L	14	Standard
	Ho-1	165	27.7	12.7				mg/L	7	Standard
	Er	166	32.0	25.0				mg/L	8	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		144.433	
	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		94.703	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			

Sample ID: L1305132102
Report Date/Time: Tuesday, June 04, 2013 19:08:06
Page 2

Approved: June 05, 2013

	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	118.961
	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	117.848
	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

Sample ID: L1305132102
Report Date/Time: Tuesday, June 04, 2013 19:08:06
Page 3

Approved: June 05, 2013

Method 6020 - Summary Report

Sample ID: L1305132103
Sample Date/Time: Tuesday, June 04, 2013 19:09:00
Number of Replicates: 3
Autosampler Position: 410
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	779624.5	3.4				ug/L	552027	Standard
	Be	9	48.7	9.7	**0.0072**	0.002	32.7	ug/L	18	Standard
	Al	27	12183763.0	9.4	**62.6818**	4.347	6.9	ug/L	841	Standard
	Sc	45	44241.2	4.1				ug/L	35084	Standard
	Ti	47	3896.2	20.9	**18.6710**	3.646	19.5	ug/L	22	Standard
	V	51	12444.9	11.5	**2.0610**	0.221	10.7	ug/L	812	Standard
	Cr	52	6796.2	6.3	**0.5431**	0.062	11.4	ug/L	4274	Standard
	Cr	53	1234.2	6.7	**0.2367**	0.087	36.7	ug/L	1106	Standard
	Mn	55	13470.7	12.6	**1.6204**	0.195	12.0	ug/L	1207	Standard
	Co	59	423.0	19.7	**0.0634**	0.014	22.4	ug/L	71	Standard
	Ni	60	3349.4	11.2	**1.4964**	0.151	10.1	ug/L	295	Standard
	Cu	65	657.7	16.1	**0.2631**	0.047	17.9	ug/L	87	Standard
	Zn	66	3784.1	11.1	**2.8003**	0.322	11.5	ug/L	469	Standard
>	**Ge**	72	484040.5	2.2				ug/L	514704	Standard
	As	75	84.5	23.6	**0.1766**	0.016	9.3	ug/L	-121	Standard
	Se	82	76.3	7.7	**0.6310**	0.036	5.7	ug/L	-1	Standard
	Se-1	77	136.7	4.7	**0.3448**	0.096	28.0	ug/L	127	Standard
>	**Ga**	71	763.4	23.3				mg/L	175	Standard
	Rb	85	3480.4	17.9				ug/L	50	Standard
	Y	89	556180.0	2.6				ug/L	527499	Standard
>	**Rh**	103	40.0	12.5				ug/L	10	Standard
	Mo	98	376.3	9.3	**0.0763**	0.008	9.9	ug/L	23	Standard
	Ag	107	76.0	16.5	**-0.0005**	0.002	421.4	ug/L	59	Standard
	Cd	111	26.3	17.0	**0.0115**	0.002	20.0	mg/L	3	Standard
	Cd	114	67.1	9.6	**0.0080**	0.001	15.3	ug/L	10	Standard
>	**In**	115	633121.8	0.9				ug/L	537195	Standard
	Sn	118	617.3	9.1	**0.0443**	0.011	23.7	ug/L	281	Standard
	Sb	123	332.5	11.3	**0.0588**	0.009	14.5	ug/L	167	Standard
	Ba	135	39405.2	10.2	**20.1084**	1.983	9.9	ug/L	10	Standard
	Ce	140	11932.8	13.1				ug/L	27	Standard
>	**Tb**	159	883045.6	1.4				ug/L	758170	Standard
	Ho	165	80.0	18.2				ug/L	7	Standard
	Tl	203	95.7	4.0	**0.0149**	0.001	5.3	ug/L	5	Standard
	Tl	205	3.0	57.7	**0.0265**	0.011	42.3	ug/L	0	Standard
	Pb	206	476.3	4.1	**0.0514**	0.004	7.1	ug/L	182	Standard
	Pb	207	401.7	7.5	**0.0534**	0.008	14.7	ug/L	145	Standard
	Pb	208	623.3	7.9	**0.0606**	0.008	12.6	ug/L	207	Standard
	U	238	254.7	18.3	**0.0488**	0.009	18.1	ug/L	1	Standard
>	**Bi**	209	377701.4	1.8				ug/L	325207	Standard

Sample ID: L1305132103
Report Date/Time: Tuesday, June 04, 2013 19:11:52
Page 1

Approved: June 05, 2013

	Na	23	56.7	27.0	**6.3886**	2.182	34.1	mg/L	0	Standard
	Mg	24	10268.5	9.3	**8.6280**	0.590	6.8	mg/L	25	Standard
	K	39	33.3	22.9	**0.4282**	0.121	28.1	mg/L	3	Standard
	Ca	43	2928.6	6.7	**7.1888**	0.220	3.1	mg/L	297	Standard
	Fe	54	367.5	22.1	**0.2288**	0.065	28.4	mg/L	91	Standard
	Fe	57	345.0	3.8	**0.2707**	0.050	18.5	mg/L	237	Standard
>	**Sc-1**	45	44241.2	4.1				mg/L	35084	Standard
	Cl	35	80262.4	1.3				ug/L	29808	Standard
	Kr	83	38.0	0.9				ug/L	38	Standard
	Br	81	4335.6	9.4				ug/L	965	Standard
	P	31	442984.4	6.7				ug/L	176735	Standard
	S	34	55475.6	1.9				ug/L	28891	Standard
	Sr	88	99.2	14.3				ug/L	27	Standard
	C	12	30.0	44.1				mg/L	7	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	21.7	81.0				mg/L	3	Standard
	Dy	164	142.0	11.1				mg/L	14	Standard
	Ho-1	165	80.0	18.2				mg/L	7	Standard
	Er	166	91.0	11.0				mg/L	8	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		141.229	
	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		94.042	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			

Sample ID: L1305132103
Report Date/Time: Tuesday, June 04, 2013 19:11:52
Page 2

Approved: June 05, 2013

	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	117.857
	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	116.142
	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

Sample ID: L1305132103
Report Date/Time: Tuesday, June 04, 2013 19:11:52
Page 3

Approved: June 05, 2013

Method 6020 - Summary Report

Sample ID: QC Std 6
Sample Date/Time: Tuesday, June 04, 2013 19:12:49
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	757218.1	3.2				ug/L	552027	Standard
	Be	9	114357.1	10.6	**44.1098**	3.306	7.5	ug/L	18	Standard
	Al	27	9872721.0	9.4	**52.2773**	3.292	6.3	ug/L	841	Standard
	Sc	45	43012.7	2.1				ug/L	35084	Standard
	Ti	47	26025.5	9.2	**128.2586**	9.987	7.8	ug/L	22	Standard
	V	51	291120.3	13.4	**52.2173**	6.300	12.1	ug/L	812	Standard
	Cr	52	244532.7	13.1	**49.8315**	5.970	12.0	ug/L	4274	Standard
	Cr	53	51401.9	10.8	**53.1025**	5.079	9.6	ug/L	1106	Standard
	Mn	55	355395.4	10.1	**47.9261**	4.205	8.8	ug/L	1207	Standard
	Co	59	246148.3	12.5	**47.1428**	5.237	11.1	ug/L	71	Standard
	Ni	60	108813.1	9.7	**54.0339**	4.488	8.3	ug/L	295	Standard
	Cu	65	104856.3	10.7	**51.8211**	4.817	9.3	ug/L	87	Standard
	Zn	66	54843.4	10.1	**51.4461**	4.525	8.8	ug/L	469	Standard
>	**Ge**	72	473133.5	1.6				ug/L	514704	Standard
	As	75	60050.2	8.0	**50.4147**	3.319	6.6	ug/L	-121	Standard
	Se	82	6238.8	8.6	**53.0682**	3.784	7.1	ug/L	-1	Standard
	Se-1	77	4069.9	6.8	**50.8331**	2.762	5.4	ug/L	127	Standard
>	**Ga**	71	106.7	10.8				mg/L	175	Standard
	Rb	85	3082.0	3.0				ug/L	50	Standard
	Y	89	544088.6	0.5				ug/L	527499	Standard
>	**Rh**	103	31.7	36.5				ug/L	10	Standard
	Mo	98	406521.8	9.1	**90.6093**	7.689	8.5	ug/L	23	Standard
	Ag	107	292205.0	7.8	**46.9348**	3.355	7.1	ug/L	59	Standard
	Cd	111	91531.4	10.3	**47.1055**	4.517	9.6	mg/L	3	Standard
	Cd	114	255666.0	9.9	**51.0311**	4.736	9.3	ug/L	10	Standard
>	**In**	115	630390.7	0.7				ug/L	537195	Standard
	Sn	118	271428.9	10.8	**48.8782**	4.981	10.2	ug/L	281	Standard
	Sb	123	209758.4	8.8	**48.1405**	3.912	8.1	ug/L	167	Standard
	Ba	135	96135.2	8.7	**49.2971**	3.945	8.0	ug/L	10	Standard
	Ce	140	86.3	3.3				ug/L	27	Standard
>	**Tb**	159	874177.5	1.1				ug/L	758170	Standard
	Ho	165	5.3	78.1				ug/L	7	Standard
	Tl	203	309263.5	8.3	**50.8844**	3.307	6.5	ug/L	5	Standard
	Tl	205	8144.5	9.4	**51.2019**	3.891	7.6	ug/L	0	Standard
	Pb	206	241809.3	10.3	**50.2974**	4.278	8.5	ug/L	182	Standard
	Pb	207	207569.7	10.2	**50.7782**	4.251	8.4	ug/L	145	Standard
	Pb	208	295537.0	10.6	**50.4292**	4.441	8.8	ug/L	207	Standard
	U	238	251777.1	10.8	**49.0070**	4.393	9.0	ug/L	1	Standard
>	**Bi**	209	377381.1	1.9				ug/L	325207	Standard

Sample ID: QC Std 6
Report Date/Time: Tuesday, June 04, 2013 19:15:41
Page 1

Approved: June 05, 2013

	Na	23	41.7	45.4	**4.5091**	2.468	54.7	mg/L	0	Standard
	Mg	24	5342.6	2.8	**4.6025**	0.072	1.6	mg/L	25	Standard
	K	39	313.3	10.6	**4.5980**	0.514	11.2	mg/L	3	Standard
	Ca	43	1718.4	4.3	**3.9416**	0.216	5.5	mg/L	297	Standard
	Fe	54	6092.0	10.3	**5.8043**	0.490	8.4	mg/L	91	Standard
	Fe	57	1726.8	8.6	**3.5124**	0.261	7.4	mg/L	237	Standard
>	**Sc-1**	45	43012.7	2.1				mg/L	35084	Standard
	Cl	35	81173.6	1.4				ug/L	29808	Standard
	Kr	83	42.4	12.9				ug/L	38	Standard
	Br	81	752.5	6.6				ug/L	965	Standard
	P	31	267470.9	3.2				ug/L	176735	Standard
	S	34	67047.3	4.0				ug/L	28891	Standard
	Sr	88	49.2	22.9				ug/L	27	Standard
	C	12	5.0	100.0				mg/L	7	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	5.0	100.0				mg/L	3	Standard
	Dy	164	8.6	35.6				mg/L	14	Standard
	Ho-1	165	5.3	78.1				mg/L	7	Standard
	Er	166	14.3	38.4				mg/L	8	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		137.171	
	Be	9	88.220		
	Al	27	104.555		
	Sc	45			
	Ti	47	128.259		
	V	51	104.435		
	Cr	52	99.663		
	Cr	53			
	Mn	55	95.852		
	Co	59	94.286		
	Ni	60	108.068		
	Cu	65	103.642		
	Zn	66	102.892		
>	Ge	72		91.923	
	As	75	100.829		
	Se	82	106.136		
	Se-1	77			
>	Ga	71			
	Rb	85			

Sample ID: QC Std 6
Report Date/Time: Tuesday, June 04, 2013 19:15:41
Page 2

Approved: June 05, 2013

Y	89			
> Rh	103			
Mo	98	90.609		
Ag	107	93.870		
Cd	111	94.211		
Cd	114			
> In	115		117.349	
Sn	118	97.756		
Sb	123	96.281		
Ba	135	98.594		
Ce	140			
> Tb	159			
Ho	165			
Tl	203	101.769		
Tl	205			
Pb	206			
Pb	207			
Pb	208	100.858		
U	238	98.014		
> Bi	209		116.043	
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 QC Std	Li	6	Rerun sample
QC Std 6	Be	9	
QC Std 6	Ti	47	

Sample ID: QC Std 6
Report Date/Time: Tuesday, June 04, 2013 19:15:41
Page 3

Approved: June 05, 2013

Method 6020 - Summary Report

Sample ID: QC Std 7
Sample Date/Time: Tuesday, June 04, 2013 19:16:35
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	761979.6	2.0				ug/L	552027	Standard
	Be	9	40.3	43.5	**0.0043**	0.006	151.0	ug/L	18	Standard
	Al	27	2598.9	46.7	**0.0017**	0.006	372.8	ug/L	841	Standard
	Sc	45	42347.4	0.6				ug/L	35084	Standard
	Ti	47	14.7	51.2	**-0.0117**	0.036	309.0	ug/L	22	Standard
	V	51	1193.5	5.5	**0.0858**	0.012	13.5	ug/L	812	Standard
	Cr	52	3938.2	0.8	**-0.0263**	0.006	24.7	ug/L	4274	Standard
	Cr	53	450.0	8.2	**-0.5665**	0.034	6.0	ug/L	1106	Standard
	Mn	55	938.4	5.1	**-0.0348**	0.006	16.1	ug/L	1207	Standard
	Co	59	82.7	12.2	**-0.0001**	0.002	3847.8	ug/L	71	Standard
	Ni	60	113.0	6.2	**-0.0770**	0.003	3.7	ug/L	295	Standard
	Cu	65	99.0	8.0	**-0.0064**	0.003	52.9	ug/L	87	Standard
	Zn	66	433.7	6.3	**-0.3086**	0.022	7.1	ug/L	469	Standard
>	**Ge**	72	478442.7	1.3				ug/L	514704	Standard
	As	75	-108.6	6.0	**0.0172**	0.006	36.4	ug/L	-121	Standard
	Se	82	5.6	45.0	**0.0443**	0.022	49.3	ug/L	-1	Standard
	Se-1	77	99.7	4.2	**-0.1052**	0.063	59.8	ug/L	127	Standard
>	**Ga**	71	83.3	30.8				mg/L	175	Standard
	Rb	85	50.0	36.1				ug/L	50	Standard
	Y	89	555124.2	3.8				ug/L	527499	Standard
>	**Rh**	103	3.3	86.6				ug/L	10	Standard
	Mo	98	185.9	89.5	**0.0349**	0.038	108.5	ug/L	23	Standard
	Ag	107	134.7	89.6	**0.0094**	0.020	211.2	ug/L	59	Standard
	Cd	111	27.8	158.3	**0.0127**	0.023	182.5	mg/L	3	Standard
	Cd	114	61.5	131.0	**0.0072**	0.016	228.5	ug/L	10	Standard
>	**In**	115	619686.7	1.8				ug/L	537195	Standard
	Sn	118	663.0	15.7	**0.0552**	0.021	37.2	ug/L	281	Standard
	Sb	123	1086.5	13.9	**0.2365**	0.034	14.2	ug/L	167	Standard
	Ba	135	33.0	110.3	**-0.0059**	0.019	322.1	ug/L	10	Standard
	Ce	140	18.7	22.3				ug/L	27	Standard
>	**Tb**	159	859287.6	2.5				ug/L	758170	Standard
	Ho	165	11.0	27.3				ug/L	7	Standard
	Tl	203	33.7	93.2	**0.0047**	0.005	112.2	ug/L	5	Standard
	Tl	205	0.7	173.2	**0.0116**	0.007	60.6	ug/L	0	Standard
	Pb	206	245.3	11.1	**0.0029**	0.005	185.5	ug/L	182	Standard
	Pb	207	195.7	14.3	**0.0026**	0.007	264.4	ug/L	145	Standard
	Pb	208	288.0	8.7	**0.0030**	0.005	172.7	ug/L	207	Standard
	U	238	18.0	89.4	**0.0027**	0.003	116.4	ug/L	1	Standard
>	**Bi**	209	380463.7	2.2				ug/L	325207	Standard

Sample ID: QC Std 7
Report Date/Time: Tuesday, June 04, 2013 19:19:27
Page 1

Approved: June 05, 2013

	Na	23	1.7	173.2	**-0.8593**	0.399	46.4	mg/L	0	Standard
	Mg	24	36.7	34.3	**-0.0078**	0.011	139.9	mg/L	25	Standard
	K	39	8.3	91.7	**0.0706**	0.116	163.8	mg/L	3	Standard
	Ca	43	186.7	18.8	**-0.4667**	0.099	21.3	mg/L	297	Standard
	Fe	54	172.7	16.1	**0.0535**	0.029	53.2	mg/L	91	Standard
	Fe	57	116.7	16.2	**-0.2366**	0.044	18.8	mg/L	237	Standard
>	**Sc-1**	45	42347.4	0.6				mg/L	35084	Standard
	Cl	35	80778.9	3.6				ug/L	29808	Standard
	Kr	83	35.1	8.1				ug/L	38	Standard
	Br	81	690.0	13.6				ug/L	965	Standard
	P	31	256829.2	4.2				ug/L	176735	Standard
	S	34	65197.6	4.2				ug/L	28891	Standard
	Sr	88	50.8	22.7				ug/L	27	Standard
	C	12	3.3	86.6				mg/L	7	Standard
	N	14	1.7	173.2				mg/L	0	Standard
	Hg	202	5.0	100.0				mg/L	3	Standard
	Dy	164	13.0	37.9				mg/L	14	Standard
	Ho-1	165	11.0	27.3				mg/L	7	Standard
	Er	166	13.3	34.6				mg/L	8	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		138.033	
	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		92.955	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			

Sample ID: QC Std 7
Report Date/Time: Tuesday, June 04, 2013 19:19:27
Page 2

Approved: June 05, 2013

⌈	Y	89	
⌊>	Rh	103	
⌈	Mo	98	
|	Ag	107	
|	Cd	111	
|	Cd	114	
|>	In	115	115.356
|	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	116.991
⌈	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 QC Std	Li	6	Rerun sample
QC Std 7	Sb	123	

Sample ID: QC Std 7
Report Date/Time: Tuesday, June 04, 2013 19:19:27
Page 3

Approved: June 05, 2013

Method 6020 - Summary Report

Sample ID: L1305132104
Sample Date/Time: Tuesday, June 04, 2013 19:20:23
Number of Replicates: 3
Autosampler Position: 411
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	769222.3	2.1				ug/L	552027	Standard
	Be	9	154.7	7.1	**0.0477**	0.003	6.3	ug/L	18	Standard
	Al	27	236755.9	9.6	**1.2228**	0.094	7.7	ug/L	841	Standard
	Sc	45	43248.3	0.5				ug/L	35084	Standard
	Ti	47	2909.6	29.8	**14.0137**	4.123	29.4	ug/L	22	Standard
	V	51	6142.0	9.0	**0.9597**	0.080	8.3	ug/L	812	Standard
	Cr	52	6325.3	5.9	**0.4553**	0.051	11.1	ug/L	4274	Standard
	Cr	53	1104.2	10.4	**0.1084**	0.105	97.3	ug/L	1106	Standard
	Mn	55	69391.3	10.2	**9.0692**	0.767	8.5	ug/L	1207	Standard
	Co	59	1361.4	10.3	**0.2407**	0.022	9.2	ug/L	71	Standard
	Ni	60	1033.0	7.6	**0.3730**	0.028	7.4	ug/L	295	Standard
	Cu	65	2481.9	10.7	**1.1522**	0.106	9.2	ug/L	87	Standard
	Zn	66	18365.5	9.7	**16.4556**	1.317	8.0	ug/L	469	Standard
>	**Ge**	72	481193.3	2.3				ug/L	514704	Standard
	As	75	-18.7	85.1	**0.0918**	0.013	14.3	ug/L	-121	Standard
	Se	82	9.6	69.0	**0.0784**	0.057	73.1	ug/L	-1	Standard
	Se-1	77	121.0	10.6	**0.1562**	0.154	98.4	ug/L	127	Standard
>	**Ga**	71	336.7	10.5				mg/L	175	Standard
	Rb	85	8439.0	11.6				ug/L	50	Standard
	Y	89	555348.7	1.2				ug/L	527499	Standard
>	**Rh**	103	13.3	43.3				ug/L	10	Standard
	Mo	98	247.7	0.7	**0.0484**	0.002	4.0	ug/L	23	Standard
	Ag	107	123.0	11.0	**0.0072**	0.002	27.8	ug/L	59	Standard
	Cd	111	37.1	18.0	**0.0172**	0.003	16.9	mg/L	3	Standard
	Cd	114	137.7	14.6	**0.0223**	0.003	14.6	ug/L	10	Standard
>	**In**	115	626432.7	3.1				ug/L	537195	Standard
	Sn	118	1537.7	3.7	**0.2125**	0.004	1.7	ug/L	281	Standard
	Sb	123	811.1	9.6	**0.1704**	0.019	11.2	ug/L	167	Standard
	Ba	135	18962.9	10.4	**9.7579**	0.772	7.9	ug/L	10	Standard
	Ce	140	7158.7	12.0				ug/L	27	Standard
>	**Tb**	159	869204.9	2.1				ug/L	758170	Standard
	Ho	165	83.7	26.9				ug/L	7	Standard
	Tl	203	90.0	67.7	**0.0139**	0.010	73.3	ug/L	5	Standard
	Tl	205	2.0	0.0	**0.0200**	0.000	1.1	ug/L	0	Standard
	Pb	206	2583.2	7.1	**0.4861**	0.030	6.2	ug/L	182	Standard
	Pb	207	2009.8	6.9	**0.4435**	0.028	6.2	ug/L	145	Standard
	Pb	208	3036.8	9.0	**0.4690**	0.041	8.7	ug/L	207	Standard
	U	238	66.7	25.5	**0.0121**	0.003	28.4	ug/L	1	Standard
>	**Bi**	209	380381.2	1.8				ug/L	325207	Standard

Sample ID: L1305132104
Report Date/Time: Tuesday, June 04, 2013 19:23:15
Page 1

Approved: June 05, 2013

	Na	23	6.7	114.6	**-0.1905**	1.033	542.1	mg/L	0	Standard
	Mg	24	1821.8	9.0	**1.5344**	0.140	9.1	mg/L	25	Standard
	K	39	20.0	75.0	**0.2399**	0.221	91.9	mg/L	3	Standard
	Ca	43	300.0	17.6	**-0.1523**	0.155	101.7	mg/L	297	Standard
	Fe	54	550.8	15.3	**0.4160**	0.084	20.2	mg/L	91	Standard
	Fe	57	233.3	15.2	**0.0286**	0.084	293.1	mg/L	237	Standard
>	**Sc-1**	45	43248.3	0.5				mg/L	35084	Standard
	Cl	35	73687.3	4.6				ug/L	29808	Standard
	Kr	83	33.1	11.9				ug/L	38	Standard
	Br	81	931.7	6.2				ug/L	965	Standard
	P	31	332951.4	4.4				ug/L	176735	Standard
	S	34	51673.9	4.4				ug/L	28891	Standard
	Sr	88	40.0	6.3				ug/L	27	Standard
	C	12	11.7	65.5				mg/L	7	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	13.3	57.3				mg/L	3	Standard
	Dy	164	113.6	27.7				mg/L	14	Standard
	Ho-1	165	83.7	26.9				mg/L	7	Standard
	Er	166	85.0	20.4				mg/L	8	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		139.345	
	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		93.489	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			

Sample ID: L1305132104
Report Date/Time: Tuesday, June 04, 2013 19:23:15
Page 2

Approved: June 05, 2013

	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	116.612
	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	116.966
	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

Approved: June 05, 2013

Method 6020 - Summary Report

Sample ID: L1305132105
Sample Date/Time: Tuesday, June 04, 2013 19:24:10
Number of Replicates: 3
Autosampler Position: 412
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	753132.6	2.6				ug/L	552027	Standard
	Be	9	32.3	24.0	**0.0015**	0.003	218.7	ug/L	18	Standard
	Al	27	13331140.2	8.2	**71.0710**	5.557	7.8	ug/L	841	Standard
	Sc	45	43621.1	2.6				ug/L	35084	Standard
	Ti	47	805.0	23.4	**3.9218**	0.892	22.7	ug/L	22	Standard
	V	51	2811.0	9.2	**0.3840**	0.041	10.6	ug/L	812	Standard
	Cr	52	7026.0	4.8	**0.6371**	0.051	7.9	ug/L	4274	Standard
	Cr	53	935.9	6.5	**-0.0385**	0.076	197.9	ug/L	1106	Standard
	Mn	55	1058705.5	9.9	**144.5295**	12.848	8.9	ug/L	1207	Standard
	Co	59	10757.5	11.3	**2.0664**	0.216	10.5	ug/L	71	Standard
	Ni	60	3342.4	7.4	**1.5481**	0.105	6.8	ug/L	295	Standard
	Cu	65	872.4	12.3	**0.3810**	0.048	12.6	ug/L	87	Standard
	Zn	66	4273.3	9.7	**3.3886**	0.355	10.5	ug/L	469	Standard
>	**Ge**	72	468536.9	1.3				ug/L	514704	Standard
	As	75	302.9	19.2	**0.3634**	0.046	12.7	ug/L	-121	Standard
	Se	82	156.4	10.6	**1.3402**	0.129	9.7	ug/L	-1	Standard
	Se-1	77	140.0	9.3	**0.4431**	0.156	35.2	ug/L	127	Standard
>	**Ga**	71	233.3	22.0				mg/L	175	Standard
	Rb	85	6354.7	12.7				ug/L	50	Standard
	Y	89	541097.2	1.5				ug/L	527499	Standard
>	**Rh**	103	126.7	13.9				ug/L	10	Standard
	Mo	98	198.1	12.0	**0.0383**	0.005	13.3	ug/L	23	Standard
	Ag	107	102.7	12.4	**0.0043**	0.002	46.7	ug/L	59	Standard
	Cd	111	31.1	8.0	**0.0146**	0.001	7.6	mg/L	3	Standard
	Cd	114	90.1	18.2	**0.0132**	0.003	23.4	ug/L	10	Standard
>	**In**	115	610936.6	1.4				ug/L	537195	Standard
	Sn	118	731.0	3.0	**0.0695**	0.006	8.0	ug/L	281	Standard
	Sb	123	513.8	1.7	**0.1046**	0.002	1.7	ug/L	167	Standard
	Ba	135	180647.8	8.6	**95.6134**	7.677	8.0	ug/L	10	Standard
	Ce	140	7990.8	10.6				ug/L	27	Standard
>	**Tb**	159	857541.9	1.5				ug/L	758170	Standard
	Ho	165	123.7	13.4				ug/L	7	Standard
	Tl	203	84.3	11.4	**0.0134**	0.002	13.1	ug/L	5	Standard
	Tl	205	2.3	65.5	**0.0225**	0.010	42.5	ug/L	0	Standard
	Pb	206	408.0	1.8	**0.0395**	0.001	3.2	ug/L	182	Standard
	Pb	207	318.0	4.4	**0.0350**	0.002	6.4	ug/L	145	Standard
	Pb	208	480.0	6.6	**0.0384**	0.005	13.9	ug/L	207	Standard
	U	238	116.3	25.0	**0.0225**	0.006	24.9	ug/L	1	Standard
>	**Bi**	209	367642.2	1.8				ug/L	325207	Standard

Sample ID: L1305132105
Report Date/Time: Tuesday, June 04, 2013 19:27:01
Page 1

Approved: June 05, 2013

	Na	23	143.3	14.1	**17.9812**	2.215	12.3	mg/L	0	Standard
	Mg	24	8607.4	4.8	**7.3366**	0.333	4.5	mg/L	25	Standard
	K	39	38.3	7.5	**0.5055**	0.030	5.9	mg/L	3	Standard
	Ca	43	5704.4	7.8	**15.2184**	1.514	10.0	mg/L	297	Standard
	Fe	54	272.4	15.0	**0.1437**	0.033	23.3	mg/L	91	Standard
	Fe	57	531.7	12.6	**0.7108**	0.157	22.1	mg/L	237	Standard
>	**Sc-1**	45	43621.1	2.6				mg/L	35084	Standard
	Cl	35	84143.3	0.3				ug/L	29808	Standard
	Kr	83	38.7	7.4				ug/L	38	Standard
	Br	81	7672.8	7.3				ug/L	965	Standard
	P	31	375972.2	3.9				ug/L	176735	Standard
	S	34	62006.8	4.2				ug/L	28891	Standard
	Sr	88	175.0	11.2				ug/L	27	Standard
	C	12	60.0	25.0				mg/L	7	Standard
	N	14	3.3	86.6				mg/L	0	Standard
	Hg	202	63.3	47.6				mg/L	3	Standard
	Dy	164	176.6	9.3				mg/L	14	Standard
	Ho-1	165	123.7	13.4				mg/L	7	Standard
	Er	166	125.7	17.9				mg/L	8	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		136.430	
	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		91.030	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			

Sample ID: L1305132105
Report Date/Time: Tuesday, June 04, 2013 19:27:01
Page 2

Approved: June 05, 2013

	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	113.727
	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	113.049
	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
Mn 55 Upper, S, EEE	Mn	55	

Sample ID: L1305132105
Report Date/Time: Tuesday, June 04, 2013 19:27:01
Page 3

Approved: June 05, 2013

Method 6020 - Summary Report

Sample ID: L1305132106
Sample Date/Time: Tuesday, June 04, 2013 19:27:56
Number of Replicates: 3
Autosampler Position: 413
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	753243.8	1.7				ug/L	552027	Standard
	Be	9	30.3	24.7	**0.0007**	0.003	459.3	ug/L	18	Standard
	Al	27	8574155.3	8.0	**45.7201**	3.903	8.5	ug/L	841	Standard
	Sc	45	42571.4	2.4				ug/L	35084	Standard
	Ti	47	605.3	19.8	**2.9280**	0.568	19.4	ug/L	22	Standard
	V	51	5322.7	8.7	**0.8398**	0.071	8.5	ug/L	812	Standard
	Cr	52	5390.6	5.0	**0.2940**	0.041	13.8	ug/L	4274	Standard
	Cr	53	616.7	8.3	**-0.3788**	0.063	16.6	ug/L	1106	Standard
	Mn	55	83345.1	10.8	**11.2202**	1.081	9.6	ug/L	1207	Standard
	Co	59	385.0	5.0	**0.0588**	0.003	4.6	ug/L	71	Standard
	Ni	60	1480.1	14.3	**0.6106**	0.096	15.8	ug/L	295	Standard
	Cu	65	551.0	7.6	**0.2204**	0.017	7.7	ug/L	87	Standard
	Zn	66	4627.0	10.4	**3.7250**	0.400	10.7	ug/L	469	Standard
>	**Ge**	72	468795.5	1.4				ug/L	514704	Standard
	As	75	-25.5	28.0	**0.0857**	0.006	7.4	ug/L	-121	Standard
	Se	82	28.8	15.7	**0.2436**	0.036	14.6	ug/L	-1	Standard
	Se-1	77	111.3	10.8	**0.0731**	0.175	239.9	ug/L	127	Standard
>	**Ga**	71	130.0	21.4				mg/L	175	Standard
	Rb	85	1166.7	13.5				ug/L	50	Standard
	Y	89	539161.7	2.8				ug/L	527499	Standard
>	**Rh**	103	35.0	62.3				ug/L	10	Standard
	Mo	98	1222.7	8.4	**0.2737**	0.022	8.0	ug/L	23	Standard
	Ag	107	73.3	7.0	**-0.0005**	0.001	182.1	ug/L	59	Standard
	Cd	111	26.3	11.8	**0.0120**	0.002	13.0	mg/L	3	Standard
	Cd	114	91.5	8.9	**0.0135**	0.002	11.2	ug/L	10	Standard
>	**In**	115	611688.3	1.1				ug/L	537195	Standard
	Sn	118	789.0	2.3	**0.0801**	0.003	4.2	ug/L	281	Standard
	Sb	123	345.2	3.1	**0.0645**	0.003	4.2	ug/L	167	Standard
	Ba	135	16487.0	8.5	**8.6952**	0.703	8.1	ug/L	10	Standard
	Ce	140	16151.0	10.1				ug/L	27	Standard
>	**Tb**	159	858661.4	1.2				ug/L	758170	Standard
	Ho	165	55.3	7.5				ug/L	7	Standard
	Tl	203	34.3	29.8	**0.0049**	0.002	33.0	ug/L	5	Standard
	Tl	205	1.3	43.3	**0.0162**	0.004	24.0	ug/L	0	Standard
	Pb	206	331.0	7.0	**0.0230**	0.005	23.5	ug/L	182	Standard
	Pb	207	277.0	0.4	**0.0246**	0.001	5.7	ug/L	145	Standard
	Pb	208	405.7	4.2	**0.0252**	0.003	10.5	ug/L	207	Standard
	U	238	651.3	8.5	**0.1293**	0.010	7.8	ug/L	1	Standard
>	**Bi**	209	368190.4	1.7				ug/L	325207	Standard

Sample ID: L1305132106
Report Date/Time: Tuesday, June 04, 2013 19:30:47
Page 1

Approved: June 05, 2013

	Na	23	90.0	5.6	**11.2016**	0.544	4.9	mg/L	0	Standard
	Mg	24	6748.2	9.3	**5.8833**	0.511	8.7	mg/L	25	Standard
	K	39	70.0	37.1	**1.0009**	0.409	40.8	mg/L	3	Standard
	Ca	43	3480.4	11.8	**9.1125**	1.032	11.3	mg/L	297	Standard
	Fe	54	226.0	12.7	**0.1050**	0.029	28.1	mg/L	91	Standard
	Fe	57	340.0	19.8	**0.2891**	0.164	56.6	mg/L	237	Standard
>	**Sc-1**	45	42571.4	2.4				mg/L	35084	Standard
	Cl	35	81644.5	2.9				ug/L	29808	Standard
	Kr	83	31.3	8.0				ug/L	38	Standard
	Br	81	1679.3	8.7				ug/L	965	Standard
	P	31	406813.0	3.7				ug/L	176735	Standard
	S	34	62283.6	2.3				ug/L	28891	Standard
	Sr	88	75.8	13.3				ug/L	27	Standard
	C	12	30.0	33.3				mg/L	7	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	6.7	43.3				mg/L	3	Standard
	Dy	164	110.9	11.9				mg/L	14	Standard
	Ho-1	165	55.3	7.5				mg/L	7	Standard
	Er	166	57.3	5.0				mg/L	8	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		136.451	
	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		91.081	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			

Sample ID: L1305132106
Report Date/Time: Tuesday, June 04, 2013 19:30:47
Page 2

Approved: June 05, 2013

	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	113.867
	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	113.217
	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

Sample ID: L1305132106
Report Date/Time: Tuesday, June 04, 2013 19:30:47
Page 3

Approved: June 05, 2013

Method 6020 - Summary Report

Sample ID: L1305132107
Sample Date/Time: Tuesday, June 04, 2013 19:31:42
Number of Replicates: 3
Autosampler Position: 414
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	761602.4	1.7				ug/L	552027	Standard
	Be	9	59.0	12.8	**0.0115**	0.003	23.3	ug/L	18	Standard
	Al	27	4036345.7	8.9	**21.2597**	1.666	7.8	ug/L	841	Standard
	Sc	45	42965.8	0.2				ug/L	35084	Standard
	Ti	47	2823.6	16.4	**13.6959**	1.998	14.6	ug/L	22	Standard
	V	51	4687.5	6.4	**0.7090**	0.037	5.2	ug/L	812	Standard
	Cr	52	5890.5	5.0	**0.3762**	0.042	11.2	ug/L	4274	Standard
	Cr	53	1309.2	0.5	**0.3327**	0.036	10.7	ug/L	1106	Standard
	Mn	55	1792574.0	9.1	**240.1343**	16.828	7.0	ug/L	1207	Standard
	Co	59	2300.8	9.4	**0.4211**	0.032	7.7	ug/L	71	Standard
	Ni	60	2997.6	7.7	**1.3460**	0.084	6.2	ug/L	295	Standard
	Cu	65	2115.8	11.1	**0.9821**	0.095	9.6	ug/L	87	Standard
	Zn	66	4211.6	3.7	**3.2559**	0.116	3.6	ug/L	469	Standard
>	**Ge**	72	477487.7	2.2				ug/L	514704	Standard
	As	75	209.5	14.8	**0.2814**	0.025	9.0	ug/L	-121	Standard
	Se	82	104.2	6.1	**0.8754**	0.043	4.9	ug/L	-1	Standard
	Se-1	77	137.7	9.9	**0.3822**	0.198	51.7	ug/L	127	Standard
>	**Ga**	71	921.7	20.8				mg/L	175	Standard
	Rb	85	3680.5	11.6				ug/L	50	Standard
	Y	89	548988.8	1.6				ug/L	527499	Standard
>	**Rh**	103	38.3	30.1				ug/L	10	Standard
	Mo	98	311.1	10.2	**0.0627**	0.006	9.5	ug/L	23	Standard
	Ag	107	92.0	1.9	**0.0022**	0.001	24.2	ug/L	59	Standard
	Cd	111	15.3	22.7	**0.0060**	0.002	27.7	mg/L	3	Standard
	Cd	114	57.8	20.3	**0.0063**	0.002	39.3	ug/L	10	Standard
>	**In**	115	625293.0	1.9				ug/L	537195	Standard
	Sn	118	915.7	0.9	**0.1000**	0.004	3.7	ug/L	281	Standard
	Sb	123	479.4	6.8	**0.0938**	0.007	7.1	ug/L	167	Standard
	Ba	135	34884.4	9.7	**18.0140**	1.532	8.5	ug/L	10	Standard
	Ce	140	44668.3	11.5				ug/L	27	Standard
>	**Tb**	159	873430.2	1.3				ug/L	758170	Standard
	Ho	165	251.0	5.9				ug/L	7	Standard
	Tl	203	77.0	7.9	**0.0119**	0.001	7.8	ug/L	5	Standard
	Tl	205	1.7	34.6	**0.0181**	0.004	20.2	ug/L	0	Standard
	Pb	206	555.0	3.9	**0.0684**	0.004	5.7	ug/L	182	Standard
	Pb	207	453.0	3.9	**0.0665**	0.004	5.4	ug/L	145	Standard
	Pb	208	628.0	4.3	**0.0619**	0.004	6.4	ug/L	207	Standard
	U	238	233.7	5.7	**0.0449**	0.002	5.2	ug/L	1	Standard
>	**Bi**	209	375849.4	0.7				ug/L	325207	Standard

Sample ID: L1305132107
Report Date/Time: Tuesday, June 04, 2013 19:34:33
Page 1

Approved: June 05, 2013

	Na	23	33.3	52.7	**3.4238**	2.380	69.5	mg/L	0	Standard
	Mg	24	9791.5	7.1	**8.4776**	0.595	7.0	mg/L	25	Standard
	K	39	93.3	38.8	**1.3311**	0.535	40.2	mg/L	3	Standard
	Ca	43	1915.1	6.8	**4.5137**	0.377	8.3	mg/L	297	Standard
	Fe	54	855.9	14.4	**0.7164**	0.119	16.7	mg/L	91	Standard
	Fe	57	365.0	6.3	**0.3395**	0.052	15.3	mg/L	237	Standard
>	**Sc-1**	45	42965.8	0.2				mg/L	35084	Standard
	Cl	35	82133.0	0.4				ug/L	29808	Standard
	Kr	83	34.1	13.3				ug/L	38	Standard
	Br	81	5357.6	6.2				ug/L	965	Standard
	P	31	335747.1	6.0				ug/L	176735	Standard
	S	34	59360.3	4.0				ug/L	28891	Standard
	Sr	88	84.2	22.3				ug/L	27	Standard
	C	12	10.0					mg/L	7	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	5.0	100.0				mg/L	3	Standard
	Dy	164	348.5	7.0				mg/L	14	Standard
	Ho-1	165	251.0	5.9				mg/L	7	Standard
	Er	166	296.3	10.3				mg/L	8	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		137.965	
	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		92.769	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			

Sample ID: L1305132107
Report Date/Time: Tuesday, June 04, 2013 19:34:33
Page 2

Approved: June 05, 2013

⌈	Y	89	
⌊>	Rh	103	
⌈	Mo	98	
|	Ag	107	
|	Cd	111	
|	Cd	114	
|>	In	115	116.400
|	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	115.572
⌈	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
Li 6 Int Std for sample	Li	6	Rerun sample
Mn 55 Upper, S, EEE	Mn	55	

Sample ID: L1305132107
Report Date/Time: Tuesday, June 04, 2013 19:34:33
Page 3

Approved: June 05, 2013

Method 6020 - Summary Report

Sample ID: L1305132108
Sample Date/Time: Tuesday, June 04, 2013 19:35:28
Number of Replicates: 3
Autosampler Position: 415
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	761314.4	2.1				ug/L	552027	Standard
	Be	9	32.3	3.6	**0.0013**	0.001	51.4	ug/L	18	Standard
	Al	27	8633395.8	6.8	**45.5438**	3.294	7.2	ug/L	841	Standard
	Sc	45	44401.6	1.1				ug/L	35084	Standard
	Ti	47	1474.7	30.2	**7.2019**	2.196	30.5	ug/L	22	Standard
	V	51	6333.0	9.0	**1.0147**	0.094	9.3	ug/L	812	Standard
	Cr	52	5529.0	2.6	**0.3143**	0.011	3.7	ug/L	4274	Standard
	Cr	53	779.2	9.8	**-0.2135**	0.066	30.7	ug/L	1106	Standard
	Mn	55	1007582.1	9.6	**136.4348**	12.047	8.8	ug/L	1207	Standard
	Co	59	3485.1	11.3	**0.6534**	0.070	10.7	ug/L	71	Standard
	Ni	60	1557.4	13.4	**0.6440**	0.099	15.3	ug/L	295	Standard
	Cu	65	1711.1	10.7	**0.7932**	0.081	10.2	ug/L	87	Standard
	Zn	66	4183.3	14.2	**3.2677**	0.516	15.8	ug/L	469	Standard
>	**Ge**	72	472418.8	1.8				ug/L	514704	Standard
	As	75	44.8	70.9	**0.1446**	0.026	18.0	ug/L	-121	Standard
	Se	82	48.2	9.5	**0.4074**	0.035	8.5	ug/L	-1	Standard
	Se-1	77	126.7	12.1	**0.2596**	0.219	84.4	ug/L	127	Standard
>	**Ga**	71	386.7	19.4				mg/L	175	Standard
	Rb	85	1348.4	11.8				ug/L	50	Standard
	Y	89	547307.7	3.6				ug/L	527499	Standard
>	**Rh**	103	45.0	33.3				ug/L	10	Standard
	Mo	98	491.4	7.0	**0.1052**	0.007	6.3	ug/L	23	Standard
	Ag	107	62.7	18.4	**-0.0024**	0.002	69.9	ug/L	59	Standard
	Cd	111	15.8	14.5	**0.0064**	0.001	20.8	mg/L	3	Standard
	Cd	114	51.3	22.9	**0.0052**	0.002	46.7	ug/L	10	Standard
>	**In**	115	614046.9	2.3				ug/L	537195	Standard
	Sn	118	634.0	7.4	**0.0509**	0.010	20.1	ug/L	281	Standard
	Sb	123	295.9	3.8	**0.0526**	0.001	2.1	ug/L	167	Standard
	Ba	135	36020.0	9.4	**18.9459**	1.578	8.3	ug/L	10	Standard
	Ce	140	18696.6	9.6				ug/L	27	Standard
>	**Tb**	159	861740.0	1.8				ug/L	758170	Standard
	Ho	165	60.0	12.0				ug/L	7	Standard
	Tl	203	49.7	14.6	**0.0074**	0.001	17.7	ug/L	5	Standard
	Tl	205	4.0	25.0	**0.0330**	0.007	20.4	ug/L	0	Standard
	Pb	206	388.3	9.7	**0.0338**	0.007	20.2	ug/L	182	Standard
	Pb	207	280.0	7.7	**0.0243**	0.006	26.1	ug/L	145	Standard
	Pb	208	414.0	5.8	**0.0255**	0.004	15.7	ug/L	207	Standard
	U	238	622.0	12.3	**0.1215**	0.014	11.7	ug/L	1	Standard
>	**Bi**	209	373990.7	1.5				ug/L	325207	Standard

Sample ID: L1305132108
Report Date/Time: Tuesday, June 04, 2013 19:38:20
Page 1

Approved: June 05, 2013

	Na	23	90.0	16.7	**10.6902**	1.908	17.9	mg/L	0	Standard
	Mg	24	8325.6	8.4	**6.9725**	0.645	9.2	mg/L	25	Standard
	K	39	55.0	24.1	**0.7360**	0.191	26.0	mg/L	3	Standard
	Ca	43	3540.4	7.3	**8.8785**	0.805	9.1	mg/L	297	Standard
	Fe	54	544.4	8.7	**0.3963**	0.051	12.8	mg/L	91	Standard
	Fe	57	400.0	10.8	**0.3912**	0.099	25.2	mg/L	237	Standard
>	**Sc-1**	45	44401.6	1.1				mg/L	35084	Standard
	Cl	35	80534.5	1.1				ug/L	29808	Standard
	Kr	83	34.4	8.7				ug/L	38	Standard
	Br	81	2710.2	3.2				ug/L	965	Standard
	P	31	401430.9	4.5				ug/L	176735	Standard
	S	34	59568.5	1.3				ug/L	28891	Standard
	Sr	88	86.7	4.4				ug/L	27	Standard
	C	12	21.7	48.0				mg/L	7	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	1.7	173.2				mg/L	3	Standard
	Dy	164	115.4	26.4				mg/L	14	Standard
	Ho-1	165	60.0	12.0				mg/L	7	Standard
	Er	166	69.0	10.0				mg/L	8	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		137.913	
	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		91.785	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			

Sample ID: L1305132108
Report Date/Time: Tuesday, June 04, 2013 19:38:20
Page 2

Approved: June 05, 2013

⌈	Y	89	
⌊>	Rh	103	
⌈	Mo	98	
|	Ag	107	
|	Cd	111	
|	Cd	114	
|>	In	115	114.306
|	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	115.001
⌈	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
Mn 55 Upper, S, EEE	Mn	55	

Sample ID: L1305132108
Report Date/Time: Tuesday, June 04, 2013 19:38:20
Page 3

Approved: June 05, 2013

Method 6020 - Summary Report

Sample ID: QC Std 6
Sample Date/Time: Tuesday, June 04, 2013 19:39:16
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	750801.9	1.4				ug/L	552027	Standard
	Be	9	112249.8	9.6	**43.7186**	3.860	8.8	ug/L	18	Standard
	Al	27	9790871.3	8.0	**52.3385**	3.778	7.2	ug/L	841	Standard
	Sc	45	42639.9	2.8				ug/L	35084	Standard
	Ti	47	26156.7	9.5	**129.5685**	11.058	8.5	ug/L	22	Standard
	V	51	288914.1	9.4	**52.1106**	4.372	8.4	ug/L	812	Standard
	Cr	52	241119.6	12.2	**49.3916**	5.628	11.4	ug/L	4274	Standard
	Cr	53	51652.7	10.2	**53.6541**	5.063	9.4	ug/L	1106	Standard
	Mn	55	351794.0	9.6	**47.6880**	4.106	8.6	ug/L	1207	Standard
	Co	59	243490.4	10.2	**46.8872**	4.296	9.2	ug/L	71	Standard
	Ni	60	108379.7	9.8	**54.0975**	4.764	8.8	ug/L	295	Standard
	Cu	65	104093.4	9.4	**51.7174**	4.346	8.4	ug/L	87	Standard
	Zn	66	54579.3	8.5	**51.4721**	3.910	7.6	ug/L	469	Standard
>	Ge	72	470787.8	1.1				ug/L	514704	Standard
	As	75	60043.7	8.6	**50.6657**	3.851	7.6	ug/L	-121	Standard
	Se	82	6152.9	7.4	**52.6132**	3.350	6.4	ug/L	-1	Standard
	Se-1	77	4112.6	7.6	**51.6491**	3.523	6.8	ug/L	127	Standard
>	Ga	71	111.7	40.6				mg/L	175	Standard
	Rb	85	3182.0	4.2				ug/L	50	Standard
	Y	89	537843.2	0.7				ug/L	527499	Standard
>	Rh	103	33.3	45.8				ug/L	10	Standard
	Mo	98	397957.9	9.1	**92.6422**	9.343	10.1	ug/L	23	Standard
	Ag	107	287834.8	6.8	**48.2786**	3.785	7.8	ug/L	59	Standard
	Cd	111	90263.4	9.1	**48.5210**	4.906	10.1	mg/L	3	Standard
	Cd	114	252405.8	8.7	**52.6214**	5.152	9.8	ug/L	10	Standard
>	In	115	604239.9	1.1				ug/L	537195	Standard
	Sn	118	269123.7	10.0	**50.6286**	5.615	11.1	ug/L	281	Standard
	Sb	123	205846.1	8.4	**49.3409**	4.678	9.5	ug/L	167	Standard
	Ba	135	95730.9	8.4	**51.2701**	4.864	9.5	ug/L	10	Standard
	Ce	140	93.7	11.3				ug/L	27	Standard
>	Tb	159	853321.4	1.0				ug/L	758170	Standard
	Ho	165	5.7	44.4				ug/L	7	Standard
	Tl	203	302674.0	6.7	**50.4978**	3.400	6.7	ug/L	5	Standard
	Tl	205	7980.4	7.9	**50.8803**	4.051	8.0	ug/L	0	Standard
	Pb	206	237425.3	8.1	**50.0895**	4.071	8.1	ug/L	182	Standard
	Pb	207	205426.7	8.4	**50.9693**	4.310	8.5	ug/L	145	Standard
	Pb	208	293657.2	9.3	**50.8251**	4.743	9.3	ug/L	207	Standard
	U	238	247705.4	10.3	**48.9054**	5.067	10.4	ug/L	1	Standard
>	Bi	209	372483.3	0.1				ug/L	325207	Standard

Sample ID: QC Std 6
Report Date/Time: Tuesday, June 04, 2013 19:42:08
Page 1

Approved: June 05, 2013

	Na	23	38.3	19.9	**4.1285**	0.953	23.1	mg/L	0	Standard
	Mg	24	5069.2	13.1	**4.4037**	0.577	13.1	mg/L	25	Standard
	K	39	301.7	15.0	**4.4548**	0.597	13.4	mg/L	3	Standard
	Ca	43	1801.8	7.8	**4.2265**	0.388	9.2	mg/L	297	Standard
	Fe	54	6349.9	12.5	**6.1170**	0.782	12.8	mg/L	91	Standard
	Fe	57	1750.1	4.6	**3.6098**	0.260	7.2	mg/L	237	Standard
>	**Sc-1**	45	42639.9	2.8				mg/L	35084	Standard
	Cl	35	85410.4	1.5				ug/L	29808	Standard
	Kr	83	43.2	4.7				ug/L	38	Standard
	Br	81	758.4	7.8				ug/L	965	Standard
	P	31	279852.2	1.9				ug/L	176735	Standard
	S	34	74267.5	3.3				ug/L	28891	Standard
	Sr	88	48.3	34.4				ug/L	27	Standard
	C	12	8.3	91.7				mg/L	7	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	3.3	173.2				mg/L	3	Standard
	Dy	164	10.2	15.0				mg/L	14	Standard
	Ho-1	165	5.7	44.4				mg/L	7	Standard
	Er	166	10.0					mg/L	8	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		136.008	
	Be	9	87.437		
	Al	27	104.677		
	Sc	45			
	Ti	47	129.568		
	V	51	104.221		
	Cr	52	98.783		
	Cr	53			
	Mn	55	95.376		
	Co	59	93.774		
	Ni	60	108.195		
	Cu	65	103.435		
	Zn	66	102.944		
>	Ge	72		91.468	
	As	75	101.331		
	Se	82	105.226		
	Se-1	77			
>	Ga	71			
	Rb	85			

Sample ID: QC Std 6
Report Date/Time: Tuesday, June 04, 2013 19:42:08
Page 2

Approved: June 05, 2013

Y	89			
> Rh	103			
Mo	98	92.642		
Ag	107	96.557		
Cd	111	97.042		
Cd	114			
> In	115			112.481
Sn	118	101.257		
Sb	123	98.682		
Ba	135	102.540		
Ce	140			
> Tb	159			
Ho	165			
Tl	203	100.996		
Tl	205			
Pb	206			
Pb	207			
Pb	208	101.650		
U	238	97.811		
> Bi	209			114.537
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 QC Std	Li	6	Rerun sample
QC Std 6	Be	9	
QC Std 6	Ti	47	

Sample ID: QC Std 6
Report Date/Time: Tuesday, June 04, 2013 19:42:08
Page 3

Approved: June 05, 2013

Method 6020 - Summary Report

Sample ID: QC Std 7
Sample Date/Time: Tuesday, June 04, 2013 19:43:02
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	741682.0	4.3				ug/L	552027	Standard
	Be	9	36.3	15.2	**0.0032**	0.002	53.5	ug/L	18	Standard
	Al	27	2297.5	25.9	**0.0004**	0.003	676.3	ug/L	841	Standard
	Sc	45	42225.4	1.3				ug/L	35084	Standard
	Ti	47	15.7	39.0	**-0.0055**	0.028	517.4	ug/L	22	Standard
	V	51	1109.7	5.7	**0.0752**	0.005	7.3	ug/L	812	Standard
	Cr	52	3797.8	2.1	**-0.0378**	0.013	34.0	ug/L	4274	Standard
	Cr	53	441.7	17.0	**-0.5654**	0.072	12.8	ug/L	1106	Standard
	Mn	55	1029.7	8.1	**-0.0196**	0.007	35.0	ug/L	1207	Standard
	Co	59	100.0	22.1	**0.0036**	0.004	104.5	ug/L	71	Standard
	Ni	60	89.7	20.0	**-0.0875**	0.009	10.3	ug/L	295	Standard
	Cu	65	93.7	3.7	**-0.0079**	0.002	20.8	ug/L	87	Standard
	Zn	66	442.0	7.4	**-0.2917**	0.021	7.3	ug/L	469	Standard
>	**Ge**	72	468118.8	3.2				ug/L	514704	Standard
	As	75	-74.7	39.6	**0.0442**	0.024	54.1	ug/L	-121	Standard
	Se	82	10.3	82.7	**0.0854**	0.073	85.9	ug/L	-1	Standard
	Se-1	77	98.0	14.2	**-0.1018**	0.150	147.0	ug/L	127	Standard
>	**Ga**	71	58.3	40.5				mg/L	175	Standard
	Rb	85	43.3	63.5				ug/L	50	Standard
	Y	89	548716.6	5.0				ug/L	527499	Standard
>	**Rh**	103	15.0	57.7				ug/L	10	Standard
	Mo	98	112.0	19.5	**0.0187**	0.004	22.4	ug/L	23	Standard
	Ag	107	69.0	16.5	**-0.0012**	0.002	134.9	ug/L	59	Standard
	Cd	111	7.9	21.7	**0.0023**	0.001	34.2	mg/L	3	Standard
	Cd	114	28.5	11.5	**0.0006**	0.001	137.7	ug/L	10	Standard
>	**In**	115	606647.3	3.4				ug/L	537195	Standard
	Sn	118	629.3	7.4	**0.0516**	0.012	23.1	ug/L	281	Standard
	Sb	123	1115.5	11.3	**0.2486**	0.023	9.1	ug/L	167	Standard
	Ba	135	25.7	41.3	**-0.0095**	0.006	58.7	ug/L	10	Standard
	Ce	140	14.3	17.6				ug/L	27	Standard
>	**Tb**	159	851832.7	2.6				ug/L	758170	Standard
	Ho	165	8.7	40.5				ug/L	7	Standard
	Tl	203	24.3	37.1	**0.0032**	0.002	47.3	ug/L	5	Standard
	Tl	205	2.0	100.0	**0.0201**	0.012	61.4	ug/L	0	Standard
	Pb	206	220.0	5.2	**-0.0014**	0.001	79.6	ug/L	182	Standard
	Pb	207	191.3	3.1	**0.0025**	0.002	85.7	ug/L	145	Standard
	Pb	208	278.3	13.8	**0.0021**	0.005	248.5	ug/L	207	Standard
	U	238	37.0	86.4	**0.0064**	0.006	93.9	ug/L	1	Standard
>	**Bi**	209	373217.3	2.8				ug/L	325207	Standard

Sample ID: QC Std 7
Report Date/Time: Tuesday, June 04, 2013 19:45:54
Page 1

Approved: June 05, 2013

	Na	23	3.3	86.6	**-0.6313**	0.397	62.9	mg/L	0	Standard
	Mg	24	48.3	21.5	**0.0026**	0.009	330.1	mg/L	25	Standard
	K	39	5.0	100.0	**0.0211**	0.076	362.4	mg/L	3	Standard
	Ca	43	175.0	20.0	**-0.4996**	0.098	19.6	mg/L	297	Standard
	Fe	54	181.1	18.8	**0.0624**	0.036	57.4	mg/L	91	Standard
	Fe	57	136.7	15.2	**-0.1886**	0.045	23.9	mg/L	237	Standard
>	**Sc-1**	45	42225.4	1.3				mg/L	35084	Standard
	Cl	35	83529.2	3.8				ug/L	29808	Standard
	Kr	83	37.1	5.7				ug/L	38	Standard
	Br	81	724.2	3.3				ug/L	965	Standard
	P	31	260543.0	5.0				ug/L	176735	Standard
	S	34	70892.4	4.8				ug/L	28891	Standard
	Sr	88	55.0	19.8				ug/L	27	Standard
	C	12	8.3	124.9				mg/L	7	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	1.7	173.2				mg/L	3	Standard
	Dy	164	7.6	45.4				mg/L	14	Standard
	Ho-1	165	8.7	40.5				mg/L	7	Standard
	Er	166	16.0	25.0				mg/L	8	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		134.356	
	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		90.949	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			

Sample ID: QC Std 7
Report Date/Time: Tuesday, June 04, 2013 19:45:54
Page 2

Approved: June 05, 2013

	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	112.929
	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	114.763
	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 QC Std	Li	6	Rerun sample
QC Std 7	Sb	123	

Sample ID: QC Std 7
Report Date/Time: Tuesday, June 04, 2013 19:45:54
Page 3

Approved: June 05, 2013

Method 6020 - Summary Report

Sample ID: QC Std 8
Sample Date/Time: Tuesday, June 04, 2013 19:46:50
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	738114.5	1.9				ug/L	552027	Standard
	Be	9	469.0	6.7	**0.1747**	0.010	5.7	ug/L	18	Standard
	Al	27	1343.4	67.0	**-0.0047**	0.005	106.1	ug/L	841	Standard
	Sc	45	42085.1	3.3				ug/L	35084	Standard
	Ti	47	18.3	8.3	**0.0083**	0.009	109.8	ug/L	22	Standard
	V	51	3365.7	3.6	**0.4846**	0.019	3.9	ug/L	812	Standard
	Cr	52	7634.3	5.8	**0.7632**	0.079	10.3	ug/L	4274	Standard
	Cr	53	1235.9	4.7	**0.2800**	0.081	29.0	ug/L	1106	Standard
	Mn	55	4651.4	1.0	**0.4752**	0.008	1.7	ug/L	1207	Standard
	Co	59	1962.5	11.9	**0.3636**	0.040	11.0	ug/L	71	Standard
	Ni	60	3489.1	8.6	**1.6203**	0.132	8.2	ug/L	295	Standard
	Cu	65	1752.4	10.5	**0.8201**	0.082	10.0	ug/L	87	Standard
	Zn	66	7042.3	9.5	**6.0433**	0.568	9.4	ug/L	469	Standard
>	**Ge**	72	468967.4	2.2				ug/L	514704	Standard
	As	75	340.0	5.9	**0.3947**	0.012	3.0	ug/L	-121	Standard
	Se	82	50.3	10.2	**0.4286**	0.040	9.3	ug/L	-1	Standard
	Se-1	77	132.0	6.6	**0.3385**	0.106	31.3	ug/L	127	Standard
>	**Ga**	71	63.3	18.2				mg/L	175	Standard
	Rb	85	40.0	12.5				ug/L	50	Standard
	Y	89	540647.4	1.0				ug/L	527499	Standard
>	**Rh**	103	3.3	173.2				ug/L	10	Standard
	Mo	98	62.2	44.9	**0.0070**	0.006	87.8	ug/L	23	Standard
	Ag	107	2318.5	10.9	**0.3712**	0.034	9.3	ug/L	59	Standard
	Cd	111	411.9	10.7	**0.2166**	0.019	8.8	mg/L	3	Standard
	Cd	114	1181.3	9.8	**0.2377**	0.019	8.1	ug/L	10	Standard
>	**In**	115	611220.4	2.0				ug/L	537195	Standard
	Sn	118	550.7	16.3	**0.0361**	0.019	52.4	ug/L	281	Standard
	Sb	123	2082.6	7.2	**0.4758**	0.027	5.7	ug/L	167	Standard
	Ba	135	1389.7	12.0	**0.7114**	0.075	10.5	ug/L	10	Standard
	Ce	140	16.7	18.3				ug/L	27	Standard
>	**Tb**	159	845661.5	2.1				ug/L	758170	Standard
	Ho	165	8.7	43.7				ug/L	7	Standard
	Tl	203	540.0	12.1	**0.0890**	0.011	12.2	ug/L	5	Standard
	Tl	205	15.3	19.9	**0.1052**	0.021	19.6	ug/L	0	Standard
	Pb	206	1210.4	5.6	**0.2070**	0.012	5.7	ug/L	182	Standard
	Pb	207	1044.0	2.1	**0.2136**	0.007	3.3	ug/L	145	Standard
	Pb	208	1446.7	8.3	**0.2040**	0.020	9.8	ug/L	207	Standard
	U	238	2009.1	9.4	**0.3948**	0.038	9.7	ug/L	1	Standard
>	**Bi**	209	373536.9	1.3				ug/L	325207	Standard

Sample ID: QC Std 8
Report Date/Time: Tuesday, June 04, 2013 19:49:42
Page 1

Approved: June 05, 2013

Na	23	0.0		**-1.0895**	0.000	0.0	mg/L	0	Standard
Mg	24	33.3	17.3	**-0.0104**	0.006	58.5	mg/L	25	Standard
K	39	8.3	124.9	**0.0747**	0.164	219.1	mg/L	3	Standard
Ca	43	170.0	16.4	**-0.5134**	0.066	12.8	mg/L	297	Standard
Fe	54	178.8	22.0	**0.0599**	0.033	55.6	mg/L	91	Standard
Fe	57	153.3	32.8	**-0.1456**	0.125	86.0	mg/L	237	Standard
> **Sc-1**	45	42085.1	3.3				mg/L	35084	Standard
Cl	35	81507.1	2.9				ug/L	29808	Standard
Kr	83	34.0	13.3				ug/L	38	Standard
Br	81	722.5	8.7				ug/L	965	Standard
P	31	253758.0	4.8				ug/L	176735	Standard
S	34	65617.7	3.7				ug/L	28891	Standard
Sr	88	45.8	17.5				ug/L	27	Standard
C	12	6.7	43.3				mg/L	7	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	1.7	173.2				mg/L	3	Standard
Dy	164	10.6	6.7				mg/L	14	Standard
Ho-1	165	8.7	43.7				mg/L	7	Standard
Er	166	14.3	20.1				mg/L	8	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
> Li	6		133.710	
Be	9	87.360		
Al	27			
Sc	45			
Ti	47			
V	51	121.162		
Cr	52	95.401		
Cr	53			
Mn	55	95.033		
Co	59	90.911		
Ni	60	101.266		
Cu	65	102.515		
Zn	66	96.692		
> Ge	72		91.114	
As	75	98.675		
Se	82	107.139		
Se-1	77			
> Ga	71			
Rb	85			

Sample ID: QC Std 8
Report Date/Time: Tuesday, June 04, 2013 19:49:42
Page 2

Approved: June 05, 2013

	Y	89		
>	Rh	103		
	Mo	98		
	Ag	107	92.801	
	Cd	111	90.239	
	Cd	114		
>	In	115		113.780
	Sn	118		
	Sb	123	118.959	
	Ba	135	94.858	
	Ce	140		
>	Tb	159		
	Ho	165		
	Tl	203	111.218	
	Tl	205		
	Pb	206		
	Pb	207		
	Pb	208	101.990	
	U	238	98.710	
>	Bi	209		114.861
	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 QC Std	Li	6	Rerun sample

Sample ID: QC Std 8
Report Date/Time: Tuesday, June 04, 2013 19:49:42
Page 3

Approved: June 05, 2013

2.1.3 Metals CVAA Data (Mercury)

2.1.3.1 Summary Data

Login Number: L13051304
Department: Metals - AA
Analyst: Pierce Morris

METHOD

Preparation: SW-846 7470

Analysis: SW-846 7470

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: All acceptance criteria were met.

Laboratory Control Sample: All acceptance criteria were met.

Serial Dilution/Post Digestion Spikes: WG432306 - All acceptance criteria were met.

Matrix Spikes: All acceptance criteria were met.

SAMPLES

Samples: All acceptance criteria were met.

Narrative ID: 65027
Approved By: Sheri Pfalzgraf

Microbac

Lab Report #: L13051304
Lab Project #: 3005.011
Project Name: White Sands MR
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L13051304-01	**PrePrep Method:**	N/A	**Instrument:**	CVAA1
Client ID:	SMW1-0513-1	**Prep Method:**	7470A	**Prep Date:**	05/28/2013 10:23
Matrix:	Water	**Analytical Method:**	7470A	**Cal Date:**	05/30/2013 13:42
Workgroup #:	WG432306	**Analyst:**	PDM	**Run Date:**	05/30/2013 15:00
Collect Date:	05/23/2013 10:42	**Dilution:**	1	**File ID:**	M7.053013.150041
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.

Microbac

Lab Report #: L13051304
Lab Project #: 3005.011
Project Name: White Sands MR
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L13051304-02	**PrePrep Method:**	N/A	**Instrument:**	CVAA1
Client ID:	SMW4-0513-1	**Prep Method:**	7470A	**Prep Date:**	05/28/2013 10:23
Matrix:	Water	**Analytical Method:**	7470A	**Cal Date:**	05/30/2013 13:42
Workgroup #:	WG432306	**Analyst:**	PDM	**Run Date:**	05/30/2013 15:03
Collect Date:	05/23/2013 12:20	**Dilution:**	1	**File ID:**	M7.053013.150314
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 #:	L13051304-03	**PrePrep Method:**	N/A	**Instrument:**	CVAA1
Client ID:	MPL25-0513-1	**Prep Method:**	7470A	**Prep Date:**	05/28/2013 10:23
Matrix:	Water	**Analytical Method:**	7470A	**Cal Date:**	05/30/2013 13:42
Workgroup #:	WG432306	**Analyst:**	PDM	**Run Date:**	05/30/2013 15:05
Collect Date:	05/23/2013 15:00	**Dilution:**	1	**File ID:**	M7.053013.150545
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

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: WG431890
Analyst: REK
Spike Analyst: REK
Method: 7470A
Run Date: 05/28/2013 08:18
Hotblock Start Temp: 93.2 @ 08:00
Hotblock End Temp: 95.6 @ 10:00
Instrument: HB5

SOP: ME404 Revison 14
Spike Solution: STD58145
Spike Witness: BRG
H2So4 FISHER Lot #: COA16421
HNO3 Lot #: COA16631
Digestion Tubes Lot #: COA16806
KMnO4 1:1 Lot #: RGT26362
K2S2O8 1:1 Lot #: RGT27069
Mercury Water ICV Lot #: STD58147
HG H2O STDS 10PPM Lot #: STD58153

	SAMPLE #	Type	Matrix	Initial Amount	Final Volume	Spike Amount	Due Date
1	WG431890-02	BLANK	1	40 mL	40 mL		
2	WG431890-04	FLT_BLK	1	40 mL	40 mL		
3	WG431890-03	LCS	1	40 mL	40 mL	4 mL	
4	L13051157-01	SAMP	1	40 mL	40 mL		05/31/13
5	L13051157-02	SAMP	1	40 mL	40 mL		05/31/13
6	L13051157-03	SAMP	1	40 mL	40 mL		05/31/13
7	L13051157-04	SAMP	1	40 mL	40 mL		05/31/13
8	L13051157-05	SAMP	1	40 mL	40 mL		05/31/13
9	L13051157-06	SAMP	1	40 mL	40 mL		05/31/13
10	L13051157-07	SAMP	1	40 mL	40 mL		05/31/13
11	L13051157-08	SAMP	1	40 mL	40 mL		05/31/13
12	WG431890-01	REF	1	40 mL	40 mL		
13	L13051296-01	RS01	1	40 mL	40 mL		05/31/13
14	WG431890-05	MS	1	36 mL	40 mL	4 mL	
15	L13051296-02	MS01	1	36 mL	40 mL	4 mL	05/31/13
16	WG431890-06	MSD	1	36 mL	40 mL	4 mL	
17	L13051296-03	SD01	1	36 mL	40 mL	4 mL	05/31/13
18	L13051296-04	SAMP	1	40 mL	40 mL		05/31/13
19	L13051296-05	SAMP	1	40 mL	40 mL		05/31/13
20	L13051296-06	SAMP	1	40 mL	40 mL		05/31/13
21	L13051296-07	SAMP	1	40 mL	40 mL		05/31/13
22	L13051296-08	SAMP	1	40 mL	40 mL		05/31/13
23	L13051296-09	SAMP	1	40 mL	40 mL		05/31/13
24	L13051296-10	SAMP	1	40 mL	40 mL		05/31/13
25	L13051304-01	SAMP	1	40 mL	40 mL		06/04/13
26	L13051304-02	SAMP	1	40 mL	40 mL		06/04/13
27	L13051304-03	SAMP	1	40 mL	40 mL		06/04/13

Analyst: [signature]

Reviewer: Erin Potter

* 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: 2894802
Report generated: 05/28/2013 10:23

Microbac Laboratories Inc.

Instrument Run Log

Instrument: CVAA1 Dataset: 053013C.CSV
Analyst1: PDM Analyst2: N/A
Method: 7470 SOP: ME404 Rev: 14
Maintenance Log ID: 46138

Calibration Std: STD58153 ICV Std: STD58147 Post Spike: STD58153
ICSA: N/A ICSAB: N/A Int. Std:
CCV: LLCCV: Tuning Sol :
Stannous : RGT26183 Hydroxylamine : RGT26602

Workgroups: 432306,432307

Comments:

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
1	M7.053013.132925	WG432450-01	Calibration Point		1		05/30/13 13:29
2	M7.053013.133156	WG432450-02	Calibration Point		1		05/30/13 13:31
3	M7.053013.133428	WG432450-03	Calibration Point		1		05/30/13 13:34
4	M7.053013.133701	WG432450-04	Calibration Point		1		05/30/13 13:37
5	M7.053013.133934	WG432450-05	Calibration Point		1		05/30/13 13:39
6	M7.053013.134207	WG432450-06	Calibration Point		1		05/30/13 13:42
7	M7.053013.134442	WG432450-07	Initial Calibration Verification		1		05/30/13 13:44
8	M7.053013.134712	WG432450-08	Initial Calib Blank		1		05/30/13 13:47
9	M7.053013.134945	WG432450-09	CCV		1		05/30/13 13:49
10	M7.053013.135216	WG432450-10	CCB		1		05/30/13 13:52
11	M7.053013.135447	WG431890-02	Method/Prep Blank	40/40	1		05/30/13 13:54
12	M7.053013.135718	WG431890-03	Laboratory Control S	40/40	1		05/30/13 13:57
13	M7.053013.135949	WG431890-04	Filter Blank		1		05/30/13 13:59
14	M7.053013.140221	L13051157-01	FLUME	40/40	1		05/30/13 14:02
15	M7.053013.140453	WG432306-01	Post Digestion Spike		1	L13051157-01	05/30/13 14:04
16	M7.053013.140725	L13051157-02	FLUME	40/40	1		05/30/13 14:07
17	M7.053013.140958	L13051157-03	201-EFF	40/40	1		05/30/13 14:09
18	M7.053013.141230	L13051157-04	201-EFF	40/40	1		05/30/13 14:12
19	M7.053013.141503	L13051157-05	202-EFF	40/40	1		05/30/13 14:15
20	M7.053013.141737	L13051157-06	202-EFF	40/40	1		05/30/13 14:17
21	M7.053013.142009	WG432450-11	CCV		1		05/30/13 14:20
22	M7.053013.142240	WG432450-12	CCB		1		05/30/13 14:22
23	M7.053013.142514	L13051157-07	EMERGENCY BASIN	40/40	1		05/30/13 14:25
24	M7.053013.142748	L13051157-08	EMERGENCY BASIN	40/40	1		05/30/13 14:27
25	M7.053013.143018	WG431890-01	Reference Sample	40/40	1	L13051296-01	05/30/13 14:30
26	M7.053013.143249	L13051296-02	MW013-GW-052013MS	36/40	1	WG431890-05	05/30/13 14:32
27	M7.053013.143520	L13051296-03	MW013-GW-052013MSD	36/40	1	WG431890-06	05/30/13 14:35
28	M7.053013.143751	L13051296-04	MW011-GW-052113	40/40	1		05/30/13 14:37
29	M7.053013.144022	L13051296-05	MW012-GW-052113	40/40	1		05/30/13 14:40
30	M7.053013.144254	L13051296-06	FLF-EB01-052113	40/40	1		05/30/13 14:42
31	M7.053013.144526	L13051296-07	MW07D-GW-052213	40/40	1		05/30/13 14:45
32	M7.053013.144758	L13051296-08	MW06D-GW-052213	40/40	1		05/30/13 14:47
33	M7.053013.145031	WG432450-13	CCV		1		05/30/13 14:50
34	M7.053013.145302	WG432450-14	CCB		1		05/30/13 14:53

Page: 1 Approved: May 31, 2013

Microbac Laboratories Inc.

Instrument Run Log

Instrument: CVAA1 Dataset: 053013C.CSV
Analyst1: PDM Analyst2: N/A
Method: 7470 SOP: ME404 Rev: 14
Maintenance Log ID: 46138

Calibration Std: STD58153 ICV Std: STD58147 Post Spike: STD58153
ICSA: N/A ICSAB: N/A Int. Std:
CCV: LLCCV: Tuning Sol :
Stannous : RGT26183 Hydroxylamine : RGT26602

Workgroups: 432306,432307

Comments:

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
35	M7.053013.145534	L13051296-09	MW05D-GW-052213	40/40	1		05/30/13 14:55
36	M7.053013.145807	L13051296-10	MW05D-GW-052213D	40/40	1		05/30/13 14:58
37	M7.053013.150041	L13051304-01	SMW1-0513-1	40/40	1		05/30/13 15:00
38	M7.053013.150314	L13051304-02	SMW4-0513-1	40/40	1		05/30/13 15:03
39	M7.053013.150545	L13051304-03	MPL25-0513-1	40/40	1		05/30/13 15:05
40	M7.053013.150817	WG432450-15	CCV		1		05/30/13 15:08
41	M7.053013.151048	WG432450-16	CCB		1		05/30/13 15:10
42	M7.053013.151319	WG431905-03	Method/Prep Blank	40/40	1		05/30/13 15:13
43	M7.053013.151550	WG431905-04	Laboratory Control S	40/40	1		05/30/13 15:15
44	M7.053013.151821	WG431905-01	Reference Sample	40/40	1	L13051262-01	05/30/13 15:18
45	M7.053013.152052	WG431905-02	Reference Sample	40/40	1	L13051262-02	05/30/13 15:20
46	M7.053013.152324	L13051262-03	TW16D/MS	36/40	1	WG431905-05	05/30/13 15:23
47	M7.053013.152556	WG432450-17	CCV		1		05/30/13 15:25
48	M7.053013.152827	WG432450-18	CCB		1		05/30/13 15:28
49	M7.053013.153059	L13051262-04	TW16D/MS	36/40	1	WG431905-07	05/30/13 15:30
50	M7.053013.153332	L13051262-05	TW16D/MSD	36/40	1	WG431905-06	05/30/13 15:33
51	M7.053013.153604	L13051262-06	TW16D/MSD	36/40	1	WG431905-08	05/30/13 15:36
52	M7.053013.153837	L13051262-07	TW16S	40/40	1		05/30/13 15:38
53	M7.053013.154111	L13051262-08	TW16S	40/40	1		05/30/13 15:41
54	M7.053013.154344	WG432307-01	Post Digestion Spike		1	L13051262-08	05/30/13 15:43
55	M7.053013.154615	L13051262-09	TW11D	40/40	1		05/30/13 15:46
56	M7.053013.154846	L13051262-10	TW11D	40/40	1		05/30/13 15:48
57	M7.053013.155117	L13051262-11	TW11S	40/40	1		05/30/13 15:51
58	M7.053013.155348	L13051262-12	TW11S	40/40	1		05/30/13 15:53
59	M7.053013.155621	WG432450-19	CCV		1		05/30/13 15:56
60	M7.053013.155852	WG432450-20	CCB		1		05/30/13 15:58
61	M7.053013.160123	L13051262-13	TW78	40/40	1		05/30/13 16:01
62	M7.053013.160355	L13051262-14	TW78	40/40	1		05/30/13 16:03
63	M7.053013.160627	L13051262-15	TW59D	40/40	1		05/30/13 16:06
64	M7.053013.160859	L13051262-16	TW59D	40/40	1		05/30/13 16:08
65	M7.053013.161132	L13051262-18	SL20	40/40	1		05/30/13 16:11
66	M7.053013.161404	L13051262-19	SL20	40/40	1		05/30/13 16:14
67	M7.053013.161637	WG432450-21	CCV		1		05/30/13 16:16
68	M7.053013.161908	WG432450-22	CCB		1		05/30/13 16:19

Page: 2 Approved: May 31, 2013

Microbac Laboratories Inc.

Data Checklist

Date: 30-MAY-2013
Analyst: PDM
Analyst: NA
Method: 7470
Instrument: CVAA1
Curve Workgroup: 432450
Runlog ID: 53509
Analytical Workgroups: 432306,432307

Calibration/Linearity	X
ICV/CCV	X
ICV RSD <= 3% (EPA 200.7 only)	
ICB/CCB	X
ICSA/ICSAB	
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	1262,1296,1304
Client Forms	X
Level X	
Level 3	1296
Level 4	1262,1304
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	SLP
Comments	

Primary Reviewer: 31-MAY-2013 Pierce Morris

Secondary Reviewer: 31-MAY-2013 Sheri L. Pabgrat

CHECKLIST1 - Modified 03/05/2008
Generated: MAY-31-2013 15:11:03

Microbac Laboratories Inc.

HOLDING TIMES
EQUIVALENT TO AFCEE FORM 9

Analytical Method: 7470A

AAB#: WG432306

Login Number: L13051304

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
SMW1-0513-1	01	05/23/13					05/28/2013	5	28		05/30/13	7.2	28	
SMW4-0513-1	02	05/23/13					05/28/2013	4.9	28		05/30/13	7.1	28	
MPL25-0513-1	03	05/23/13					05/28/2013	4.8	28		05/30/13	7	28	

* = SEE PROJECT QAPP REQUIREMENTS

HOLD_TIMES - Modified 03/06/2008
PDF File ID: 2903272
Report generated 05/31/2013 14:06

Microbac Laboratories Inc.

METHOD BLANK SUMMARY

Login Number: L13051304
Blank File ID: M7.053013.135447
Prep Date: 05/28/13 08:18
Analyzed Date: 05/30/13 13:54
Analyst: PDM

Work Group: WG432306
Blank Sample ID: WG431890-02
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	WG431890-03	M7.053013.135718	05/30/13 13:57	01
FLT_BLK	WG431890-04	M7.053013.135949	05/30/13 13:59	01
SMW1-0513-1	L13051304-01	M7.053013.150041	05/30/13 15:00	01
SMW4-0513-1	L13051304-02	M7.053013.150314	05/30/13 15:03	01
MPL25-0513-1	L13051304-03	M7.053013.150545	05/30/13 15:05	01

Report Name: BLANK_SUMMARY
PDF File ID: 2903273
Report generated 05/31/2013 14:06

Microbac Laboratories Inc.

METHOD BLANK REPORT

Login Number: L13051304 Prep Date: 05/28/13 08:18 Sample ID: WG431890-02
Instrument ID: CVAA1 Run Date: 05/30/13 13:54 Prep Method: 7470A
File ID: M7.053013.135447 Analyst: PDM Method: 7470A
Workgroup (AAB#): WG432306 Matrix: Water Units: mg/L
Contract #: Cal ID: CVAA1-30-MAY-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: 2903274
31-MAY-2013 14:06

Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L13051304 Run Date: 05/30/2013 Sample ID: WG431890-03
Instrument ID: CVAA1 Run Time: 13:57 Prep Method: 7470A
File ID: M7.053013.135718 Analyst: PDM Method: 7470A
Workgroup (AAB#): WG432306 Matrix: Water Units: mg/L
QC Key: DOD4 Lot#: STD58145 Cal ID: CVAA1-30-MAY-13

Analytes	Expected	Found	% Rec	LCS Limits	Q
Mercury	0.00400	0.00415	104	80 - 120	

LCS - Modified 03/06/2008
PDF File ID: 2903275
Report generated: 05/31/2013 14:06

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

Loginnum: L13051304 Cal ID: CVAA1 - Worknum: WG432306
Instrument ID: CVAA1 Contract #: Method: 7470A
Parent ID: WG431890-01 File ID: M7.053013.143018 Dil: 1 Matrix: WATER
Sample ID: WG431890-05 MS File ID: M7.053013.143249 Dil: 1 Units: mg/L
Sample ID: WG431890-06 MSD File ID: M7.053013.143520 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	0.00351	78.9	0.00444	0.00393	88.4	11.4	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: 2906516
Report generated 06/03/2013 14:39

Microbac Laboratories Inc.
POST SPIKE REPORT

Sample Login ID: L13051304 **Worknum:** WG432306
Instrument ID: CVAA1 **Method:** 7470A
Post Spike ID: WG432306-01 **File ID:** M7.053013.140453 **Dil:** 1 **Units:** ug/L
Sample ID: L13051157-01 **File ID:** M7.053013.140221 **Dil:** 1 **Matrix:** Water

Analyte	Post Spike Result	C	Sample Result	C	Spike Added(SA)	% R	Control Limit %R	Q
MERCURY	0.965		0	U	1	96.5	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: 2903271
Report generated: 05/31/2013 14:06

Microbac Laboratories Inc.

INITIAL CALIBRATION SUMMARY

Login Number: L13051304
Analytical Method: 7470A
ICAL Worknum: WG432450

Workgroup (AAB#): WG432306
Instrument ID: CVAA1
Initial Calibration Date: 05/30/2013 13:42

Analyte	WG432450-01		WG432450-02		WG432450-03		WG432450-04		WG432450-05		WG432450-06	
	STD	INT	STD	INT	STD	INT	STD	INT	STD	INT	STD	INT
Mercury	0	48.06	0.200	1819	1.00	8478	2.00	18910	5.00	46410	10.0	91390

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: 2903277
Report generated 05/31/2013 14:06

Microbac Laboratories Inc.

INITIAL CALIBRATION SUMMARY

Login Number: L13051304
Analytical Method: 7470A
ICAL Worknum: WG432450

Workgroup (AAB#): WG432306
Instrument ID: CVAA1
Initial Calibration Date: 05/30/2013 13:42

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: 2903277
Report generated 05/31/2013 14:06

Microbac Laboratories Inc.
INITIAL CALIBRATION BLANK (ICB)

Login Number: L13051304
Instrument ID: CVAA1
File ID: M7.053013.134712
Workgroup (AAB#): WG432306
Matrix: WATER

Run Date: 05/30/2013
Run Time: 13:47
Analyst: PDM
Cal ID: CVAA1 - 30-MAY-13

Sample ID: WG432450-08
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: 2903281
Report generated 05/31/2013 14:06

Microbac Laboratories Inc.

CONTINUING CALIBRATION BLANK (CCB)

Login Number: L13051304
Run Date: 05/30/2013
Sample ID: WG432450-10
Instrument ID: CVAA1
Run Time: 13:52
Method: 7470A
File ID: M7.053013.135216
Analyst: PDM
Units: ug/L
Workgroup (AAB#): WG432306
Cal ID: CVAA1 - 30-MAY-13
Matrix: WATER
QAPP: DOD4

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: 2903285
Report generated 05/31/2013 14:06

Microbac Laboratories Inc.

CONTINUING CALIBRATION BLANK (CCB)

Login Number: L13051304
Run Date: 05/30/2013
Sample ID: WG432450-12
Instrument ID: CVAA1
Run Time: 14:22
Method: 7470A
File ID: M7.053013.142240
Analyst: PDM
Units: ug/L
Workgroup (AAB#): WG432306
Cal ID: CVAA1 - 30-MAY-13
Matrix: WATER
QAPP: DOD4

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: 2903285
Report generated 05/31/2013 14:06

Microbac Laboratories Inc.

CONTINUING CALIBRATION BLANK (CCB)

Login Number: L13051304
Run Date: 05/30/2013
Sample ID: WG432450-14
Instrument ID: CVAA1
Run Time: 14:53
Method: 7470A
File ID: M7.053013.145302
Analyst: PDM
Units: ug/L
Workgroup (AAB#): WG432306
Cal ID: CVAA1 - 30-MAY-13
Matrix: WATER
QAPP: DOD4

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: 2903285
Report generated 05/31/2013 14:06

Microbac Laboratories Inc.

CONTINUING CALIBRATION BLANK (CCB)

Login Number: L13051304
Run Date: 05/30/2013
Sample ID: WG432450-16
Instrument ID: CVAA1
Run Time: 15:10
Method: 7470A
File ID: M7.053013.151048
Analyst: PDM
Units: ug/L
Workgroup (AAB#): WG432306
Cal ID: CVAA1 - 30-MAY-13
Matrix: WATER
QAPP: DOD4

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: 2903285
Report generated 05/31/2013 14:06

Microbac Laboratories Inc.

INITIAL CALIBRATION VERIFICATION (ICV)
(Alternate Source)

Login Number: L13051304 Run Date: 05/30/2013 Sample ID: WG432450-07
Instrument ID: CVAA1 Run Time: 13:44 Method: 7470A
File ID: M7.053013.134442 Analyst: PDM Units: ug/L
Workgroup (AAB#): WG432306 Cal ID: CVAA1 - 30-MAY-13
QC Key: DOD4

Analyte		Expected	Found	%REC	LIMITS	Q
Mercury		2	1.99	99.5	90 - 110	

* Exceeds LIMITS Limit

ICV - Modified 03/06/2008
PDF File ID: 2903279
Report generated 05/31/2013 14:06

Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L13051304
Run Date: 05/30/2013
Sample ID: WG432450-09
Instrument ID: CVAA1
Run Time: 13:49
Method: 7470A
File ID: M7.053013.134945
Analyst: PDM
QC Key: DOD4
Workgroup (AAB#): WG432306
Cal ID: CVAA1 - 30-MAY-13
Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Mercury, Total		0.00200	0.00199	mg/L	99.7	80 - 120		

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008
PDF File ID: 2903283
Report generated 05/31/2013 14:06

Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L13051304
Instrument ID: CVAA1
File ID: M7.053013.142009
Workgroup (AAB#): WG432306
Matrix: WATER

Run Date: 05/30/2013
Run Time: 14:20
Analyst: PDM
Cal ID: CVAA1 - 30-MAY-13

Sample ID: WG432450-11
Method: 7470A
QC Key: DOD4

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Mercury, Total		0.00200	0.00191	mg/L	95.6	80 - 120		

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008
PDF File ID: 2903283
Report generated 05/31/2013 14:06

Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L13051304
Run Date: 05/30/2013
Sample ID: WG432450-13
Instrument ID: CVAA1
Run Time: 14:50
Method: 7470A
File ID: M7.053013.145031
Analyst: PDM
QC Key: DOD4
Workgroup (AAB#): WG432306
Cal ID: CVAA1 - 30-MAY-13
Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Mercury, Total		0.00200	0.00200	mg/L	100	80 - 120		

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008
PDF File ID: 2903283
Report generated 05/31/2013 14:06

Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L13051304
Run Date: 05/30/2013
Sample ID: WG432450-15
Instrument ID: CVAA1
Run Time: 15:08
Method: 7470A
File ID: M7.053013.150817
Analyst: PDM
QC Key: DOD4
Workgroup (AAB#): WG432306
Cal ID: CVAA1 - 30-MAY-13
Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Mercury, Total		0.00200	0.00204	mg/L	102	80 - 120		

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008
PDF File ID: 2903283
Report generated 05/31/2013 14:06

2.1.3.3 Raw Data

PDM

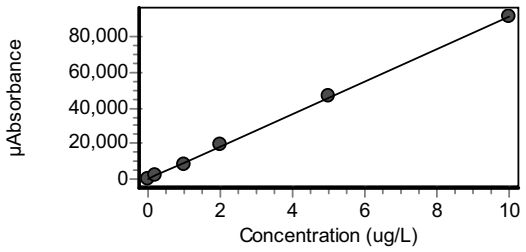
Report Generated By CETAC QuickTrace
Analyst: Mercury Analyzer
Worksheet file: C:\Program Files\QuickTrace\Worksheets\053013C.wsz
Date Started: 5/30/2013 1:22:14 PM
Comment:

Results

Sample Name					Type	Date/Time	Conc (ug/L)	µAbs	%RSD	Flags	DF
Standard #0					STD	05/30/13 01:29:25 pm	0.0000	48	15.33		1.00
Replicates	42.6	58.9	44.9	45.8							
Standard #1 (0.2 ug/L)					STD	05/30/13 01:31:56 pm	0.2000	1819	0.84		1.00
Replicates	1832.2	1830.3	1801.1	1810.5							
Standard #2 (1.0 ug/L)					STD	05/30/13 01:34:28 pm	1.0000	8478	0.68		1.00
Replicates	8410.5	8456.5	8500.2	8543.9							
Standard #3 (2.0 ug/L)					STD	05/30/13 01:37:01 pm	2.0000	18915	0.36		1.00
Replicates	18828.3	18896.6	18944.9	18988.8							
Standard #4 (5.0 ug/L)					STD	05/30/13 01:39:34 pm	5.0000	46412	0.28		1.00
Replicates	46245.0	46386.7	46459.2	46555.7							
Standard #5 (10.0 ug/L)					STD	05/30/13 01:42:07 pm	10.0000	91391	0.41		1.00
Replicates	90934.0	91274.9	91547.6	91808.7							

Calibration

Equation: A = 41.545 + 9165.533C
R2: 0.99981
SEE: 551.4822
Flags:



ICV					ICV	05/30/13 01:44:42 pm	1.9900	18280	0.95		1.00
Replicates	18139.1	18184.3	18272.3	18526.1							
% Recovery	99.50										

Approved: 05/31/2013 14:40
Pierce Morris

Sample Name					Type	Date/Time	Conc (ug/L)	µAbs	%RSD	Flags	DF
ICB					ICB	05/30/13 01:47:12 pm	-0.0013	30	26.95		1.00
	Replicates	23.4	32.3	23.3	40.0						
CCV					CCV	05/30/13 01:49:45 pm	1.9930	18305	0.52		1.00
	Replicates	18188.9	18283.3	18330.3	18417.0						
	% Recovery	99.63									
CCB					CCB	05/30/13 01:52:16 pm	-0.0021	22	41.88		1.00
	Replicates	27.8	30.4	9.4	21.7						
WG431890-02					UNK	05/30/13 01:54:47 pm	-0.0027	17	89.45		1.00
	Replicates	36.6	21.8	3.6	6.3						
WG431890-03					UNK	05/30/13 01:57:18 pm	4.1480	38065	4.25		1.00
	Replicates	39949.1	38752.4	37295.7	36261.7						
WG431890-04					UNK	05/30/13 01:59:49 pm	-0.0039	6	185.57		1.00
	Replicates	-2.2	16.7	-4.6	13.4						
L1305115701					UNK	05/30/13 02:02:21 pm	0.0021	61	15.47		1.00
	Replicates	68.2	48.8	57.6	68.3						
WG432306-01					UNK	05/30/13 02:04:53 pm	0.9649	8885	0.07		1.00
	Replicates	8883.4	8888.2	8877.2	8892.3						
L1305115702					UNK	05/30/13 02:07:25 pm	-0.0045	1	167.96		1.00
	Replicates	1.5	-8.1	0.8	8.1						
L1305115703					UNK	05/30/13 02:09:58 pm	0.0016	56	18.85		1.00
	Replicates	68.4	42.7	55.4	59.4						
L1305115704					UNK	05/30/13 02:12:30 pm	-0.0022	21	81.08		1.00
	Replicates	18.0	8.8	12.2	47.0						
L1305115705					UNK	05/30/13 02:15:03 pm	0.0017	57	29.27		1.00
	Replicates	31.9	65.4	66.6	63.1						

Approved: 05/31/2013 14:40

Pierce Morris

Sample Name					Type	Date/Time	Conc (ug/L)	µAbs	%RSD	Flags	DF
L1305115706					UNK	05/30/13 02:17:37 pm	-0.0006	36	28.11		1.00
Replicates	44.2	21.3	37.6	40.1							
CCV					CCV	05/30/13 02:20:09 pm	1.9120	17568	1.16		1.00
Replicates	17836.2	17465.7	17367.4	17601.7							
% Recovery	95.61										
CCB					CCB	05/30/13 02:22:40 pm	-0.0027	16	46.43		1.00
Replicates	5.7	20.4	16.4	22.9							
L1305115707					UNK	05/30/13 02:25:14 pm	0.0020	60	4.50		1.00
Replicates	56.8	60.9	63.4	59.7							
L1305115708					UNK	05/30/13 02:27:48 pm	0.0001	42	33.06		1.00
Replicates	42.3	45.0	57.3	23.7							
L1305129601					UNK	05/30/13 02:30:18 pm	-0.0007	35	22.07		1.00
Replicates	27.2	43.0	29.9	40.4							
WG431890-05					UNK	05/30/13 02:32:49 pm	3.1570	28974	2.20		1.00
Replicates	28569.8	28442.6	29033.1	29852.4							
WG431890-06					UNK	05/30/13 02:35:20 pm	3.5380	32465	0.32		1.00
Replicates	32352.4	32418.6	32493.6	32594.8							
L1305129604					UNK	05/30/13 02:37:51 pm	-0.0002	40	62.43		1.00
Replicates	37.9	53.8	5.5	61.1							
L1305129605					UNK	05/30/13 02:40:22 pm	-0.0009	33	44.86		1.00
Replicates	54.9	23.8	25.0	28.0							
L1305129606					UNK	05/30/13 02:42:54 pm	-0.0006	36	12.91		1.00
Replicates	40.2	29.5	38.1	36.6							
L1305129607					UNK	05/30/13 02:45:26 pm	0.0013	53	14.53		1.00
Replicates	48.2	61.9	57.4	45.4							

Approved: 05/31/2013 14:40

Pierce Morris

Sample Name					Type	Date/Time	Conc (ug/L)	µAbs	%RSD	Flags	DF
L1305129608					UNK	05/30/13 02:47:58 pm	0.0020	60	18.82		1.00
Replicates	65.5	63.0	43.7	69.0							
CCV					CCV	05/30/13 02:50:31 pm	2.0040	18409	0.46		1.00
Replicates	18305.1	18392.0	18428.3	18509.8							
% Recovery	100.20										
CCB					CCB	05/30/13 02:53:02 pm	-0.0021	22	76.64		1.00
Replicates	29.9	42.9	7.3	9.3							
L1305129609					UNK	05/30/13 02:55:34 pm	-0.0027	16	68.51		1.00
Replicates	6.2	32.1	15.5	11.6							
L1305129610					UNK	05/30/13 02:58:07 pm	-0.0034	11	134.81		1.00
Replicates	12.6	6.5	28.6	-5.5							
L1305130401					UNK	05/30/13 03:00:41 pm	-0.0017	26	54.51		1.00
Replicates	37.8	32.3	27.6	5.6							
L1305130402					UNK	05/30/13 03:03:14 pm	-0.0007	35	32.10		1.00
Replicates	21.5	35.0	33.7	48.7							
L1305130403					UNK	05/30/13 03:05:45 pm	-0.0016	27	22.21		1.00
Replicates	26.5	21.6	34.8	23.1							
CCV					CCV	05/30/13 03:08:17 pm	2.0380	18718	0.41		1.00
Replicates	18622.2	18699.2	18749.2	18802.7							
% Recovery	101.89										
CCB					CCB	05/30/13 03:10:48 pm	-0.0007	35	31.26		1.00
Replicates	48.8	30.2	39.5	23.4							
WG431905-03					UNK	05/30/13 03:13:19 pm	-0.0030	14	64.73		1.00
Replicates	8.0	6.7	26.9	15.5							
WG431905-04					UNK	05/30/13 03:15:50 pm	4.2870	39330	0.31		1.00
Replicates	39203.5	39266.6	39361.6	39487.8							

Approved: 05/31/2013 14:40

Pierce Morris

Sample Name					Type	Date/Time	Conc (ug/L)	µAbs	%RSD	Flags	DF
L1305126201					UNK	05/30/13 03:18:21 pm	-0.0039	6	91.39		1.00
Replicates	13.1	0.9	4.1	4.6							
L1305126202					UNK	05/30/13 03:20:52 pm	-0.0028	16	41.73		1.00
Replicates	16.6	6.7	18.2	22.6							
WG431905-05					UNK	05/30/13 03:23:24 pm	4.2230	38745	0.35		1.00
Replicates	38593.1	38690.6	38790.4	38905.9							
CCV					CCV	05/30/13 03:25:56 pm	2.0500	18828	0.32		1.00
Replicates	18760.5	18798.2	18853.5	18899.0							
% Recovery	102.48										
CCB					CCB	05/30/13 03:28:27 pm	-0.0029	15	75.77		1.00
Replicates	6.0	6.0	29.7	18.2							
WG431905-07					UNK	05/30/13 03:30:59 pm	4.2230	38750	0.44		1.00
Replicates	38580.0	38656.8	38800.6	38963.4							
WG431905-06					UNK	05/30/13 03:33:32 pm	4.0600	37255	1.06		1.00
Replicates	36773.7	37158.7	37376.5	37711.5							
WG431905-08					UNK	05/30/13 03:36:04 pm	4.1540	38116	0.33		1.00
Replicates	37969.0	38070.6	38157.4	38268.7							
L1305126207					UNK	05/30/13 03:38:37 pm	0.1503	1419	10.14		1.00
Replicates	1586.4	1476.1	1358.5	1254.3							
L1305126208					UNK	05/30/13 03:41:11 pm	-0.0060	-14	213.69		1.00
Replicates	18.7	-5.3	-16.3	-52.5							
WG432307-01					UNK	05/30/13 03:43:44 pm	1.0550	9712	0.05		1.00
Replicates	9713.6	9705.9	9716.2	9711.5							
L1305126209					UNK	05/30/13 03:46:15 pm	-0.0012	31	78.87		1.00
Replicates	53.9	27.1	43.2	-1.6							

Approved: 05/31/2013 14:40
Pierce Morris

Sample Name					Type	Date/Time	Conc (ug/L)	µAbs	%RSD	Flags	DF
L1305126210					UNK	05/30/13 03:48:46 pm	-0.0124	-72	25.96		1.00
Replicates	-55.8	-81.6	-93.7	-57.1							
L1305126211					UNK	05/30/13 03:51:17 pm	0.0262	282	12.14		1.00
Replicates	306.2	241.1	314.0	266.6							
L1305126212					UNK	05/30/13 03:53:48 pm	-0.0141	-87	9.16		1.00
Replicates	-88.7	-88.8	-76.3	-95.5							
CCV					CCV	05/30/13 03:56:21 pm	1.9400	17818	0.73		1.00
Replicates	17670.2	17768.0	17859.7	17974.5							
% Recovery	96.98										
CCB					CCB	05/30/13 03:58:52 pm	0.0041	79	70.13		1.00
Replicates	155.2	80.7	49.4	29.5							
L1305126213					UNK	05/30/13 04:01:23 pm	0.0010	50	23.03		1.00
Replicates	56.8	33.6	59.3	52.0							
L1305126214					UNK	05/30/13 04:03:55 pm	-0.0136	-83	13.99		1.00
Replicates	-83.3	-66.9	-94.4	-86.7							
L1305126215					UNK	05/30/13 04:06:27 pm	-0.0129	-76	14.65		1.00
Replicates	-60.9	-76.0	-81.6	-86.8							
L1305126216					UNK	05/30/13 04:08:59 pm	-0.0108	-58	25.92		1.00
Replicates	-49.6	-40.6	-68.3	-71.8							
L1305126218					UNK	05/30/13 04:11:32 pm	-0.0142	-89	19.44		1.00
Replicates	-82.7	-105.3	-67.5	-100.3							
L1305126219					UNK	05/30/13 04:14:04 pm	-0.0156	-101	14.13		1.00
Replicates	-86.7	-93.5	-119.3	-105.0							
CCV					CCV	05/30/13 04:16:37 pm	1.9720	18120	0.35		1.00
Replicates	18042.1	18096.4	18156.2	18186.7							
% Recovery	98.62										

Approved: 05/31/2013 14:40

Pierce Morris

Sample Name					Type	Date/Time	Conc (ug/L)	µAbs	%RSD	Flags	DF
CCB					CCB	05/30/13 04:19:08 pm	0.0044	81	51.80		1.00
	Replicates	128.2	99.1	69.1	29.6						

Approved: 05/31/2013 14:40

Pierce Morris

2.2 General Chemistry Data

2.2.1 Method 9056

2.2.1.1 Summary Data

Login Number: L13051304
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: Fraction 03 was analyzed at a dilution due to concentrations of the target analyte(s) 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: 65243
Approved By: Eric Lawson

Microbac

Lab Report #: L13051304
Lab Project #: 3005.011
Project Name: White Sands MR
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #: L13051304-01
Client ID: SMW1-0513-1
Matrix: Water
Workgroup #: WG432674
Collect Date: 05/23/2013 10:42
Sample Tag: 01

PrePrep Method: N/A
Prep Method: 300.0
Analytical Method: 300.0
Analyst: JBK
Dilution: 1
Units: mg/L

Instrument: IC1
Prep Date: 06/03/2013 12:24
Cal Date: 05/01/2013 13:02
Run Date: 06/03/2013 13:34
File ID: I1_060313-07

Analyte	CAS #	Result	Qual	LOQ	LOD
Chloride	16887-00-6	18.2		0.200	0.100
Sulfate	14808-79-8	61.2		1.00	0.500

Sample #: L13051304-02
Client ID: SMW4-0513-1
Matrix: Water
Workgroup #: WG432674
Collect Date: 05/23/2013 12:20
Sample Tag: 01

PrePrep Method: N/A
Prep Method: 300.0
Analytical Method: 300.0
Analyst: JBK
Dilution: 1
Units: mg/L

Instrument: IC1
Prep Date: 06/03/2013 12:24
Cal Date: 05/01/2013 13:02
Run Date: 06/03/2013 13:53
File ID: I1_060313-08

Analyte	CAS #	Result	Qual	LOQ	LOD
Chloride	16887-00-6	23.2		0.200	0.100
Sulfate	14808-79-8	56.9		1.00	0.500

Sample #: L13051304-03
Client ID: MPL25-0513-1
Matrix: Water
Workgroup #: WG432674
Collect Date: 05/23/2013 15:00
Sample Tag: DL01

PrePrep Method: N/A
Prep Method: 300.0
Analytical Method: 300.0
Analyst: JBK
Dilution: 5
Units: mg/L

Instrument: IC1
Prep Date: 06/03/2013 12:24
Cal Date: 05/01/2013 13:02
Run Date: 06/03/2013 14:11
File ID: I1_060313-09

Analyte	CAS #	Result	Qual	LOQ	LOD
Chloride	16887-00-6	48.0		1.00	0.500
Sulfate	14808-79-8	46.5		5.00	2.50

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: 050113 ICAL IC1.SEQ
Analyst1: JBK Analyst2: NA
Method: 300/9056 SOP: IC01 Rev: 14

Maintenance Log ID: Syringe Filter Lot#:
Eluent ID#: RGT26018
Column 1 ID: AG14A Column 2 ID: AS14A
Workgroups: WG428777 (ICAL) WG428971 (LOD/LOQ)
Internal STD: NA Surrogate STD: NA Calibration STD 01-MAY-2013
CCV STD: STD57462 LCS STD: STD57462 MS/MSD STD: STD57462

Comments:

Seq.	File ID	Sample Information	Mat	Dil	Reference	Date/Time
1	I1_050113-01	WG428777-01 STD 6	1	1		05/01/13 11:30
2	I1_050113-02	WG428777-02 STD 5	1	1		05/01/13 11:48
3	I1_050113-03	WG428777-03 STD 4	1	1		05/01/13 12:07
4	I1_050113-04	WG428777-04 STD 3	1	1		05/01/13 12:25
5	I1_050113-05	WG428777-05 STD 2	1	1		05/01/13 12:44
6	I1_050113-06	WG428777-06 STD 1	1	1		05/01/13 13:02
7	I1_050113-07	STD NR	1	1		05/01/13 13:21
8	I1_050113-08	L13040001-01 (F,CL,BR,SO4)	1	1		05/01/13 13:39
9	I1_050113-09	L13040001-01 (NO2,NO3)	1	1		05/01/13 13:57
10	I1_050113-10	L13040003-01 (F,CL,BR,SO4)	1	1		05/01/13 14:16
11	I1_050113-11	L13040003-01 (NO2,NO3)	1	1		05/01/13 14:34
12	I1_050113-12	LCR TEST LEVEL 6	1	1		05/01/13 14:53
13	I1_050113-13	LCR TEST LEVEL 0	1	1		05/01/13 15:11
14	I1_050113-14	WG428777-07 ALT STD	1	1		05/01/13 15:29
15	I1_050113-15	END	1	1		05/01/13 15:48

Comments

Seq.	Rerun	Dil.	Reason	Analytes

Page: 1 Approved: 03-MAY-13

Microbac Laboratories Inc.

Instrument Run Log

Instrument: IC1 Dataset: 060313 IC1.SEQ
Analyst1: JBK Analyst2: KRB
Method: 300/9056 SOP: IC01 Rev: 14

Maintenance Log ID: 46196 Syringe Filter Lot#: 00159090
Eluent ID#:
Column 1 ID: AG14A Column 2 ID: AS14A
Workgroups: WG432674
Internal STD: NA Surrogate STD: NA Calibration STD 01-MAY-2013
CCV STD: STD57462 LCS STD: STD57462 MS/MSD STD: STD57462

Comments: L13051373-01 REF was analyzed at a dilution only due to concentrations of the target analyte(s) near or greater than the ICAL. Fractions -02MS and -03SD were analyzed without the apporopriate dilution, thereby causing biased recoveries for the target analyte(s). The recoveries of the nontarget analyte(s) verified that there was no matrix interference on the spiking solution. L13051304-03, 1501 (ALL) were analyzed at dilutions only due to the concentrations of the target analyte(s) near or greater than the ICAL.

Seq.	File ID	Sample Information	Mat	Dil	Reference	Date/Time
1	I1_060313-01	ELUENT	1	1		06/03/13 11:44
2	I1_060313-02	DI WATER	1	1		06/03/13 12:02
3	I1_060313-03	WG432736-01 ANION CCV	1	1		06/03/13 12:20
4	I1_060313-04	WG432736-02 ANION CCB	1	1		06/03/13 12:39
5	I1_060313-05	WG432674-01 ANION BLANK	1	1		06/03/13 12:57
6	I1_060313-06	WG432674-02 ANION LCS	1	1		06/03/13 13:16
7	I1_060313-07	L13051304-01 (Cl, SO4)	1	1		06/03/13 13:34
8	I1_060313-08	L13051304-02 (Cl, SO4)	1	1		06/03/13 13:53
9	I1_060313-09	L13051304-03 1/5 (Cl, SO4)	1	5		06/03/13 14:11
10	I1_060313-10	L13051373-01 1/5 (Cl, SO4)	1	5		06/03/13 14:29
11	I1_060313-11	WG432674-04 1/5 DUP 1373-01	1	5		06/03/13 14:48
12	I1_060313-12	L13051373-02 MS	1	1		06/03/13 15:06
13	I1_060313-13	L13051373-03 SD	1	1		06/03/13 15:25
14	I1_060313-14	L13051373-04 1/5 (Cl, SO4)	1	5		06/03/13 15:43
15	I1_060313-15	WG432736-03 ANION CCV	1	1		06/03/13 16:01
16	I1_060313-16	WG432736-04 ANION CCB	1	1		06/03/13 16:20
17	I1_060313-17	L13051501-02 1/10 (Cl, SO4)	1	10		06/03/13 16:38
18	I1_060313-18	L13051501-04 1/3 (Cl, SO4)	1	3		06/03/13 16:57
19	I1_060313-19	L13051540-01 (Cl, SO4)	1	1		06/03/13 17:15
20	I1_060313-20	L13051540-02 (Cl, SO4)	1	1		06/03/13 17:33
21	I1_060313-21	L13060011-01 (SO4)	1	1		06/03/13 17:52
22	I1_060313-22	L13060011-03 (SO4)	1	1		06/03/13 18:10
23	I1_060313-23	L13060011-05 (SO4)	1	1		06/03/13 18:29
24	I1_060313-24	L13060011-07 (SO4)	1	1		06/03/13 18:47
25	I1_060313-25	L13051572-01 (SO4)	1	1		06/03/13 19:05
26	I1_060313-26	WG432674-08 DUP 1572-01	2	1		06/03/13 19:24
27	I1_060313-27	WG432736-05 ANION CCV	1	1		06/03/13 19:42
28	I1_060313-28	WG432736-06 ANION CCB	1	1		06/03/13 20:01
29	I1_060313-29	L13051572-02 MS	1	1		06/03/13 20:19
30	I1_060313-30	L13051572-03 SD	1	1		06/03/13 20:37
31	I1_060313-31	L13051572-04 (SO4)	2	1		06/03/13 20:56

Page: 1 Approved: 04-JUN-13

Microbac Laboratories Inc.

Instrument Run Log

Instrument: IC1 Dataset: 060313 IC1.SEQ
Analyst1: JBK Analyst2: KRB
Method: 300/9056 SOP: IC01 Rev: 14

Maintenance Log ID: 46196 Syringe Filter Lot#: 00159090
Eluent ID#:

Column 1 ID: AG14A Column 2 ID: AS14A

Workgroups: WG432674

Internal STD: NA Surrogate STD: NA 01-MAY-2013

CCV STD: STD57462 LCS STD: STD57462 STD57462

Seq.	File ID	Sample Information	Mat	Dil	Reference	Date/Time
32	I1_060313-32	L13051588-01 (Br, SO4)	2	1		06/03/13 21:14
33	I1_060313-33	WG432736-07 ANION CCV	1	1		06/03/13 21:33
34	I1_060313-34	WG432736-08 ANION CCB	1	1		06/03/13 21:51
35	I1_060313-35	END	1	1		06/03/13 22:10

Comments

Seq.	Rerun	Dil.	Reason	Analytes

Page: 2 Approved: 04-JUN-13

Microbac Laboratories Inc.

Data Checklist

Date: 01-MAY-2013
Analyst: JBK
Analyst: NA
Method: 300/9056
Instrument: IC1
Curve Workgroup: NA
Runlog ID: 52904
Analytical Workgroups: WG428777 (ICAL) WG428971 (LOD/LOQ)

ANALYTICAL	
System Performance Check	NA
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	X
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	NA
TCL hits	NA
Surrogate recoveries	NA
LCS/LCSD (Laboratory Control Sample)	NA
Recoveries	NA
Surrogate recoveries	NA
MS/MSD/Sample duplicates	NA
Recoveries	NA
%RPD	NA
Samples	X
TCL hits	NA
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	ECL

Primary Reviewer:
03-MAY-2013

Secondary Reviewer:
03-MAY-2013

CHECKLIST1 - Modified 03/05/2008
Generated: MAY-07-2013 16:19:43

Microbac Laboratories Inc.

Data Checklist

Date: 03-JUN-2013
Analyst: JBK
Analyst: NA
Method: 300/9056
Instrument: IC1
Curve Workgroup: NA
Runlog ID: 53572
Analytical Workgroups: 05-1304, 05-1373, 05-1501, 05-1540, 05-1572, 05-1588, 06-0011

ANALYTICAL	
System Performance Check	NA
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	NA
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	X
Reruns	X
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	ECL

Primary Reviewer:
04-JUN-2013

Secondary Reviewer:
04-JUN-2013

CHECKLIST1 - Modified 03/05/2008
Generated: JUN-04-2013 18:10:20

Microbac Laboratories Inc.

HOLDING TIMES
EQUIVALENT TO AFCEE FORM 9

Analytical Method: 300.0 AAB#: WG432674

Login Number: L13051304

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
SMW1-0513-1	01	05/23/13					06/03/2013	11.1	2	*	06/03/13	11.1	2	*
SMW4-0513-1	02	05/23/13					06/03/2013	11	2	*	06/03/13	11.1	2	*
MPL25-0513-1	03	05/23/13					06/03/2013	10.9	2	*	06/03/13	11	2	*

* = SEE PROJECT QAPP REQUIREMENTS

HOLD_TIMES - Modified 03/06/2008
PDF File ID: 2907411
Report generated 06/05/2013 08:50

Microbac Laboratories Inc.

METHOD BLANK SUMMARY

Login Number: L13051304
Blank File ID: I1_060313-05
Prep Date: 06/03/13 12:24
Analyzed Date: 06/03/13 12:57
Analyst: JBK

Work Group: WG432674
Blank Sample ID: WG432674-01
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	WG432674-02	I1_060313-06	06/03/13 13:16	01
SMW1-0513-1	L13051304-01	I1_060313-07	06/03/13 13:34	01
SMW4-0513-1	L13051304-02	I1_060313-08	06/03/13 13:53	01
MPL25-0513-1	L13051304-03	I1_060313-09	06/03/13 14:11	DL01
DUP	WG432674-04	I1_060313-11	06/03/13 14:48	DL01
DUP	WG432674-08	I1_060313-26	06/03/13 19:24	01

Report Name: BLANK_SUMMARY
PDF File ID: 2907412
Report generated 06/05/2013 08:50

Microbac Laboratories Inc.

METHOD BLANK REPORT

Login Number: L13051304 Prep Date: 06/03/13 12:24 Sample ID: WG432674-01
Instrument ID: IC1 Run Date: 06/03/13 12:57 Prep Method: 300.0
File ID: I1 060313-05 Analyst: JBK Method: 300.0
Workgroup (AAB#): WG432674 Matrix: Water Units: mg/L
Contract #: Cal ID: IC1-01-MAY-13

Analytes	LOD	LOQ	Concentration	Dilution	Qualifier
Chloride	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: 2907413
05-JUN-2013 08:50

Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L13051304 Run Date: 06/03/2013 Sample ID: WG432674-02
Instrument ID: IC1 Run Time: 13:16 Prep Method: 300.0
File ID: I1 060313-06 Analyst: JBK Method: 300.0
Workgroup (AAB#): WG432674 Matrix: Water Units: mg/L
QC Key: DOD4 Lot#: STD57462 Cal ID: IC1-01-MAY-13

Analytes	Expected	Found	% Rec	LCS Limits	Q
Chloride	8.00	8.14	102	90 - 110	
Sulfate	40.0	39.5	98.8	90 - 110	

LCS - Modified 03/06/2008
PDF File ID: 2907414
Report generated: 06/05/2013 08:50

Microbac Laboratories Inc.

INITIAL CALIBRATION SUMMARY

Login Number: L13051304
Analytical Method: 300.0
ICAL Workgroup: WG428777

Instrument ID: IC1
Initial Calibration Date: 01-MAY-13 13:02
Column ID: F

Analyte		AVG RF	% RSD	LINEAR (R)	QUAD (R^2)
Chloride		5.481	6.54	0.99800	
Sulfate		7.488	11.1	0.99600	

R = Correlation coefficient; 0.995 minimum
R^2 = Coefficient of determination; 0.99 minimum

INT_CAL - Modified 03/06/2008
PDF File ID: 2907415
Report generated 06/05/2013 08:50

Microbac Laboratories Inc.

INITIAL CALIBRATION DATA

Login Number: L13051304

Analytical Method: 300.0

Instrument ID: IC1

Initial Calibration Date: 01-MAY-13 13:02

Column ID: F

Analyte	WG428777-01			WG428777-02			WG428777-03		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
Chloride	24.0	4.78200000	5.019	12.0	2.19700000	5.462	8.00	1.43500000	5.575
Sulfate	120	19.0270000	6.307	60.0	8.71800000	6.882	40.0	5.40200000	7.405

INT_CAL - Modified 03/06/2008
PDF File ID: 2907415
Report generated 06/05/2013 08:50

Microbac Laboratories Inc.

INITIAL CALIBRATION DATA

Login Number: L13051304

Analytical Method: 300.0

Instrument ID: IC1

Initial Calibration Date: 01-MAY-13 13:02

Column ID: F

Analyte	WG428777-04			WG428777-05			WG428777-06		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
Chloride	4.00	0.679000000	5.891	1.00	0.172000000	5.814	0.200	0.0390000000	5.128
Sulfate	20.0	2.59500000	7.707	5.00	0.608000000	8.224	1.00	0.119000000	8.403

INT_CAL - Modified 03/06/2008
PDF File ID: 2907415
Report generated 06/05/2013 08:50

Microbac Laboratories Inc.
ALTERNATE SOURCE CALIBRATION REPORT

Login Number: L13051304 Run Date: 05/01/2013 Sample ID: WG428777-07
Instrument ID: IC1 Run Time: 15:29 Method: 300.0
File ID: I1 050113-14 Analyst: JBK QC Key: DOD4
ICal Workgroup: WG428777 Cal ID: IC1 - 01-MAY-13

Analyte		Expected	Found	Units	RF	%D	UCL	Q
Chloride		8.00	7.86	mg/L	5.67	1.80	10	
Sulfate		40.0	39.3	mg/L	7.42	1.80	10	

* Exceeds %D Limit

ALT - Modified 09/06/2007
Version 1.5 PDF File ID: 2907416
Report generated 06/05/2013 08:50

Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L13051304
Run Date: 06/03/2013
Sample ID: WG432736-02
Instrument ID: IC1
Run Time: 12:39
Method: 300.0
File ID: I1 060313-04
Analyst: JBK
Units: mg/L
Workgroup (AAB#): WG432674
Cal ID: IC1 - 01-MAY-13
Matrix: WATER
QAPP: DOD4

Analytes	MDL	RDL	Concentration	Qualifier
Chloride	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: 2907419
Report generated 06/05/2013 08:50

Microbac Laboratories Inc.

CONTINUING CALIBRATION BLANK (CCB)

Login Number: L13051304 Run Date: 06/03/2013 Sample ID: WG432736-04

Instrument ID: IC1 Run Time: 16:20 Method: 300.0

File ID: I1 060313-16 Analyst: JBK Units: mg/L

Workgroup (AAB#): WG432674 Cal ID: IC1 - 01-MAY-13

Matrix: WATER QAPP: DOD4

Analytes	MDL	RDL	Concentration	Qualifier
Chloride	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: 2907419
Report generated 06/05/2013 08:50

Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L13051304
Run Date: 06/03/2013
Sample ID: WG432736-01
Instrument ID: IC1
Run Time: 12:20
Method: 300.0
File ID: I1 060313-03
Analyst: JBK
QC Key: DOD4
Workgroup (AAB#): WG432674
Cal ID: IC1 - 01-MAY-13
Matrix: WATER

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
Chloride		8.00	8.04	mg/L	5.54	0.513	10	
Sulfate		40.0	39.3	mg/L	7.40	1.66	10	

* Exceeds %D Criteria

CCV - Modified 03/05/2008
PDF File ID: 2907417
Report generated 06/05/2013 08:50

Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L13051304
Run Date: 06/03/2013
Sample ID: WG432736-03
Instrument ID: IC1
Run Time: 16:01
Method: 300.0
File ID: I1 060313-15
Analyst: JBK
QC Key: DOD4
Workgroup (AAB#): WG432674
Cal ID: IC1 - 01-MAY-13
Matrix: WATER

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
Chloride		8.00	8.18	mg/L	5.45	2.21	10	
Sulfate		40.0	39.5	mg/L	7.38	1.34	10	

* Exceeds %D Criteria

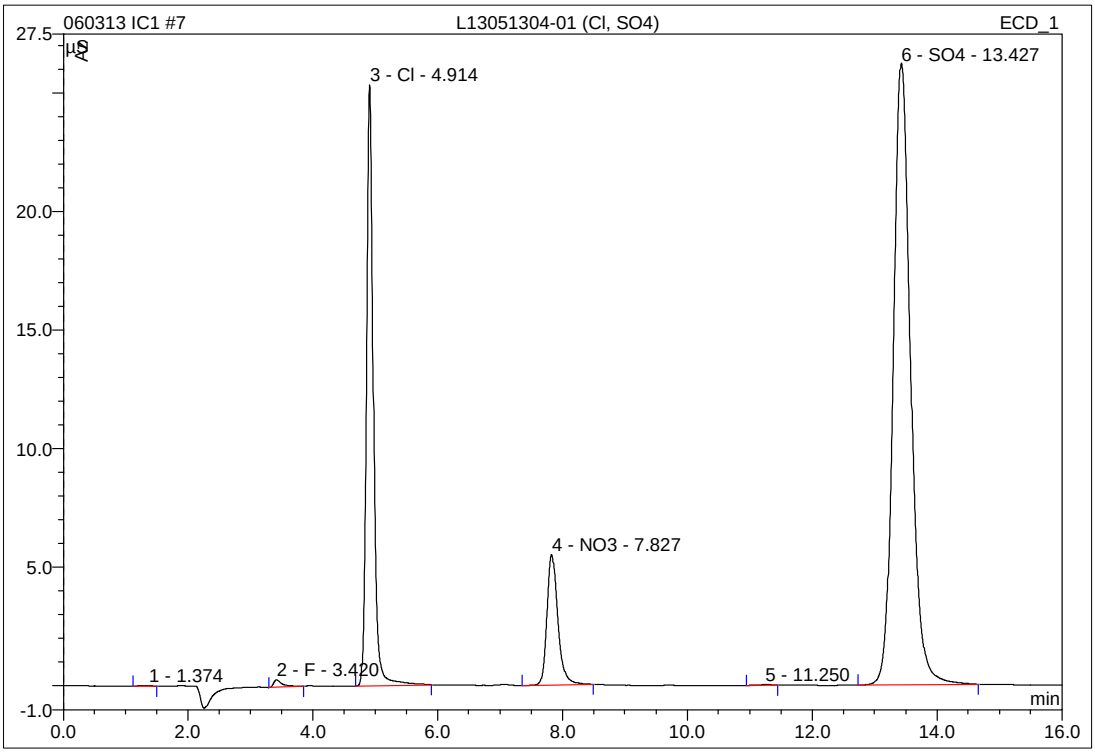
CCV - Modified 03/05/2008
PDF File ID: 2907417
Report generated 06/05/2013 08:50

2.2.1.3 Sample Data

7 L13051304-01 (Cl, SO4)

1,1 JBK

Sample Name:	**L13051304-01 (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:	**6/3/2013 13:34**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	1.37	n.a.	0.016	0.003	0.02	n.a.	BMB
2	3.42	F	0.318	0.051	0.39	0.250	BMB
3	4.91	Cl	25.330	3.264	25.37	18.189	BMB
4	7.83	NO3	5.499	1.117	8.68	2.524	BMB
5	11.25	n.a.	0.031	0.010	0.07	n.a.	BMB
6	13.43	SO4	26.222	8.422	65.45	61.226	BMB
Total:			57.417	12.867	100.00	82.189	

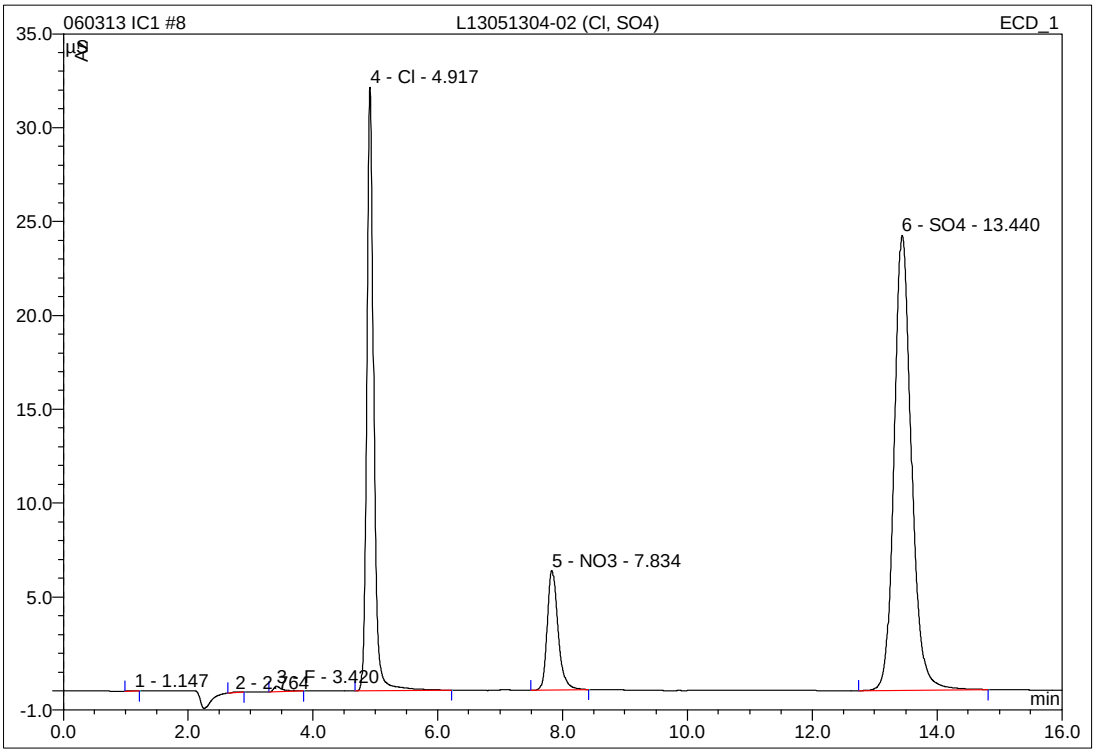
IC/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.80 SP1 Build 2238

8 L13051304-02 (Cl, SO4)

1,1 JBK

Sample Name:	**L13051304-02 (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:	**6/3/2013 13:53**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**

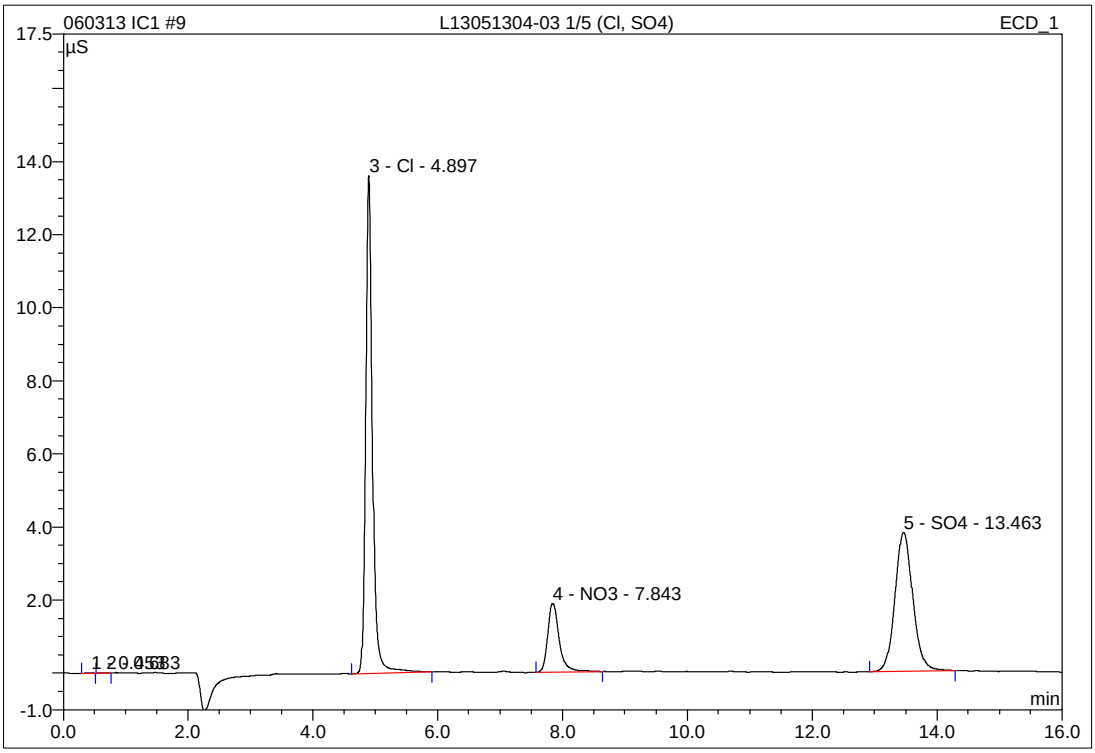


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	1.15	n.a.	0.008	0.001	0.01	n.a.	BMB
2	2.76	n.a.	0.030	0.004	0.03	n.a.	BMB
3	3.42	F	0.299	0.048	0.36	0.241	BMB
4	4.92	Cl	32.138	4.162	31.25	23.193	BMB
5	7.83	NO3	6.381	1.281	9.62	2.893	BMB
6	13.44	SO4	24.234	7.821	58.73	56.870	BMB
Total:			63.089	13.317	100.00	83.196	

9 L13051304-03 1/5 (Cl, SO4)

1,5 JBK

Sample Name:	**L13051304-03 1/5 (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:	**6/3/2013 14:11**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**



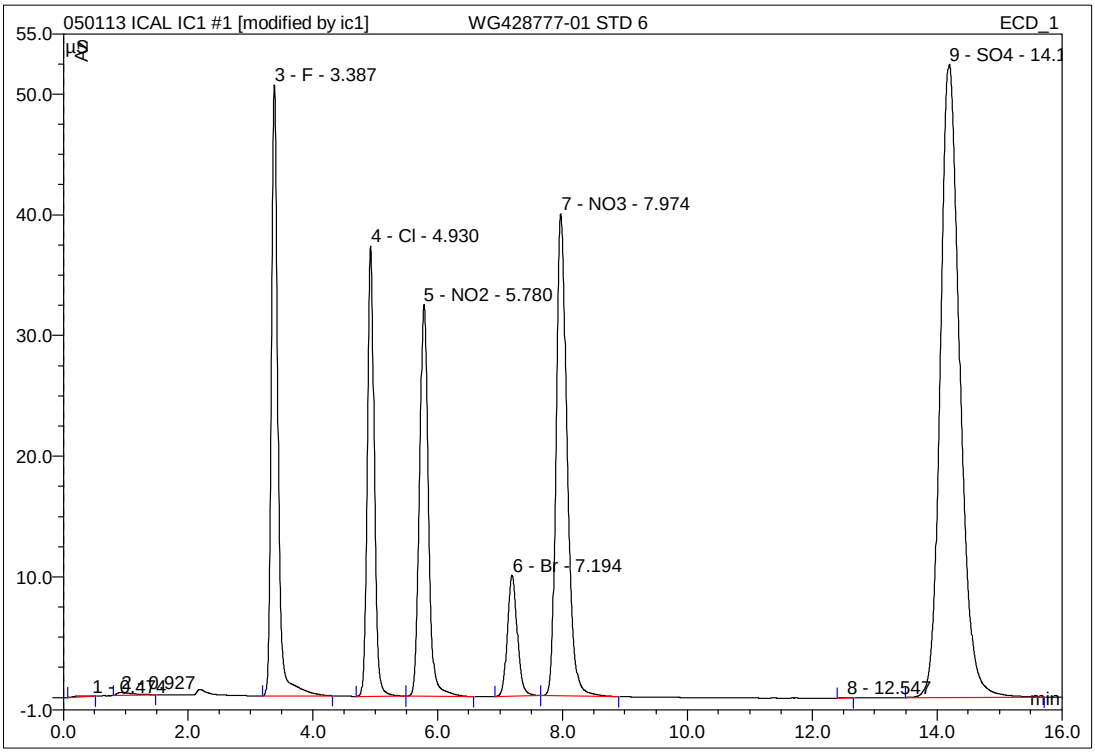
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	0.45	n.a.	0.010	0.001	0.04	n.a.	BMB
2	0.68	n.a.	0.009	0.001	0.04	n.a.	BMB
3	4.90	Cl	13.627	1.723	50.88	9.591	BMB
4	7.84	NO3	1.883	0.400	11.80	0.907	BMB
5	13.46	SO4	3.802	1.261	37.25	9.297	BMB
Total:			19.330	3.386	100.00	19.796	

2.2.1.4 Standards Data

1 WG428777-01 STD 6

1,1 JBK STD57462

Sample Name:	**WG428777-01 STD 6**	*Injection Volume:*	**20.0**
Vial Number:	**9**	*Channel:*	**ECD_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**9056**	*Dilution Factor:*	**1.0000**
Recording Time:	**5/1/2013 11:30**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	0.47	n.a.	0.018	0.017	0.04	n.a.	BMB
2	0.93	n.a.	0.234	0.071	0.16	n.a.	BMB
3	3.39	F	50.653	6.293	13.80	25.453	BMB*
4	4.93	Cl	37.272	4.782	10.48	26.650	BMb
5	5.78	NO2	32.440	5.392	11.82	15.298	bMB
6	7.19	Br	10.038	1.851	4.06	25.298	BMb
7	7.97	NO3	39.962	8.168	17.91	18.403	bMB
8	12.55	n.a.	0.036	0.004	0.01	n.a.	BMB
9	14.20	SO4	52.461	19.027	41.72	138.135	BMB
Total:			223.114	45.605	100.00	249.238	

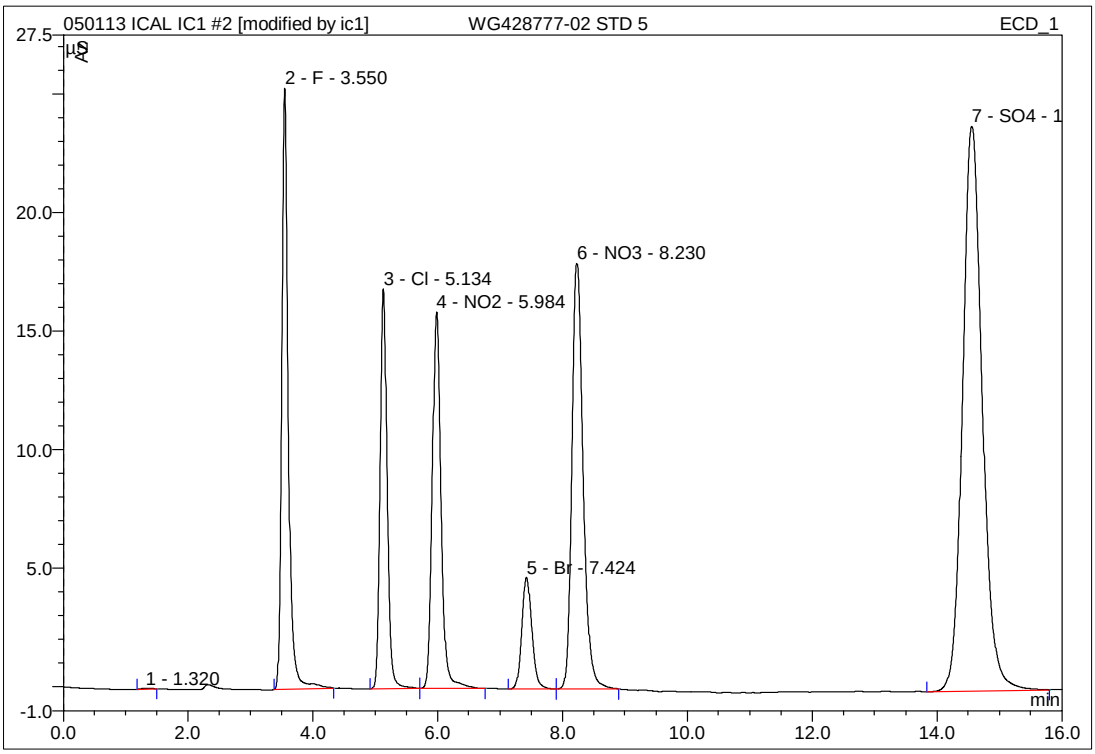
IC/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.80 SP1 Build 2238

2 WG428777-02 STD 5

1,1 JBK STD57462

Sample Name:	**WG428777-02 STD 5**	*Injection Volume:*	**20.0**
Vial Number:	**10**	*Channel:*	**ECD_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**9056**	*Dilution Factor:*	**1.0000**
Recording Time:	**5/1/2013 11:48**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	1.32	n.a.	0.030	0.006	0.03	n.a.	BMB
2	3.55	F	25.351	3.123	14.70	12.653	BMB*
3	5.13	Cl	16.875	2.197	10.34	12.238	BMb*
4	5.98	NO2	15.873	2.597	12.22	7.376	bMB
5	7.42	Br	4.713	0.884	4.16	12.101	BMB
6	8.23	NO3	17.941	3.721	17.52	8.389	BMB
7	14.56	SO4	23.811	8.718	41.04	63.375	BMB
Total:			104.594	21.246	100.00	116.132	

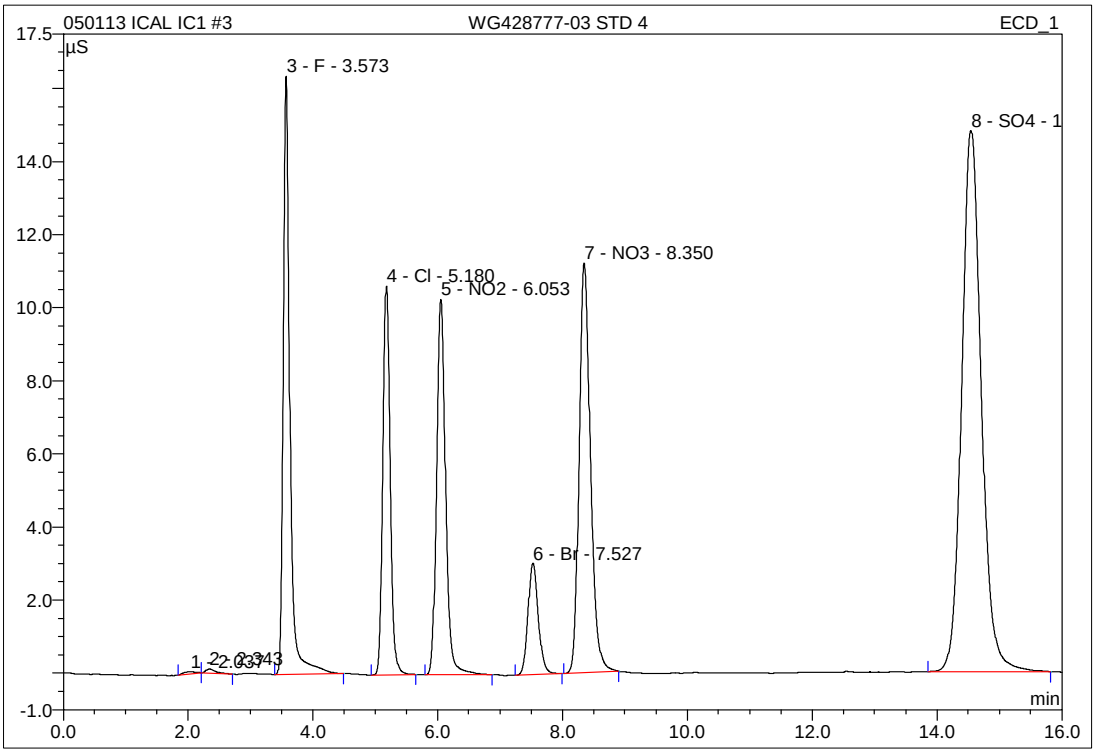
IC/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.80 SP1 Build 2238

3 WG428777-03 STD 4

1,1 JBK STD57462

Sample Name:	**WG428777-03 STD 4**	*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:	**5/1/2013 12:07**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	2.04	n.a.	0.059	0.014	0.10	n.a.	BMb
2	2.34	n.a.	0.112	0.020	0.15	n.a.	bMB
3	3.57	F	16.362	2.031	14.97	8.246	BMB
4	5.18	Cl	10.640	1.435	10.57	7.986	BMB
5	6.05	NO2	10.278	1.722	12.68	4.893	BMB
6	7.53	Br	3.050	0.587	4.33	8.058	BMB
7	8.35	NO3	11.219	2.361	17.40	5.326	BMB
8	14.55	SO4	14.804	5.402	39.80	39.325	BMB
Total:			66.523	13.572	100.00	73.834	

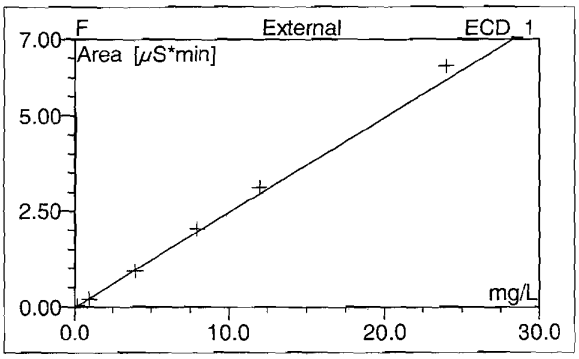
IC/Integration

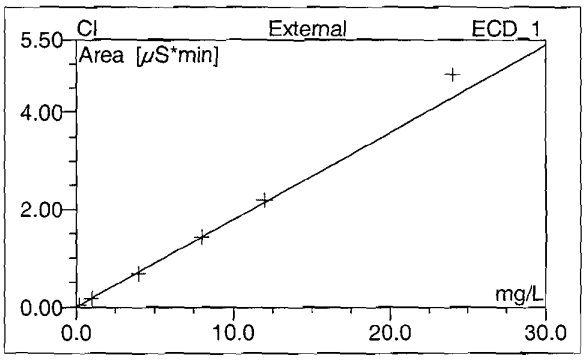
Chromeleon (c) Dionex 1996-2001
Version 6.80 SP1 Build 2238

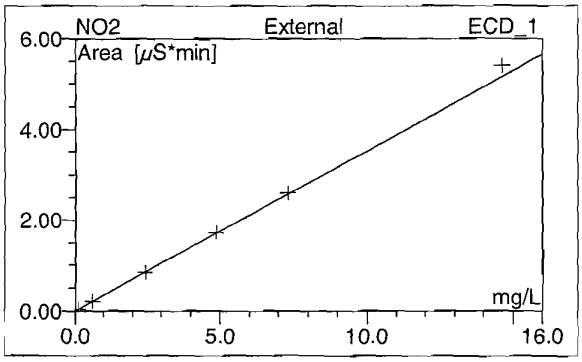
3 WG428777-03 STD 4

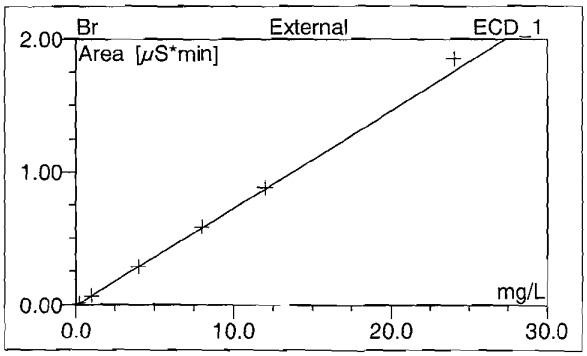
1,1 JBK STD57462

Sample Name:	**WG428777-03 STD 4**	*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:	**5/1/2013 12:07**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**







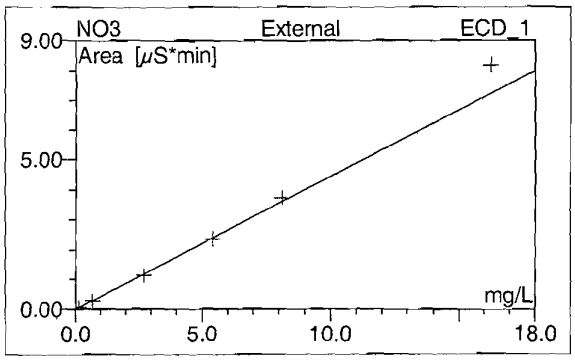


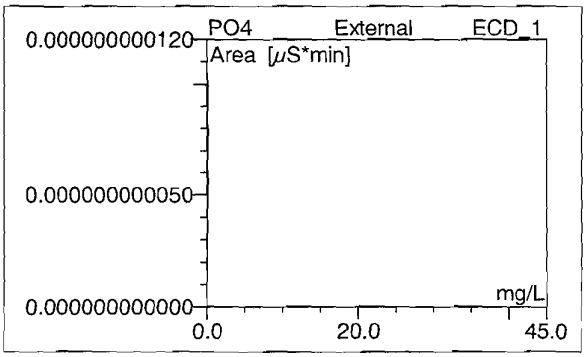
No.	Ret.Time min	Peak Name	Cal.Type	Points	Corr.Coeff. %	Offset	Slope	Curve
1	2.04	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
2	2.34	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
3	3.57	F	YYLOff	6	99.8055	-0.0112	0.2477	0.0000
4	5.18	Cl	YYLOff	6	99.8014	0.0026	0.1793	0.0000
5	6.05	NO2	YYLOff	6	99.9530	-0.0045	0.3527	0.0000
6	7.53	Br	YYLOff	6	99.9278	-0.0033	0.0733	0.0000
7	8.35	NO3	YYLOff	6	99.7419	-0.0034	0.4440	0.0000
8	14.55	SO4	YYLOff	6	99.6160	-0.0209	0.1379	0.0000
Average:					99.8076	-0.0068	0.2392	0.0000

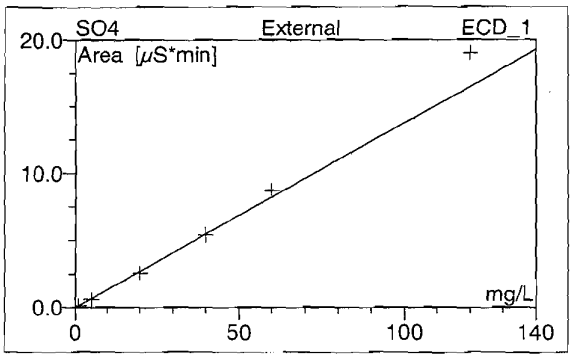
3 WG428777-03 STD 4

1,1 JBK STD57462

Sample Name:	**WG428777-03 STD 4**	*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:	**5/1/2013 12:07**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**





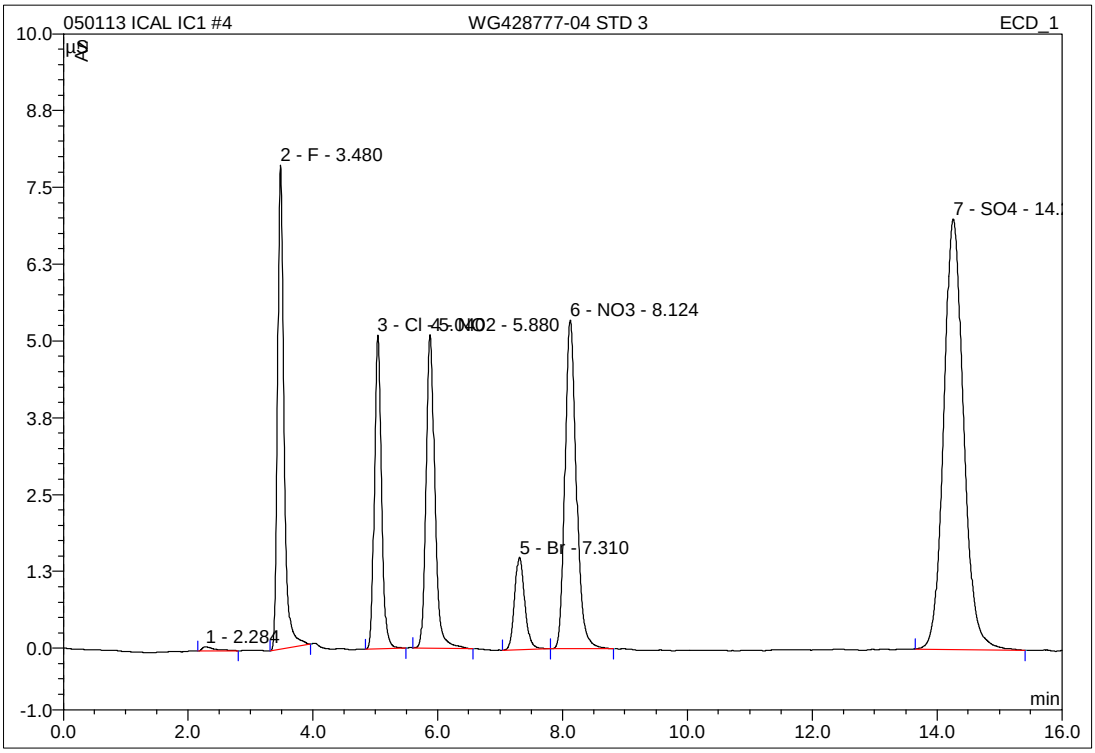


No.	Ret.Time min	Peak Name	Cal.Type	Points	Corr.Coeff. %	Offset	Slope	Curve
1	2.04	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
2	2.34	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
3	3.57	F	YYLOff	6	99.8055	-0.0112	0.2477	0.0000
4	5.18	Cl	YYLOff	6	99.8014	0.0026	0.1793	0.0000
5	6.05	NO2	YYLOff	6	99.9530	-0.0045	0.3527	0.0000
6	7.53	Br	YYLOff	6	99.9278	-0.0033	0.0733	0.0000
7	8.35	NO3	YYLOff	6	99.7419	-0.0034	0.4440	0.0000
8	14.55	SO4	YYLOff	6	99.6160	-0.0209	0.1379	0.0000
Average:					99.8076	-0.0068	0.2392	0.0000

4 WG428777-04 STD 3

1,1 JBK STD57462

Sample Name:	**WG428777-04 STD 3**	*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:	**5/1/2013 12:25**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	2.28	n.a.	0.069	0.017	0.26	n.a.	BMB
2	3.48	F	7.874	0.933	14.39	3.812	BMB
3	5.04	Cl	5.105	0.679	10.48	3.774	BMB
4	5.88	NO2	5.102	0.833	12.86	2.375	BMB
5	7.31	Br	1.503	0.286	4.42	3.954	BMB
6	8.12	NO3	5.349	1.137	17.55	2.569	BMB
7	14.26	SO4	7.006	2.595	40.04	18.968	BMB
Total:			32.008	6.481	100.00	35.452	

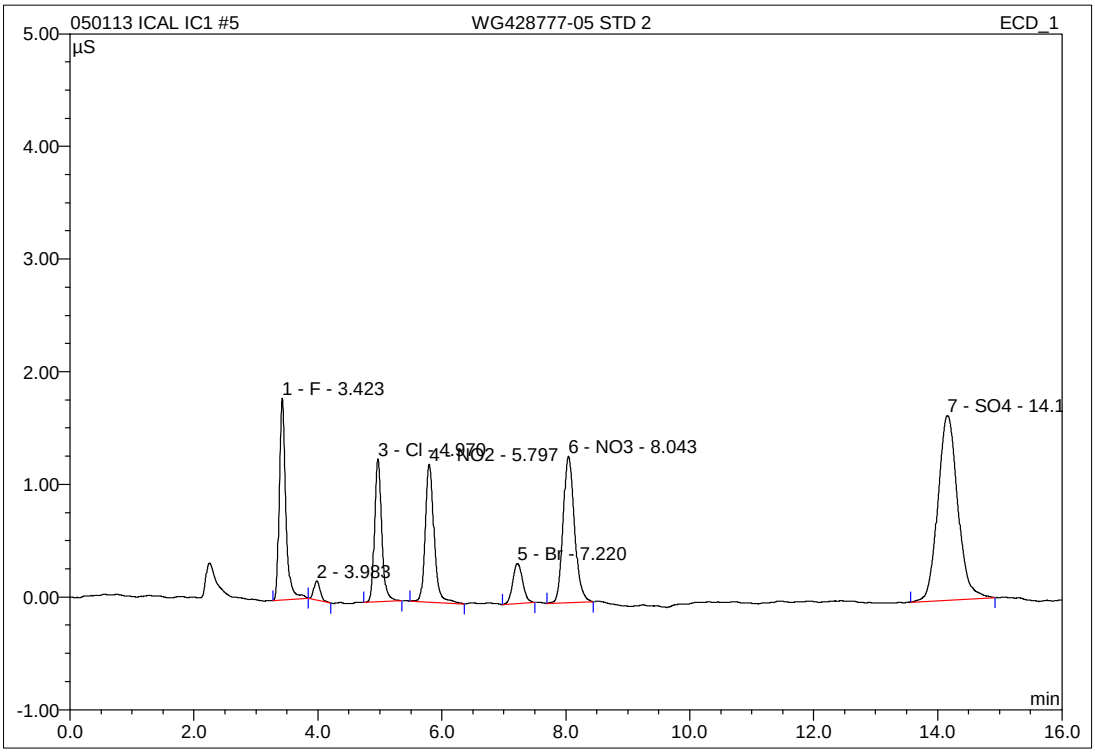
IC/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.80 SP1 Build 2238

5 WG428777-05 STD 2

1,1 JBK STD57462

Sample Name:	**WG428777-05 STD 2**	*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:	**5/1/2013 12:44**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	3.42	F	1.790	0.217	13.88	0.923	BMb
2	3.98	n.a.	0.169	0.020	1.28	n.a.	bMB
3	4.97	Cl	1.270	0.172	11.01	0.947	BMB
4	5.80	NO2	1.222	0.203	12.96	0.588	BMB
5	7.22	Br	0.354	0.066	4.22	0.947	BMB
6	8.04	NO3	1.300	0.279	17.81	0.636	BMB
7	14.16	SO4	1.638	0.608	38.82	4.560	BMB
Total:			7.744	1.566	100.00	8.600	

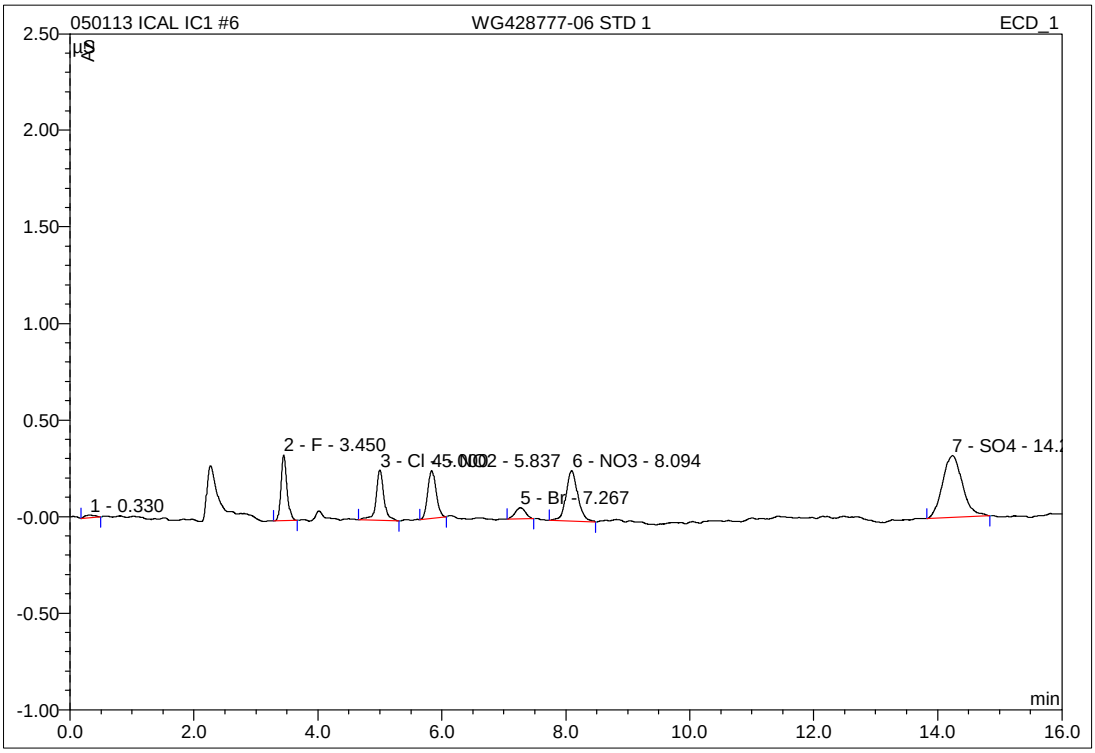
IC/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.80 SP1 Build 2238

6 WG428777-06 STD 1

1,1 JBK STD57462

Sample Name:	**WG428777-06 STD 1**	*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:	**5/1/2013 13:02**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	0.33	n.a.	0.015	0.002	0.81	n.a.	BMB
2	3.45	F	0.340	0.039	12.67	0.203	BMB
3	5.00	Cl	0.261	0.039	12.67	0.203	BMB
4	5.84	NO2	0.246	0.039	12.58	0.123	BMB
5	7.27	Br	0.058	0.011	3.73	0.202	BMB
6	8.09	NO3	0.261	0.058	18.74	0.138	BMB
7	14.23	SO4	0.321	0.119	38.80	1.018	BMB
Total:			1.502	0.308	100.00	1.886	

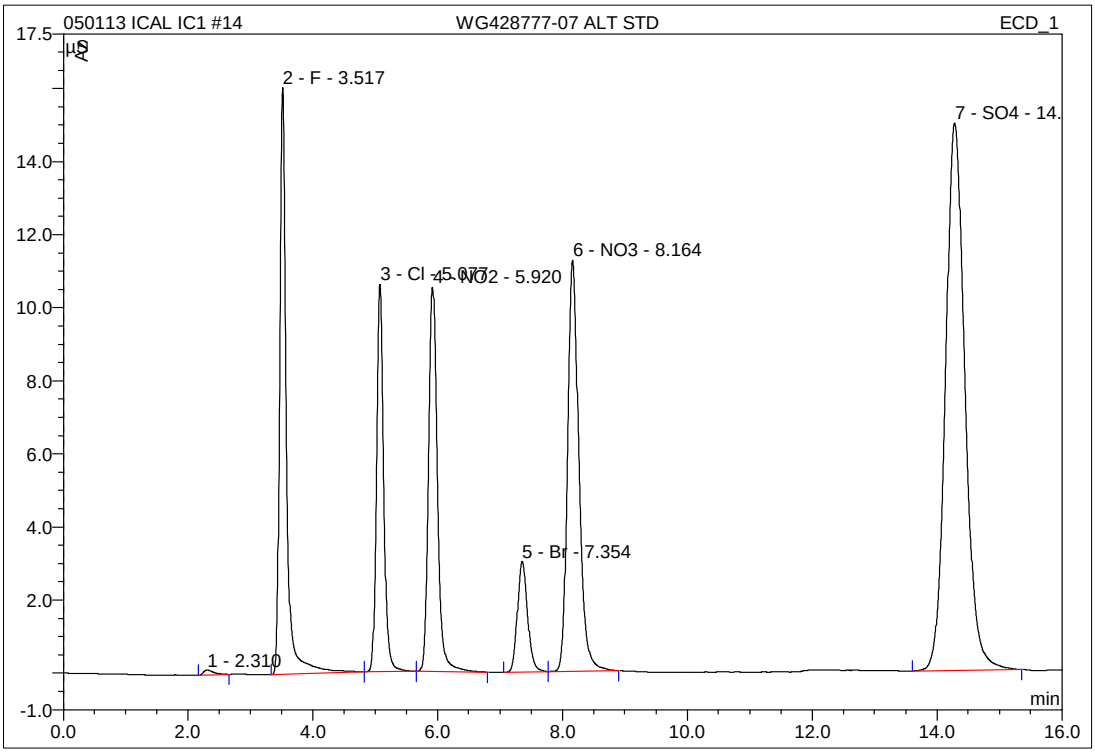
IC/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.80 SP1 Build 2238

14 WG428777-07 ALT STD

1,1 JBK STD57463

Sample Name:	**WG428777-07 ALT STD**	*Injection Volume:*	**20.0**
Vial Number:	**21**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**9056**	*Dilution Factor:*	**1.0000**
Recording Time:	**5/1/2013 15:29**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*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.	0.134	0.025	0.18	n.a.	BMB
2	3.52	F	16.052	2.015	14.91	8.182	BMB
3	5.08	Cl	10.603	1.412	10.44	7.857	BMb
4	5.92	NO2	10.523	1.729	12.79	4.914	bMB
5	7.35	Br	3.027	0.574	4.25	7.876	BMB
6	8.16	NO3	11.248	2.371	17.54	5.346	BMB
7	14.28	SO4	14.987	5.393	39.89	39.261	BMB
Total:			66.574	13.518	100.00	73.437	

IC/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.80 SP1 Build 2238

14 WG428777-07 ALT STD

1,1 JBK STD57463

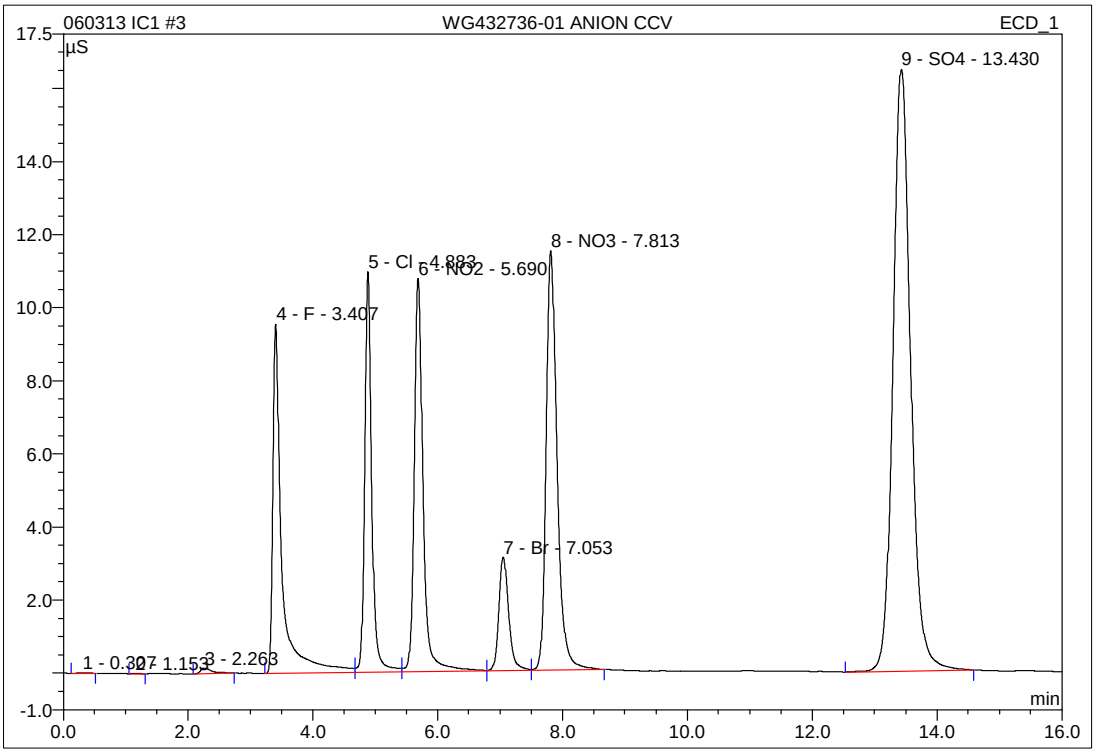
Sample Name:	**WG428777-07 ALT STD**	*Injection Volume:*	**20.0**
Vial Number:	**21**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**9056**	*Dilution Factor:*	**1.0000**
Recording Time:	**5/1/2013 15:29**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**

WG428777-07 ALT S	Actual mg/L	Recoved mg/L	%Difference	
F	8.00	8.1817	2.27	PASS
Cl	8.00	7.8571	-1.79	PASS
NO2-N	4.8714	4.9141	0.88	PASS
Br	8.00	7.8764	-1.55	PASS
NO3-N	5.4216	5.3464	-1.39	PASS
PO4-P	13.0456	n.a.	#VALUE!	#VALUE!
SO4	40	39.2614	-1.85	PASS

3 WG432736-01 ANION CCV

1,1 JBK STD57462 _____ psi @ _____

Sample Name:	**WG432736-01 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:	**6/3/2013 12:20**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	0.31	n.a.	0.016	0.003	0.02	n.a.	BMB
2	1.15	n.a.	0.009	0.001	0.01	n.a.	BMB
3	2.26	n.a.	0.156	0.033	0.25	n.a.	BMB
4	3.41	F	9.553	1.579	12.04	6.422	BM
5	4.88	Cl	10.963	1.445	11.01	8.041	M
6	5.69	NO2	10.752	1.762	13.42	5.007	M
7	7.05	Br	3.108	0.568	4.33	7.793	M
8	7.81	NO3	11.478	2.329	17.75	5.254	MB
9	13.43	SO4	16.473	5.403	41.17	39.335	BMB
Total:			62.508	13.123	100.00	71.852	

IC/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.80 SP1 Build 2238

3 WG432736-01 ANION CCV

1,1 JBK STD57462 _____ psi @ _____

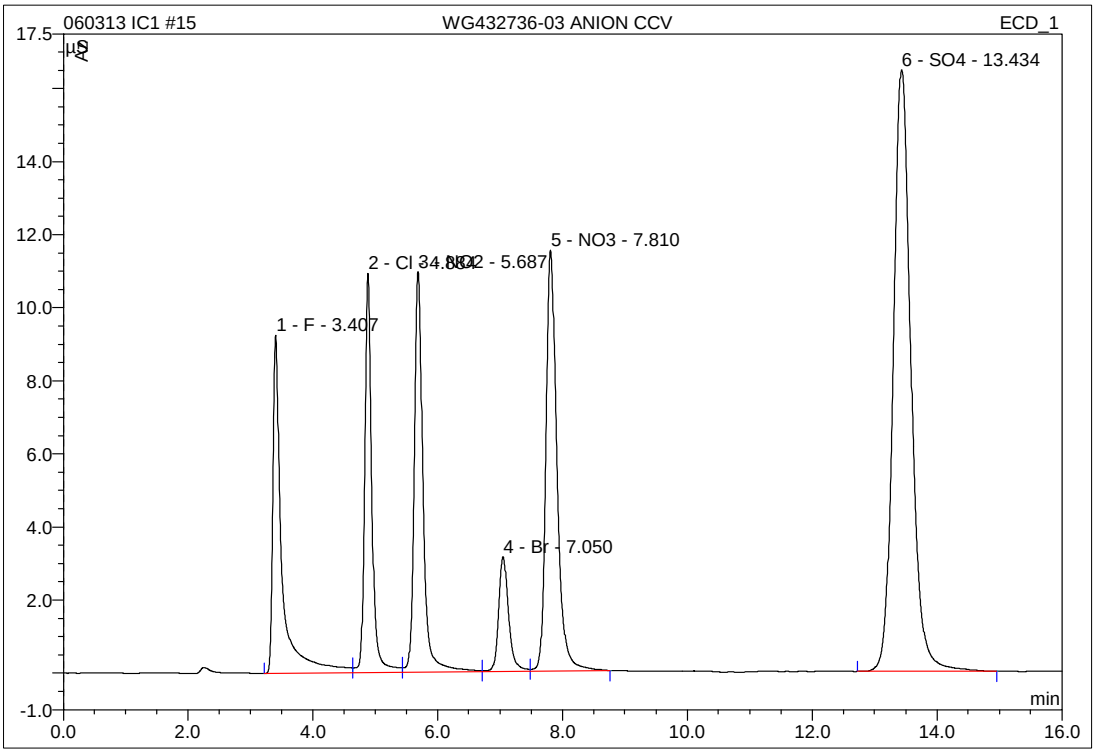
Sample Name:	**WG432736-01 ANION CCV**	*Injection Volume:*	**20.0**
Vial Number:	**11**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**9056**	*Dilution Factor:*	**1.0000**
Recording Time:	**6/3/2013 12:20**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**

WG432736-01 ANIOI	Actual mg/L	Recoved mg/L	%Difference	
F	8.00	6.4221	-19.72	FAIL
Cl	8.00	8.0412	0.52	PASS
NO2-N	4.8714	5.0072	2.79	PASS
Br	8.00	7.7928	-2.59	PASS
NO3-N	5.4216	5.2539	-3.09	PASS
PO4-P	13.0456	n.a.	#VALUE!	#VALUE!
SO4	40	39.3348	-1.66	PASS

15 WG432736-03 ANION CCV

1,1 JBK STD57462

Sample Name:	**WG432736-03 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:	**6/3/2013 16:01**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	3.41	F	9.251	1.550	11.76	6.303	BM
2	4.88	Cl	10.930	1.469	11.14	8.177	M
3	5.69	NO2	10.956	1.795	13.61	5.100	M
4	7.05	Br	3.138	0.586	4.44	8.035	M
5	7.81	NO3	11.513	2.365	17.93	5.333	MB
6	13.43	SO4	16.468	5.421	41.12	39.463	BMB
Total:			62.256	13.184	100.00	72.411	

IC/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.80 SP1 Build 2238

15 WG432736-03 ANION CCV

1,1 JBK STD57462

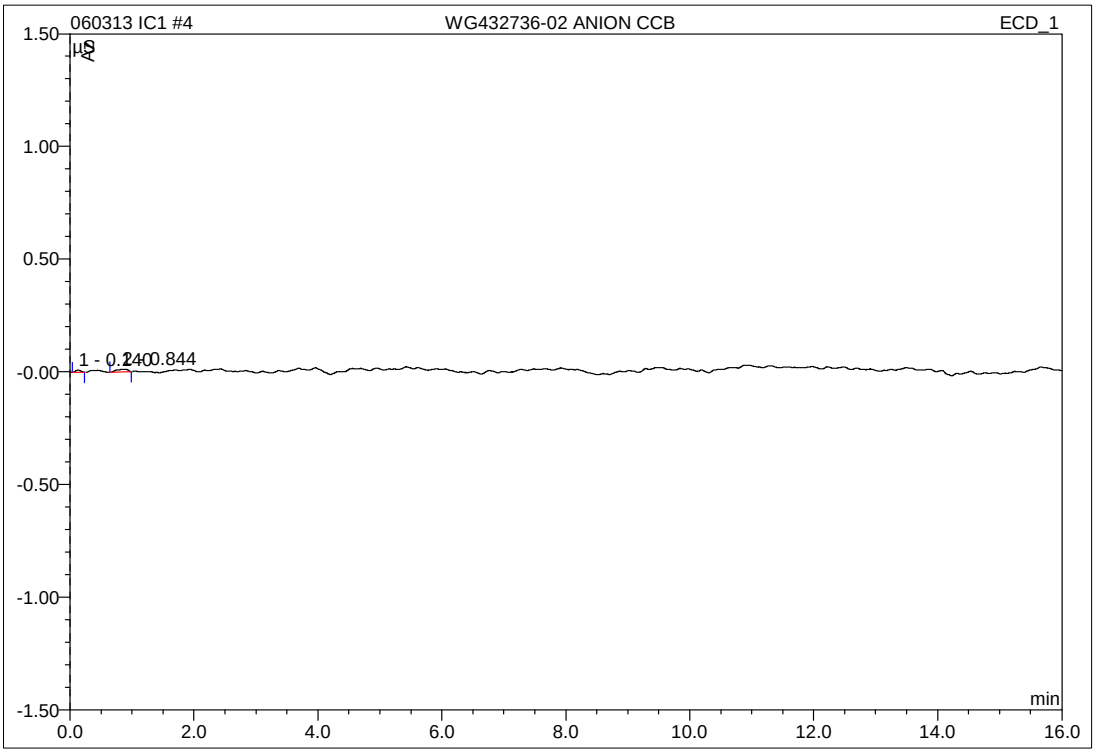
Sample Name:	**WG432736-03 ANION CCV**	*Injection Volume:*	**20.0**
Vial Number:	**11**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**9056**	*Dilution Factor:*	**1.0000**
Recording Time:	**6/3/2013 16:01**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**

WG432736-03 ANIOI	Actual mg/L	Recoved mg/L	%Difference	
F	8.00	6.3032	-21.21	FAIL
Cl	8.00	8.1771	2.21	PASS
NO2-N	4.8714	5.1004	4.70	PASS
Br	8.00	8.0350	0.44	PASS
NO3-N	5.4216	5.3330	-1.63	PASS
PO4-P	13.0456	n.a.	#VALUE!	#VALUE!
SO4	40	39.4627	-1.34	PASS

4 WG432736-02 ANION CCB

1,1 JBK

Sample Name:	**WG432736-02 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:	**6/3/2013 12:39**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	0.14	n.a.	0.010	0.001	29.00	n.a.	BMB
2	0.84	n.a.	0.013	0.003	71.00	n.a.	BMB
Total:			0.023	0.004	100.00	0.000	

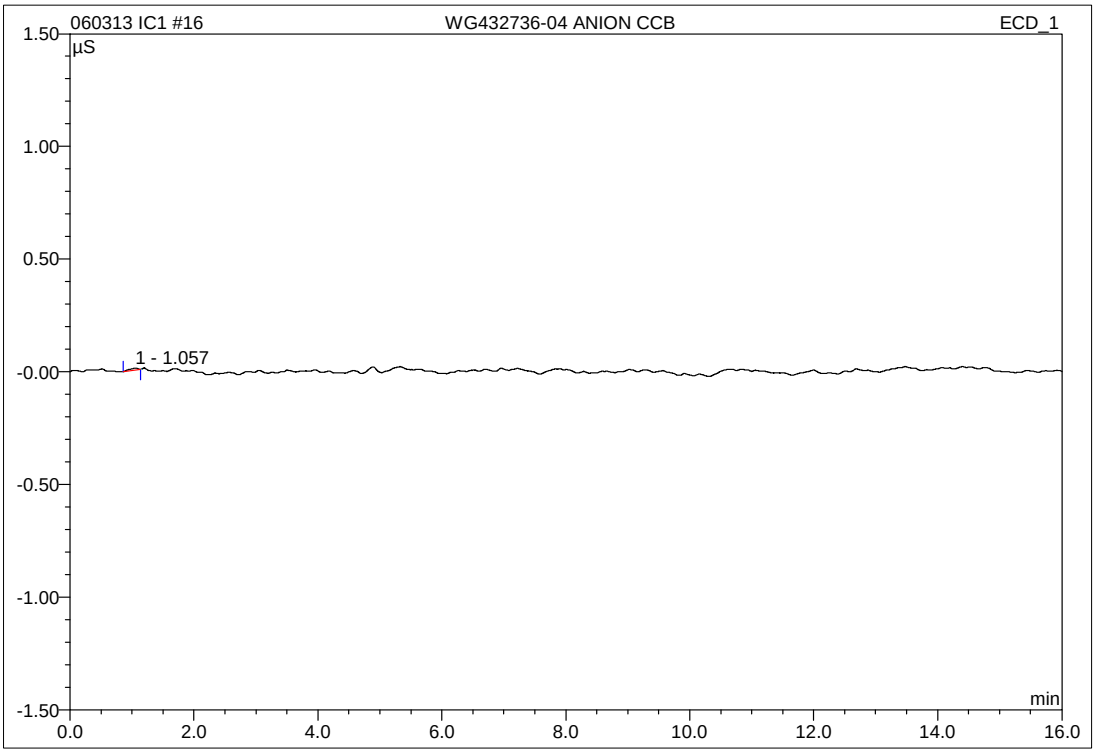
IC/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.80 SP1 Build 2238

16 WG432736-04 ANION CCB

1,1 JBK

Sample Name:	**WG432736-04 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:	**6/3/2013 16:20**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	1.06	n.a.	0.010	0.002	100.00	n.a.	BMB
Total:			0.010	0.002	100.00	0.000	

IC/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.80 SP1 Build 2238

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	9/28/2011	9/28/2011	9/29/2011
File #	WG377440-01	WG377440-07	WG377498-01
Time	13:32	23:58	13:53

COMPOUND	STD #1 RT	STD #2 RT	STD #3 RT	RT WIN
F	3.457	3.467	3.447	0.030
Cl	4.910	4.910	4.880	0.052
NO2-N	5.734	5.730	5.690	0.073
Br	7.110	7.097	7.047	0.100
NO3-N	7.870	7.857	7.800	0.112
PO4-P	10.834	10.843	10.754	0.147
SO4	13.124	13.137	13.007	0.215

Instrument ID: IC2

IC Column: AG14A-SC/AS14A-SC

	STANDARD #1	STANDARD #2	STANDARD #3
Date Run	8/3/2010	8/3/2010	8/4/2010
File #	WG338645-02	WG338692-07	WG338870-02
Time	12:15	22:42	12:00

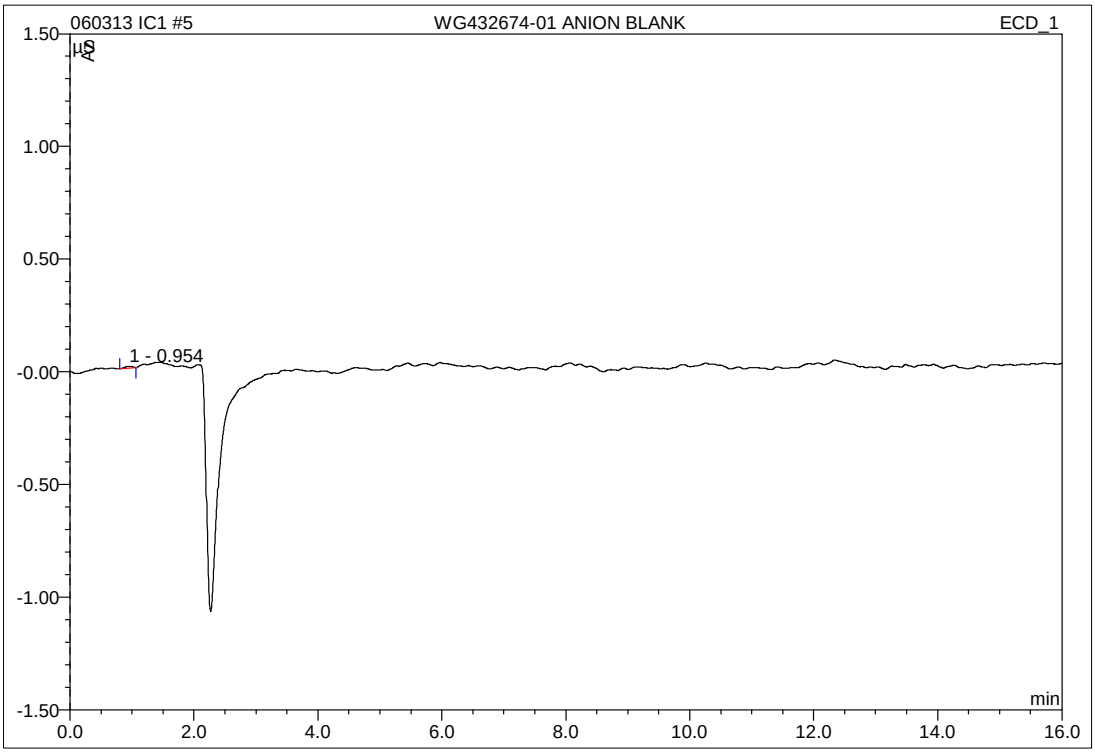
COMPOUND	STD #1 RT	STD #2 RT	STD #3 RT	RT WIN
F	3.387	3.377	3.367	0.030
Cl	4.867	4.864	4.837	0.050
NO2-N	5.724	5.717	5.684	0.064
Br	7.174	7.160	7.117	0.089
NO3-N	8.020	8.007	7.954	0.105
PO4-P	10.640	10.607	10.580	0.090
SO4	12.580	12.574	12.507	0.122

2.2.1.5 Raw QC Data

5 WG432674-01 ANION BLANK

1,1 JBK

Sample Name:	**WG432674-01 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:	**6/3/2013 12:57**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**

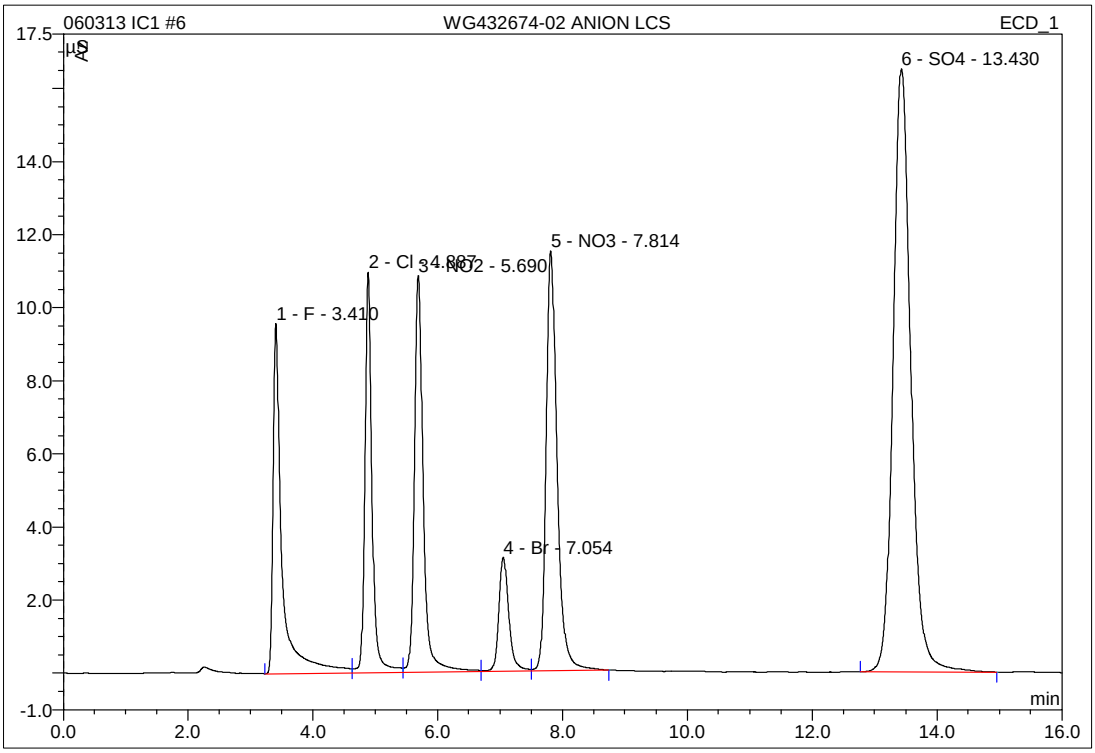


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	0.95	n.a.	0.008	0.001	100.00	n.a.	BMB
Total:			0.008	0.001	100.00	0.000	

6 WG432674-02 ANION LCS

1,1 JBK

Sample Name:	**WG432674-02 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:	**6/3/2013 13:16**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	3.41	F	9.576	1.571	11.92	6.388	BM
2	4.89	Cl	10.962	1.463	11.10	8.143	M
3	5.69	NO2	10.854	1.781	13.52	5.061	M
4	7.05	Br	3.119	0.582	4.41	7.980	M
5	7.81	NO3	11.488	2.349	17.83	5.298	MB
6	13.43	SO4	16.505	5.429	41.21	39.525	BMB
Total:			62.504	13.174	100.00	72.395	

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: L13051304
Department: Conventionals
Analyst: Brice Fenton

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: 65380
Approved By: Deanna Hesson

Microbac

Lab Report #: L13051304
Lab Project #: 3005.011
Project Name: White Sands MR
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L13051304-01	**PrePrep Method:**	N/A	**Instrument:**	TIAMO1
Client ID:	SMW1-0513-1	**Prep Method:**	9040C	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	9040C	**Cal Date:**	
Workgroup #:	WG431691	**Analyst:**	DIH	**Run Date:**	05/24/2013 16:45
Collect Date:	05/23/2013 10:42	**Dilution:**	1	**File ID:**	TI13053014591101
Sample Tag:		**Units:**	UNITS		

Analyte	CAS #	Result	Qual	LOQ	LOD
Corrosivity pH	10-29-7	7.35		0.000	0.000

Sample #:	L13051304-02	**PrePrep Method:**	N/A	**Instrument:**	TIAMO1
Client ID:	SMW4-0513-1	**Prep Method:**	9040C	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	9040C	**Cal Date:**	
Workgroup #:	WG431691	**Analyst:**	DIH	**Run Date:**	05/24/2013 16:51
Collect Date:	05/23/2013 12:20	**Dilution:**	1	**File ID:**	TI13053014592801
Sample Tag:		**Units:**	UNITS		

Analyte	CAS #	Result	Qual	LOQ	LOD
Corrosivity pH	10-29-7	7.65		0.000	0.000

Sample #:	L13051304-03	**PrePrep Method:**	N/A	**Instrument:**	TIAMO1
Client ID:	MPL25-0513-1	**Prep Method:**	9040C	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	9040C	**Cal Date:**	
Workgroup #:	WG431691	**Analyst:**	DIH	**Run Date:**	05/24/2013 16:56
Collect Date:	05/23/2013 15:00	**Dilution:**	1	**File ID:**	TI13053014594301
Sample Tag:		**Units:**	UNITS		

Analyte	CAS #	Result	Qual	LOQ	LOD
Corrosivity pH	10-29-7	7.97		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: 24-MAY-2013
Analyst: DIH
Analyst: NA
Method: PH/COND/ALK
Instrument: TIAMO
Curve Workgroup: NA
Runlog ID:
Analytical Workgroups: WG431691 WG431684 WG431689 WG431681 WG431688

Calibration/Linearity	5/24/13
Second Source Check	X
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	DIH
Secondary Reviewer	DIH
Comments	

Primary Reviewer:
01-JUN-2013

Secondary Reviewer:
01-JUN-2013

CHECKLIST1 - Modified 03/05/2008
Generated: JUN-01-2013 08:32:46

2.2.2.3 Raw Data

Metrohm Tiamo

Instrument: Tiamo

pH: EPA 150.1 / SM 4500-H(+)-B / SW846 904C

LCS 6: std 57616 Calibration: 5/24/13

LCS 9: std 16822

431686
431691

Note: · an LCS is analyzed every 20 samples
· alternate levels

Cond: EPA 120.1 / SM 2510B

LCS: _____ Daily Dil.: _____

wg 431684
431689

Note: · LCS/LCSDUP required each work group
· end run with an LCS
· sample duplicate every 10 samples

ALK: EPA 310.1 / SM2320B

wg 431681
431688

LCS: _____ Daily Dil.: _____

Titrant: 0.1N H_2SO_4: T: _____

Note: · LCS/LCSDUP required each workgroup

Analyst: [signature] Date: 5/24/13

DCN#95704

Metrohm Tiamo

	Sample ID	Dilution	pH	Cond	ALK	Acid
1	pH 6		✓			
2	BLK			✓		
3	LCS 1412			✓		
4	BLK				✓	
5	LCS 100				✓	
6	LCSDUP				✓	
7	05-1258-01			✓	✓	
8	05-1225-10		✓	✓	✓	
9	05-1237-01		✓	✓	✓	
10	03		✓	✓	✓	
11	05		✓	✓	✓	
12	05-1247-01		✓	✓	✓	
13	03		✓	✓	✓	
14	05		✓	✓	✓	
15	05-1249-01		✓	✓	✓	
16	05-1289-01	1290-01	✓	✓	✓	
17	03	-02	✓	✓	✓	
18	05	-03	✓	✓	✓	
19	07	-04	✓	✓	✓	
20	09	-05	✓	✓	✓	
21	11	-06	✓	✓	✓	
22	~~05-1290-01~~		✓	✓	✓	
23	~~02~~		✓	✓	✓	
24	~~03~~		✓	✓	✓	
25	~~04~~		✓	✓	✓	
26	~~05~~		✓	✓	✓	
27	DUP 1289-05				✓	
28	DUP 1290-05			✓		
29	LCS 1412			✓		
30	~~05-1170-03~~		✓			
31	DUP 1287-01		✓			
32	pH 9		✓			
33	BLK			✓		
34	LCS1412			✓		
35	BLK				✓	
36	LCS 100				✓	
37	LCSDUP				✓	
38	~~05-1290-06~~		✓	✓	✓	
39	~~DUP ↓~~				✓	
40	05-1228-01			✓		
41	03			✓		
42	05			✓		
43	07			✓		
44	09			✓		
45	11			✓		
46	13			✓		
47	05-1242-01			✓		
48	02			✓		
49	03			✓		

	Sample ID	Dilution	pH	Cond	ALK	Acid
50	05-1242-04			✓		
51	05-1244-01			✓		
52	05-1304-01		✓	✓		
53	02		✓	✓		
54	03		✓	✓		
55	DUP ↓			✓		
56	~~05-1295-01~~		✓	NO		Dup pH 1304-02
57	~~DUP ↓~~		✓			LCS 1412
58	pH 6		✓			
59						
60						
61						
62						
63						
64						
65						
66						
67						
68						
69						
70						
71						
72						
73						
74						
75						
76						
77						
78						
79						
80						
81						
82						
83						
84						
85						
86						
87						
88						
89						
90						
91						
92						
93						
94						
95						
96						
97						
98						

Analyst: dw Date: 5/24/13

DCN#95704

Determination overview

1	2013-05-24 13:42:59 UTC-4	pH	PH 6	sample pH
2	2013-05-24 13:48:27 UTC-4	Conductivity_042413	WG4311684-01	sample Conduntivity
3	2013-05-24 13:50:20 UTC-4	Conductivity_042413	WG4311684-02	sample Conduntivity
4	2013-05-24 13:52:19 UTC-4	Alkalinity to 4-5	WG4311681-01	Alkal mg/L CaCO3
5	2013-05-24 13:56:46 UTC-4	Alkalinity to 4-5	WG4311681-02	Alkal mg/L CaCO3
6	2013-05-24 14:01:51 UTC-4	Alkalinity to 4-5	WG4311681-03	Alkal mg/L CaCO3
7	2013-05-24 14:07:03 UTC-4	cond, pH, and alkalinity to 4-5	L13051258-01	sample Conduntivity
8	2013-05-24 14:12:58 UTC-4	cond, pH, and alkalinity to 4-5	L13051225-10	sample Conduntivity
9	2013-05-24 14:20:26 UTC-4	cond, pH, and alkalinity to 4-5	L13051237-01	sample Conduntivity
10	2013-05-24 14:26:54 UTC-4	cond, pH, and alkalinity to 4-5	L13051237-03	sample Conduntivity
11	2013-05-24 14:33:23 UTC-4	cond, pH, and alkalinity to 4-5	L13051237-05	sample Conduntivity
12	2013-05-24 14:40:26 UTC-4	cond, pH, and alkalinity to 4-5	L13051247-01	sample Conduntivity
13	2013-05-24 14:47:01 UTC-4	cond, pH, and alkalinity to 4-5	L13051247-03	sample Conduntivity
14	2013-05-24 14:53:37 UTC-4	cond, pH, and alkalinity to 4-5	L13051247-05	sample Conduntivity
15	2013-05-24 15:00:44 UTC-4	cond, pH, and alkalinity to 4-5	L13051249-01	sample Conduntivity
16	2013-05-24 15:07:20 UTC-4	cond, pH, and alkalinity to 4-5	L13051289-01	sample Conduntivity
17	2013-05-24 15:13:57 UTC-4	cond, pH, and alkalinity to 4-5	L13051289-03	sample Conduntivity
18	2013-05-24 15:20:23 UTC-4	cond, pH, and alkalinity to 4-5	L13051289-05	sample Conduntivity
19	2013-05-24 15:26:42 UTC-4	cond, pH, and alkalinity to 4-5	L13051289-07	sample Conduntivity
20	2013-05-24 15:33:00 UTC-4	cond, pH, and alkalinity to 4-5	L13051289-09	sample Conduntivity
21	2013-05-24 15:39:11 UTC-4	cond, pH, and alkalinity to 4-5	L13051289-11	sample Conduntivity
22	2013-05-24 15:45:24 UTC-4	Alkalinity to 4-5	WG431681-05	Alkal mg/L CaCO3
23	2013-05-24 15:50:14 UTC-4	Conductivity_042413	WG431684-05	sample Conduntivity
24	2013-05-24 15:52:07 UTC-4	Conductivity_042413	WG431684-03	sample Conduntivity
25	2013-05-24 15:54:02 UTC-4	pH	WG431686-02	sample pH
26	2013-05-24 15:58:16 UTC-4	pH	PH 9	sample pH
27	2013-05-24 16:02:27 UTC-4	Conductivity_042413	WG431689-01	sample Conduntivity
28	2013-05-24 16:04:15 UTC-4	Conductivity_042413	WG431689-02	sample Conduntivity
29	2013-05-24 16:06:10 UTC-4	Alkalinity to 4-5	WG431688-01	Alkal mg/L CaCO3
30	2013-05-24 16:10:34 UTC-4	Alkalinity to 4-5	WG431688-02	Alkal mg/L CaCO3
31	2013-05-24 16:15:28 UTC-4	Alkalinity to 4-5	WG431688-03	Alkal mg/L CaCO3
32	2013-05-24 16:20:35 UTC-4	Conductivity_042413	L13051228-01	sample Conduntivity
33	2013-05-24 16:22:29 UTC-4	Conductivity_042413	L13051228-03	sample Conduntivity
34	2013-05-24 16:24:32 UTC-4	Conductivity_042413	L13051228-05	sample Conduntivity
35	2013-05-24 16:26:36 UTC-4	Conductivity_042413	L13051228-07	sample Conduntivity
36	2013-05-24 16:28:41 UTC-4	Conductivity_042413	L13051228-09	sample Conduntivity
37	2013-05-24 16:30:47 UTC-4	Conductivity_042413	L13051228-11	sample Conduntivity
38	2013-05-24 16:32:55 UTC-4	Conductivity_042413	L13051228-13	sample Conduntivity
39	2013-05-24 16:35:03 UTC-4	Conductivity_042413	L13051242-01	sample Conduntivity
40	2013-05-24 16:37:13 UTC-4	Conductivity_042413	L13051242-02	sample Conduntivity
41	2013-05-24 16:39:22 UTC-4	Conductivity_042413	L13051242-03	sample Conduntivity
42	2013-05-24 16:41:32 UTC-4	Conductivity_042413	L13051242-04	sample Conduntivity
43	2013-05-24 16:43:40 UTC-4	Conductivity_042413	L13051244-01	sample Conduntivity
44	2013-05-24 16:45:47 UTC-4	pH and Conductivity_042413	L13051304-01	sample Conduntivity
45	2013-05-24 16:51:17 UTC-4	pH and Conductivity_042413	L13051304-02	sample Conduntivity
46	2013-05-24 16:56:45 UTC-4	pH and Conductivity_042413	L13051304-03	sample Conduntivity
47	2013-05-24 17:02:13 UTC-4	Conductivity_042413	WG431689-05	sample Conduntivity
48	2013-05-24 17:04:13 UTC-4	pH	WG431691-02	sample pH
49	2013-05-24 17:06:36 UTC-4	Conductivity_042413	WG431689-05	sample Conduntivity

Determination overview

1	6.032	pH		
2	22.600	µS/cm		
3	1469.400	µS/cm		
4	5.00	mg/L		
5	93.15	mg/L		
6	92.80	mg/L		
7	1782.400	µS/cm	sample pH	9.008
8	554.200	µS/cm	sample pH	8.340
9	229.100	µS/cm	sample pH	7.518
10	264.900	µS/cm	sample pH	7.868
11	346.000	µS/cm	sample pH	7.948
12	325.200	µS/cm	sample pH	7.988
13	351.200	µS/cm	sample pH	7.993
14	347.900	µS/cm	sample pH	7.972
15	263.500	µS/cm	sample pH	7.700
16	1878.100	µS/cm	sample pH	7.783
17	1629.300	µS/cm	sample pH	7.556
18	1099.800	µS/cm	sample pH	7.128
19	1126.900	µS/cm	sample pH	7.204
20	659.900	µS/cm	sample pH	7.068
21	662.500	µS/cm	sample pH	7.599
22	14.20	mg/L		
23	731.200	µS/cm		
24	1464.600	µS/cm		
25	7.559	pH		
26	9.062	pH		
27	11.300	µS/cm		
28	1482.300	µS/cm		
29	9.80	mg/L		
30	93.20	mg/L		
31	93.38	mg/L		
32	1138.900	µS/cm		
33	150.200	µS/cm		
34	1452.900	µS/cm		
35	344.500	µS/cm		
36	308.000	µS/cm		
37	31.500	µS/cm		
38	1182.800	µS/cm		
39	331.000	µS/cm		
40	663.100	µS/cm		
41	661.200	µS/cm		
42	330.500	µS/cm		
43	1217.300	µS/cm		
44	355.400	µS/cm	sample pH	7.354
45	374.200	µS/cm	sample pH	7.653
46	488.400	µS/cm	sample pH	7.973
47	490.000	µS/cm		
48	7.692	pH		
49	1496.400	µS/cm		

Determination overview

1				
2				
3				
4				
5				
6				
7	pH	Alkal mg/L CaCO3	22.97	mg/L
8	pH	Alkal mg/L CaCO3	229.00	mg/L
9	pH	Alkal mg/L CaCO3	50.80	mg/L
10	pH	Alkal mg/L CaCO3	56.40	mg/L
11	pH	Alkal mg/L CaCO3	133.00	mg/L
12	pH	Alkal mg/L CaCO3	67.00	mg/L
13	pH	Alkal mg/L CaCO3	69.00	mg/L
14	pH	Alkal mg/L CaCO3	133.74	mg/L
15	pH	Alkal mg/L CaCO3	58.16	mg/L
16	pH	Alkal mg/L CaCO3	54.12	mg/L
17	pH	Alkal mg/L CaCO3	33.00	mg/L
18	pH	Alkal mg/L CaCO3	17.20	mg/L
19	pH	Alkal mg/L CaCO3	18.00	mg/L
20	pH	Alkal mg/L CaCO3	14.20	mg/L
21	pH	Alkal mg/L CaCO3	17.35	mg/L
22				
23				
24				
25				
26				
27				
28				
29				
30				
31				
32				
33				
34				
35				
36				
37				
38				
39				
40				
41				
42				
43				
44	pH			
45	pH			
46	pH			
47				
48				
49				

Determination overview

50	2013-05-24 17:10:29 UTC-4	pH	PH 6	sample pH

Determination overview

50	6.033	pH

2.2.3 Alkalinity Data

2.2.3.1 Summary Data

Login Number: L13051304
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: 65378
Approved By: Deanna Hesson

Microbac

Lab Report #: L13051304
Lab Project #: 3005.011
Project Name: White Sands MR
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L13051304-01	**PrePrep Method:**	N/A	**Instrument:**	SMARTCHEM
Client ID:	SMW1-0513-1	**Prep Method:**	SM2320B-1997	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	SM2320B-1997	**Cal Date:**	05/29/2013 14:43
Workgroup #:	WG432161	**Analyst:**	BAF	**Run Date:**	05/29/2013 14:58
Collect Date:	05/23/2013 10:42	**Dilution:**	1	**File ID:**	SC130529005.033
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Alkalinity, Bicarbonate (as CaCO3)	13-00-3	78.4		20.0	10.0

Sample #:	L13051304-01	**PrePrep Method:**	N/A	**Instrument:**	SMARTCHEM
Client ID:	SMW1-0513-1	**Prep Method:**	SM2320B-1997	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	SM2320B-1997	**Cal Date:**	05/29/2013 14:43
Workgroup #:	WG432161	**Analyst:**	BAF	**Run Date:**	05/29/2013 14:58
Collect Date:	05/23/2013 10:42	**Dilution:**	1	**File ID:**	SC130529005.033
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 #:	L13051304-01	**PrePrep Method:**	N/A	**Instrument:**	SMARTCHEM
Client ID:	SMW1-0513-1	**Prep Method:**	SM2320B-1997	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	SM2320B-1997	**Cal Date:**	05/29/2013 14:43
Workgroup #:	WG432161	**Analyst:**	BAF	**Run Date:**	05/29/2013 14:58
Collect Date:	05/23/2013 10:42	**Dilution:**	1	**File ID:**	SC130529005.033
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Alkalinity, Total (as CaCO3)	11-43-8	78.4		20.0	10.0

Sample #:	L13051304-02	**PrePrep Method:**	N/A	**Instrument:**	SMARTCHEM
Client ID:	SMW4-0513-1	**Prep Method:**	SM2320B-1997	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	SM2320B-1997	**Cal Date:**	05/29/2013 14:43
Workgroup #:	WG432161	**Analyst:**	BAF	**Run Date:**	05/29/2013 14:58
Collect Date:	05/23/2013 12:20	**Dilution:**	1	**File ID:**	SC130529005.034
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Alkalinity, Bicarbonate (as CaCO3)	13-00-3	95.1		20.0	10.0

Sample #:	L13051304-02	**PrePrep Method:**	N/A	**Instrument:**	SMARTCHEM
Client ID:	SMW4-0513-1	**Prep Method:**	SM2320B-1997	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	SM2320B-1997	**Cal Date:**	05/29/2013 14:43
Workgroup #:	WG432161	**Analyst:**	BAF	**Run Date:**	05/29/2013 14:58
Collect Date:	05/23/2013 12:20	**Dilution:**	1	**File ID:**	SC130529005.034
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Alkalinity, Total (as CaCO3)	11-43-8	95.1		20.0	10.0

Sample #:	L13051304-02	**PrePrep Method:**	N/A	**Instrument:**	SMARTCHEM
Client ID:	SMW4-0513-1	**Prep Method:**	SM2320B-1997	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	SM2320B-1997	**Cal Date:**	05/29/2013 14:43
Workgroup #:	WG432161	**Analyst:**	BAF	**Run Date:**	05/29/2013 14:58
Collect Date:	05/23/2013 12:20	**Dilution:**	1	**File ID:**	SC130529005.034
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 #: L13051304
Lab Project #: 3005.011
Project Name: White Sands MR
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L13051304-03	**PrePrep Method:**	N/A	**Instrument:**	SMARTCHEM
Client ID:	MPL25-0513-1	**Prep Method:**	SM2320B-1997	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	SM2320B-1997	**Cal Date:**	05/29/2013 14:43
Workgroup #:	WG432161	**Analyst:**	BAF	**Run Date:**	05/29/2013 14:59
Collect Date:	05/23/2013 15:00	**Dilution:**	1	**File ID:**	SC130529005.035
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 #:	L13051304-03	**PrePrep Method:**	N/A	**Instrument:**	SMARTCHEM
Client ID:	MPL25-0513-1	**Prep Method:**	SM2320B-1997	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	SM2320B-1997	**Cal Date:**	05/29/2013 14:43
Workgroup #:	WG432161	**Analyst:**	BAF	**Run Date:**	05/29/2013 14:59
Collect Date:	05/23/2013 15:00	**Dilution:**	1	**File ID:**	SC130529005.035
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Alkalinity, Bicarbonate (as CaCO3)	13-00-3	91.3		20.0	10.0

Sample #:	L13051304-03	**PrePrep Method:**	N/A	**Instrument:**	SMARTCHEM
Client ID:	MPL25-0513-1	**Prep Method:**	SM2320B-1997	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	SM2320B-1997	**Cal Date:**	05/29/2013 14:43
Workgroup #:	WG432161	**Analyst:**	BAF	**Run Date:**	05/29/2013 14:59
Collect Date:	05/23/2013 15:00	**Dilution:**	1	**File ID:**	SC130529005.035
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Alkalinity, Total (as CaCO3)	11-43-8	91.3		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: 29-MAY-2013
Analyst: BAF
Analyst: NA
Method: ALK
Instrument: SC
Curve Workgroup: NA
Runlog ID:
Analytical Workgroups: WG432161 WG432185 WG432134

Calibration/Linearity	5-29-2013
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:
30-MAY-2013
Brice Fenton

Secondary Reviewer:
04-JUN-2013
Dianna Hesson

CHECKLIST1 - Modified 03/05/2008
Generated: JUN-04-2013 07:19:00

Microbac Laboratories Inc.

HOLDING TIMES
EQUIVALENT TO AFCEE FORM 9

Analytical Method: SM2320B-1997 AAB#: WG432161

Login Number: L13051304

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
SMW1-0513-1	01	05/23/13					05/29/2013	6.2	14		05/29/13	6.2	14	
SMW4-0513-1	02	05/23/13					05/29/2013	6.1	14		05/29/13	6.1	14	
MPL25-0513-1	03	05/23/13					05/29/2013	6	14		05/29/13	6	14	

* = SEE PROJECT QAPP REQUIREMENTS

HOLD_TIMES - Modified 03/06/2008
PDF File ID: 2905117
Report generated 06/03/2013 09:44

Microbac Laboratories Inc.

METHOD BLANK SUMMARY

Login Number: L13051304
Blank File ID: SC130529005.010
Prep Date: 05/29/13 14:44
Analyzed Date: 05/29/13 14:44
Analyst: BAF

Work Group: WG432161
Blank Sample ID: WG432161-01
Instrument ID: SMARTCHEM
Method: SM2320B-1997

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG432161-02	SC130529005.011	05/29/13 14:44	01
LCS2	WG432161-03	SC130529005.012	05/29/13 14:45	01
DUP	WG432161-05	SC130529005.024	05/29/13 14:52	01
SMW1-0513-1	L13051304-01	SC130529005.033	05/29/13 14:58	01
SMW1-0513-1	L13051304-01	SC130529005.033	05/29/13 14:58	01
SMW1-0513-1	L13051304-01	SC130529005.033	05/29/13 14:58	01
SMW4-0513-1	L13051304-02	SC130529005.034	05/29/13 14:58	01
SMW4-0513-1	L13051304-02	SC130529005.034	05/29/13 14:58	01
SMW4-0513-1	L13051304-02	SC130529005.034	05/29/13 14:58	01
MPL25-0513-1	L13051304-03	SC130529005.035	05/29/13 14:59	01
MPL25-0513-1	L13051304-03	SC130529005.035	05/29/13 14:59	01
MPL25-0513-1	L13051304-03	SC130529005.035	05/29/13 14:59	01

Report Name: BLANK_SUMMARY
PDF File ID: 2905118
Report generated 06/03/2013 09:44

Microbac Laboratories Inc.

METHOD BLANK REPORT

Login Number: L13051304 Prep Date: 05/29/13 14:44 Sample ID: WG432161-01
Instrument ID: SMARTCHEM Run Date: 05/29/13 14:44 Prep Method: SM2320B-1997
File ID: SC130529005.010 Analyst: BAF Method: SM2320B-1997
Workgroup (AAB#): WG432161 Matrix: Water Units: mg/L
Contract #: Cal ID: SMARTC-29-MAY-13

Analytes	LOD	LOQ	Concentration	Dilution	Qualifier
Alkalinity, Total (as CaCO3)	10.0	20.0	-57.6	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: 2905119
03-JUN-2013 09:44

Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L13051304 Analyst: BAF Prep Method: SM2320B-1997
Instrument ID: SMARTCHEM Matrix: Water Method: SM2320B-1997
Workgroup (AAB#): WG432161 Units: mg/L
QC Key: DOD4 Lot #: STD57678

Sample ID: WG432161-02 LCS File ID: SC130529005.011 Run Date: 05/29/2013 14:44
Sample ID: WG432161-03 LCS2 File ID: SC130529005.012 Run Date: 05/29/2013 14:45

Analytes	LCS			LCS2			%RPD	%Rec Limits	RPD Lmt	Q
	Known	Found	% REC	Known	Found	% REC				
Alkalinity, Total (as CaCO3)	200	178	89.0	200	186	92.8	4.19	85 - 115	20	

LCS_LCS2 - Modified 03/06/2008
PDF File ID: 2905120
Report generated: 06/03/2013 09:44

2.2.3.3 Raw Data

SMARTCHEM RUN LOG
(smartchem2, smartchem3)

WORKGROUP: WG432134

432161
432185

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** 432134
Plan # 20130529004
2) **Workgroup** 432161
Plan # 20130529005
3) **Workgroup** 432185
Plan # 20130529006

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	05-1464-01			+C
1-6	02			↓
1-7	03			↓
1-8	04			↓
1-9	05			↓
1-10	BLK ~~06~~			↓
1-11	07			↓
1-12	05-1182-01			+BC
1-13	03			↓
1-14	05			↓
1-15	07			↓
1-16	09			↓
1-17	11			↓
1-18	13			↓
1-19	05-1320-02	1/5		color
1-20	03	1/5		↓
1-21	05	1/5		↓
1-22	06	1/5		↓
2-1	08	1/5		↓
2-2	09	1/5		↓
2-3	DUP ↓	1/5		↓

Position	Analyte	1	2	3
	Run2			
2-4 1	ICV 250			
2-5 2	BLK			
2-6 3	LCS 200			
2-7 4	LCSDUP			
2-8 5	05-1359-01			
2-9 6	02			
2-10 7	05-1360-01			
2-11 8	05-1242-01			+BC
2-12 9	02			↓
2-13 10	03			↓
2-14 11	04			↓
2-15 12	05-1244-01			
2-16 13	05-1262-01			+BC
2-17 14	DUP 01			↓
2-18 15	MS 03			↓
2-19 16	MSD 05			↓
2-20 17	07			↓
2-21 18	09			↓
2-22 19	11			↓
2-23 20	05-1295-01	1/10		
2-24 21	05-1304-01			+BC
2-25 22	02			↓
2-26 1	03			↓
3-1 2	05-1310-01			+B
3-2 3	~~DUP~~ ↓			↓
4				
5				

NOTES:
* Run NO2 std on NO3 runs
* LCSD must be run if no MS or Duplicate
*MS(10% sample): NO3, TKN, NH3, PHOS

DCN#95761

SMARTCHEM RUN LOG
(smartchem2, smartchem3)

WORKGROUP: WG432134

Position	Analyte	1	2	3
	Run3			
3-3 1	ICV 250			
3-4 2	BLK			
3-5 3	LCS 200			
3-6 4	LCSDUP			
3-7 5	05-1310-03			+B
3-8 6	05-1323-17			+BC
3-9 7	19			↓
3-10 8	21			↓
3-11 9	05-1389-02	1/5		color
3-12 10	03	1/5		↓
3-13 11	05	1/5		↓
3-14 12	06	1/5		↓
3-15 13	05-1489-01			

Position	Analyte	1	2	3
3-16 14	05-1373-01			+BC
3-17 15	DUP 01			↓
3-18 16	MS 02			↓
3-19 17	MSD 03			↓
3-20 18	04			↓
3-21 19	05-1408-01			+BC
3-22 20	04			↓
3-23 21	06			↓
3-24 22	08			↓
3-25 1	10			↓
3-26 2	16			↓
3-27 3				
3-28				

	Chloride	EPA 325.2/SM 4500-Cl E
	Sulfate	EPA 375.4/SM 426C (15th)
✓	Alkalinity	EPA 310.2
	Nitrate-Nitrite	EPA 353.2/SM 4500-NO3 F

	Ammonia	EPA 350.1/SM 4500-NH3 B
	TKN	EPA 351.2
	Phos	EPA 365.4

Analyte	ALK		Reagents
SOP & Revision	K3102 Rev. 15		RGT 26070
Curve Stock (SC made)	Std 56388		RGT 27171
Curve ID (user made)			RGT 27197
ICV	Std 57677		
CCV	Std 57795		
LCS	Std 57678		
MS	Std 56389 Dilution 0.4(2500)/10 = 100		

Comments: All +B, +C samples pH ≤ 8.3.

Analyst: Brice Fenton

Date: 5/29/13

DCN#95761

MICROBAC (OVD)

SMARTCHEM REPORT (VER3.0.53)

NH3, TKN, NO3NO2 (MG/L N)

ALK (MG/L CaCO3) CL, SO4 (MG/L)

Method : WALK - ALKALINITY EPA 310.2

Smp#/[Dil Fact]	Sample ID	Conc	OD	%Recovery/RPD	Flag	Analysis Time
DIL-1	RBL	0.0	0.6892	0.00		1:23:48 PM
DIL-1	RBL	0.0	0.6845	0.00		1:24:06 PM
DIL-1	RBL	0.0	0.6918	0.00		1:25:00 PM
DIL-1	Std-1	0.0	-0.0027	0.00		1:25:18 PM
SR5-1	Std-2	10.0	-0.0139	0.00		1:26:12 PM
SR5-2	Std-3	20.0	-0.0210	0.00		1:26:30 PM
SR5-3	Std-4	50.0	-0.0690	0.00		1:27:24 PM
SR5-4	Std-5	100.0	-0.1473	0.00		1:27:42 PM
SR5-5	Std-6	200.0	-0.3002	0.00		1:28:36 PM
SR5-6	Std-7	250.0	-0.3833	0.00		1:28:54 PM
SR5-7	Std-8	300.0	-0.4561	0.00		1:29:48 PM
1	ICV	233.6	-0.3533	0.00		1:30:06 PM
2	WG432134-01 BLK	-49.3	0.0750	0.00	INV,><,LL	1:31:00 PM
3	WG432134-02 LCS	187.8	-0.2816	0.00		1:31:18 PM
4	WG432134-03 LCSDUP	190.0	-0.2850	0.00		1:32:12 PM
5	L13051464-01	-18.1	0.0294	0.00	INV,><,LL	1:32:30 PM
6	L13051464-02	-0.9	0.0040	0.00	INV,><,LL	1:33:24 PM
7	L13051464-03	-79.8	0.1193	0.00	INV,><,LL	1:33:42 PM
8	L13051464-04	-57.1	0.0864	0.00	INV,><,LL	1:34:37 PM
9	L13051464-05	-21.5	0.0344	0.00	INV,><,LL	1:34:54 PM
10	L13051464-06	14.9	-0.0193	0.00		1:35:49 PM
ST-2	CCV (150 mg/L)	155.0	-0.2309	103.32		1:36:06 PM
ST-3	CCB (0 mg/L)	-44.5	0.0680	0.00	INV,><,LL	1:37:01 PM
11	L13051464-07	27.5	-0.0381	0.00		1:37:19 PM
12	L13051182-01	167.0	-0.2495	0.00		1:38:13 PM
13	L13051182-03	185.3	-0.2778	0.00		1:38:31 PM
14	L13051182-05	245.7	-0.3723	0.00		1:39:25 PM
15	L13051182-07	203.6	-0.3062	0.00		1:39:43 PM
16	L13051182-09	X300.8	-0.4601	0.00	><,LH	1:40:37 PM
17	L13051182-11	75.4	-0.1098	0.00		1:40:55 PM
18	L13051182-13	24.4	-0.0334	0.00		1:41:49 PM
19	L13051320-02 (5)	163.9	-0.2446	0.00		1:42:07 PM

Report Date :05/29/2013 **Run Date :5/29/2013** **Operator : WESTCO** **Plan # :20130529004**

Plan Description : ALK-A-BAF/5/29/2013

MICROBAC (OVD)

SMARTCHEM REPORT (VER3.0.53)

NH3, TKN, NO3NO2 (MG/L N)

ALK (MG/L CaCO3) CL, SO4 (MG/L)

Method : WALK - ALKALINITY EPA 310.2

Smp#/[Dil Fact]	Sample ID	Conc	OD	%Recovery/RPD	Flag	Analysis Time
20	L13051320-03 (5)	119.6	-0.1767	0.00		1:43:01 PM
ST-2	CCV (150 mg/L)	156.7	-0.2336	104.49		1:43:19 PM
ST-3	CCB (0 mg/L)	-27.3	0.0429	0.00	INV,><,LL	1:44:13 PM
21	L13051320-05 (5)	195.8	-0.2941	0.00		1:44:31 PM
22	L13051320-06 (5)	120.8	-0.1785	0.00		1:45:25 PM
23	L13051320-08 (5)	179.1	-0.2681	0.00		1:45:43 PM
24	L13051320-09 (5)	117.7	-0.1738	0.00		1:46:37 PM
25	WG432134-05 (5) DUP	124.5	-0.1842	0.00		1:46:55 PM
26	ID 26	-29.4	0.0460	0.00	INV,><,LL	1:47:49 PM
27	ID 27	-21.3	0.0340	0.00	INV,><,LL	1:48:07 PM
ST-2	CCV (150 mg/L)	165.4	-0.2470	110.28		1:49:01 PM
ST-3	CCB (0 mg/L)	-22.7	0.0361	0.00	INV,><,LL	1:49:19 PM
16-[1/2]	L13051182-09	408.9	-0.3076	0.00	LH	1:56:59 PM
ST-2	CCV (150 mg/L)	171.4	-0.2562	114.25		1:56:59 PM
ST-3	CCB (0 mg/L)	-10.7	0.0184	0.00	INV,><,LL	1:57:53 PM

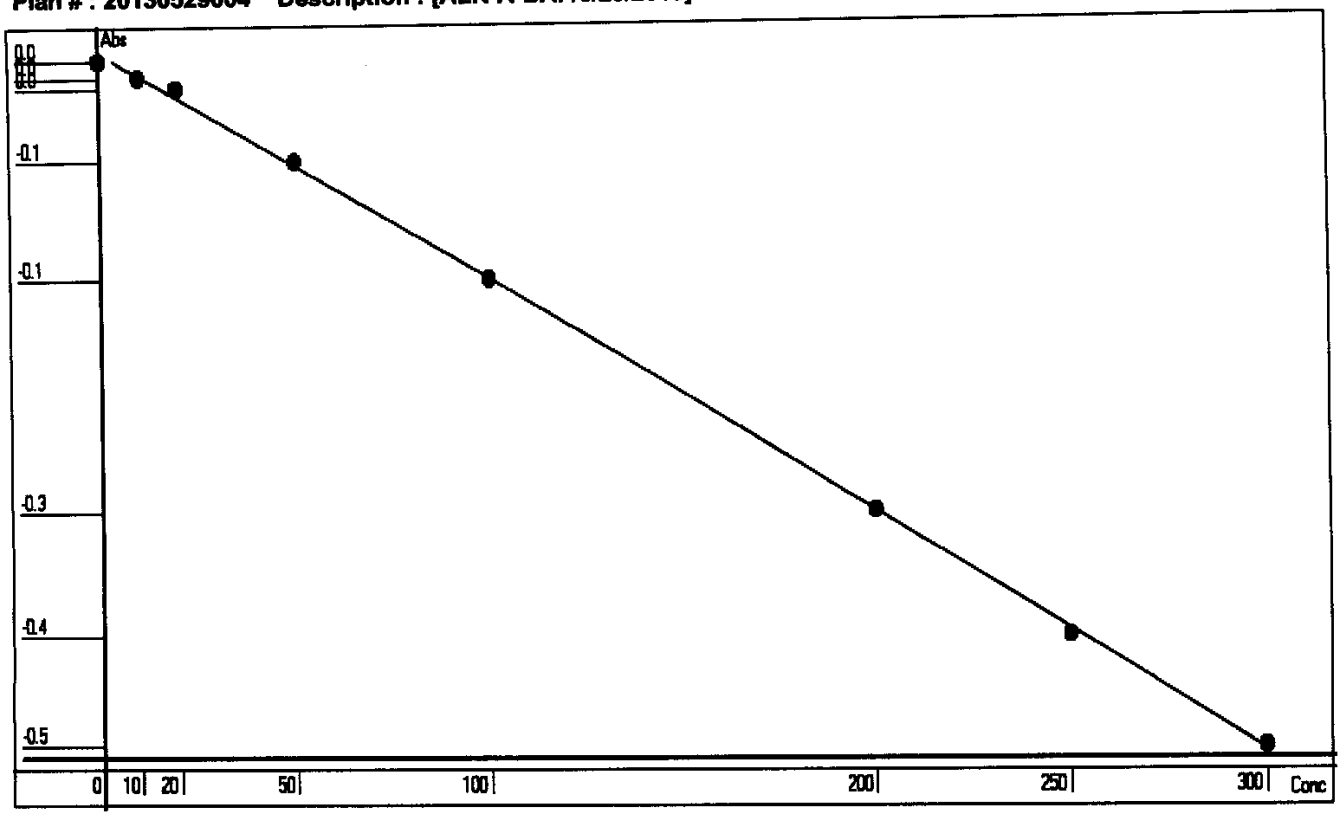
Report Date :05/29/2013 **Run Date :5/29/2013** **Operator : WESTCO** **Plan # :20130529004**

Plan Description : ALK-A-BAF/5/29/2013

Calibrant Report - WALK -

Calib Lot #:010104 Exp Date:6/21/2020 User:MICROBAC

Plan # : 20130529004 Description : [ALK-A-BAF/5/29/2013]



Point	OD	Conc	Recalc Conc	% Error
1	-0.0027	0	3.6457	364.57
2	-0.0139	10	11.2166	12.17
3	-0.0210	20	16.0083	-19.96
4	-0.0690	50	48.2469	-3.51
5	-0.1473	100	100.2522	0.25
6	-0.3002	200	199.7182	-0.14
7	-0.3833	250	252.6193	1.05
8	-0.4561	300	298.2934	-0.57

Conc= -59.0406*Abso^2 -676.9504*Abso +1.8184 R^2=0.9996

RBL
0.6905
0

Report Date 5/29/2013 Run Date 5/29/2013

MICROBAC (OVD)
SMARTCHEM REPORT (VER3.0.53)
NH3, TKN, NO3NO2 (MG/L N)
ALK (MG/L CaCO3) CL, SO4 (MG/L)

Method : WALK - ALKALINITY EPA 310.2

Smp#/[Dil Fact]	Sample ID	Conc	OD	%Recovery/RPD	Flag	Analysis Time
DIL-1	RBL	0.0	0.5596	0.00		2:37:21 PM
DIL-1	RBL	0.0	0.5629	0.00		2:37:39 PM
DIL-1	RBL	0.0	0.5630	0.00		2:38:33 PM
DIL-1	Std-1	0.0	-0.0028	0.00		2:38:51 PM
SR5-1	Std-2	10.0	-0.0132	0.00		2:39:45 PM
SR5-2	Std-3	20.0	-0.0251	0.00		2:40:03 PM
SR5-3	Std-4	50.0	-0.0519	0.00		2:40:57 PM
SR5-4	Std-5	100.0	-0.1235	0.00		2:41:15 PM
SR5-5	Std-6	200.0	-0.2509	0.00		2:42:09 PM
SR5-6	Std-7	250.0	-0.3174	0.00		2:42:27 PM
SR5-7	Std-8	300.0	-0.3720	0.00		2:43:21 PM
1	ICV	232.3	-0.2901	0.00		2:43:39 PM
2	WG432161-01 BLK	-57.6	0.0723	0.00	INV,><,LL	2:44:33 PM
3	WG432161-02 LCS	178.1	-0.2216	0.00		2:44:51 PM
4	WG432161-03 LCSDUP	185.7	-0.2312	0.00		2:45:45 PM
5	L13051359-01	264.1	-0.3304	0.00		2:46:03 PM
6	L13051359-02	200.4	-0.2497	0.00		2:46:58 PM
7	L13051360-01	179.2	-0.2230	0.00		2:47:16 PM
8	L13051242-01	77.7	-0.0957	0.00		2:48:10 PM
9	L13051242-02	69.5	-0.0855	0.00		2:48:28 PM
10	L13051242-03	70.9	-0.0872	0.00		2:49:22 PM
ST-2	CCV (150 mg/L)	149.3	-0.1854	99.54		2:49:40 PM
ST-3	CCB (0 mg/L)	-41.5	0.0523	0.00	INV,><,LL	2:50:34 PM
11	L13051242-04	86.9	-0.1072	0.00		2:50:52 PM
12	L13051244-01	261.5	-0.3271	0.00		2:51:46 PM
13	L13051262-01	294.0	-0.3685	0.00		2:52:04 PM
14	WG432161-05 DUP	okX 300.1	-0.3762	0.00	><,LH	2:52:58 PM
15	L13051262-03 MS	ok 342.5	-0.4304	0.00	><,LH	2:53:16 PM
16	L13051262-05 MSD	ok 333.4	-0.4188	0.00	><,LH	2:54:10 PM
17	L13051262-07	225.2	-0.2811	0.00		2:54:28 PM
18	L13051262-09	292.3	-0.3663	0.00		2:55:22 PM
19	L13051262-11	276.4	-0.3461	0.00		2:55:40 PM

Report Date :05/29/2013 **Run Date :5/29/2013** **Operator : WESTCO** **Plan # :20130529005**

Plan Description : ALK-B-BAF/5/29/2013

MICROBAC (OVD)

SMARTCHEM REPORT (VER3.0.53)

NH3, TKN, NO3NO2 (MG/L N)

ALK (MG/L CaCO3) CL, SO4 (MG/L)

Method : WALK - ALKALINITY EPA 310.2

Smp#/[Dil Fact]	Sample ID	Conc	OD	%Recovery/RPD	Flag	Analysis Time
20	L13051295-01 (10)	-38.8	0.0490	0.00	INV,><,LL	2:56:34 PM
ST-2	CCV (150 mg/L)	150.6	-0.1870	100.39		2:56:52 PM
ST-3	CCB (0 mg/L)	-39.8	0.0502	0.00	INV,><,LL	2:57:46 PM
21	L13051304-01	78.4	-0.0966	0.00		2:58:04 PM
22	L13051304-02	95.1	-0.1174	0.00		2:58:58 PM
23	L13051304-03	91.3	-0.1127	0.00		2:59:16 PM
24	L13051310-01	261.9	-0.3277	0.00		3:00:10 PM
25	ID 25	23.4	-0.0281	0.00		3:00:28 PM
26	ID 26	-32.9	0.0418	0.00	INV,><,LL	3:01:22 PM
27	ID 27	-38.8	0.0490	0.00	INV,><,LL	3:01:40 PM
ST-2	CCV (150 mg/L)	161.2	-0.2004	107.49		3:02:34 PM
ST-3	CCB (0 mg/L)	-37.0	0.0468	0.00	INV,><,LL	3:02:52 PM
14-[1/2]	WG432161-05 DUP	351.4	-0.2186	0.00	LH	3:10:32 PM
15-[1/2]	L13051262-03 MS	449.3	-0.2804	0.00	LH	3:11:44 PM
16-[1/2]	L13051262-05 MSD	424.3	-0.2646	0.00	LH	3:12:56 PM
ST-2	CCV (150 mg/L)	163.2	-0.2029	108.82		3:12:56 PM
ST-3	CCB (0 mg/L)	-37.0	0.0468	0.00	INV,><,LL	3:13:50 PM

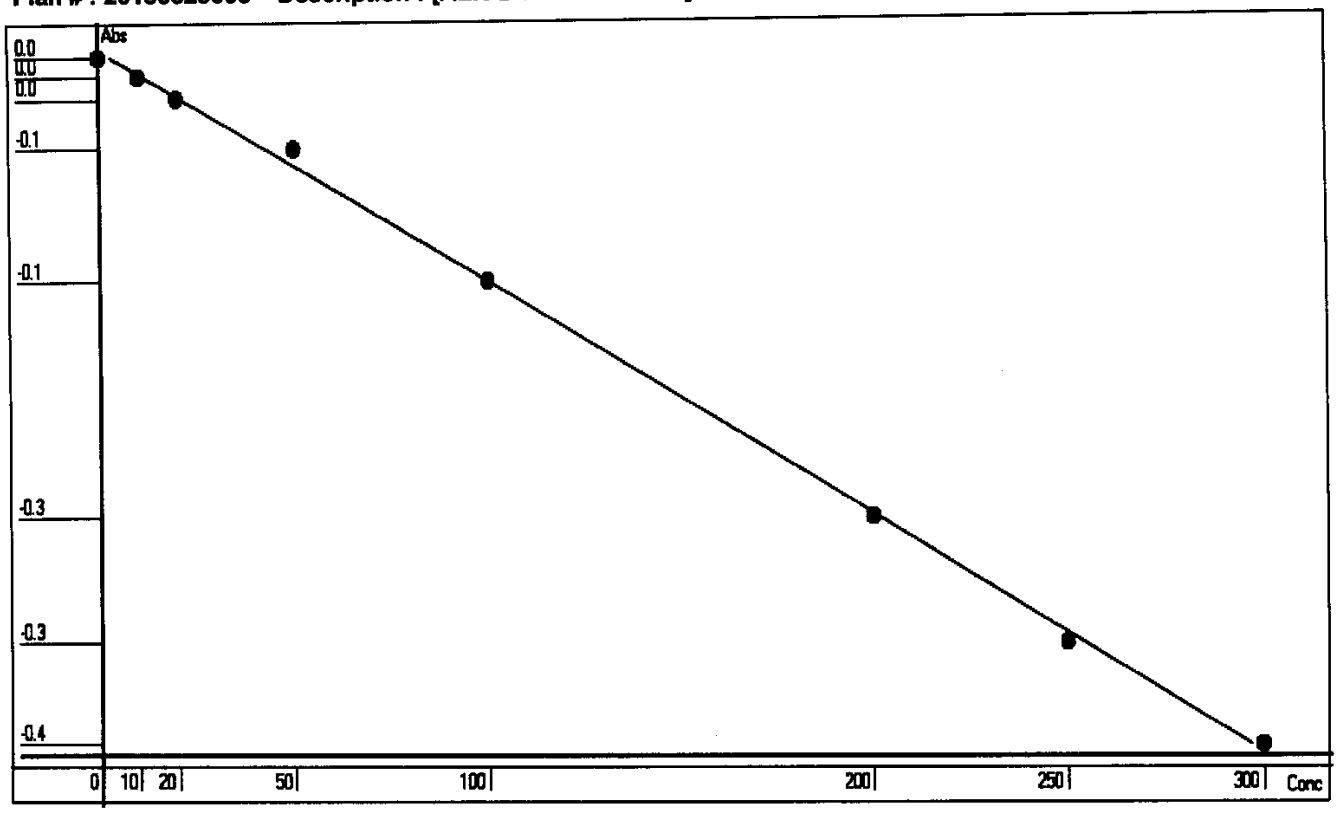
Report Date :05/29/2013 **Run Date :5/29/2013** **Operator : WESTCO** **Plan # :20130529005**

Plan Description : ALK-B-BAF/5/29/2013

Calibrant Report - WALK -

Calib Lot #:010104 Exp Date:6/21/2020 User:MICROBAC

Plan # : 20130529005 Description : [ALK-B-BAF/5/29/2013]



Point	OD	Conc	Recalc Conc	% Error
1	-0.0028	0	3.0914	309.14
2	-0.0132	10	11.4741	14.74
3	-0.0251	20	21.0581	5.29
4	-0.0519	50	42.6119	-14.78
5	-0.1235	100	99.9898	-0.01
6	-0.2509	200	201.3423	0.67
7	-0.3174	250	253.8688	1.55
8	-0.3720	300	296.8024	-1.07

Conc= -29.2558*Abso^2 -806.4988*Abso +0.8334 R^2=0.9990

RBL
0.563
0

Report Date 5/29/2013 Run Date 5/29/2013

MICROBAC (OVD)

SMARTCHEM REPORT (VER3.0.53)

NH3, TKN, NO3NO2 (MG/L N)

ALK (MG/L CaCO3) CL, SO4 (MG/L)

Method : WALK - ALKALINITY EPA 310.2

Smp#/[Dil Fact]	Sample ID	Conc	OD	%Recovery/RPD	Flag	Analysis Time
DIL-1	RBL	0.0	0.5298	0.00		4:01:56 PM
DIL-1	RBL	0.0	0.5252	0.00		4:02:14 PM
DIL-1	RBL	0.0	0.5188	0.00		4:03:08 PM
DIL-1	Std-1	0.0	-0.0088	0.00		4:03:26 PM
SR5-1	Std-2	10.0	-0.0210	0.00		4:04:20 PM
SR5-2	Std-3	20.0	-0.0256	0.00		4:04:38 PM
SR5-3	Std-4	50.0	-0.0450	0.00		4:05:32 PM
SR5-4	Std-5	100.0	-0.1123	0.00		4:05:50 PM
SR5-5	Std-6	200.0	-0.2244	0.00		4:06:44 PM
SR5-6	Std-7	250.0	-0.2945	0.00		4:07:02 PM
SR5-7	Std-8	300.0	-0.3493	0.00		4:07:56 PM
1	ICV	236.0	-0.2699	0.00		4:08:14 PM
2	WG432185-01 BLK	-51.8	0.0457	0.00	INV,><,LL	4:09:08 PM
3	WG432185-02 LCS	188.8	-0.2119	0.00		4:09:26 PM
4	WG432185-03 LCSDUP	189.3	-0.2125	0.00		4:10:20 PM
5	L13051310-03	233.2	-0.2663	0.00		4:10:38 PM
6	L13051323-17	294.8	-0.3469	0.00		4:11:33 PM
7	L13051323-19	300.9	-0.3552	0.00	><,LH	4:11:51 PM
8	L13051323-21	10.4	-0.0160	0.00		4:12:45 PM
9	L13051389-02 (5)	174.1	-0.1945	0.00		4:13:02 PM
10	L13051389-03 (5)	106.8	-0.1179	0.00		4:13:57 PM
ST-2	CCV (150 mg/L)	151.4	-0.1680	100.91		4:14:15 PM
ST-3	CCB (0 mg/L)	-41.2	0.0354	0.00	INV,><,LL	4:15:09 PM
11	L13051389-05 (5)	169.9	-0.1895	0.00		4:15:27 PM
12	L13051389-06 (5)	96.4	-0.1065	0.00		4:16:21 PM
13	L13051489-01	218.0	-0.2474	0.00		4:16:39 PM
14	L13051373-01	133.7	-0.1479	0.00		4:17:33 PM
15	WG432185-05 DUP	139.2	-0.1541	0.00		4:17:51 PM
16	L13051373-02 MS	225.1	-0.2562	0.00		4:18:45 PM
17	L13051373-03 MSD	217.2	-0.2464	0.00		4:19:03 PM
18	L13051373-04	93.6	-0.1034	0.00		4:19:57 PM
19	L13051408-01	213.7	-0.2421	0.00		4:20:15 PM

Report Date :05/29/2013 **Run Date :5/29/2013** **Operator : WESTCO** **Plan # :20130529006**

Plan Description : ALK-C-BAF/5/29/2013

MICROBAC (OVD)
SMARTCHEM REPORT (VER3.0.53)
NH3, TKN, NO3NO2 (MG/L N)
ALK (MG/L CaCO3) CL, SO4 (MG/L)

Method : WALK - ALKALINITY EPA 310.2

Smp#/[Dil Fact]	Sample ID	Conc	OD	%Recovery/RPD	Flag	Analysis Time
20	L13051408-04	290.7	-0.3414	0.00		4:21:09 PM
ST-2	CCV (150 mg/L)	157.9	-0.1755	105.24		4:21:27 PM
ST-3	CCB (0 mg/L)	-29.9	0.0243	0.00	INV,><,LL	4:22:21 PM
21	L13051408-06	289.1	-0.3392	0.00		4:22:39 PM
22	L13051408-08	280.5	-0.3276	0.00		4:23:33 PM
23	L13051408-10	265.7	-0.3081	0.00		4:23:51 PM
24	L13051408-16	16.5	-0.0222	0.00		4:24:45 PM
25	ID 25	-55.3	0.0491	0.00	INV,><,LL	4:25:03 PM
26	ID 26	-65.9	0.0593	0.00	INV,><,LL	4:25:57 PM
ST-2	CCV (150 mg/L)	159.8	-0.1778	106.56		4:26:15 PM
ST-3	CCB (0 mg/L)	-35.9	0.0302	0.00	INV,><,LL	4:27:09 PM
7-[1/2]	L13051323-19	359.1	-0.2009	0.00	LH	4:34:49 PM
ST-2	CCV (150 mg/L)	159.2	-0.1770	106.10		4:34:49 PM
ST-3	CCB (0 mg/L)	-13.2	0.0078	0.00	INV,><,LL	4:35:43 PM

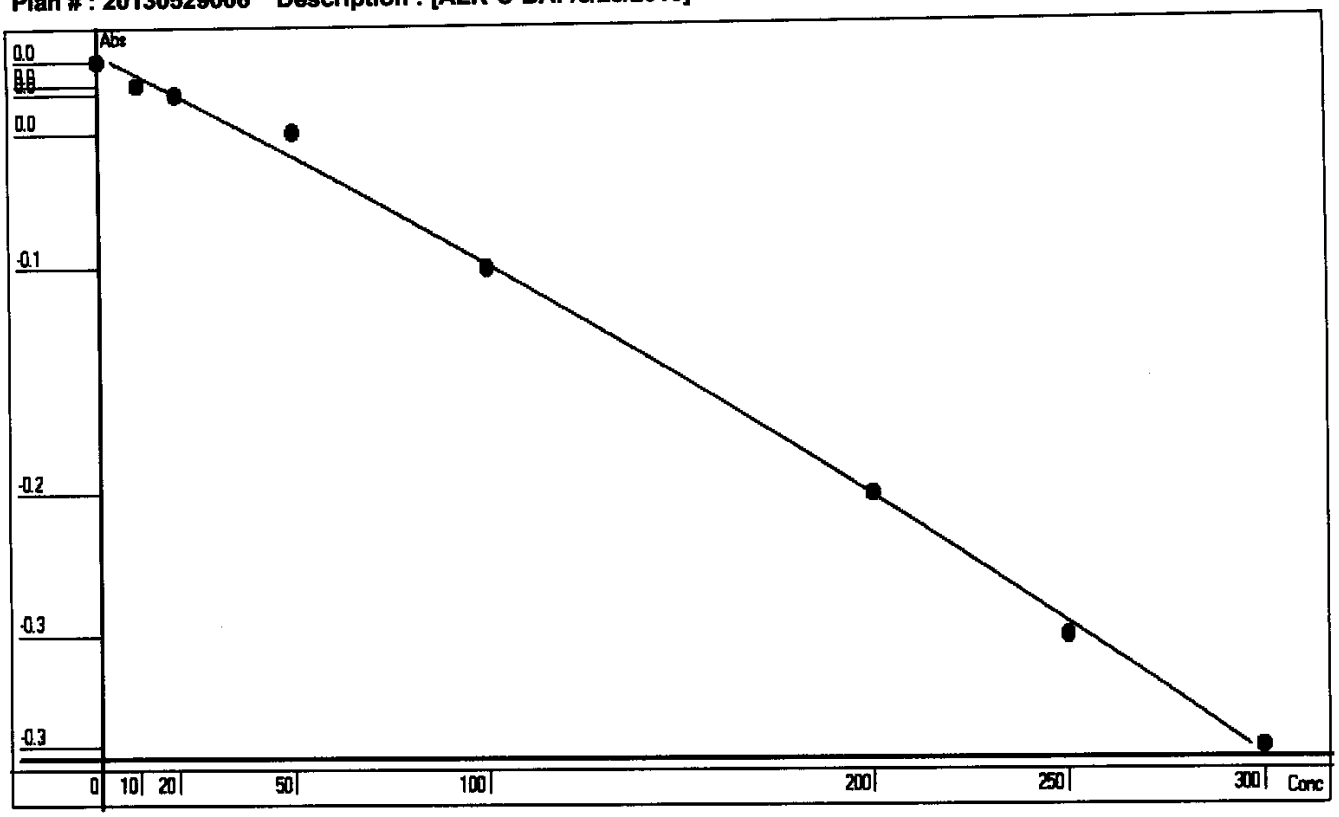
Report Date :05/29/2013 **Run Date :5/29/2013** **Operator : WESTCO** **Plan # :20130529006**

Plan Description : ALK-C-BAF/5/29/2013

Calibrant Report - WALK -

Calib Lot #:010104 Exp Date:6/21/2020 User:MICROBAC

Plan # : 20130529006 Description : [ALK-C-BAF/5/29/2013]



Point	OD	Conc	Recalc Conc	% Error
1	-0.0088	0	3.3271	332.71
2	-0.0210	10	15.3505	53.51
3	-0.0256	20	19.8546	-0.73
4	-0.0450	50	38.6740	-22.65
5	-0.1123	100	101.7495	1.75
6	-0.2244	200	199.1954	-0.40
7	-0.2945	250	255.2938	2.12
8	-0.3493	300	296.5556	-1.15

Conc= -378.7794*Abso^2 -996.8113*Abso -5.4155 R^2=0.9978

RBL
0.5275
0

Report Date 5/29/2013 Run Date 5/29/2013

2.2.4 Cyanide Data

2.2.4.1 Summary Data

Login Number: L13051304
Department: Conventionals
Analyst: Holly Reed

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.

Matrix Spikes: All acceptance criteria were met.

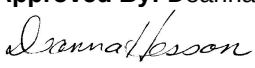
Duplicates: All acceptance criteria were met.

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: 65162
Approved By: Deanna Hesson



Microbac

Lab Report #: L13051304
Lab Project #: 3005.011
Project Name: White Sands MR
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L13051304-01	**PrePrep Method:**	N/A	**Instrument:**	UV-120-1V
Client ID:	SMW1-0513-1	**Prep Method:**	9014-9010C	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	9014-9010C	**Cal Date:**	05/31/2013 10:00
Workgroup #:	WG432238	**Analyst:**	HJR	**Run Date:**	05/31/2013 14:20
Collect Date:	05/23/2013 10:42	**Dilution:**	1	**File ID:**	1V.1305311420-11
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 #:	L13051304-01	**PrePrep Method:**	N/A	**Instrument:**	UV-120-1V
Client ID:	SMW1-0513-1	**Prep Method:**	SM4500-CN-C,G-1999	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	SM4500-CN-C,G-1999	**Cal Date:**	05/31/2013 09:45
Workgroup #:	WG432137	**Analyst:**	HJR	**Run Date:**	05/31/2013 13:00
Collect Date:	05/23/2013 10:42	**Dilution:**	1	**File ID:**	1V.1305311300-10
Sample Tag:	a	**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.

Microbac

Lab Report #: L13051304
Lab Project #: 3005.011
Project Name: White Sands MR
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L13051304-01	**PrePrep Method:**	N/A	**Instrument:**	UV-120-1V
Client ID:	SMW1-0513-1	**Prep Method:**	SM4500-CN-I	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	SM4500-CN-I	**Cal Date:**	05/31/2013 10:00
Workgroup #:	WG432053	**Analyst:**	HJR	**Run Date:**	05/31/2013 13:20
Collect Date:	05/23/2013 10:42	**Dilution:**	1	**File ID:**	1V.1305311320-11
Sample Tag:	wd	**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 #:	L13051304-02	**PrePrep Method:**	N/A	**Instrument:**	UV-120-1V
Client ID:	SMW4-0513-1	**Prep Method:**	9014-9010C	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	9014-9010C	**Cal Date:**	05/31/2013 10:00
Workgroup #:	WG432238	**Analyst:**	HJR	**Run Date:**	05/31/2013 14:20
Collect Date:	05/23/2013 12:20	**Dilution:**	1	**File ID:**	1V.1305311420-12
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 #:	L13051304-02	**PrePrep Method:**	N/A	**Instrument:**	UV-120-1V
Client ID:	SMW4-0513-1	**Prep Method:**	SM4500-CN-C,G-1999	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	SM4500-CN-C,G-1999	**Cal Date:**	05/31/2013 09:45
Workgroup #:	WG432137	**Analyst:**	HJR	**Run Date:**	05/31/2013 13:00
Collect Date:	05/23/2013 12:20	**Dilution:**	1	**File ID:**	1V.1305311300-11
Sample Tag:	a	**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 #:	L13051304-02	**PrePrep Method:**	N/A	**Instrument:**	UV-120-1V
Client ID:	SMW4-0513-1	**Prep Method:**	SM4500-CN-I	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	SM4500-CN-I	**Cal Date:**	05/31/2013 10:00
Workgroup #:	WG432053	**Analyst:**	HJR	**Run Date:**	05/31/2013 13:20
Collect Date:	05/23/2013 12:20	**Dilution:**	1	**File ID:**	1V.1305311320-12
Sample Tag:	wd	**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 #:	L13051304-03	**PrePrep Method:**	N/A	**Instrument:**	UV-120-1V
Client ID:	MPL25-0513-1	**Prep Method:**	9014-9010C	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	9014-9010C	**Cal Date:**	05/31/2013 10:00
Workgroup #:	WG432238	**Analyst:**	HJR	**Run Date:**	05/31/2013 14:20
Collect Date:	05/23/2013 15:00	**Dilution:**	1	**File ID:**	1V.1305311420-13
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 #:	L13051304-03	**PrePrep Method:**	N/A	**Instrument:**	UV-120-1V
Client ID:	MPL25-0513-1	**Prep Method:**	SM4500-CN-C,G-1999	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	SM4500-CN-C,G-1999	**Cal Date:**	05/31/2013 09:45
Workgroup #:	WG432137	**Analyst:**	HJR	**Run Date:**	05/31/2013 13:00
Collect Date:	05/23/2013 15:00	**Dilution:**	1	**File ID:**	1V.1305311300-12
Sample Tag:	a	**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 #:	L13051304-03	**PrePrep Method:**	N/A	**Instrument:**	UV-120-1V
Client ID:	MPL25-0513-1	**Prep Method:**	SM4500-CN-I	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	SM4500-CN-I	**Cal Date:**	05/31/2013 10:00
Workgroup #:	WG432053	**Analyst:**	HJR	**Run Date:**	05/31/2013 13:20
Collect Date:	05/23/2013 15:00	**Dilution:**	1	**File ID:**	1V.1305311320-13
Sample Tag:	wd	**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: 31-MAY-2013
Analyst: HJR
Analyst: NA
Method: CN-WD
Instrument: UV-120-1V
Curve Workgroup: NA
Runlog ID:
Analytical Workgroups: WG432053

Calibration/Linearity	31-MAY-2013
Second Source Check	
ICV/CCV (std)	X
ICB/CCB	
Blank	X
LCS/LCS Dup	X
MS/MSD	X
Duplicate	X
Upload Results	X
Client Forms	X
QC Violation Sheet	
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	HJR
Secondary Reviewer	DIH
Comments	

Primary Reviewer:
03-JUN-2013

Secondary Reviewer:
04-JUN-2013

CHECKLIST1 - Modified 03/05/2008
Generated: JUN-04-2013 07:21:25

Microbac Laboratories Inc.

Data Checklist

Date: 31-MAY-2013
Analyst: HJR
Analyst: NA
Method: CN-A
Instrument: UV-120-1V
Curve Workgroup: NA
Runlog ID:
Analytical Workgroups: WG432137

Calibration/Linearity	31-MAY-2013
Second Source Check	
ICV/CCV (std)	X
ICB/CCB	
Blank	X
LCS/LCS Dup	X
MS/MSD	X
Duplicate	X
Upload Results	X
Client Forms	X
QC Violation Sheet	
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	HJR
Secondary Reviewer	DIH
Comments	

Primary Reviewer:
03-JUN-2013

Secondary Reviewer:
04-JUN-2013

CHECKLIST1 - Modified 03/05/2008
Generated: JUN-04-2013 07:21:24

Microbac Laboratories Inc.

Data Checklist

Date: 31-MAY-2013
Analyst: HJR
Analyst: NA
Method: CN-T
Instrument: UV-120-1V
Curve Workgroup: NA
Runlog ID:
Analytical Workgroups: WG432238

Calibration/Linearity	31-MAY-2013
Second Source Check	
ICV/CCV (std)	X
ICB/CCB	
Blank	X
LCS/LCS Dup	X
MS/MSD	X
Duplicate	X
Upload Results	X
Client Forms	X
QC Violation Sheet	
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	HJR
Secondary Reviewer	DIH
Comments	

Primary Reviewer:
03-JUN-2013

Secondary Reviewer:
04-JUN-2013

CHECKLIST1 - Modified 03/05/2008
Generated: JUN-04-2013 07:21:22

Microbac Laboratories Inc.

HOLDING TIMES
EQUIVALENT TO AFCEE FORM 9

Analytical Method: 9014-9010C

AAB#: WG432238

Login Number: L13051304

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
SMW1-0513-1	01	05/23/13					05/31/2013	8.2	14		05/31/13	8.2	14	
SMW4-0513-1	02	05/23/13					05/31/2013	8.1	14		05/31/13	8.1	14	
MPL25-0513-1	03	05/23/13					05/31/2013	8	14		05/31/13	8	14	

* = SEE PROJECT QAPP REQUIREMENTS

HOLD_TIMES - Modified 03/06/2008
PDF File ID: 2906590
Report generated 06/03/2013 14:47

Microbac Laboratories Inc.

HOLDING TIMES
EQUIVALENT TO AFCEE FORM 9

Analytical Method: SM4500-CN-C,G-19 AAB#: WG432137

Login Number: L13051304

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
SMW1-0513-1	01	05/23/13					05/31/2013	8.1	14		05/31/13	8.1	14	
SMW4-0513-1	02	05/23/13					05/31/2013	8	14		05/31/13	8	14	
MPL25-0513-1	03	05/23/13					05/31/2013	7.9	14		05/31/13	7.9	14	

* = SEE PROJECT QAPP REQUIREMENTS

HOLD_TIMES - Modified 03/06/2008
PDF File ID: 2906580
Report generated 06/03/2013 14:46

Microbac Laboratories Inc.

HOLDING TIMES
EQUIVALENT TO AFCEE FORM 9

Analytical Method: SM4500-CN-I

AAB#: WG432053

Login Number: L13051304

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
SMW1-0513-1	01	05/23/13					05/31/2013	8.1	14		05/31/13	8.1	14	
SMW4-0513-1	02	05/23/13					05/31/2013	8	14		05/31/13	8	14	
MPL25-0513-1	03	05/23/13					05/31/2013	7.9	14		05/31/13	7.9	14	

* = SEE PROJECT QAPP REQUIREMENTS

HOLD_TIMES - Modified 03/06/2008
PDF File ID: 2906659
Report generated 06/03/2013 15:04

Microbac Laboratories Inc.

METHOD BLANK SUMMARY

Login Number: L13051304
Blank File ID: 1V.1305311420-03
Prep Date: 05/31/13 14:20
Analyzed Date: 05/31/13 14:20
Analyst: HJR

Work Group: WG432238
Blank Sample ID: WG432238-01
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	WG432238-02	1V.1305311420-04	05/31/13 14:20	
LCS	WG432238-03	1V.1305311420-05	05/31/13 14:20	
SMW1-0513-1	L13051304-01	1V.1305311420-11	05/31/13 14:20	
SMW4-0513-1	L13051304-02	1V.1305311420-12	05/31/13 14:20	
MPL25-0513-1	L13051304-03	1V.1305311420-13	05/31/13 14:20	
DUP	WG432238-05	1V.1305311420-26	05/31/13 14:20	

Report Name: BLANK_SUMMARY
PDF File ID: 2906591
Report generated 06/03/2013 14:47

Microbac Laboratories Inc.

METHOD BLANK SUMMARY

Login Number: L13051304
Blank File ID: 1V.1305311300-02
Prep Date: 05/31/13 13:00
Analyzed Date: 05/31/13 13:00
Analyst: HJR

Work Group: WG432137
Blank Sample ID: WG432137-01
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	WG432137-02	1V.1305311300-03	05/31/13 13:00	a
SMW1-0513-1	L13051304-01	1V.1305311300-10	05/31/13 13:00	a
SMW4-0513-1	L13051304-02	1V.1305311300-11	05/31/13 13:00	a
MPL25-0513-1	L13051304-03	1V.1305311300-12	05/31/13 13:00	a
DUP	WG432137-04	1V.1305311300-17	05/31/13 13:00	a

Report Name: BLANK_SUMMARY
PDF File ID: 2906581
Report generated 06/03/2013 14:46

Microbac Laboratories Inc.

METHOD BLANK SUMMARY

Login Number: L13051304
Blank File ID: 1V.1305311320-02
Prep Date: 05/31/13 13:20
Analyzed Date: 05/31/13 13:20
Analyst: HJR

Work Group: WG432053
Blank Sample ID: WG432053-01
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	WG432053-02	1V.1305311320-03	05/31/13 13:20	wd
SMW1-0513-1	L13051304-01	1V.1305311320-11	05/31/13 13:20	wd
SMW4-0513-1	L13051304-02	1V.1305311320-12	05/31/13 13:20	wd
MPL25-0513-1	L13051304-03	1V.1305311320-13	05/31/13 13:20	wd
DUP	WG432053-04	1V.1305311320-18	05/31/13 13:20	wd

Report Name: BLANK_SUMMARY
PDF File ID: 2906660
Report generated 06/03/2013 15:04

Microbac Laboratories Inc.

METHOD BLANK REPORT

Login Number: L13051304 Prep Date: 05/31/13 14:20 Sample ID: WG432238-01
Instrument ID: UV-120-1V Run Date: 05/31/13 14:20 Prep Method: 9014-9010C
File ID: 1V.1305311420-03 Analyst: HJR Method: 9014-9010C
Workgroup (AAB#): WG432238 Matrix: Water Units: mg/L
Contract #: Cal ID: UV-120 - 31-MAY-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: 2906592
03-JUN-2013 14:47

Microbac Laboratories Inc.

METHOD BLANK REPORT

Login Number: L13051304 Prep Date: 05/31/13 13:00 Sample ID: WG432137-01
Instrument ID: UV-120-1V Run Date: 05/31/13 13:00 Prep Method: SM4500-CN-C,G-1
File ID: 1V.1305311300-02 Analyst: HJR Method: SM4500-CN-C,G-1
Workgroup (AAB#): WG432137 Matrix: Water Units: mg/L
Contract #: Cal ID: UV-120 - 31-MAY-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: 2906582
03-JUN-2013 14:46

Microbac Laboratories Inc.

METHOD BLANK REPORT

Login Number: L13051304 Prep Date: 05/31/13 13:20 Sample ID: WG432053-01
Instrument ID: UV-120-1V Run Date: 05/31/13 13:20 Prep Method: SM4500-CN-I
File ID: 1V.1305311320-02 Analyst: HJR Method: SM4500-CN-I
Workgroup (AAB#): WG432053 Matrix: Water Units: mg/L
Contract #: Cal ID: UV-120 - 31-MAY-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: 2906661
03-JUN-2013 15:04

Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L13051304 Run Date: 05/31/2013 Sample ID: WG432238-02
Instrument ID: UV-120-1V Run Time: 14:20 Prep Method: 9014-9010C
File ID: 1V.1305311420-04 Analyst: HJR Method: 9014-9010C
Workgroup (AAB#): WG432238 Matrix: Water Units: mg/L
QC Key: DOD4 Lot#: STD55637 Cal ID: UV-120-31-MAY-13

Analytes	Expected	Found	% Rec	LCS Limits	Q
Cyanide	0.201	0.201	99.6	90 - 110	

LCS - Modified 03/06/2008
PDF File ID: 2906593
Report generated: 06/03/2013 14:47

Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L13051304 Run Date: 05/31/2013 Sample ID: WG432238-03
Instrument ID: UV-120-1V Run Time: 14:20 Prep Method: 9014-9010C
File ID: 1V.1305311420-05 Analyst: HJR Method: 9014-9010C
Workgroup (AAB#): WG432238 Matrix: Water Units: mg/L
QC Key: DOD4 Lot#: STD55637 Cal ID: UV-120 - 31-MAY-13

Analytes	Expected	Found	% Rec	LCS Limits	Q
Cyanide	0.0403	0.0399	99.1	90 - 110	

LCS - Modified 03/06/2008
PDF File ID: 2906593
Report generated: 06/03/2013 14:47

Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L13051304 Run Date: 05/31/2013 Sample ID: WG432137-02
Instrument ID: UV-120-1V Run Time: 13:00 Prep Method: SM4500-CN-C,G-1
File ID: 1V.1305311300-03 Analyst: HJR Method: SM4500-CN-C,G-1
Workgroup (AAB#): WG432137 Matrix: Water Units: mg/L
QC Key: DOD4 Lot#: STD55637 Cal ID: UV-120-31-MAY-13

Analytes	Expected	Found	% Rec	LCS Limits	Q
Cyanide, Amenable to Chlor.	0.201	0.00585	2.91	90 - 110	*

LCS - Modified 03/06/2008
PDF File ID: 2906583
Report generated: 06/03/2013 14:46

Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L13051304 Run Date: 05/31/2013 Sample ID: WG432053-02
Instrument ID: UV-120-1V Run Time: 13:20 Prep Method: SM4500-CN-I
File ID: 1V.1305311320-03 Analyst: HJR Method: SM4500-CN-I
Workgroup (AAB#): WG432053 Matrix: Water Units: mg/L
QC Key: DOD4 Lot#: STD55637 Cal ID: UV-120-31-MAY-13

Analytes	Expected	Found	% Rec	LCS Limits	Q
Cyanide, Weak/Dissociable	0.0403	0.0395	98.1	90 - 110	

LCS - Modified 03/06/2008
PDF File ID: 2906662
Report generated: 06/03/2013 15:04

2.2.4.3 Raw Data

WG432514

Curves

Parameter: CN-High

Spectrophotometer: UV-1201V

Calibration (Curve) standard stock: Std 55636

Concentration: 999 mg/L

Recipe for preparation of curve standards found in:

SOP: K3354 Revision: 14 Page: 15

Second Source Stock: Std 55637 (concentration: 1007)

Daily Preparation: 5(1007)/250 = 20.14
10(20.14)/100 = 2.014

concentration = 5(2.014)/50 = 0.2014

Calibration Standards (mg/L)	Volume (mL)	Cell Size (cm)	Wavelength (nm)	Absorbance
0.3996	50	1cm	578	0.608
0.2997				0.461
0.1998				0.304
0.0999				0.150
0.03996				0.061
0.01998				0.030
0.000				0.002
2nd source (0.2014)				0.308

Analyst: [signature] Date/Time: 5/31/13 0945

DCN#95799

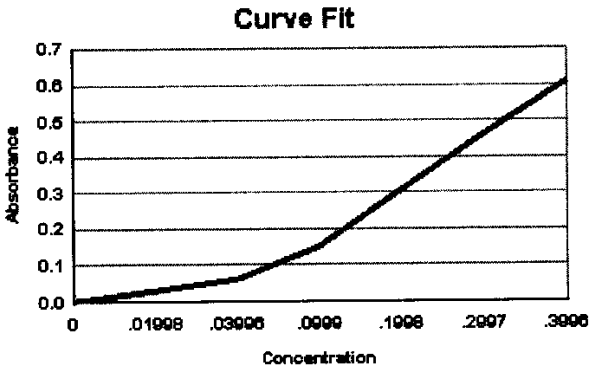
Microbac Laboratories Inc.
INITIAL CALIBRATION

Workgroup: WG432514
Analytical Method: 300
Instrument ID: UV-120-1V

Analyst: HJR
Initial Calibration Date: 05/31/2013

Analyte: CYANIDE
Number of Points: 7
Slope: 1.52558
Y-Intercept: 0.0000722940
Coef. Of Correlation (R^2): 0.999916
Coef. Of Correlation (R): 0.999958

Concentration X	Absorbance Y	X^2	X * Y	Y-Fitted (mX^2+B)
0.00	0.00200	0.00	0.00	0.0000722940
0.0200	0.0300	0.000399	0.000599	0.0305533
0.0400	0.0610	0.00160	0.00244	0.0610343
0.0999	0.150	0.00998	0.0150	0.152477
0.200	0.304	0.0399	0.0607	0.304882
0.300	0.461	0.0898	0.138	0.457288
0.400	0.608	0.160	0.243	0.609693



WG_ICAL_CAL_WET - Modified 03/06/2008
Report generated 05/31/2013 16:38

[redacted]

Microbac Laboratories Inc.
ALTERNATE SOURCE REPORT

Workgroup #: WG432514
File ID: 1V.1305310945-08
CCV ID: WG432514-08
Units: mg/L
Analyte: CYANIDE

Instrument ID: UV-120-1V
Run Date: 05/31/2013
Run Time: 09:45
Analyst: HJR
Cal ID: UV-120 - 31-MAY-13 09:45:07

Analyte	Expected	Found	RF	%D	Q
Cyanide	.201	0.202	1.53	0.5	

* Exceeds %D Limit

CCC Calibrtion Check Compounds
SPCC System Performance Check Compounds

WET_WG_SSCV - Modified 03/06/2008
Report generated 05/31/2013 16:39

[redacted]

WG432515

Curves

Parameter: CN-LOW

Spectrophotometer: UV-120-1V

Calibration (Curve) standard stock: Std 55636

Concentration: 999

Recipe for preparation of curve standards found in:

SOP: IC 3354 Revision: 14 Page: 15

Second Source Stock: Std 55637 (concentration: 1007)

Daily Preparation: 5(1007)/250=20.14

concentration = 10(2014)/100 = 0.2014

~~1(2.014)/50~~ = 0.04028

Calibration Standards (mg/L)	Volume (mL)	Cell Size (cm)	Wavelength (nm)	Absorbance
0.04995	50	5CM	578	0.380
0.03996				0.304
0.02997				0.220
0.01998				~~0.190~~ 0.160
0.00999				0.082
0.004995				0.041
0.000				0.002
2nd source (0.04028)				0.308

5/31/13

Analyst: [signature] Date/Time: 5/31/13 1000

DCN#95800

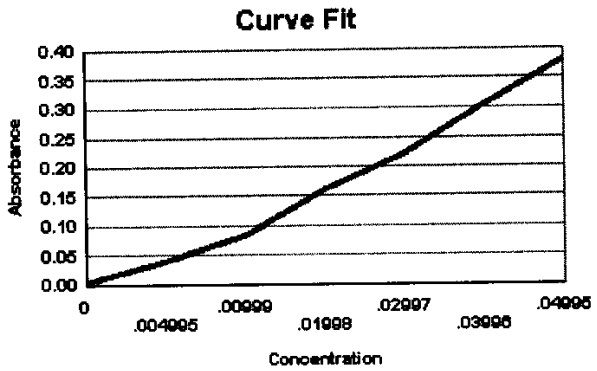
Microbac Laboratories Inc.
INITIAL CALIBRATION

Analyst: HJR
Initial Calibration Date: 05/31/2013

Workgroup: WG432515
Analytical Method: 300
Instrument ID: UV-120-1V

Analyte: CYANIDE
Number of Points: 7
Slope: 7.48872
Y-Intercept: 0.00420137
Coef. Of Correlation (R^2): 0.998890
Coef. Of Correlation (R): 0.999445

Concentration X	Absorbance Y	X^2	X * Y	Y-Fitted (mX^2+B)
0.00	0.00200	0.00	0.00	0.00420137
0.00500	0.0410	0.0000250	0.000205	0.0416075
0.00999	0.0820	0.0000998	0.000819	0.0790137
0.0200	0.160	0.000399	0.00320	0.153826
0.0300	0.220	0.000898	0.00659	0.228638
0.0400	0.304	0.00160	0.0121	0.303451
0.0500	0.380	0.00250	0.0190	0.378263



WG_ICAL_CAL_WET - Modified 03/06/2008
Report generated 05/31/2013 16:41

[redacted]

Microbac Laboratories Inc.
ALTERNATE SOURCE REPORT

Workgroup #: WG432515
File ID: 1V.1305311000-08
CCV ID: WG432515-08
Units: mg/L
Analyte: CYANIDE

Instrument ID: UV-120-1V
Run Date: 05/31/2013
Run Time: 10:00
Analyst: HJR
Cal ID: UV-120 - 31-MAY-13 10:00:07

Analyte	Expected	Found	RF	%D	Q
Cyanide	.0403	0.0406	7.65	0.7	

* Exceeds %D Limit

CCC Calibrtion Check Compounds
SPCC System Performance Check Compounds

WET_WG_SSCV - Modified 03/06/2008
Report generated 05/31/2013 16:41

[redacted]

WORKGROUP: WG432238

Cyanide
(cyanide3)

- [x] 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: 4/31/13

CCV: Std 55636

True Value: 999

Daily Dilution: 5(999)/250=19.98
10(19.98)/100=1.998
10(1.998)/100=0.1998
5(0.1998)/50=0.01998 5(1.998)/50=0.1998

LCS: Std 55637

True Value: 1607

Daily Dilution: 5(1607)/250=20.14
10(20.14)/100=2.014
5(2.014)/50=0.2014
1(2.014)/50=0.04028

Spike: Std 55637

True Value: 1007

Daily Dilution:
5(2.014)/50=0.2014

Distillation Reagents

RGT 26338
RGT 26334
RGT 26804

Colorimetric Reagents

RGT 27219
RGT 27165
RGT 27217

DCN#95771

Cyanide
(cyanide3)

Sample	Volume mL/grams	pH > 12	Sulfide Presense	Dilution	Cell Size (cm)	Absorbance λ = 578 nm
CCV(high): 0.1998 ppm	50	✓	X = none		1CM	0.303
CCV(low): 0.01998 ppm	50	✓	X		5CM	0.152
Blank	50	✓	X		5CM	0.001
LCS: 0.2014 ppm	50	✓	X		1CM	0.306
LCS: 0.04028 ppm	50	✓	X		5CM	0.303
05-1491-01	50	✓	X			0.013
-02	50	✓	X			0.012
-03	50	✓	X			0.145
-04	50	✓	X			0.009
-05	50	✓	X			0.008
05-1304-01	50	✓	X			0.009
-02	50	✓	X			0.011
-03	50	✓	X			0.010
05-1323-17	50	✓	X			0.012
-19	50	✓	X			0.009
-21	50	✓	X			0.007
05-1484-01	50	✓	X			0.007
05-1373-01 25	50	✓	X		1CM	0.475
-04 ~~-02~~ MS	50	✓	X		~~1CM~~ 1CM	0.409
05-1408-01 ~~-03~~ MSD	50	✓	X		5CM	0.003
-04 ~~-04~~	50	✓	X			0.003
-06	50	✓	X			0.002
-08	50	✓	X			0.004
-16	50	✓	X			0.003
-16	50	✓	X			0.002
Duplicate: 05-1484-01	50	✓	X		5CM	0.008
(0.2014) MS: (05-1373-02 ppm)	50	✓	X		1CM	0.768
(0.2014) MSD: (-03 ppm)	50	✓	X		1CM	0.773
CCV high: (0.1998 ppm)	50	✓	X		1CM	0.305
CCV low: (0.01998 ppm)	50	✓	X		5CM	0.150

Analyst: [signature]

Date/Time (on) 5/30/13 0900
(off) 5/30/13 1030
(color) 5/31/13 1420

DCN#95771

Microbac Laboratories Inc.
SAMPLE REPORT

Workgroup: WG432238 **Analyst:** HJR
Analyte: CYANIDE **Date:** 05/31/2013

Sample ID	I Vol	F Vol	Response	Slope	Y Intercept	Anal. Conc.	Rep. Conc.	Dil	Units
WG432238-01	50	50	0.00100	7.489	0.004201	-0.00042749	-0.00042749	1	mg/L
WG432238-02	50	50	0.306	1.526	0.00007229	0.20053	0.20053	1	mg/L
WG432238-03	50	50	0.303	7.489	0.004201	0.039900	0.039900	1	mg/L
L13051491-01	50	50	0.0130	7.489	0.004201	0.0011749	ND	1	mg/L
L13051491-02	50	50	0.0120	7.489	0.004201	0.0010414	ND	1	mg/L
L13051491-03	50	50	0.145	7.489	0.004201	0.018801	0.018801	1	mg/L
L13051491-04	50	50	0.00900	7.489	0.004201	0.00064078	ND	1	mg/L
L13051491-05	50	50	0.00800	7.489	0.004201	0.00050725	ND	1	mg/L
L13051304-01	50	50	0.00900	7.489	0.004201	0.00064078	ND	1	mg/L
L13051304-02	50	50	0.0110	7.489	0.004201	0.00090785	ND	1	mg/L
L13051304-03	50	50	0.0100	7.489	0.004201	0.00077432	ND	1	mg/L
L13051323-17	50	50	0.0120	7.489	0.004201	0.0010414	ND	1	mg/L
L13051323-19	50	50	0.00900	7.489	0.004201	0.00064078	ND	1	mg/L
L13051323-21	50	50	0.00700	7.489	0.004201	0.00037371	ND	1	mg/L
L13051484-01	50	50	0.00700	7.489	0.004201	0.00037371	ND	1	mg/L
WG432238-04	50	50	0.00700	7.489	0.004201	0.00037371	0.00037371	1	mg/L
L13051373-01	50	50	0.475	1.526	0.00007229	0.31131	0.31131	1	mg/L
WG432238-06	50	50	0.475	1.526	0.00007229	0.31131	0.31131	1	mg/L
L13051373-04	50	50	0.409	1.526	0.00007229	0.26805	0.26805	1	mg/L
L13051408-01	50	50	0.00300	7.489	0.004201	-0.00016042	ND	1	mg/L
L13051408-04	50	50	0.00300	7.489	0.004201	-0.00016042	ND	1	mg/L
L13051408-06	50	50	0.00200	7.489	0.004201	-0.00029396	ND	1	mg/L
L13051408-08	50	50	0.00400	7.489	0.004201	-0.000026889	ND	1	mg/L
L13051408-10	50	50	0.00300	7.489	0.004201	-0.00016042	ND	1	mg/L
L13051408-16	50	50	0.00200	7.489	0.004201	-0.00029396	ND	1	mg/L
WG432238-05	50	50	0.00800	7.489	0.004201	0.00050725	0.00050725	1	mg/L
L13051373-02	50	50	0.768	1.526	0.00007229	0.50337	0.50337 I	1	mg/L
WG432238-07	50	50	0.768	1.526	0.00007229	0.50337	0.50337	1	mg/L
L13051373-03	50	50	0.773	1.526	0.00007229	0.50665	0.50665 I	1	mg/L
WG432238-08	50	50	0.773	1.526	0.00007229	0.50665	0.50665	1	mg/L

UV_SAMPLE_REPORT - Modified 03/06/2008

Report generated 06/03/2013 13:24

[redacted]

Microbac Laboratories Inc.
CONTINUING CALIBRATION REPORT

Workgroup #: WG432711
File ID: 1V.1305311420-01
CCV ID: WG432711-01
Units: mg/L
Analyte: CYANIDE

Instrument ID: UV-120-1V
Run Date: 05/31/2013
Run Time: 14:20
Analyst: HJR
Cal ID: UV-120 - 31-MAY-13

Analyte	Expected	Found	RF	%D	Q
Cyanide	.2	0.199	1.52	0.5	

* Exceeds %D Limit

CCC Calibrtion Check Compounds
SPCC System Performance Check Compounds

WET_WG_CCV - Modified 03/06/2008

Report generated 06/03/2013 13:19

[redacted]

Microbac Laboratories Inc.
CONTINUING CALIBRATION REPORT

Workgroup #: WG432711
File ID: 1V.1305311420-02
CCV ID: WG432711-02
Units: mg/L
Analyte: CYANIDE

Instrument ID: UV-120-1V
Run Date: 05/31/2013
Run Time: 14:20
Analyst: HJR
Cal ID: UV-120 - 31-MAY-13

Analyte	Expected	Found	RF	%D	Q
Cyanide	.02	0.0197	7.61	1.5	

* Exceeds %D Limit

CCC Calibrtion Check Compounds
SPCC System Performance Check Compounds

WET_WG_CCV - Modified 03/06/2008

Report generated 06/03/2013 13:19

[redacted]

Microbac Laboratories Inc.
CONTINUING CALIBRATION REPORT

Workgroup #: WG432711
File ID: 1V.1305311420-29
CCV ID: WG432711-03
Units: mg/L
Analyte: CYANIDE

Instrument ID: UV-120-1V
Run Date: 05/31/2013
Run Time: 14:20
Analyst: HJR
Cal ID: UV-120 - 31-MAY-13

Analyte	Expected	Found	RF	%D	Q
Cyanide	.2	0.200	1.53	0.0	

* Exceeds %D Limit

CCC Calibrtion Check Compounds
SPCC System Performance Check Compounds

WET_WG_CCV - Modified 03/06/2008

Report generated 06/03/2013 13:19

[redacted]

Microbac Laboratories Inc.
CONTINUING CALIBRATION REPORT

Workgroup #: WG432711
File ID: 1V.1305311420-30
CCV ID: WG432711-04
Units: mg/L
Analyte: CYANIDE

Instrument ID: UV-120-1V
Run Date: 05/31/2013
Run Time: 14:20
Analyst: HJR
Cal ID: UV-120 - 31-MAY-13

Analyte	Expected	Found	RF	%D	Q
Cyanide	.02	0.0195	7.51	2.5	

* Exceeds %D Limit

CCC Calibrtion Check Compounds
SPCC System Performance Check Compounds

WET_WG_CCV - Modified 03/06/2008

Report generated 06/03/2013 13:19

[redacted]

WORKGROUP: WG432053

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: 5/31/13

CCV: Std 55636

True Value: 999

LCS: Std 55637

True Value: 1007

Spike: Std 55637

True Value: 1007

Daily Dilution: 5(999)/250=19.98
10(19.98)/100=1.998
10(1.998)/100=0.1998
5(1.998)/50=0.1998 5(0.1998)/50=0.01998

Daily Dilution: 5(1007)/250=20.14
10(20.14)/100=2.014
5(2.014)/50=0.2014
1(2.014)/50=0.04028

Daily Dilution:
1(2.014)/50=
0.04028

Distillation Reagents
RGT 21085
RGT 21994
RGT 21986

Colorimetric Reagents
RGT 21219
RGT 21165
RGT 21217

DCN#95756

Cyanide
(cyanide3)

Sample	Volume mL/grams	pH > 12	Sulfide Presense	Dilution	Cell Size (cm)	Absorbance λ = 578 nm
CCV(high): ppm			X=none			
CCV(low): 0.01998 ppm	50	✓	X		5cm	0.153
Blank	50	✓	X		5cm	0.001
LCS: ppm						
LCS: 0.04028 ppm	50	✓	X		5cm	0.300
05-1089-02	50	✓	X		5cm	0.054
05-1146-01	50	✓	X		5cm	0.043
-02	50	✓	X		5cm	0.129
05-1242-01	50	✓	X		5cm	0.004
-02	50	✓	X		5cm	0.231
-03	50	✓	X		5cm	0.350
-04	50	✓	X		5cm	0.010
05-1307-01	50	✓	X		5cm	0.004
-02	50	✓	X		5cm	0.006
-03	50	✓	X		5cm	0.008
05-1373-01RS	50	✓	X		5cm	0.309
(0.04) -02MS	50	✓	X		5cm	0.615
(0.04) -03MSD	50	✓	X		5cm	0.610
-04	50	✓	X		5cm	0.209
~~CCV H~~ ~~1.08~~ ~~5/29/13~~						
CCV L						
Duplicate: 05-1089-02	50	✓	X		5cm	0.050
MS: (ppm)						
MSD: (ppm)						
CCV high: (ppm)						
CCV low: (0.01998 ppm)	50	✓	X		5cm	0.150

Distilled Std.

Analyst: [signature] Date/Time (on) 5/29/13 0930
(off) 5/29/13 1100
(color) 5/31/13 1320

DCN#95756

Microbac Laboratories Inc.
SAMPLE REPORT

Workgroup: WG432053
Analyte: CYANIDE

Analyst: HJR
Date: 05/31/2013

Sample ID	I Vol	F Vol	Response	Slope	Y Intercept	Anal. Conc.	Rep. Conc.	Dil	Units
WG432053-01	50	50	0.00100	7.489	0.004201	-0.00042749	-0.00042749	1	mg/L
WG432053-02	50	50	0.300	7.489	0.004201	0.039499	0.039499	1	mg/L
L13051089-02	50	50	0.0540	7.489	0.004201	0.0066498	ND	1	mg/L
WG432053-03	50	50	0.0540	7.489	0.004201	0.0066498	0.0066498	1	mg/L
L13051146-01	50	50	0.0430	7.489	0.004201	0.0051809	0.0051809 F	1	mg/L
L13051146-02	50	50	0.129	7.489	0.004201	0.016665	0.016665	1	mg/L
L13051242-01	50	50	0.00400	7.489	0.004201	-0.000026889	ND	1	mg/L
L13051242-02	50	50	0.231	7.489	0.004201	0.030285	0.030285	1	mg/L
L13051242-03	50	50	0.350	7.489	0.004201	0.046176	0.046176	1	mg/L
L13051242-04	50	50	0.0100	7.489	0.004201	0.00077432	ND	1	mg/L
L13051304-01	50	50	0.00400	7.489	0.004201	-0.000026889	ND	1	mg/L
L13051304-02	50	50	0.00600	7.489	0.004201	0.00024018	ND	1	mg/L
L13051304-03	50	50	0.00800	7.489	0.004201	0.00050725	ND	1	mg/L
L13051373-01	50	50	0.309	7.489	0.004201	0.040701	0.040701	1	mg/L
WG432053-05	50	50	0.309	7.489	0.004201	0.040701	0.040701	1	mg/L
L13051373-02	50	50	0.615	7.489	0.004201	0.081563	0.081563 I	1	mg/L
WG432053-06	50	50	0.615	7.489	0.004201	0.081563	0.081563	1	mg/L
L13051373-03	50	50	0.610	7.489	0.004201	0.080895	0.080895 I	1	mg/L
WG432053-07	50	50	0.610	7.489	0.004201	0.080895	0.080895	1	mg/L
L13051373-04	50	50	0.209	7.489	0.004201	0.027348	0.027348	1	mg/L
WG432053-04	50	50	0.0500	7.489	0.004201	0.0061157	0.0061157	1	mg/L

UV_SAMPLE_REPORT - Modified 03/06/2008

Report generated 06/03/2013 13:38

[redacted]

Microbac Laboratories Inc.
CONTINUING CALIBRATION REPORT

Workgroup #: WG432716
File ID: 1V.1305311320-01
CCV ID: WG432716-01
Units: mg/L
Analyte: CYANIDE

Instrument ID: UV-120-1V
Run Date: 05/31/2013
Run Time: 13:20
Analyst: HJR
Cal ID: UV-120 - 31-MAY-13

Analyte	Expected	Found	RF	%D	Q
Cyanide	.02	0.0199	7.66	0.5	

* Exceeds %D Limit

CCC Calibrtion Check Compounds
SPCC System Performance Check Compounds

WET_WG_CCV - Modified 03/06/2008

Report generated 06/03/2013 13:36

[redacted]

Microbac Laboratories Inc.
CONTINUING CALIBRATION REPORT

Workgroup #: WG432716
File ID: 1V.1305311320-19
CCV ID: WG432716-02
Units: mg/L
Analyte: CYANIDE

Instrument ID: UV-120-1V
Run Date: 05/31/2013
Run Time: 13:20
Analyst: HJR
Cal ID: UV-120 - 31-MAY-13

Analyte	Expected	Found	RF	%D	Q
Cyanide	.02	0.0195	7.51	2.5	

* Exceeds %D Limit

CCC Calibrtion Check Compounds
SPCC System Performance Check Compounds

WET_WG_CCV - Modified 03/06/2008

Report generated 06/03/2013 13:36

[redacted]

WORKGROUP: WG432137

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 15
Spec: UV-120-IV
Instrument: Easy-Dist
Matrix: Liquid (mg/L) Soil (mg/kg)

Curve ID: 5/31/13

CCV: Std 55636

True Value: 999

Daily Dilution: 5(999)/250=19.98
10(19.98)/100=1.998
10(1.998)/100=0.1998
5(0.1998)/50=0.01998 5(1.998)/50=0.0.1998

LCS: Std 55637

True Value: 1007

Daily Dilution: 5(1007)/250=20.14
10(20.14)/100=2.014
5(2.014)/50=0.2014

Spike: Std 55637

True Value: 1007

Daily Dilution:
5(2.014)/50=
0.2014

Distillation Reagents

RGT 26338
RGT 26334
RGT 26804

Colorimetric Reagents

RGT 27219
RGT 27165
RGT 27217

DCN#95762

Cyanide
(cyanide3)

Sample	Volume mL/grams	pH > 12	Sulfide Presense	Dilution	Cell Size (cm)	Absorbance λ = 578 nm
CCV(high): 0.1998 ppm	50	✓	X=none		1cm	0.309
CCV(low): ppm						
Blank	50	✓	X		1cm	0.001
LCS: ~~0.08~~ ppm					~~1cm~~	~~0.009~~
LCS: ~~0.08~~ 0.2014 ppm	50	✓	X		1cm	0.009
05-1146-01	50	✓	X		1cm	0.003
-02	50	✓	X			0.010
05-1242-01	50	✓	X			0.008
-02	50	✓	X			0.007
-03	50	✓	X			0.006
-04	50	✓	X			0.003
05-1304-01	50	✓	X			0.004
-02	50	✓	X			0.004
-03	50	✓	X			0.005
05-1573-01	50	✓	X			0.002
(0.2014) -02MS	50	✓	X			0.009
(0.2014) -03MSD	50	✓	X			0.008
-04	50	✓	X		✓	0.006
Duplicate: 05-1146-01	50	✓	X		1cm	0.004
MS: (ppm)						
MSD: (ppm)						
CCV high: (0.1998 ppm)	50	✓	X		1cm	0.310
CCV low: (ppm)						

Analyst: [signature] Date/Time (on) 5/29/13 1300
(off) 5/29/13 1430
(color) 5/31/13 1300

DCN#95762

Microbac Laboratories Inc.
SAMPLE REPORT

Workgroup: WG432137 **Analyst:** HJR
Analyte: CYANIDE **Date:** 05/31/2013

Sample ID	I Vol	F Vol	Response	Slope	Y Intercept	Anal. Conc.	Rep. Conc.	Dil	Units
WG432137-01	50	50	0.00100	1.526	0.00007229	0.00060810	0.00060810	1	mg/L
WG432137-02	50	50	0.00900	1.526	0.00007229	0.0058520	0.0058520	1	mg/L
L13051146-01	50	50	0.00300	1.526	0.00007229	0.0019191	ND	1	mg/L
WG432137-03	50	50	0.00300	1.526	0.00007229	0.0019191	0.0019191	1	mg/L
L13051146-02	50	50	0.0100	1.526	0.00007229	0.0065075	0.0065075 F	1	mg/L
L13051242-01	50	50	0.00800	1.526	0.00007229	0.0051965	0.0051965 F	1	mg/L
L13051242-02	50	50	0.00700	1.526	0.00007229	0.0045410	ND	1	mg/L
L13051242-03	50	50	0.00600	1.526	0.00007229	0.0038856	ND	1	mg/L
L13051242-04	50	50	0.00300	1.526	0.00007229	0.0019191	ND	1	mg/L
L13051304-01	50	50	0.00400	1.526	0.00007229	0.0025746	ND	1	mg/L
L13051304-02	50	50	0.00400	1.526	0.00007229	0.0025746	ND	1	mg/L
L13051304-03	50	50	0.00500	1.526	0.00007229	0.0032301	ND	1	mg/L
L13051373-01	50	50	0.00200	1.526	0.00007229	0.0012636	ND	1	mg/L
WG432137-05	50	50	0.00200	1.526	0.00007229	0.0012636	0.0012636	1	mg/L
L13051373-02	50	50	0.00900	1.526	0.00007229	0.0058520	0.0058520 F	1	mg/L
WG432137-06	50	50	0.00900	1.526	0.00007229	0.0058520	0.0058520	1	mg/L
L13051373-03	50	50	0.00800	1.526	0.00007229	0.0051965	0.0051965 F	1	mg/L
WG432137-07	50	50	0.00800	1.526	0.00007229	0.0051965	0.0051965	1	mg/L
L13051373-04	50	50	0.00600	1.526	0.00007229	0.0038856	ND	1	mg/L
WG432137-04	50	50	0.00400	1.526	0.00007229	0.0025746	0.0025746	1	mg/L

UV_SAMPLE_REPORT - Modified 03/06/2008

Report generated 06/03/2013 13:43

[redacted]

Cyanide, Amenable to Chlorination (mg/L)
CN (Total) - CN (Treated) = CN-A

SAMPLE	5/31/2013 CN (Total)	5/31/2013 CN (Treated)	CN-A
L13051146-01	0.21364	0.0019191	0.211721
L13051146-02	0.14678	0.0065075	0.140273
L13051242-01	0.0009	0.0051965	-0.004297
L13051242-02	0.34277	0.004541	0.338229
L13051242-03	0.18808	0.0038856	0.184194
L13051242-04	0.0057151	0.0019191	0.003796
L13051304-01	0.0064078	0.0025746	0.003833
L13051304-02	0.0009078	0.0025746	-0.001667
L13051304-03	0.00077432	0.0032301	-0.002456
L13051373-01	0.31131	0.0012636	0.310046
L13051373-02	0.50337	0.005852	0.497518
L13051373-03	0.50665	0.0051965	0.501454
L13051373-04	0.26805	0.0038856	0.264164
			0
			0
			0

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.
CONTINUING CALIBRATION REPORT

Workgroup #: WG432717
File ID: 1V.1305311300-01
CCV ID: WG432717-01
Units: mg/L
Analyte: CYANIDE

Instrument ID: UV-120-1V
Run Date: 05/31/2013
Run Time: 13:00
Analyst: HJR
Cal ID: UV-120 - 31-MAY-13

Analyte	Expected	Found	RF	%D	Q
Cyanide	.2	0.202	1.55	1.0	

* Exceeds %D Limit

CCC Calibrtion Check Compounds
SPCC System Performance Check Compounds

WET_WG_CCV - Modified 03/06/2008

Report generated 06/03/2013 13:41

[redacted]

Microbac Laboratories Inc.
CONTINUING CALIBRATION REPORT

Workgroup #: WG432717
File ID: 1V.1305311300-18
CCV ID: WG432717-02
Units: mg/L
Analyte: CYANIDE

Instrument ID: UV-120-1V
Run Date: 05/31/2013
Run Time: 13:00
Analyst: HJR
Cal ID: UV-120 - 31-MAY-13

Analyte	Expected	Found	RF	%D	Q
Cyanide	.2	0.203	1.55	1.5	

* Exceeds %D Limit

CCC Calibrtion Check Compounds
SPCC System Performance Check Compounds

WET_WG_CCV - Modified 03/06/2008

Report generated 06/03/2013 13:41

[redacted]

2.2.5 Conductivity Data

2.2.5.1 Summary Data

Login Number: L13051304
Department: Conventionals
Analyst: Brice Fenton

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: 65379
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: 24-MAY-2013
Analyst: DIH
Analyst: NA
Method: PH/COND/ALK
Instrument: TIAMO
Curve Workgroup: NA
Runlog ID:
Analytical Workgroups: WG431691 WG431684 WG431689 WG431681 WG431688

Calibration/Linearity	5/24/13
Second Source Check	X
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	DIH
Secondary Reviewer	DIH
Comments	

Primary Reviewer:
01-JUN-2013

Secondary Reviewer:
01-JUN-2013

CHECKLIST1 - Modified 03/05/2008
Generated: JUN-01-2013 08:32:46

Microbac Laboratories Inc.

HOLDING TIMES
EQUIVALENT TO AFCEE FORM 9

Analytical Method: 120.1 AAB#: WG431689

Login Number: L13051304

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
SMW1-0513-1	01	05/23/13					05/24/2013	1.3	28		05/24/13	1.3	28	
SMW4-0513-1	02	05/23/13					05/24/2013	1.2	28		05/24/13	1.2	28	
MPL25-0513-1	03	05/23/13					05/24/2013	1.1	28		05/24/13	1.1	28	

* = SEE PROJECT QAPP REQUIREMENTS

HOLD_TIMES - Modified 03/06/2008
PDF File ID: 2900264
Report generated 05/30/2013 14:36

Microbac Laboratories Inc.

METHOD BLANK SUMMARY

Login Number: L13051304
Blank File ID: TI.052413.1602CO
Prep Date: 05/24/13 16:02
Analyzed Date: 05/24/13 16:02
Analyst: BAF

Work Group: WG431689
Blank Sample ID: WG431689-01
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	WG431689-02	TI.052413.1604CO	05/24/13 16:04	01
SMW1-0513-1	L13051304-01	TI.052413.1645CO	05/24/13 16:45	01
SMW4-0513-1	L13051304-02	TI.052413.1651CO	05/24/13 16:51	01
MPL25-0513-1	L13051304-03	TI.052413.1656CO	05/24/13 16:56	01
DUP	WG431689-05	TI.052413.1702CO	05/24/13 17:02	01
DUP	WG431689-05	TI.052413.1708CO	05/24/13 17:08	02

Report Name: BLANK_SUMMARY
PDF File ID: 2900265
Report generated 05/30/2013 14:36

Microbac Laboratories Inc.

METHOD BLANK REPORT

Login Number: L13051304 Prep Date: 05/24/13 16:02 Sample ID: WG431689-01
Instrument ID: TIAMO1 Run Date: 05/24/13 16:02 Prep Method: 120.1
File ID: TI.052413.1602CO Analyst: BAF Method: 120.1
Workgroup (AAB#): WG431689 Matrix: Water Units: umhos/cm
Contract #: Cal ID: TIAMO1 -

Analytes	LOD	LOQ	Concentration	Dilution	Qualifier
Conductivity	10.0	50.0	11.3	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: 2900266
30-MAY-2013 14:36

Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L13051304 Run Date: 05/24/2013 Sample ID: WG431689-02
Instrument ID: TIAMO1 Run Time: 16:04 Prep Method: 120.1
File ID: TI.052413.1604CO Analyst: BAF Method: 120.1
Workgroup (AAB#): WG431689 Matrix: Water Units: umhos/cm
QC Key: DOD4 Lot#: STD57495 Cal ID: TIAMO1 -

Analytes	Expected	Found	% Rec	LCS Limits	Q
Conductivity	1410	1480	105	90 - 110	

LCS - Modified 03/06/2008
PDF File ID: 2900267
Report generated: 05/30/2013 14:36

2.2.5.3 Raw Data

Metrohm Tiamo

Instrument: Tiamo

pH: EPA 150.1 / SM 4500-H(+)-B / SW846 904C

LCS 6: std 57616 Calibration: 5/24/13

LCS 9: std 16822

431686
431691

Note: · an LCS is analyzed every 20 samples
· alternate levels

Cond: EPA 120.1 / SM 2510B

LCS: _____ Daily Dil.: _____

wg 431684
431689

Note: · LCS/LCSDUP required each work group
· end run with an LCS
· sample duplicate every 10 samples

ALK: EPA 310.1 / SM2320B

wg 431681
431688

LCS: _____ Daily Dil.: _____

Titrant: 0.1N H_2SO_4: T: _____

Note: · LCS/LCSDUP required each workgroup

Analyst: [signature] Date: 5/24/13

DCN#95704

Metrohm Tiamo

	Sample ID	Dilution	pH	Cond	ALK	Acid
1	pH 6		✓			
2	BLK			✓		
3	LCS 1412			✓		
4	BLK				✓	
5	LCS 100				✓	
6	LCSDUP				✓	
7	05-1258-01			✓	✓	
8	05-1225-10		✓	✓	✓	
9	05-1237-01		✓	✓	✓	
10	03		✓	✓	✓	
11	05		✓	✓	✓	
12	05-1247-01		✓	✓	✓	
13	03		✓	✓	✓	
14	05		✓	✓	✓	
15	05-1249-01		✓	✓	✓	
16	05-1289-01	1290-01	✓	✓	✓	
17	03	-02	✓	✓	✓	
18	05	-03	✓	✓	✓	
19	07	-04	✓	✓	✓	
20	09	-05	✓	✓	✓	
21	11	-06	✓	✓	✓	
22	~~05-1290-01~~		✓	✓	✓	
23	~~02~~		✓	✓	✓	
24	~~03~~		✓	✓	✓	
25	~~04~~		✓	✓	✓	
26	~~05~~		✓	✓	✓	
27	DUP 1289-05				✓	
28	DUP 1290-05			✓		
29	LCS 1412			✓		
30	~~05-1170-03~~		✓			
31	DUP 1287-01		✓			
32	pH 9		✓			
33	BLK			✓		
34	LCS1412			✓		
35	BLK				✓	
36	LCS 100				✓	
37	LCSDUP				✓	
38	~~05-1290-06~~		✓	✓	✓	
39	~~DUP ↓~~				✓	
40	05-1228-01			✓		
41	03			✓		
42	05			✓		
43	07			✓		
44	09			✓		
45	11			✓		
46	13			✓		
47	05-1242-01			✓		
48	02			✓		
49	03			✓		

	Sample ID	Dilution	pH	Cond	ALK	Acid
50	05-1242-04			✓		
51	05-1244-01			✓		
52	05-1304-01		✓	✓		
53	02		✓	✓		
54	03		✓	✓		
55	DUP ↓			✓		
56	~~05-1295-01~~		✓	NO		Dup pH 1304-02
57	~~DUP ↓~~		✓			LCS 1412
58	pH 6		✓			
59						
60						
61						
62						
63						
64						
65						
66						
67						
68						
69						
70						
71						
72						
73						
74						
75						
76						
77						
78						
79						
80						
81						
82						
83						
84						
85						
86						
87						
88						
89						
90						
91						
92						
93						
94						
95						
96						
97						
98						

Analyst: dcl Date: 5/24/13

DCN#95704

Determination overview

1	2013-05-24 13:42:59 UTC-4	pH	PH 6	sample pH
2	2013-05-24 13:48:27 UTC-4	Conductivity_042413	WG4311684-01	sample Conduntivity
3	2013-05-24 13:50:20 UTC-4	Conductivity_042413	WG4311684-02	sample Conduntivity
4	2013-05-24 13:52:19 UTC-4	Alkalinity to 4-5	WG4311681-01	Alkal mg/L CaCO3
5	2013-05-24 13:56:46 UTC-4	Alkalinity to 4-5	WG4311681-02	Alkal mg/L CaCO3
6	2013-05-24 14:01:51 UTC-4	Alkalinity to 4-5	WG4311681-03	Alkal mg/L CaCO3
7	2013-05-24 14:07:03 UTC-4	cond, pH, and alkalinity to 4-5	L13051258-01	sample Conduntivity
8	2013-05-24 14:12:58 UTC-4	cond, pH, and alkalinity to 4-5	L13051225-10	sample Conduntivity
9	2013-05-24 14:20:26 UTC-4	cond, pH, and alkalinity to 4-5	L13051237-01	sample Conduntivity
10	2013-05-24 14:26:54 UTC-4	cond, pH, and alkalinity to 4-5	L13051237-03	sample Conduntivity
11	2013-05-24 14:33:23 UTC-4	cond, pH, and alkalinity to 4-5	L13051237-05	sample Conduntivity
12	2013-05-24 14:40:26 UTC-4	cond, pH, and alkalinity to 4-5	L13051247-01	sample Conduntivity
13	2013-05-24 14:47:01 UTC-4	cond, pH, and alkalinity to 4-5	L13051247-03	sample Conduntivity
14	2013-05-24 14:53:37 UTC-4	cond, pH, and alkalinity to 4-5	L13051247-05	sample Conduntivity
15	2013-05-24 15:00:44 UTC-4	cond, pH, and alkalinity to 4-5	L13051249-01	sample Conduntivity
16	2013-05-24 15:07:20 UTC-4	cond, pH, and alkalinity to 4-5	L13051289-01	sample Conduntivity
17	2013-05-24 15:13:57 UTC-4	cond, pH, and alkalinity to 4-5	L13051289-03	sample Conduntivity
18	2013-05-24 15:20:23 UTC-4	cond, pH, and alkalinity to 4-5	L13051289-05	sample Conduntivity
19	2013-05-24 15:26:42 UTC-4	cond, pH, and alkalinity to 4-5	L13051289-07	sample Conduntivity
20	2013-05-24 15:33:00 UTC-4	cond, pH, and alkalinity to 4-5	L13051289-09	sample Conduntivity
21	2013-05-24 15:39:11 UTC-4	cond, pH, and alkalinity to 4-5	L13051289-11	sample Conduntivity
22	2013-05-24 15:45:24 UTC-4	Alkalinity to 4-5	WG431681-05	Alkal mg/L CaCO3
23	2013-05-24 15:50:14 UTC-4	Conductivity_042413	WG431684-05	sample Conduntivity
24	2013-05-24 15:52:07 UTC-4	Conductivity_042413	WG431684-03	sample Conduntivity
25	2013-05-24 15:54:02 UTC-4	pH	WG431686-02	sample pH
26	2013-05-24 15:58:16 UTC-4	pH	PH 9	sample pH
27	2013-05-24 16:02:27 UTC-4	Conductivity_042413	WG431689-01	sample Conduntivity
28	2013-05-24 16:04:15 UTC-4	Conductivity_042413	WG431689-02	sample Conduntivity
29	2013-05-24 16:06:10 UTC-4	Alkalinity to 4-5	WG431688-01	Alkal mg/L CaCO3
30	2013-05-24 16:10:34 UTC-4	Alkalinity to 4-5	WG431688-02	Alkal mg/L CaCO3
31	2013-05-24 16:15:28 UTC-4	Alkalinity to 4-5	WG431688-03	Alkal mg/L CaCO3
32	2013-05-24 16:20:35 UTC-4	Conductivity_042413	L13051228-01	sample Conduntivity
33	2013-05-24 16:22:29 UTC-4	Conductivity_042413	L13051228-03	sample Conduntivity
34	2013-05-24 16:24:32 UTC-4	Conductivity_042413	L13051228-05	sample Conduntivity
35	2013-05-24 16:26:36 UTC-4	Conductivity_042413	L13051228-07	sample Conduntivity
36	2013-05-24 16:28:41 UTC-4	Conductivity_042413	L13051228-09	sample Conduntivity
37	2013-05-24 16:30:47 UTC-4	Conductivity_042413	L13051228-11	sample Conduntivity
38	2013-05-24 16:32:55 UTC-4	Conductivity_042413	L13051228-13	sample Conduntivity
39	2013-05-24 16:35:03 UTC-4	Conductivity_042413	L13051242-01	sample Conduntivity
40	2013-05-24 16:37:13 UTC-4	Conductivity_042413	L13051242-02	sample Conduntivity
41	2013-05-24 16:39:22 UTC-4	Conductivity_042413	L13051242-03	sample Conduntivity
42	2013-05-24 16:41:32 UTC-4	Conductivity_042413	L13051242-04	sample Conduntivity
43	2013-05-24 16:43:40 UTC-4	Conductivity_042413	L13051244-01	sample Conduntivity
44	2013-05-24 16:45:47 UTC-4	pH and Conductivity_042413	L13051304-01	sample Conduntivity
45	2013-05-24 16:51:17 UTC-4	pH and Conductivity_042413	L13051304-02	sample Conduntivity
46	2013-05-24 16:56:45 UTC-4	pH and Conductivity_042413	L13051304-03	sample Conduntivity
47	2013-05-24 17:02:13 UTC-4	Conductivity_042413	WG431689-05	sample Conduntivity
48	2013-05-24 17:04:13 UTC-4	pH	WG431691-02	sample pH
49	2013-05-24 17:06:36 UTC-4	Conductivity_042413	WG431689-05	sample Conduntivity

Determination overview

1	6.032	pH		
2	22.600	µS/cm		
3	1469.400	µS/cm		
4	5.00	mg/L		
5	93.15	mg/L		
6	92.80	mg/L		
7	1782.400	µS/cm	sample pH	9.008
8	554.200	µS/cm	sample pH	8.340
9	229.100	µS/cm	sample pH	7.518
10	264.900	µS/cm	sample pH	7.868
11	346.000	µS/cm	sample pH	7.948
12	325.200	µS/cm	sample pH	7.988
13	351.200	µS/cm	sample pH	7.993
14	347.900	µS/cm	sample pH	7.972
15	263.500	µS/cm	sample pH	7.700
16	1878.100	µS/cm	sample pH	7.783
17	1629.300	µS/cm	sample pH	7.556
18	1099.800	µS/cm	sample pH	7.128
19	1126.900	µS/cm	sample pH	7.204
20	659.900	µS/cm	sample pH	7.068
21	662.500	µS/cm	sample pH	7.599
22	14.20	mg/L		
23	731.200	µS/cm		
24	1464.600	µS/cm		
25	7.559	pH		
26	9.062	pH		
27	11.300	µS/cm		
28	1482.300	µS/cm		
29	9.80	mg/L		
30	93.20	mg/L		
31	93.38	mg/L		
32	1138.900	µS/cm		
33	150.200	µS/cm		
34	1452.900	µS/cm		
35	344.500	µS/cm		
36	308.000	µS/cm		
37	31.500	µS/cm		
38	1182.800	µS/cm		
39	331.000	µS/cm		
40	663.100	µS/cm		
41	661.200	µS/cm		
42	330.500	µS/cm		
43	1217.300	µS/cm		
44	355.400	µS/cm	sample pH	7.354
45	374.200	µS/cm	sample pH	7.653
46	488.400	µS/cm	sample pH	7.973
47	490.000	µS/cm		
48	7.692	pH		
49	1496.400	µS/cm		

Determination overview

1				
2				
3				
4				
5				
6				
7	pH	Alkal mg/L CaCO3	22.97	mg/L
8	pH	Alkal mg/L CaCO3	229.00	mg/L
9	pH	Alkal mg/L CaCO3	50.80	mg/L
10	pH	Alkal mg/L CaCO3	56.40	mg/L
11	pH	Alkal mg/L CaCO3	133.00	mg/L
12	pH	Alkal mg/L CaCO3	67.00	mg/L
13	pH	Alkal mg/L CaCO3	69.00	mg/L
14	pH	Alkal mg/L CaCO3	133.74	mg/L
15	pH	Alkal mg/L CaCO3	58.16	mg/L
16	pH	Alkal mg/L CaCO3	54.12	mg/L
17	pH	Alkal mg/L CaCO3	33.00	mg/L
18	pH	Alkal mg/L CaCO3	17.20	mg/L
19	pH	Alkal mg/L CaCO3	18.00	mg/L
20	pH	Alkal mg/L CaCO3	14.20	mg/L
21	pH	Alkal mg/L CaCO3	17.35	mg/L
22				
23				
24				
25				
26				
27				
28				
29				
30				
31				
32				
33				
34				
35				
36				
37				
38				
39				
40				
41				
42				
43				
44	pH			
45	pH			
46	pH			
47				
48				
49				

Determination overview

50	2013-05-24 17:10:29 UTC-4	pH	PH 6	sample pH

Determination overview

50	6.033	pH

2.2.6 Fluoride Data

2.2.6.1 Summary Data

Login Number: L13051304
Department: Conventionals
Analyst: Tammy Morris

METHOD

Analysis SM4500-F-C (Fluoride)

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: 65386
Approved By: Deanna Hesson

2.2.6.2 QC Summary Data

Example Fluoride Calculations

(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: 29-MAY-2013
Analyst: TMM
Analyst: NA
Method: FLUORIDE
Instrument: ORION4-STAR
Curve Workgroup: NA
Runlog ID:
Analytical Workgroups: WG432165

Calibration/Linearity	5/29/13
Second Source Check	
ICV/CCV (std)	
ICB/CCB	
Blank	X
LCS/LCS Dup	X
MS/MSD	X
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	TMM
Secondary Reviewer	DIH
Comments	

Primary Reviewer:
30-MAY-2013

Secondary Reviewer:
30-MAY-2013

CHECKLIST1 - Modified 03/05/2008
Generated: MAY-30-2013 11:19:42

Microbac Laboratories Inc.

HOLDING TIMES
EQUIVALENT TO AFCEE FORM 9

Analytical Method: SM4500-F-C-1997 AAB#: WG432165

Login Number: L13051304

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
SMW1-0513-1	01	05/23/13					05/29/2013	6.2	28		05/29/13	6.2	28	
SMW4-0513-1	02	05/23/13					05/29/2013	6.1	28		05/29/13	6.1	28	
MPL25-0513-1	03	05/23/13					05/29/2013	6	28		05/29/13	6	28	

* = SEE PROJECT QAPP REQUIREMENTS

HOLD_TIMES - Modified 03/06/2008
PDF File ID: 2900084
Report generated 05/30/2013 13:30

Microbac Laboratories Inc.

METHOD BLANK SUMMARY

Login Number: L13051304
Blank File ID: O113053011024501
Prep Date: 05/29/13 15:28
Analyzed Date: 05/29/13 15:28
Analyst: TMM

Work Group: WG432165
Blank Sample ID: WG432165-01
Instrument ID: ORION-710A1
Method: SM4500-F-C-1997

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
DUP	WG432165-06	O113053011030901	05/29/13 15:28	
LCS	WG432165-02	O113053011025001	05/29/13 15:28	
LCS2	WG432165-03	O113053011025301	05/29/13 15:28	
SMW4-0513-1	L13051304-02	O113053011040301	05/29/13 15:28	
SMW1-0513-1	L13051304-01	O113053011040001	05/29/13 15:28	
LCS	WG432165-04	O113053011030001	05/29/13 15:28	1
MPL25-0513-1	L13051304-03	O113053011040801	05/29/13 15:28	

Report Name: BLANK_SUMMARY
PDF File ID: 2900085
Report generated 05/30/2013 13:30

Microbac Laboratories Inc.

METHOD BLANK REPORT

Login Number: L13051304 Prep Date: 05/29/13 15:28 Sample ID: WG432165-01
Instrument ID: ORION-710A1 Run Date: 05/29/13 15:28 Prep Method: SM4500-F-C-1997
File ID: O113053011024501 Analyst: TMM Method: SM4500-F-C-1997
Workgroup (AAB#): WG432165 Matrix: Water Units: mg/L
Contract #: Cal ID: ORION- -

Analytes	LOD	LOQ	Concentration	Dilution	Qualifier
Fluoride	0.0500	0.100	0.0500	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: 2900086
30-MAY-2013 13:30

Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L13051304 Analyst: TMM Prep Method: SM4500-F-C-1997
Instrument ID: ORION-710A1 Matrix: Water Method: SM4500-F-C-1997
Workgroup (AAB#): WG432165 Units: mg/L
QC Key: DOD4 Lot #: STD57948

Sample ID: WG432165-02 LCS File ID: O113053011025001 Run Date: 05/29/2013 15:28
Sample ID: WG432165-03 LCS2 File ID: O113053011025301 Run Date: 05/29/2013 15:28

Analytes	LCS			LCS2			%RPD	%Rec Limits	RPD Lmt	Q
	Known	Found	% REC	Known	Found	% REC				
Fluoride	2.00	1.88	94.0	2.00	1.91	95.5	1.58	85 - 115	20	

LCS_LCS2 - Modified 03/06/2008
PDF File ID: 2900087
Report generated: 05/30/2013 13:30

2.2.6.3 Raw Data

FLUORIDE

(flouride2)

Cal. Stds: 54283 LCS/ICV: Std 57948

10/100 of 1000 = 100 mg/L
10/100 of 100 = 10 mg/L
10/100 of 10 = 1.0 mg/L
10/100 of 1.0 = 0.10 mg/L

Daily Dilution: 2
Daily Dilution: 5(2)/25=0.4

non-dist method SM4500-F C 1997/ EPA 340.2
SOP #: K3402 Rev. #: 13
TISAB COA: 16767
Slope: -58.8 (-54 to -60)
Volumes are in mL / readout and result are in mg/L

Spk dilution: 1(10)/25=0.4
CCV: 1 mg/L
Instrument: Orion 710-A #1

SAMPLE	VOLUME	DILUTION	READOUT	FINAL RESULT
ICV / LCS (2 ppm)	25		1.88	
ICB / BLANK	25		0.000	
LCS: (0.4 ppm)	25		0.393	
~~Lcs Dup~~	25		1.91	
05-1088-01	25		0.336	
05-1146-01	25		0.193	
02	25		0.0884	
03	25		0.0753	
05-1304-01	25		0.194	
02	25		~~0.194~~ ~~0.0992~~	0.194
03	25		~~0.0003~~	0.0992
05-1373-01	25		0.0003	
02MS	25		0.367	
03MSD	25		0.376	
04	25		0.000	
05-1242-01	25		0.194	
02	25		0.0747	
03	25		0.0705	
04	25		0.172	
05-1464-01	25		5.43	
" 02	25	1/2	7.64	
" 03	25	1/10	6.07	
" 04	25	1/10	5.49	
DUP: 05-1304-03	25		0.101	
~~MS:~~ 05-1464-05	25	1/10	4.36	
~~MSD:~~ ( ) " 06	25		4.52	
CCV: (ppm)	25		9.77	

Analyst: Tammy Moore Date: 5/29/13 @ 1528

05-1464-07	25		2.08	

DCN#95763

2.2.7 Ammonia Data

2.2.7.1 Summary Data

Login Number: L13051304
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: 65381
Approved By: Deanna Hesson

Microbac

Lab Report #: L13051304
Lab Project #: 3005.011
Project Name: White Sands MR
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L13051304-01	**PrePrep Method:**	N/A	**Instrument:**	SMARTCHEM
Client ID:	SMW1-0513-1	**Prep Method:**	350.1	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	350.1	**Cal Date:**	05/31/2013 09:09
Workgroup #:	WG432395	**Analyst:**	BAF	**Run Date:**	05/31/2013 09:59
Collect Date:	05/23/2013 10:42	**Dilution:**	1	**File ID:**	SC130531001.062
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Nitrogen, Ammonia	7664-41-7	0.0774	J	0.100	0.0500

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

Certificate of Analysis

Sample #:	L13051304-02	**PrePrep Method:**	N/A	**Instrument:**	SMARTCHEM
Client ID:	SMW4-0513-1	**Prep Method:**	350.1	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	350.1	**Cal Date:**	05/31/2013 09:09
Workgroup #:	WG432395	**Analyst:**	BAF	**Run Date:**	05/31/2013 10:00
Collect Date:	05/23/2013 12:20	**Dilution:**	1	**File ID:**	SC130531001.063
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Nitrogen, Ammonia	7664-41-7	0.0621	J	0.100	0.0500

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

Certificate of Analysis

Sample #:	L13051304-03	**PrePrep Method:**	N/A	**Instrument:**	SMARTCHEM
Client ID:	MPL25-0513-1	**Prep Method:**	350.1	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	350.1	**Cal Date:**	05/31/2013 09:09
Workgroup #:	WG432395	**Analyst:**	BAF	**Run Date:**	05/31/2013 10:01
Collect Date:	05/23/2013 15:00	**Dilution:**	1	**File ID:**	SC130531001.064
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Nitrogen, Ammonia	7664-41-7	0.0503	J	0.100	0.0500

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

Certificate of Analysis

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: 31-MAY-2013
Analyst: BAF
Analyst: NA
Method: NH3
Instrument: SC
Curve Workgroup: NA
Runlog ID:
Analytical Workgroups: WG432393 WG432395 WG432396

Calibration/Linearity	5-31-2013
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:
31-MAY-2013
Brice Fenton

Secondary Reviewer:
01-JUN-2013
Dianna Hesson

CHECKLIST1 - Modified 03/05/2008
Generated: JUN-01-2013 08:08:53

Microbac Laboratories Inc.

HOLDING TIMES
EQUIVALENT TO AFCEE FORM 9

Analytical Method: 350.1 AAB#: WG432395

Login Number: L13051304

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
SMW1-0513-1	01	05/23/13					05/31/2013	8	28		05/31/13	8	28	
SMW4-0513-1	02	05/23/13					05/31/2013	7.9	28		05/31/13	7.9	28	
MPL25-0513-1	03	05/23/13					05/31/2013	7.8	28		05/31/13	7.8	28	

* = SEE PROJECT QAPP REQUIREMENTS

HOLD_TIMES - Modified 03/06/2008
PDF File ID: 2902690
Report generated 05/31/2013 12:48

Microbac Laboratories Inc.

METHOD BLANK SUMMARY

Login Number: L13051304
Blank File ID: SC130531001.040
Prep Date: 05/31/13 09:40
Analyzed Date: 05/31/13 09:40
Analyst: BAF

Work Group: WG432395
Blank Sample ID: WG432395-01
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
SMW1-0513-1	L13051304-01	SC130531001.062	05/31/13 09:59	01
SMW4-0513-1	L13051304-02	SC130531001.063	05/31/13 10:00	01
MPL25-0513-1	L13051304-03	SC130531001.064	05/31/13 10:01	01
DUP	WG432395-06	SC130531001.071	05/31/13 10:07	01
LCS	WG432395-02	SC130531001.087	05/31/13 10:21	01

Report Name: BLANK_SUMMARY
PDF File ID: 2902691
Report generated 05/31/2013 12:48

Microbac Laboratories Inc.

METHOD BLANK REPORT

Login Number: L13051304 Prep Date: 05/31/13 09:40 Sample ID: WG432395-01
Instrument ID: SMARTCHEM Run Date: 05/31/13 09:40 Prep Method: 350.1
File ID: SC130531001.040 Analyst: BAF Method: 350.1
Workgroup (AAB#): WG432395 Matrix: Water Units: mg/L
Contract #: Cal ID: SMARTC-31-MAY-13

Analytes	LOD	LOQ	Concentration	Dilution	Qualifier
Nitrogen, Ammonia	0.0500	0.100	0.0559	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: 2902692
31-MAY-2013 12:48

Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L13051304 Run Date: 05/31/2013 Sample ID: WG432395-02
Instrument ID: SMARTCHEM Run Time: 10:21 Prep Method: 350.1
File ID: SC130531001.087 Analyst: BAF Method: 350.1
Workgroup (AAB#): WG432395 Matrix: Water Units: mg/L
QC Key: DOD4 Lot#: STD55893 Cal ID: SMARTC-31-MAY-13

Analytes	Expected	Found	% Rec	LCS Limits	Q
Nitrogen, Ammonia	2.00	2.10	105	90 - 110	

LCS - Modified 03/06/2008
PDF File ID: 2902693
Report generated: 05/31/2013 12:48

2.2.7.3 Raw Data

SMARTCHEM RUN LOG
(smartchem2, smartchem3)

WORKGROUP: WG432393

432395
432396

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 # 20130531001
2) **Workgroup** _____
   Plan # _____
3) **Workgroup** _____
   Plan # _____

	Analyte	1	2	3
	NH3	Dilution		
SC Prepared Curve				
Position				
1-1	ICV 1.5			
1-2	BlK			
1-3	LCS 2			
1-4	05-1272-02			
1-5	05-1299-01	2/50		
1-6	02	1/50 Auto 1/2		
1-7	03			
1-8	04			
1-9	05			
1-10	06			
1-11	07	1/50 Auto 1/2		
1-12	08	1/50		
1-13	09	1/50		
1-14	10	1/50		
1-15	11			
1-16	12			
1-17	05-1311-02			
1-18	05-1395-01			
1-19	05-1396-01			
1-20	05-1222-01			
1-21	MS 02			
1-22	MSD 03			
2-1	05-1231-01			
2-2	02			
2-3	03			

	Analyte	1	2	3
Position				
2-4	05-1420-01			
2-5	DUP 1231-01			
2-6	MS 1311-02			
2-7	BlK			
2-8	LCS 2			
2-9	05-1399-01	2/50	Auto 1/5	
2-10	02	1/50	" 1/5	
2-11	03	1/50 × 1/4		
2-12	04	1/50	Auto 1/5	
2-13	05			
2-14	06	1/50	Auto 1/2	
2-15	05-1221-01			
2-16	MS 02			
2-17	MSD 03			
2-18	05-1232-01			
2-19	02			
2-20	05-1242-01			
2-21	02			
2-22	03			
2-23	04			
2-24	05-1295-01	1/50		
2-25	05-1304-01			
2-26	02			
3-1	03			
3-2	05-1373-01			

NOTES:
* Run NO2 std on NO3 runs
* LCSD must be run if no MS or Duplicate
*MS(10% sample): NO3, TKN, NH3, PHOS

DCN#95795

SMARTCHEM RUN LOG
(smartchem2, smartchem3)

WORKGROUP: WG432393

Position	Analyte	1	2	3
3-3	05-1373-02	MS		
3-4	MSD 03			
3-5	05-1373-04			
3-6	DUP ↓			
3-7	Blk			
3-8	LCS 2			
3-9	LCSDUP			
3-10	05-1359-01			
3-11	02			
3-12	05-1378-34			
3-13	36			
3-14	38			
3-15	DUP 36			

Position	Analyte	1	2	3
3-16	MS 1378-36			
3-17				
3-18				
3-19				
3-20	LCS set 2			
3-21				
3-22				
3-23				
3-24				
3-25				
3-26				
3-27				
3-28				

	Chloride	EPA 325.2/SM 4500-CI E
	Sulfate	EPA 375.4/SM 426C (15th)
	Alkalinity	EPA 310.2
	Nitrate-Nitrite	EPA 353.2/SM 4500-NO3 F

✓	Ammonia	EPA 350.1/SM 4500-NH3 B
	TKN	EPA 351.2
	Phos	EPA 365.4

Analyte	NH3	NH3AA	Reagents
SOP & Revision	K3501 Rev.18 →		RGT26972
Curve Stock (SC made)	Std57973 →		RGT26904
Curve ID (user made)			RGT26908
ICV	Std57975 →		
CCV	Std57974 →		
LCS		Std57976	
MS	see dist. log Dilution	Std55893 0.1/10 (100) = 1	

Comments: _____

Analyst: Bruce Fenton Date: 5/31/13

DCN#95795

AMMONIA DISTILLATION LOG

SOP K3501 Revision # 18

LCS: 55893
10(100)/100 = 10
DAILY DIL. 10(10)/50 = 2.0

SPIKE: Std 55893
10(100)/100 = 10
DAILY DIL. 5(10)/50 = 1.0

WATER (mg/L)

SOIL (mg/Kg)

☑ easy-dist method ☐ macro method

RGT 26756
RGT 27117

SAMPLE	VOLUME DISTILLED (mL)	CHLORINE PRESENT? NO	pH ADJUSTED 9.5 ± 0.2 PH yes	COMMENTS
BLANK	50	✓	✓	
LCS(2.0)	50	✓	✓	
05-1272-02	50	✓	✓	
05-1299-01	2	✓	✓	
02	1	✓	✓	
03	50	yes	✓	
04	50	yes	✓	
05	50	yes	✓	
06	50	✓	✓	
07	1	✓	✓	
08	1	yes	✓	
09	1	✓	✓	
10	1	✓	✓	
11	50	yes	✓	
12	50	yes	✓	
05-1311-02	50	✓	✓	
05-1395-01	50	✓	✓	
05-1396-01	50	✓	✓	
05-1222-01 Ry	50	✓	✓	
02 ms (1.0)	50	✓	✓	
03 msD (1.0)	50	✓	✓	
05-1231-01	50	✓	✓	
~~DUP~~ " 02	50	✓	✓	
~~MS~~ " 03	50	✓	✓	
Dup 05-~~1373~~ 1231-04	50	✓	✓	

Analyst: Tammy Marino 5/30/13 Date/Time: 5/30/13 @ 820

*MS required on 10% of samples (EPA 350.1)
*MS/MS required on each set of 20 samples (SM4500)

MS 05-1311-02 (1.0)	50	✓	✓	
05-1420-01	50	✓	✓	

AMMONIA DISTILLATION LOG

SOP K3501 Revision # 18

LCS: 55893
10 (100)/100 = 10
DAILY DIL. 10(10)/50 = 2.0

SPIKE: 55893
10 (100)/100 = 10
DAILY DIL. 5(10)/50 = 1.0

WATER (mg/L)
SOIL (mg/Kg)

☑ easy-dist method ☐ macro method

RGT 26750
RGT 27117

SAMPLE	VOLUME DISTILLED (mL)	CHLORINE PRESENT? NO ✓	pH ADJUSTED 9.5 ± 0.2 yes ✓	COMMENTS
BLANK	50	✓	✓	
LCS(2.0)	↓	✓	✓	
05- 1399 -01	2	✓	✓	V-P #Cooker
02	1	✓	✓	V-P Waste Heat
03	1	✓	✓	V-P Cooker #2
04	1	✓	✓	feather
05	50	✓	✓	
06	1	✓	✓	V-P Dog 1
05-1221- 01 Rep	50	✓	✓	
" 02ms		✓	✓	
" 03msD		✓	✓	
05-1232-01		✓	✓	
" 02		✓	✓	
05-1242-01		✓	✓	
02		✓	✓	
03		✓	✓	
04	↓	✓	✓	
05- 1295-01	1	✓	✓	
05-1304-01	50	✓	✓	
02		✓	✓	
03		✓	✓	
05- 1373- 01		✓	✓	
~~DUP~~ MS 05-1373 02 (1.0)	↓	✓	✓	
MS MSD " 03 (1.0)	50	✓	✓	
05-1373-04	50	✓	✓	

Analyst: Tammy Morris Date/Time: 5/30/13 1220

*MS required on 10% of samples (EPA 350.1)
*MS/MS required on each set of 20 samples (SM4500)

Dup 05(1373-4 1Z	50	50	✓	✓	

TMT 5/30/13

MICROBAC (OVD)

SMARTCHEM REPORT (VER3.0.53)

NH3, TKN, NO3NO2 (MG/L N)

ALK (MG/L CaCO3) CL, SO4 (MG/L)

Method : WNH3 - EPA 350.1/SM4500-NH3 AMMONIA

Smp#/[Dil Fact]	Sample ID	Conc	OD	%Recovery/RPD	Flag	Analysis Time
DIL-1	RBL	0.000	0.0459	0.00		9:02:13 AM
DIL-1	RBL	0.000	0.0484	0.00		9:02:30 AM
DIL-1	RBL	0.000	0.0466	0.00		9:04:01 AM
DIL-1	Std-1	0.000	-0.0004	0.00	INV	9:04:18 AM
SR5-1	Std-2	0.030	0.0121	0.00		9:05:49 AM
SR5-2	Std-3	0.094	0.0266	0.00		9:06:07 AM
SR5-3	Std-4	0.600	0.1751	0.00		9:07:37 AM
SR5-4	Std-5	1.050	0.3078	0.00		9:07:55 AM
SR5-5	Std-6	2.100	0.6001	0.00		9:09:25 AM
ST-1	Std-7	3.000	0.8668	0.00		9:09:43 AM
1	ICV	1.480	0.4272	0.00		9:11:13 AM
2	WG432393-01 BLK	0.069	0.0213	0.00		9:11:31 AM
3	WG432393-02 LCS	1.937	0.5588	0.00		9:13:01 AM
4	L13051272-01	0.183	0.0542	0.00		9:13:19 AM
5	L13051299-01 (25)	0.954	0.2760	0.00		9:14:49 AM
6	L13051299-02 (50)	X 8.005	2.3045	0.00	><,LH	9:15:07 AM
7	L13051299-03	0.206	0.0609	0.00		9:16:37 AM
8	L13051299-04	0.093	0.0284	0.00		9:16:55 AM
9	L13051299-05	0.128	0.0382	0.00		9:18:25 AM
10	L13051299-06	0.173	0.0514	0.00		9:18:43 AM
ST-2	CCV (1.5 mg/L)	1.526	0.4406	101.75		9:20:13 AM
ST-3	CCB (0 mg/L)	0.011	0.0047	0.00		9:20:31 AM
11	L13051299-07 (50)	X 7.284	2.0971	0.00	EPL,><,LH	9:22:01 AM
12	L13051299-08 (50)	1.916	0.5526	0.00		9:22:19 AM
13	L13051299-09 (50)	0.277	0.0812	0.00		9:23:49 AM
14	L13051299-10 (50)	0.543	0.1577	0.00		9:24:07 AM
15	L13051299-11	0.762	0.2208	0.00		9:25:37 AM
16	L13051299-12	0.728	0.2110	0.00		9:25:55 AM
17	L13051311-02	1.801	0.5195	0.00		9:27:25 AM
18	L13051395-01	0.139	0.0415	0.00		9:27:43 AM
19	L13051396-01	0.108	0.0326	0.00		9:29:14 AM
20	L13051222-01	0.116	0.0348	0.00		9:29:31 AM

Report Date :05/31/2013 **Run Date :5/31/2013** **Operator : WESTCO** **Plan # :20130531001**

Plan Description : NH3-A-BAF/5/31/2013

MICROBAC (OVD)

SMARTCHEM REPORT (VER3.0.53)

NH3, TKN, NO3NO2 (MG/L N)

ALK (MG/L CaCO3) CL, SO4 (MG/L)

Method : WNH3 - EPA 350.1/SM4500-NH3 AMMONIA

Smp#/[Dil Fact]	Sample ID	Conc	OD	%Recovery/RPD	Flag	Analysis Time
ST-2	CCV (1.5 mg/L)	1.527	0.4408	101.79		9:31:01 AM
ST-3	CCB (0 mg/L)	0.012	0.0049	0.00		9:31:19 AM
21	L13051222-02 MS	1.056	0.3053	0.00		9:32:50 AM
22	L13051222-03 MSD	1.112	0.3214	0.00		9:33:07 AM
23	L13051231-01	0.097	0.0294	0.00		9:34:38 AM
24	L13051231-02	0.110	0.0332	0.00		9:34:56 AM
25	L13051231-03	0.081	0.0247	0.00		9:36:26 AM
26	L13051420-01	0.869	0.2514	0.00		9:36:44 AM
27	WG432393-06 DUP	0.077	0.0237	0.00		9:38:14 AM
28	WG432393-07 MS	2.245	0.6474	0.00		9:38:32 AM
29	WG432395-01 BLK	0.056	0.0176	0.00		9:40:02 AM
30	WG432395-02 LCS	X 1.771	0.5109	0.00		9:40:20 AM
ST-2	CCV (1.5 mg/L)	1.557	0.4495	103.81		9:41:50 AM
ST-3	CCB (0 mg/L)	0.016	0.0060	0.00		9:42:08 AM
31	L13051399-01 (25)	X 14.726	4.2380	0.00	EPL,><,LH	9:43:38 AM
32	L13051399-02 (50)	X 14.720	4.2364	0.00	><,LH	9:43:56 AM
33	L13051399-03 (200)	X 5.322	1.5325	0.00	><,LH	9:45:26 AM
34	L13051399-04 (50)	X 16.343	4.7031	0.00	><,LH	9:45:44 AM
35	L13051399-05	0.144	0.0429	0.00		9:47:14 AM
36	L13051399-06 (50)	X 9.351	2.6917	0.00	EPL,><,LH	9:47:32 AM
37	L13051221-01	0.220	0.0647	0.00		9:49:02 AM
38	L13051221-02 MS	0.985	0.2850	0.00		9:49:20 AM
39	L13051221-03 MSD	1.116	0.3227	0.00		9:50:50 AM
40	L13051232-01	0.084	0.0256	0.00		9:51:08 AM
ST-2	CCV (1.5 mg/L)	1.555	0.4488	103.65		9:52:38 AM
ST-3	CCB (0 mg/L)	0.022	0.0078	0.00		9:52:56 AM
41	L13051232-02	0.115	0.0347	0.00		9:54:26 AM
42	L13051242-01	0.074	0.0227	0.00		9:54:44 AM
43	L13051242-02	0.063	0.0196	0.00		9:56:14 AM
44	L13051242-03	0.104	0.0313	0.00		9:56:32 AM
45	L13051242-04	0.115	0.0346	0.00		9:58:02 AM
46	L13051295-01 (50)	X 3.700	1.0659	0.00	><,LH	9:58:20 AM

Report Date :05/31/2013 **Run Date :5/31/2013** **Operator : WESTCO** **Plan # :20130531001**

Plan Description : NH3-A-BAF/5/31/2013

MICROBAC (OVD)

SMARTCHEM REPORT (VER3.0.53)

NH3, TKN, NO3NO2 (MG/L N)

ALK (MG/L CaCO3) CL, SO4 (MG/L)

Method : WNH3 - EPA 350.1/SM4500-NH3 AMMONIA

Smp#/[Dil Fact]	Sample ID	Conc	OD	%Recovery/RPD	Flag	Analysis Time
47	L13051304-01	0.077	0.0238	0.00		9:59:50 AM
48	L13051304-02	0.062	0.0194	0.00		10:00:08 AM
49	L13051304-03	0.050	0.0160	0.00		10:01:39 AM
50	L13051373-01	0.040	0.0130	0.00		10:01:56 AM
ST-2	CCV (1.5 mg/L)	1.590	0.4588	105.96		10:03:26 AM
ST-3	CCB (0 mg/L)	0.026	0.0091	0.00		10:03:44 AM
51	L13051373-02 MS	0.986	0.2853	0.00		10:05:15 AM
52	L13051373-03 MSD	0.907	0.2624	0.00		10:05:32 AM
53	L13051373-04	0.063	0.0195	0.00		10:07:03 AM
54	WG432395-06 DUP	0.081	0.0247	0.00		10:07:21 AM
55	WG432396-01 BLK	0.024	0.0084	0.00		10:08:51 AM
56	WG432396-02 LCS	2.120	0.6114	0.00		10:09:09 AM
57	WG432396-03 LCSDUP	2.116	0.6102	0.00		10:10:39 AM
58	L13051359-01	0.022	0.0076	0.00		10:10:57 AM
59	L13051359-02	0.018	0.0065	0.00		10:12:27 AM
60	L13051378-34	0.012	0.0049	0.00		10:12:45 AM
ST-2	CCV (1.5 mg/L)	1.586	0.4579	105.76		10:14:15 AM
ST-3	CCB (0 mg/L)	0.019	0.0069	0.00		10:14:33 AM
61	L13051378-36	0.004	0.0027	0.00		10:16:03 AM
62	L13051378-38	0.031	0.0103	0.00		10:16:21 AM
63	WG432396-05 DUP	-0.002	0.0008	0.00	LL	10:17:51 AM
64	WG432396-06 MS	0.898	0.2600	0.00		10:18:09 AM
65	ID 65	0.022	0.0078	0.00		10:19:39 AM
66	ID 66	0.005	0.0029	0.00		10:19:57 AM
67	ID 67	-0.038	-0.0096	0.00	INV,><,LL	10:21:27 AM
68	ID 68 LCS set 2	2.097	0.6047	0.00		10:21:45 AM
69	ID 69	2.122	0.6119	0.00		10:23:15 AM
70	ID 70	2.108	0.6080	0.00		10:23:33 AM
ST-2	CCV (1.5 mg/L)	1.590	0.4589	105.99		10:25:03 AM
ST-3	CCB (0 mg/L)	0.020	0.0071	0.00		10:25:21 AM
6-[1/2]	L13051299-02 (50) (2)	4.523	0.6521	0.00	LH	10:37:21 AM
11-[1/2]	L13051299-07 (50)(2)	3.976	0.5735	0.00	LH	10:39:09 AM

Report Date :05/31/2013 **Run Date :5/31/2013** **Operator : WESTCO** **Plan # :20130531001**

Plan Description : NH3-A-BAF/5/31/2013

MICROBAC (OVD)

SMARTCHEM REPORT (VER3.0.53)

NH3, TKN, NO3NO2 (MG/L N)

ALK (MG/L CaCO3) CL, SO4 (MG/L)

Method : WNH3 - EPA 350.1/SM4500-NH3 AMMONIA

Smp#/[Dil Fact]	Sample ID	Conc	OD	%Recovery/RPD	Flag	Analysis Time
31-[1/2]	L13051399-01 (25)(5)	X11.033	1.5885	0.00	><,LH	10:40:57 AM
32-[1/2]	L13051399-02 (50)(5)	X10.089	1.4528	0.00	><,LH	10:42:45 AM
33-[1/2]	L13051399-03 (200)(4)	5.657	0.8153	0.00	LH	10:44:33 AM
34-[1/2]	L13051399-04 (50)(5)	4.578	0.6601	0.00	LH	10:46:21 AM
36-[1/2]	L13051399-06 (50)(2)	5.061	0.7295	0.00	LH	10:48:09 AM
46-[1/2]	L13051295-01 (50)	3.848	0.5550	0.00	LH	10:49:57 AM
ST-2	CCV (1.5 mg/L)	1.569	0.4528	104.57		10:49:57 AM
ST-3	CCB (0 mg/L)	0.036	0.0120	0.00		10:51:27 AM
31-[1/5]	L13051399-01 (25)(5)	11.535	0.6652	0.00	LH	11:03:38 AM
32-[1/5]	L13051399-02 (50)(5)	10.156	0.5859	0.00	LH	11:05:26 AM
ST-2	CCV (1.5 mg/L)	1.605	0.4633	107.01		11:05:26 AM
ST-3	CCB (0 mg/L)	0.037	0.0121	0.00		11:06:56 AM

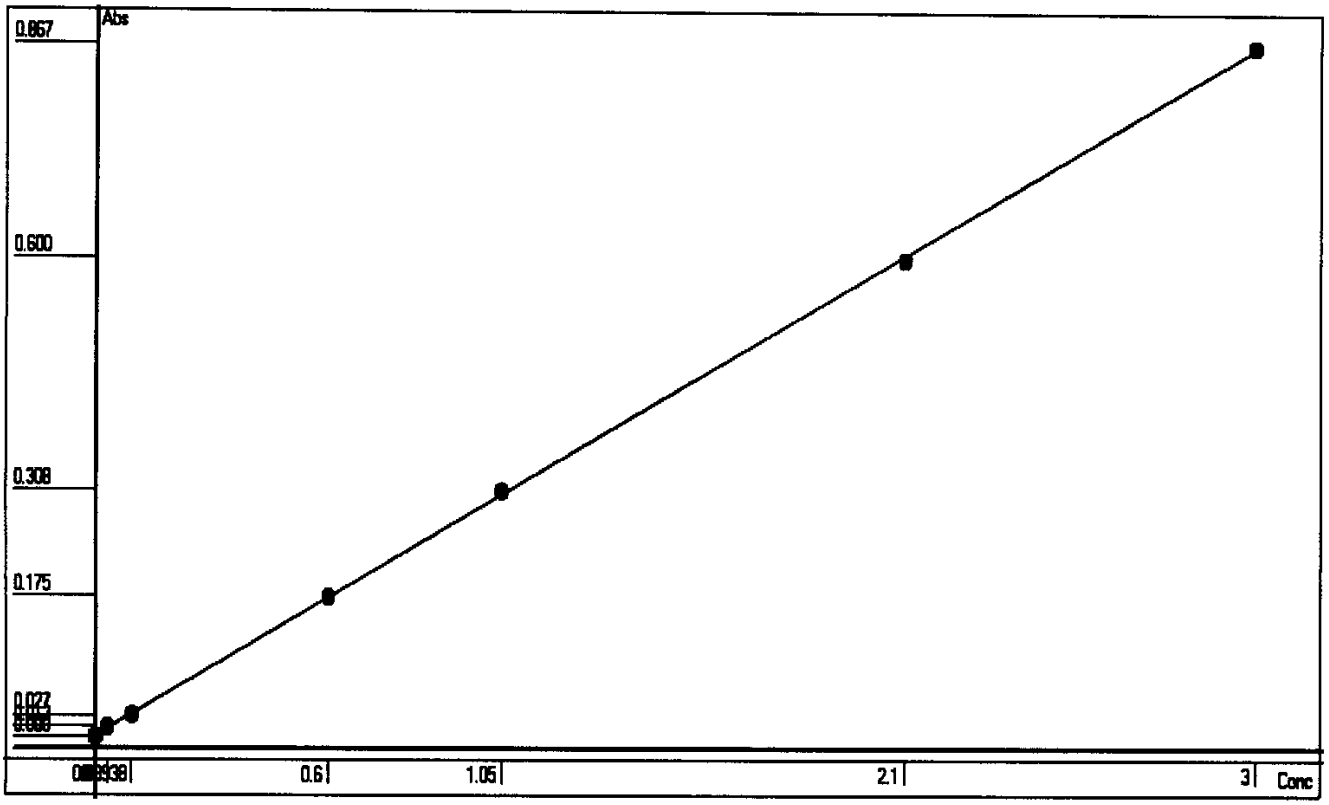
Report Date :05/31/2013 **Run Date :5/31/2013** **Operator : WESTCO** **Plan # :20130531001**

Plan Description : NH3-A-BAF/5/31/2013

Calibrant Report - WNH3 -

Calib Lot #:010104 Exp Date:6/17/2020 User:Westco Scientific

Plan # : 20130531001 Description : [NH3-A-BAF/5/31/2013]



Point	OD	Conc	Recalc Conc	% Error
1	-0.0004	0	-0.0065	-0.65
2	0.0121	0.03	0.0370	23.33
3	0.0266	0.0938	0.0874	-6.82
4	0.1751	0.6	0.6035	0.58
5	0.3078	1.05	1.0648	1.41
6	0.6001	2.1	2.0808	-0.91
7	0.8668	3	3.0079	0.26

Conc= +3.476*Abso -0.0051 R^2=0.9999

RBL
0.0463
0

Report Date 5/31/2013 Run Date 5/31/2013

2.2.8 Nitrate Data

2.2.8.1 Summary Data

Login Number: L13051304
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: 65382
Approved By: Deanna Hesson

Microbac

Lab Report #: L13051304
Lab Project #: 3005.011
Project Name: White Sands MR
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L13051304-01	**PrePrep Method:**	N/A	**Instrument:**	SMARTCHEM
Client ID:	SMW1-0513-1	**Prep Method:**	353.2	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	353.2	**Cal Date:**	05/31/2013 13:14
Workgroup #:	WG432375	**Analyst:**	BAF	**Run Date:**	05/31/2013 16:50
Collect Date:	05/23/2013 10:42	**Dilution:**	4	**File ID:**	SC13060408201301
Sample Tag:		**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Nitrate-Nitrite (as N)		3.15		0.200	0.100

Sample #:	L13051304-02	**PrePrep Method:**	N/A	**Instrument:**	SMARTCHEM
Client ID:	SMW4-0513-1	**Prep Method:**	353.2	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	353.2	**Cal Date:**	05/31/2013 13:14
Workgroup #:	WG432375	**Analyst:**	BAF	**Run Date:**	05/31/2013 16:50
Collect Date:	05/23/2013 12:20	**Dilution:**	4	**File ID:**	SC13060408202201
Sample Tag:		**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Nitrate-Nitrite (as N)		3.24		0.200	0.100

Sample #:	L13051304-03	**PrePrep Method:**	N/A	**Instrument:**	SMARTCHEM
Client ID:	MPL25-0513-1	**Prep Method:**	353.2	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	353.2	**Cal Date:**	05/31/2013 13:14
Workgroup #:	WG432375	**Analyst:**	BAF	**Run Date:**	05/31/2013 16:50
Collect Date:	05/23/2013 15:00	**Dilution:**	4	**File ID:**	SC13060408202801
Sample Tag:		**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Nitrate-Nitrite (as N)		5.71		0.200	0.100

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.

Data Checklist

Date: 31-MAY-2013
Analyst: BAF
Analyst: NA
Method: NO3
Instrument: SC
Curve Workgroup: NA
Runlog ID:
Analytical Workgroups: WG432373 WG432375

Calibration/Linearity	5-31-2013
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:
03-JUN-2013

Brice Fenton

Secondary Reviewer:
04-JUN-2013

Dianna Hesson

CHECKLIST1 - Modified 03/05/2008
Generated: JUN-04-2013 07:18:58

Microbac Laboratories Inc.

HOLDING TIMES
EQUIVALENT TO AFCEE FORM 9

Analytical Method: 353.2 AAB#: WG432375

Login Number: L13051304

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
SMW1-0513-1	01	05/23/13					05/31/2013	8.3	28		05/31/13	8.3	28	
SMW4-0513-1	02	05/23/13					05/31/2013	8.2	28		05/31/13	8.2	28	
MPL25-0513-1	03	05/23/13					05/31/2013	8.1	28		05/31/13	8.1	28	

* = SEE PROJECT QAPP REQUIREMENTS

HOLD_TIMES - Modified 03/06/2008
PDF File ID: 2907343
Report generated 06/04/2013 09:24

Microbac Laboratories Inc.

METHOD BLANK SUMMARY

Login Number: L13051304
Blank File ID: SC13060408171001
Prep Date: 05/31/13 16:50
Analyzed Date: 05/31/13 16:50
Analyst: BAF

Work Group: WG432375
Blank Sample ID: WG432375-01
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
DUP	WG432375-06	SC13060408181501	05/31/13 16:50	
SMW1-0513-1	L13051304-01	SC13060408201301	05/31/13 16:50	
SMW4-0513-1	L13051304-02	SC13060408202201	05/31/13 16:50	
LCS	WG432375-02	SC13060408174301	05/31/13 16:50	
MPL25-0513-1	L13051304-03	SC13060408202801	05/31/13 16:50	
LCS2	WG432375-03	SC13060408174801	05/31/13 16:50	

Report Name: BLANK_SUMMARY
PDF File ID: 2907344
Report generated 06/04/2013 09:24

Microbac Laboratories Inc.

METHOD BLANK REPORT

Login Number: L13051304 Prep Date: 05/31/13 16:50 Sample ID: WG432375-01
Instrument ID: SMARTCHEM Run Date: 05/31/13 16:50 Prep Method: 353.2
File ID: SC13060408171001 Analyst: BAF Method: 353.2
Workgroup (AAB#): WG432375 Matrix: Water 2 Units: mg/L
Contract #: Cal ID: SMARTC - 31-MAY-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: 2907345
04-JUN-2013 09:24

Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L13051304 Analyst: BAF Prep Method: 353.2
Instrument ID: SMARTCHEM Matrix: Water Method: 353.2
Workgroup (AAB#): WG432375 Units: mg/L
QC Key: DOD4 Lot #: STD58237

Sample ID: WG432375-02 LCS File ID: SC13060408174301 Run Date: 05/31/2013 16:50
Sample ID: WG432375-03 LCS2 File ID: SC13060408174801 Run Date: 05/31/2013 16:50

Analytes	LCS			LCS2			%RPD	%Rec Limits	RPD Lmt	Q
	Known	Found	% REC	Known	Found	% REC				
Nitrate-Nitrite (as N)	1.00	1.00	100	1.00	0.993	99.3	0.802	90 - 110	15	

LCS_LCS2 - Modified 03/06/2008
PDF File ID: 2907346
Report generated: 06/04/2013 09:24

2.2.8.3 Raw Data

SMARTCHEM RUN LOG
(smartchem2, smartchem3)

WORKGROUP: WG432373

432375

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
- [x] WBL Run
- [x] Reagents Full
- [x] Dilution H_2O Full
- [x] Waste Container Check

Syringe filter lot # 159090

1) Workgroup _____
Plan # 20130531003
2) Workgroup _____
Plan # _____
3) Workgroup _____
Plan # _____

	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	05-1489-01			
1-7	05-1492-01	1/2		
1-8	02	1/2		
1-9	03	1/100		
1-10	04	1/100		
1-11	05	1/10		
1-12	06	1/100		
1-13	07	1/100		
1-14	08	1/100		
1-15	09	1/100		
1-16	10	1/100		
1-17	11	1/50		
1-18	12	1/10		
1-19	05-1231-01	1/5		color
1-20	02	1/5		↓
1-21	03	1/5		↓
1-22	05-1232-01			
2-1	02			
2-2	05-1242-01			
2-3	02	Auto 1/2		

	Analyte	1	2	3
Position				
2-4	DUP 1232-01			
2-5	MS ↓			
2-6	MS 1232-02			
2-7	BLK			
2-8	LCS 1			
2-9	LCS DUP			
2-10	05-1242-03	Auto	1/2	
2-11	04			
2-12	05-1304-01			
2-13	02			
2-14	03			
2-15	05-1542-02			
2-16	04			
2-17	05-1373-01	Auto	1/2	
2-18	DUP ↓	"	1/2	
2-19	MS 02	"	1/2	
2-20	MSD 03	"	1/2	
2-21	04			
2-22	05-1540-01			
2-23	02			
2-24	05-1545-01			
2-25	02			
2-26	03			
3-1	04			
3-2	05			

NOTES:
* Run NO2 std on NO3 runs
* LCSD must be run if no MS or Duplicate
*MS(10% sample): NO3, TKN, NH3, PHOS

DCN#95792

SMARTCHEM RUN LOG
(smartchem2, smartchem3)

WORKGROUP: WG432373

Position	Analyte	1	2	3
3-3	05-154507			
3-4	08			
3-5	09	Auto 1/2		
3-6	MS 1304-02			
3-7	05-1586-02	1/10		
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-Cl E
	Sulfate	EPA 375.4/SM 426C (15th)
	Alkalinity	EPA 310.2
✓	Nitrate-Nitrite	EPA 353.2/SM 4500-NO3 F

	Ammonia	EPA 350.1/SM 4500-NH3 B
	TKN	EPA 351.2
	Phos	EPA 365.4

Analyte	NO3		Reagents
SOP & Revision	K3532 Rev. 19		RGT26764
Curve Stock (SC made)	Std58041		RGT26762
Curve ID (user made)			
ICV	Std57931		
CCV	Std58042		
LCS	Std58237		
MS	Std55642 Dilution 0.1/5 (25) = 0.5		

Comments: _____

Analyst: Brice Fenton Date: 5/31/13

DCN#95792

MICROBAC (OVD)
SMARTCHEM REPORT (VER3.0.53)
NH3, TKN, NO3NO2 (MG/L N)
ALK (MG/L CaCO3) CL, SO4 (MG/L)

Method : WNO3 - EPA 353.2 Nitrate-Nitrite

Smp#/[Dil Fact]	Sample ID	Conc	OD	%Recovery/RPD	Flag	Analysis Time
DIL-1	RBL	0.000	0.0177	0.00		3:58:53 PM
DIL-1	RBL	0.000	0.0121	0.00		4:00:05 PM
DIL-1	RBL	0.000	0.0116	0.00		4:01:17 PM
DIL-1	RBL	0.000	0.0096	0.00		4:02:29 PM
DIL-1	Std-1	0.000	-0.0008	0.00	INV	4:03:41 PM
SR5-1	Std-2	0.040	0.0111	0.00		4:04:53 PM
SR5-2	Std-3	0.100	0.0312	0.00		4:06:05 PM
SR5-3	Std-4	0.500	0.1524	0.00		4:07:17 PM
SR5-4	Std-5	1.000	0.3216	0.00		4:08:29 PM
ST-1	Std-6	2.000	0.6248	0.00		4:09:41 PM
1	ICV	1.554	0.4876	0.00		4:10:53 PM
2	WG432373-01 BLK	-0.005	-0.0022	0.00	INV,><,LL	4:12:05 PM
3	WG432373-02 LCS	1.010	0.3169	0.00		4:13:17 PM
4	WG432373-03 LCSDUP	1.012	0.3175	0.00		4:14:29 PM
5	NO2	1.019	0.3195	0.00 NO2		4:15:41 PM
6	L13051489-01	0.503	0.1574	0.00 0		4:16:53 PM
7	L13051492-01 (2)	0.692	0.2169	0.00 0.115		4:18:05 PM
8	L13051492-02 (2)	0.275	0.0857	0.00 0.023		4:19:18 PM
9	L13051492-03 (100)	0.981	0.3077	0.00 13.165		4:20:29 PM
10	L13051492-04 (100)	1.083	0.3398	0.00 22.782		4:21:42 PM
ST-2	CCV (1 mg/L)	0.986	0.3091	98.55		4:22:54 PM
ST-3	CCB (0 mg/L)	-0.010	-0.0038	0.00	INV,><,LL	4:24:06 PM
11	L13051492-05 (10)	0.262	0.0816	0.00 0		4:25:18 PM
12	L13051492-06 (100)	1.256	0.3940	0.00 3.146		4:26:30 PM
13	L13051492-07 (100)	1.201	0.3769	0.00 1.909		4:27:42 PM
14	L13051492-08 (100)	1.584	0.4972	0.00 0.716		4:28:54 PM
15	L13051492-09 (100)	1.251	0.3925	0.00 0.683		4:30:06 PM
16	L13051492-10 (100)	1.249	0.3920	0.00 0.656		4:31:18 PM
17	L13051492-11 (50)	X2.372	0.7446	0.00 0.551	><,LH	4:32:30 PM
18	L13051492-12 (10)	0.251	0.0782	0.00 0.025		4:33:42 PM
19	L13051231-01 (5)	0.231	0.0719	0.00		4:34:54 PM
20	L13051231-02 (5)	0.325	0.1017	0.00		4:36:06 PM

Report Date :05/31/2013 **Run Date :5/31/2013** **Operator : WESTCO** **Plan # :20130531003**

Plan Description : NO3-A-BAF/5/31/2013

MICROBAC (OVD)

SMARTCHEM REPORT (VER3.0.53)

NH3, TKN, NO3NO2 (MG/L N)

ALK (MG/L CaCO3) CL, SO4 (MG/L)

Method : WNO3 - EPA 353.2 Nitrate-Nitrite

Smp#/[Dil Fact]	Sample ID	Conc	OD	%Recovery/RPD	Flag	Analysis Time
ST-2	CCV (1 mg/L)	0.974	0.3056	97.44		4:37:18 PM
ST-3	CCB (0 mg/L)	-0.013	-0.0048	0.00	INV,><,LL	4:38:30 PM
21	L13051231-03 (5)	0.245	0.0765	0.00		4:39:42 PM
22	L13051232-01	0.818	0.2564	0.00		4:40:54 PM
23	L13051232-02	0.674	0.2112	0.00		4:42:06 PM
24	L13051242-01	X 2.536	0.7964	0.00	><,LH	4:43:18 PM
25	L13051242-02	X 7.619	2.3934	0.00	><,LH	4:44:30 PM
26	WG432373-06 DUP	0.634	0.1985	0.00		4:45:42 PM
27	WG432373-07 MS	1.061	0.3327	0.00		4:46:54 PM
28	WG432373-08 MS	1.174	0.3683	0.00		4:48:06 PM
29	WG432375-01 BLK	-0.010	-0.0037	0.00	INV,><,LL	4:49:18 PM
30	WG432375-02 LCS	1.001	0.3141	0.00		4:50:30 PM
ST-2	CCV (1 mg/L)	1.009	0.3164	100.87		4:51:42 PM
ST-3	CCB (0 mg/L)	-0.008	-0.0033	0.00	INV,><,LL	4:52:54 PM
31	WG432375-03 LCSDUP	0.993	0.3113	0.00		4:54:06 PM
32	L13051242-03	X 8.299	2.6070	0.00	><,LH	4:55:18 PM
33	L13051242-04	X 2.480	0.7786	0.00	><,LH	4:56:30 PM
34	L13051304-01	X 2.830	0.8887	0.00	><,LH	4:57:42 PM
35	L13051304-02	X 3.149	0.9888	0.00	><,LH	4:58:54 PM
36	L13051304-03	X 5.293	1.6625	0.00	><,LH	5:00:06 PM
37	L13051542-02	0.758	0.2377	0.00		5:01:18 PM
38	L13051542-04	0.941	0.2950	0.00		5:02:30 PM
39	L13051373-01	X 8.492	2.6679	0.00	><,LH	5:03:42 PM
40	WG432375-06 DUP	X 8.385	2.6340	0.00	EPL,><,LH	5:04:54 PM
ST-2	CCV (1 mg/L)	1.016	0.3187	101.60		5:06:06 PM
ST-3	CCB (0 mg/L)	-0.004	-0.0020	0.00	INV,><,LL	5:07:18 PM
41	L13051373-02 MS	X 8.408	2.6415	0.00	EPL,><,LH	5:08:31 PM
42	L13051373-03 MSD	X 8.735	2.7442	0.00	EPL,><,LH	5:09:42 PM
43	L13051373-04	X 6.788	2.1324	0.00	><,LH	5:10:55 PM
44	L13051540-01	1.802	0.5655	0.00		5:12:07 PM
45	L13051540-02	1.356	0.4255	0.00		5:13:19 PM
46	L13051545-01	0.661	0.2072	0.00		5:14:31 PM

Report Date :05/31/2013 **Run Date :5/31/2013** **Operator : WESTCO** **Plan # :20130531003**

Plan Description : NO3-A-BAF/5/31/2013

MICROBAC (OVD)

SMARTCHEM REPORT (VER3.0.53)

NH3, TKN, NO3NO2 (MG/L N)

ALK (MG/L CaCO3) CL, SO4 (MG/L)

Method : WNO3 - EPA 353.2 Nitrate-Nitrite

Smp#/[Dil Fact]	Sample ID	Conc	OD	%Recovery/RPD	Flag	Analysis Time
47	L13051545-02	0.873	0.2737	0.00 NO2		5:15:43 PM
48	L13051545-03	0.796	0.2495	0.00		5:16:55 PM
49	L13051545-04	0.886	0.2778	0.00		5:18:07 PM
50	L13051545-05	0.869	0.2726	0.00		5:19:19 PM
ST-2	CCV (1 mg/L)	1.027	0.3220	102.65		5:20:31 PM
ST-3	CCB (0 mg/L)	-0.009	-0.0035	0.00	INV,><,LL	5:21:43 PM
51	L13051545-07	0.418	0.1307	0.00		5:22:55 PM
52	L13051545-08	0.436	0.1365	0.00		5:24:07 PM
53	L13051545-09	X 11.300	3.5500	0.00	EPL,><,LH	5:25:19 PM
54	WG432375-09 MS	X 3.556	1.1168	0.00	><,LH	5:26:31 PM
55	L13051586-02 (10)	0.633	0.1984	0.00 0.157		5:27:43 PM
56	ID 56	-0.010	-0.0037	0.00	INV,><,LL	5:28:55 PM
57	ID 57	-0.003	-0.0015	0.00	INV,><,LL	5:30:07 PM
58	ID 58	1.035	0.3246	0.00		5:31:19 PM
59	ID 59	1.038	0.3256	0.00		5:32:31 PM
60	ID 60	1.167	0.3661	0.00		5:33:43 PM
ST-2	CCV (1 mg/L)	1.022	0.3206	102.21		5:34:55 PM
17-[1/4]	L13051492-11 (50)	2.534	0.1985	0.00 0.551	LH	5:44:06 PM
24-[1/4]	L13051242-01	2.655	0.2080	0.00	LH	5:46:12 PM
25-[1/4]	L13051242-02 (2)	3.788	0.2970	0.00	LH	5:48:18 PM
32-[1/4]	L13051242-03 (2)	4.152	0.3256	0.00	LH	5:50:24 PM
33-[1/4]	L13051242-04	2.593	0.2031	0.00	LH	5:52:30 PM
34-[1/4]	L13051304-01	3.146	0.2466	0.00	LH	5:54:36 PM
35-[1/4]	L13051304-02	3.241	0.2540	0.00	LH	5:56:41 PM
36-[1/4]	L13051304-03	5.710	0.4480	0.00	LH	5:58:47 PM
39-[1/4]	L13051373-01 (2)	4.442	0.3484	0.00	LH	6:00:53 PM
40-[1/4]	WG432375-06 DUP (2)	4.365	0.3423	0.00	LH	6:02:59 PM
ST-2	CCV (1 mg/L)	0.997	0.3126	99.66		6:03:53 PM
ST-3	CCB (0 mg/L)	***	-0.0066	0.00	SS	6:05:06 PM
41-[1/4]	L13051373-02 MS (2)	4.624	0.3627	0.00	LH	6:10:48 PM
42-[1/4]	L13051373-03 MSD (2)	4.589	0.3599	0.00	LH	6:12:54 PM
43-[1/4]	L13051373-04	7.371	0.5785	0.00	LH	6:15:00 PM

Report Date :05/31/2013 **Run Date :5/31/2013** **Operator : WESTCO** **Plan # :20130531003**

Plan Description : NO3-A-BAF/5/31/2013

MICROBAC (OVD)
SMARTCHEM REPORT (VER3.0.53)
NH3, TKN, NO3NO2 (MG/L N)
ALK (MG/L CaCO3) CL, SO4 (MG/L)

Method : WNO3 - EPA 353.2 Nitrate-Nitrite

Smp#/[Dil Fact]	Sample ID	Conc	OD	%Recovery/RPD	Flag	Analysis Time
53-[1/4]	**L13051545-09** (2)	**5.803**	**0.4553**	**0.00**	**LH**	**6:17:06 PM**
54-[1/4]	**WG432375-09 MS**	**3.757**	**0.2946**	**0.00**	**LH**	**6:19:12 PM**
ST-2	**CCV (1 mg/L)**	*******	**-0.0039**	**-1.03**	**SS**	**6:20:06 PM**
ST-3	**CCB (0 mg/L)**	**-0.007**	**-0.0028**	**0.00**	**INV,><,LL**	**6:30:20 PM**

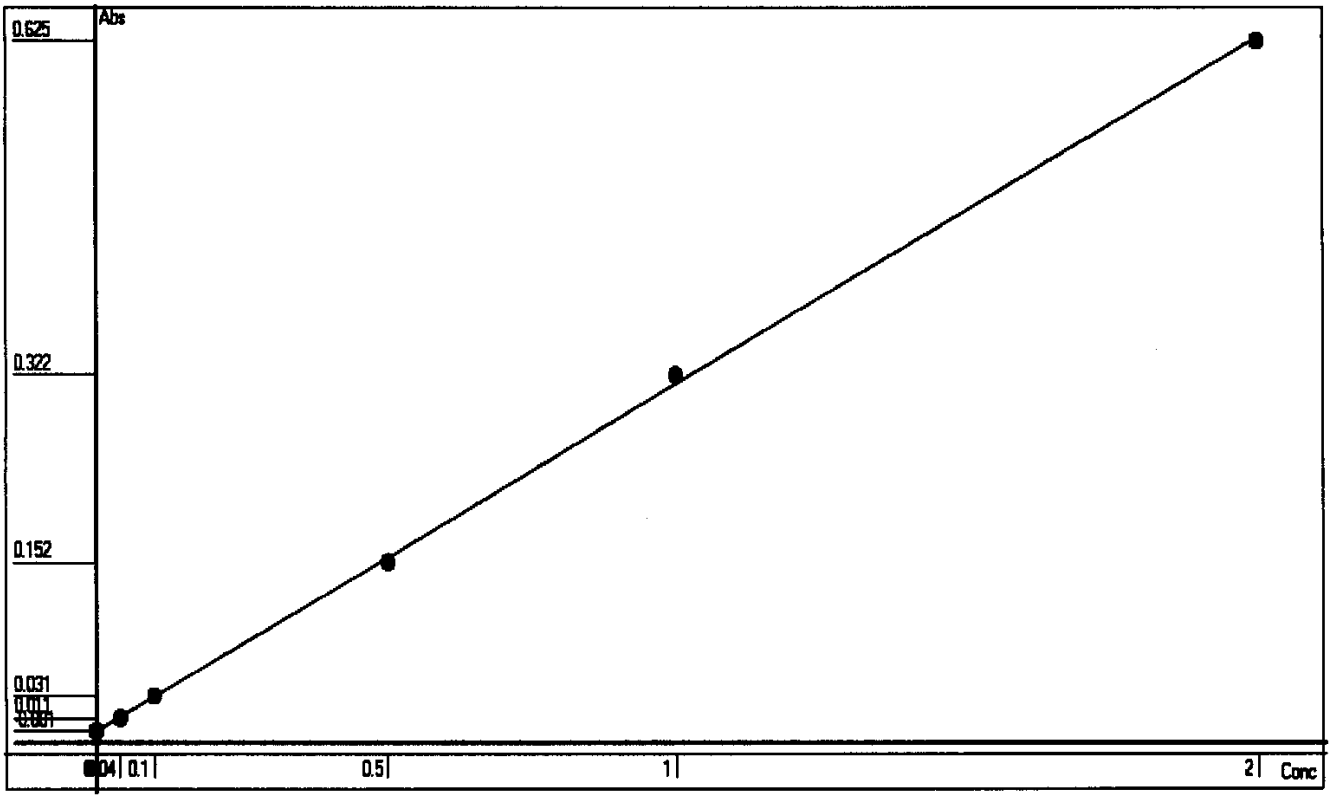
Report Date :05/31/2013 **Run Date :5/31/2013** **Operator : WESTCO** **Plan # :20130531003**

Plan Description : NO3-A-BAF/5/31/2013

Calibrant Report - WNO3 -

Calib Lot #:010104 Exp Date:6/17/2020 User:MICROBAC

Plan # : 20130531003 Description : [NO3-A-BAF/5/31/2013]



Point	OD	Conc	Recalc Conc	% Error
1	-0.0008	0	-0.0006	-0.06
2	0.0111	0.04	0.0372	-7.00
3	0.0312	0.1	0.1012	1.20
4	0.1524	0.5	0.4869	-2.62
5	0.3216	1	1.0254	2.54
6	0.6248	2	1.9903	-0.49

Conc= +3.1825*Abso +0.0019 R^2=0.9997

RBL
0.0119
0

Report Date 5/31/2013 Run Date 5/31/2013

2.2.9 Orthophosphate Data

2.2.9.1 Summary Data

Login Number: L13051304
Department: Conventionals
Analyst: Holly Reed

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: 65383
Approved By: Deanna Hesson

Microbac

Lab Report #: L13051304
Lab Project #: 3005.011
Project Name: White Sands MR
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L13051304-01	**PrePrep Method:**	N/A	**Instrument:**	UV-120-1V
Client ID:	SMW1-0513-1	**Prep Method:**	SM4500-P-E-1999	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	SM4500-P-E-1999	**Cal Date:**	04/24/2013 13:20
Workgroup #:	WG431706	**Analyst:**	HJR	**Run Date:**	05/24/2013 13:35
Collect Date:	05/23/2013 10:42	**Dilution:**	1	**File ID:**	1V.1305241335-07
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 #:	L13051304-02	**PrePrep Method:**	N/A	**Instrument:**	UV-120-1V
Client ID:	SMW4-0513-1	**Prep Method:**	SM4500-P-E-1999	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	SM4500-P-E-1999	**Cal Date:**	04/24/2013 13:20
Workgroup #:	WG431706	**Analyst:**	HJR	**Run Date:**	05/24/2013 13:35
Collect Date:	05/23/2013 12:20	**Dilution:**	1	**File ID:**	1V.1305241335-08
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 #:	L13051304-03	**PrePrep Method:**	N/A	**Instrument:**	UV-120-1V
Client ID:	MPL25-0513-1	**Prep Method:**	SM4500-P-E-1999	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	SM4500-P-E-1999	**Cal Date:**	04/24/2013 13:20
Workgroup #:	WG431706	**Analyst:**	HJR	**Run Date:**	05/24/2013 13:35
Collect Date:	05/23/2013 15:00	**Dilution:**	1	**File ID:**	1V.1305241335-09
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

2.2.9.2 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: 24-MAY-2013
Analyst: HJR
Analyst: NA
Method: PO4
Instrument: UV-120-1V
Curve Workgroup: NA
Runlog ID:
Analytical Workgroups: WG431706

Calibration/Linearity	4/23/13
Second Source Check	
ICV/CCV (std)	X
ICB/CCB	
Blank	X
LCS/LCS Dup	X
MS/MSD	X
Duplicate	X
Upload Results	X
Client Forms	X
QC Violation Sheet	
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	HJR
Secondary Reviewer	DIH
Comments	

Primary Reviewer:
29-MAY-2013

Secondary Reviewer:
30-MAY-2013

CHECKLIST1 - Modified 03/05/2008
Generated: MAY-30-2013 11:14:51

Microbac Laboratories Inc.

HOLDING TIMES
EQUIVALENT TO AFCEE FORM 9

Analytical Method: SM4500-P-E-1999 AAB#: WG431706

Login Number: L13051304

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
SMW1-0513-1	01	05/23/13					05/24/2013	1.1	2		05/24/13	1.1	2	
SMW4-0513-1	02	05/23/13					05/24/2013	1.1	2		05/24/13	1.1	2	
MPL25-0513-1	03	05/23/13					05/24/2013	.9	2		05/24/13	.9	2	

* = SEE PROJECT QAPP REQUIREMENTS

HOLD_TIMES - Modified 03/06/2008
PDF File ID: 2899512
Report generated 05/30/2013 10:19

Microbac Laboratories Inc.

METHOD BLANK SUMMARY

Login Number: L13051304
Blank File ID: 1V.1305241335-02
Prep Date: 05/24/13 13:35
Analyzed Date: 05/24/13 13:35
Analyst: HJR

Work Group: WG431706
Blank Sample ID: WG431706-01
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	WG431706-02	1V.1305241335-03	05/24/13 13:35	
LCS2	WG431706-03	1V.1305241335-04	05/24/13 13:35	
SMW1-0513-1	L13051304-01	1V.1305241335-07	05/24/13 13:35	
SMW4-0513-1	L13051304-02	1V.1305241335-08	05/24/13 13:35	
MPL25-0513-1	L13051304-03	1V.1305241335-09	05/24/13 13:35	
DUP	WG431706-05	1V.1305241335-10	05/24/13 13:35	

Report Name: BLANK_SUMMARY
PDF File ID: 2899513
Report generated 05/30/2013 10:19

Microbac Laboratories Inc.

METHOD BLANK REPORT

Login Number: L13051304 Prep Date: 05/24/13 13:35 Sample ID: WG431706-01
Instrument ID: UV-120-1V Run Date: 05/24/13 13:35 Prep Method: SM4500-P-E-1999
File ID: 1V.1305241335-02 Analyst: HJR Method: SM4500-P-E-1999
Workgroup (AAB#): WG431706 Matrix: Water Units: mg/L
Contract #: Cal ID: UV-120 - 10-MAY-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: 2899514
30-MAY-2013 10:19

Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L13051304 Analyst: HJR Prep Method: SM4500-P-E-1999
Instrument ID: UV-120-1V Matrix: Water Method: SM4500-P-E-1999
Workgroup (AAB#): WG431706 Units: mg/L
QC Key: DOD4 Lot #: STD58135

Sample ID: WG431706-02 LCS File ID: 1V.1305241335-03 Run Date: 05/24/2013 13:35
Sample ID: WG431706-03 LCS2 File ID: 1V.1305241335-04 Run Date: 05/24/2013 13:35

Analytes	LCS			LCS2			%RPD	%Rec Limits	RPD Lmt	Q
	Known	Found	% REC	Known	Found	% REC				
Orthophosphate	1.00	1.01	101	1.00	1.02	102	0.803	90 - 110	20	

LCS_LCS2 - Modified 03/06/2008
PDF File ID: 2899515
Report generated: 05/30/2013 10:19

2.2.9.3 Raw Data

WG427922

Curves

Parameter: PO4

Spectrophotometer: UV-120-1V

Calibration (Curve) standard stock: Std 55071

Concentration: 1000 mg/L

Recipe for preparation of curve standards found in:
SOP: 3153 Revision: 14 Page: 9

Second Source Stock: Std 57447 (concentration: 10mg/L)

Daily Preparation: 5(10)/50=

concentration = 1.0 mg/L

Calibration Standards (mg/L)	Volume (mL)	Cell Size (cm)	Wavelength (nm)	Absorbance
1.0	50	1cm	880	0.613
0.7	↓	↓	↓	0.422
0.5				0.307
0.2				0.121
0.1				0.060
0.05				0.029
0.00				0.001
2nd source (1.0)				0.616

Analyst: [signature] Date/Time: 4/24/13 1320

DCN#95184

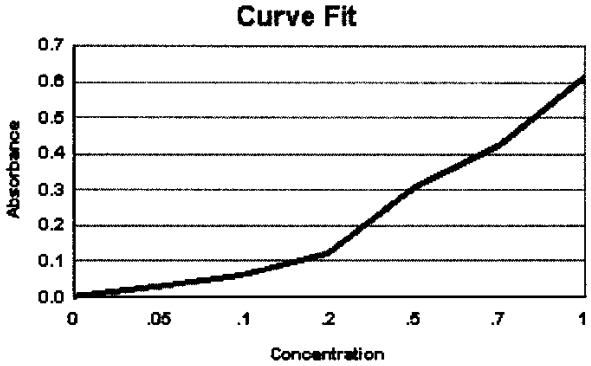
Microbac Laboratories Inc.
INITIAL CALIBRATION

Workgroup: WG427922
Analytical Method: 300
Instrument ID: UV-120-1V

Analyst: HJR
Initial Calibration Date: 04/24/2013

Analyte: ORTHOPHOSPHATE
Number of Points: 7
Slope: 0.611199
Y-Intercept: -0.000794045
Coef. Of Correlation (R^2): 0.999873
Coef. Of Correlation (R): 0.999936

Concentration X	Absorbance Y	X^2	X * Y	Y-Fitted (mX^2+B)
0.00	0.00100	0.00	0.00	-0.000794045
0.0500	0.0290	0.00250	0.00145	0.0297659
0.100	0.0600	0.0100	0.00600	0.0603259
0.200	0.121	0.0400	0.0242	0.121446
0.500	0.307	0.250	0.154	0.304806
0.700	0.422	0.490	0.295	0.427045
1.00	0.613	1.00	0.613	0.610405



WG_ICAL_CAL_WET - Modified 03/06/2008
Report generated 04/24/2013 13:43

[redacted]

Microbac Laboratories Inc.
ALTERNATE SOURCE REPORT

Workgroup #: WG427922
File ID: 1V.1304241320-08
CCV ID: WG427922-08
Units: mg/L
Analyte: ORTHOPHOSPHATE

Instrument ID: UV-120-1V
Run Date: 04/24/2013
Run Time: 13:20
Analyst: HJR
Cal ID: UV-120 - 24-APR-13 13:20:07

Analyte	Expected	Found	RF	%D	Q
Orthophosphate	1	1.01	0.616	1.0	

* Exceeds %D Limit

CCC Calibrtion Check Compounds
SPCC System Performance Check Compounds

WET_WG_SSCV - Modified 03/06/2008
Report generated 04/24/2013 13:43

[redacted]

ORTHOPHOSPHATE

EPA 365.2/SM4500-P E
SOP K3653 Rev 14

Color Reagent Chemicals
LOT 26266
LOT 26194
LOT 26394
COA 16278

CCV: Std 58134
Daily Dilution: 5(5)/100 = 0.5
Daily Dilution:
Spectrophotometer: UV-120-1V

LCS: Std 58135
Daily Dilution: 5(10)/50 = 1.0
Daily Dilution:
Curve ID: 4/23/13

Spike: Std 58135
Daily Dilution: 2(10)/50
Daily Dilution: 0.4

SAMPLE	VOLUME	pH 7 ± 0.2	DILUTION	ABSORBANCE @ 880 nm
CCV: 0.5 mg/L	50	✓		0.314
BLANK	50	✓		0.001
LCS: 1.0 ppm	50	✓		0.619
LCSDUP: 1.0 ppm	50	✓		0.624
05-1310-01	50	✓		0.008
-03	50	✓		0.010
05-1304-01	50	✓		0.009
-02	50	✓		0.007
-03	50	✓		0.005
	50			
	50			
	50			
	50			
	50			
	50			
	50			
	50			
	50			
	50			
	50			
	50			
DUP: 05-1304-01	50	✓		0.010
MS: (0.4) -03	50	✓		0.247
MSD: ( )	50			
CCV: (0.5)	50	✓		0.312

ANALYST: [signature] DATE / TIME: 5/24/13 1335

DCN#95706

Microbac Laboratories Inc.
SAMPLE REPORT

Workgroup: WG431706
Analyte: ORTHOPHOSPHATE

Analyst: HJR
Date: 05/24/2013

Sample ID	I Vol	F Vol	Response	Slope	Y Intercept	Anal. Conc.	Rep. Conc.	Dil	Units
WG431706-01	50	50	0.00100	0.6112	-0.0007940	0.0029353	0.0029353	1	mg/L
WG431706-02	50	50	0.619	0.6112	-0.0007940	1.0141	1.0141	1	mg/L
WG431706-03	50	50	0.624	0.6112	-0.0007940	1.0222	1.0222	1	mg/L
L13051310-01	50	50	0.00800	0.6112	-0.0007940	0.014388	ND	1	mg/L
L13051310-03	50	50	0.0100	0.6112	-0.0007940	0.017660	ND	1	mg/L
L13051304-01	50	50	0.00900	0.6112	-0.0007940	0.016024	ND	1	mg/L
WG431706-04	50	50	0.00900	0.6112	-0.0007940	0.016024	0.016024	1	mg/L
L13051304-02	50	50	0.00700	0.6112	-0.0007940	0.012752	ND	1	mg/L
L13051304-03	50	50	0.00500	0.6112	-0.0007940	0.0094798	ND	1	mg/L
WG431706-06	50	50	0.00500	0.6112	-0.0007940	0.0094798	0.0094798	1	mg/L
WG431706-05	50	50	0.0100	0.6112	-0.0007940	0.017660	0.017660	1	mg/L
WG431706-07	50	50	0.247	0.6112	-0.0007940	0.40542	0.40542	1	mg/L

UV_SAMPLE_REPORT - Modified 03/06/2008

Report generated 05/29/2013 14:18

Microbac Laboratories Inc.
CONTINUING CALIBRATION REPORT

Workgroup #: WG432164
File ID: 1V.1305241335-01
CCV ID: WG432164-01
Units: mg/L
Analyte: ORTHOPHOSPHATE

Instrument ID: UV-120-1V
Run Date: 05/24/2013
Run Time: 13:35
Analyst: HJR
Cal ID: UV-120 - 10-MAY-13

Analyte	Expected	Found	RF	%D	Q
Orthophosphate	.5	0.515	0.628	3.0	

* Exceeds %D Limit

CCC Calibrtion Check Compounds
SPCC System Performance Check Compounds

WET_WG_CCV - Modified 03/06/2008

Report generated 05/29/2013 14:17

Microbac Laboratories Inc.
CONTINUING CALIBRATION REPORT

Workgroup #: WG432164
File ID: 1V.1305241335-12
CCV ID: WG432164-02
Units: mg/L
Analyte: ORTHOPHOSPHATE

Instrument ID: UV-120-1V
Run Date: 05/24/2013
Run Time: 13:35
Analyst: HJR
Cal ID: UV-120 - 10-MAY-13

Analyte	Expected	Found	RF	%D	Q
Orthophosphate	.5	0.512	0.624	2.4	

* Exceeds %D Limit

CCC Calibrtion Check Compounds
SPCC System Performance Check Compounds

WET_WG_CCV - Modified 03/06/2008

Report generated 05/29/2013 14:17

2.2.10 Total Dissolved Solids Data

2.2.10.1 Summary Data

Login Number: L13051304
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: 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: 65387
Approved By: Deanna Hesson

Microbac

Lab Report #: L13051304
Lab Project #: 3005.011
Project Name: White Sands MR
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L13051304-01	**PrePrep Method:**	N/A	**Instrument:**	OVEN
Client ID:	SMW1-0513-1	**Prep Method:**	160.1/SM2540C	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	SM2540-C-1997	**Cal Date:**	
Workgroup #:	WG432052	**Analyst:**	ADG	**Run Date:**	05/29/2013 10:13
Collect Date:	05/23/2013 10:42	**Dilution:**	1	**File ID:**	EN.1305291013-19
Sample Tag:		**Units:**	mg/L		

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

Sample #:	L13051304-02	**PrePrep Method:**	N/A	**Instrument:**	OVEN
Client ID:	SMW4-0513-1	**Prep Method:**	160.1/SM2540C	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	SM2540-C-1997	**Cal Date:**	
Workgroup #:	WG432052	**Analyst:**	ADG	**Run Date:**	05/29/2013 10:13
Collect Date:	05/23/2013 12:20	**Dilution:**	1	**File ID:**	EN.1305291013-20
Sample Tag:		**Units:**	mg/L		

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

Sample #:	L13051304-03	**PrePrep Method:**	N/A	**Instrument:**	OVEN
Client ID:	MPL25-0513-1	**Prep Method:**	160.1/SM2540C	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	SM2540-C-1997	**Cal Date:**	
Workgroup #:	WG432052	**Analyst:**	ADG	**Run Date:**	05/29/2013 10:13
Collect Date:	05/23/2013 15:00	**Dilution:**	1	**File ID:**	EN.1305291013-21
Sample Tag:		**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Total Dissolved Solids		310		20.0	10.0

2.2.10.2 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: 29-MAY-2013
Analyst: ADG
Analyst: NA
Method: TDS
Instrument: OVEN
Curve Workgroup: NA
Runlog ID:
Analytical Workgroups: WG432052

Calibration/Linearity	05/29/13
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:
30-MAY-2013

April Greene

Secondary Reviewer:
01-JUN-2013

Dianna Hesson

CHECKLIST1 - Modified 03/05/2008
Generated: JUN-01-2013 08:05:08

Microbac Laboratories Inc.

HOLDING TIMES
EQUIVALENT TO AFCEE FORM 9

Analytical Method: SM2540-C-1997 AAB#: WG432052

Login Number: L13051304

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
SMW1-0513-1	01	05/23/13					05/29/2013	6	7		05/29/13	6	7	
SMW4-0513-1	02	05/23/13					05/29/2013	5.9	7		05/29/13	5.9	7	
MPL25-0513-1	03	05/23/13					05/29/2013	5.8	7		05/29/13	5.8	7	

* = SEE PROJECT QAPP REQUIREMENTS

HOLD_TIMES - Modified 03/06/2008
PDF File ID: 2900461
Report generated 05/30/2013 15:07

Microbac Laboratories Inc.

METHOD BLANK SUMMARY

Login Number: L13051304
Blank File ID: EN.1305291013-01
Prep Date: 05/29/13 10:13
Analyzed Date: 05/29/13 10:13
Analyst: ADG

Work Group: WG432052
Blank Sample ID: WG432052-01
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	WG432052-02	EN.1305291013-02	05/29/13 10:13	
LCS2	WG432052-03	EN.1305291013-03	05/29/13 10:13	
SMW1-0513-1	L13051304-01	EN.1305291013-19	05/29/13 10:13	
SMW4-0513-1	L13051304-02	EN.1305291013-20	05/29/13 10:13	
MPL25-0513-1	L13051304-03	EN.1305291013-21	05/29/13 10:13	
DUP	WG432052-05	EN.1305291013-24	05/29/13 10:13	
DUP	WG432052-07	EN.1305291013-25	05/29/13 10:13	

Report Name: BLANK_SUMMARY
PDF File ID: 2900462
Report generated 05/30/2013 15:07

Microbac Laboratories Inc.

METHOD BLANK REPORT

Login Number: L13051304 Prep Date: 05/29/13 10:13 Sample ID: WG432052-01
Instrument ID: OVEN Run Date: 05/29/13 10:13 Prep Method: 160.1/SM2540C
File ID: EN.1305291013-01 Analyst: ADG Method: SM2540-C-1997
Workgroup (AAB#): WG432052 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: 2900463
30-MAY-2013 15:07

Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L13051304 Analyst: ADG Prep Method: 160.1/SM2540C
Instrument ID: OVEN Matrix: Water Method: SM2540-C-1997
Workgroup (AAB#): WG432052 Units: mg/L
QC Key: DOD4 Lot #: STD57652

Sample ID: WG432052-02 LCS File ID: EN.1305291013-02 Run Date: 05/29/2013 10:13
Sample ID: WG432052-03 LCS2 File ID: EN.1305291013-03 Run Date: 05/29/2013 10:13

Analytes	LCS			LCS2			%RPD	%Rec Limits	RPD Lmt	Q
	Known	Found	% REC	Known	Found	% REC				
Total Dissolved Solids	500	504	101	500	504	101	0.00	80 - 120	10	

LCS_LCS2 - Modified 03/06/2008
PDF File ID: 2900464
Report generated: 05/30/2013 15:07

2.2.10.3 Raw Data

Tray 1

TOTAL DISSOLVED SOLIDS

(tds1)

WORKGROUP: WG432052

Oven: TDS MICS1
☐ EPA 160.1 / SM2540C
LCS: Std 576652
Daily Dilution: 5(5000)150=500

Balance: AND GR-202 / Other
Matrix Spike:
Daily Dilution:
Filter Lot #: 73083

		On Temp/Time:	104 / 12:00	181 / 1805	181 / 8:00	/
SAMPLE	#	VOLUME (mL)	INITIAL WEIGHT WT1 (g)	DRY WEIGHT WT2A (g)	DRY WEIGHT WT2B (g)	DRY WEIGHT WT2C (g)
BLANK	BLK	100				
LCS: mg/L	LCS1	50				
LCSDUP: mg/L	LCS2	50				
1239-01	1	50				
1272-02	2	50				
1273-01	3	50				
1299-01	4	50				
-02	5	20				
-03	6	50				
-04	7	50				
-05	8	50				
-06	9	50				
-07	10	50				
-08	11	50				
-09	12	50				
-10	13	50				
-11	14	50				
-12	15	50				
1304-01	16	50				
-02	17	50				
-03	18	50				
1309-01	19	50				
1359-01	20	50				
DUP: 1239-01	Dup1	50				
DUP: 1309-01	Dup2	50		Small crack in Crucible		noticed on 1st Dry weight.
		Off Temp/Time:	104 / 1805	7:00 / 180	180 / 910	/

ANALYST: [signature]

* Duplicate required on 10% of samples

DATE/TIME: (on) 5/29/13
DATE/TIME: (off) 5/30/13
DATE/TIME: (off)
DATE/TIME: (off)

DCN#95755

Microbac Laboratories Inc.
GRAVIMETRIC REPORT

Workgroup (AAB#): WG432052
Analyst: ADG
Analyte: TOTAL DISSOLVED SOLIDS
Balance: BAL004
Instrument#: OVEN

Method: 160.1/SM2540C
SOP: Revison
Spike Solution: STD57652
Daily Dilution:

SAMPLE NUMBER		INITIAL VOL	INITIAL WT	DRY WT A	DRY WT B	DRY WT C	Anal. Conc	Rep. Conc.	Units
WG432052-01	BLK	100	77.7371	77.7364	77.7368		-3.000	-3.000	mg/L
WG432052-02	LCS	50	53.9382	53.9636	53.9634		504.0	504.0	mg/L
WG432052-03	LCS2	50	56.6334	56.6588	56.6586		504.0	504.0	mg/L
L13051239-01	1	50	57.8115	57.9808	57.9811		3392	3392	mg/L
WG432052-04	1	50	57.8115	57.9808	57.9811		3392	3392	mg/L
L13051272-02	2	20	70.7036	70.7756	70.7753		3585	3585	mg/L
L13051273-01	3	50	55.2595	55.3343	55.3341		1492	1492	mg/L
L13051299-01	4	20	57.1295	57.2406	57.2411		5580	5580	mg/L
L13051299-02	5	50	52.1373	52.3072	52.3074		3402	3402	mg/L
L13051299-03	6	50	64.0323	64.2135	64.2131		3616	3616	mg/L
L13051299-04	7	50	61.5405	61.7175	61.7173		3536	3536	mg/L
L13051299-05	8	50	61.139	61.3164	61.3162		3544	3544	mg/L
L13051299-06	9	50	60.9922	61.1739	61.1739		3634	3634	mg/L
L13051299-07	10	50	64.4497	64.9058	64.9058		9122	9122	mg/L
L13051299-08	11	50	64.1829	64.3195	64.3192		2726	2726	mg/L
L13051299-09	12	50	58.5648	58.7213	58.7215		3134	3134	mg/L
L13051299-10	13	50	63.0269	63.1628	63.1629		2720	2720	mg/L
L13051299-11	14	50	56.1215	56.2903	56.2903		3376	3376	mg/L
L13051299-12	15	50	53.2418	53.4144	53.4142		3448	3448	mg/L
L13051304-01	16	50	60.5508	60.5636	60.5636		256.0	256.0	mg/L
L13051304-02	17	50	67.7942	67.8056	67.8056		228.0	228.0	mg/L
L13051304-03	18	50	64.0684	64.0839	64.0839		310.0	310.0	mg/L
L13051309-01	19	50	63.183	63.1951	63.1947		234.0	234.0	mg/L
WG432052-06	19	50	63.183	63.1951	63.1947		234.0	234.0	mg/L
L13051359-01	20	50	62.4667	62.4848	62.4848		362.0	362.0	mg/L
WG432052-05	DUP1	50	61.9504	62.1242	62.1246		3484	3484	mg/L
WG432052-07	DUP2	50	61.6945	61.7048	61.7043		196.0	196.0	mg/L

Analyst: April Greene

*Duplicate required on 10% of samples

Date/Time (on) : 05/29/2013 10:13
Date/Time (off): 05/30/2013 07:51
Date/Time (off): 05/30/2013 09:47
Date/Time (off):

CONT_GRAV_REPORT - Modified 02/18/2011
PDF ID: 2896592
Report generated: 05/30/2013 14:57

Microbac

2.2.11 Total Organic Carbon Data

2.2.11.1 Summary Data

Login Number: L13051304
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: 65384
Approved By: Deanna Hesson

Microbac

Lab Report #: L13051304
Lab Project #: 3005.011
Project Name: White Sands MR
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L13051304-01	**PrePrep Method:**	N/A	**Instrument:**	TOC-VWP
Client ID:	SMW1-0513-1	**Prep Method:**	415.1	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	415.1	**Cal Date:**	08/06/2012 08:11
Workgroup #:	WG432489	**Analyst:**	BAF	**Run Date:**	06/04/2013 14:49
Collect Date:	05/23/2013 10:42	**Dilution:**	1	**File ID:**	TC06042013.029
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Total Organic Carbon	TOC	0.743	J	1.00	0.500

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

Certificate of Analysis

Sample #:	L13051304-02	**PrePrep Method:**	N/A	**Instrument:**	TOC-VWP
Client ID:	SMW4-0513-1	**Prep Method:**	415.1	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	415.1	**Cal Date:**	08/06/2012 08:11
Workgroup #:	WG432489	**Analyst:**	BAF	**Run Date:**	06/04/2013 15:00
Collect Date:	05/23/2013 12:20	**Dilution:**	1	**File ID:**	TC06042013.030
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Total Organic Carbon	TOC	0.870	J	1.00	0.500

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

Certificate of Analysis

Sample #:	L13051304-03	**PrePrep Method:**	N/A	**Instrument:**	TOC-VWP
Client ID:	MPL25-0513-1	**Prep Method:**	415.1	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	415.1	**Cal Date:**	08/06/2012 08:11
Workgroup #:	WG432746	**Analyst:**	BAF	**Run Date:**	06/04/2013 16:11
Collect Date:	05/23/2013 15:00	**Dilution:**	1	**File ID:**	TC06042013.036
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Total Organic Carbon	TOC	0.902	J	1.00	0.500

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

Certificate of Analysis

2.2.11.2 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: 04-JUN-2013
Analyst: BAF
Analyst: NA
Method: TOC
Instrument: TOC-VWP
Curve Workgroup: NA
Runlog ID:
Analytical Workgroups: WG432489 WG432746 WG432747

Calibration/Linearity	8-1-2012
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-JUN-2013

Brice Fenton

Secondary Reviewer:
05-JUN-2013

Dianna Hesson

CHECKLIST1 - Modified 03/05/2008
Generated: JUN-05-2013 14:32:21

Microbac Laboratories Inc.

HOLDING TIMES
EQUIVALENT TO AFCEE FORM 9

Analytical Method: 415.1 AAB#: WG432489

Login Number: L13051304

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
SMW1-0513-1	01	05/23/13					06/04/2013	12.2	28		06/04/13	12.2	28	
SMW4-0513-1	02	05/23/13					06/04/2013	12.1	28		06/04/13	12.1	28	

* = SEE PROJECT QAPP REQUIREMENTS

HOLD_TIMES - Modified 03/06/2008
PDF File ID: 2910055
Report generated 06/05/2013 09:40

Microbac Laboratories Inc.

HOLDING TIMES
EQUIVALENT TO AFCEE FORM 9

Analytical Method: 415.1 AAB#: WG432746

Login Number: L13051304

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
MPL25-0513-1	03	05/23/13					06/04/2013	12	28		06/04/13	12	28	

* = SEE PROJECT QAPP REQUIREMENTS

HOLD_TIMES - Modified 03/06/2008
PDF File ID: 2910055
Report generated 06/05/2013 09:40

Microbac Laboratories Inc.

METHOD BLANK SUMMARY

Login Number: L13051304
Blank File ID: TC06042013.003
Prep Date: 06/04/13 09:51
Analyzed Date: 06/04/13 09:51
Analyst: BAF

Work Group: WG432489
Blank Sample ID: WG432489-01
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	WG432489-02	TC06042013.004	06/04/13 10:02	01
LCS2	WG432489-03	TC06042013.005	06/04/13 10:13	01
SMW1-0513-1	L13051304-01	TC06042013.029	06/04/13 14:49	01
SMW4-0513-1	L13051304-02	TC06042013.030	06/04/13 15:00	01
DUP	WG432489-05	TC06042013.031	06/04/13 15:12	01

Report Name: BLANK_SUMMARY
PDF File ID: 2910056
Report generated 06/05/2013 09:40

Microbac Laboratories Inc.

METHOD BLANK SUMMARY

Login Number: L13051304
Blank File ID: TC06042013.033
Prep Date: 06/04/13 15:35
Analyzed Date: 06/04/13 15:35
Analyst: BAF

Work Group: WG432746
Blank Sample ID: WG432746-01
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	WG432746-02	TC06042013.034	06/04/13 15:47	01
LCS2	WG432746-03	TC06042013.035	06/04/13 16:00	01
MPL25-0513-1	L13051304-03	TC06042013.036	06/04/13 16:11	01
DUP	WG432746-05	TC06042013.060	06/04/13 20:54	01

Report Name: BLANK_SUMMARY
PDF File ID: 2910056
Report generated 06/05/2013 09:40

Microbac Laboratories Inc.

METHOD BLANK REPORT

Login Number: L13051304 Prep Date: 06/04/13 09:51 Sample ID: WG432489-01
Instrument ID: TOC-VWP Run Date: 06/04/13 09:51 Prep Method: 415.1
File ID: TC06042013.003 Analyst: BAF Method: 415.1
Workgroup (AAB#): WG432489 Matrix: Water Units: mg/L
Contract #: Cal ID: TOC-VW-06-AUG-12

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: 2910057
05-JUN-2013 09:40

Microbac Laboratories Inc.

METHOD BLANK REPORT

Login Number: L13051304 Prep Date: 06/04/13 15:35 Sample ID: WG432746-01
Instrument ID: TOC-VWP Run Date: 06/04/13 15:35 Prep Method: 415.1
File ID: TC06042013.033 Analyst: BAF Method: 415.1
Workgroup (AAB#): WG432746 Matrix: Water Units: mg/L
Contract #: Cal ID: TOC-VW-06-AUG-12

Analytes	LOD	LOQ	Concentration	Dilution	Qualifier
Total Organic Carbon	0.500	1.00	0.816	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: 2910057
05-JUN-2013 09:40

Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L13051304 Analyst: BAF Prep Method: 415.1
Instrument ID: TOC-VWP Matrix: Water Method: 415.1
Workgroup (AAB#): WG432489 Units: mg/L
QC Key: DOD4 Lot #: STD57523

Sample ID: WG432489-02 LCS File ID: TC06042013.004 Run Date: 06/04/2013 10:02
Sample ID: WG432489-03 LCS2 File ID: TC06042013.005 Run Date: 06/04/2013 10:13

Analytes	LCS			LCS2			%RPD	%Rec Limits	RPD Lmt	Q
	Known	Found	% REC	Known	Found	% REC				
Total Organic Carbon	25.0	25.5	102	25.0	24.9	99.6	2.30	85 - 115	15	

LCS_LCS2 - Modified 03/06/2008
PDF File ID: 2910058
Report generated: 06/05/2013 09:40

Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L13051304 Analyst: BAF Prep Method: 415.1
Instrument ID: TOC-VWP Matrix: Water Method: 415.1
Workgroup (AAB#): WG432746 Units: mg/L
QC Key: DOD4 Lot #: STD57523

Sample ID: WG432746-02 LCS File ID: TC06042013.034 Run Date: 06/04/2013 15:47
Sample ID: WG432746-03 LCS2 File ID: TC06042013.035 Run Date: 06/04/2013 16:00

Analytes	LCS			LCS2			%RPD	%Rec Limits	RPD Lmt	Q
	Known	Found	% REC	Known	Found	% REC				
Total Organic Carbon	25.0	24.2	96.8	25.0	25.0	100	3.37	85 - 115	15	

LCS_LCS2 - Modified 03/06/2008
PDF File ID: 2910058
Report generated: 06/05/2013 09:40

2.2.11.3 Raw Data

~~wg 405365~~ 8/8/12
wg 405562

TC/TIC Curves

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): 1

Calibration Curve Date: _____

Reagent: R6+17495
R6+17230

☑ SM5310-C : Matrix 2 WG_____

☐ EPA 415.1/9060A(mod): Matrix 1 WG_____

WG_____

SOP: K 4151 Rev. 14

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	TC curve	
2	TIC curve	
3	TC ICV	
4	TIC ICV	
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		
17		
18		
19		
20		
21	all points	
22		
23		
24		
25		

Position	Sample ID	Dilution
26		
27		
28	TC Curve	
29	std 52016	
30	see SOP for	
31		
32	TC ICV	
33	std 50986	
34	5/200(1000)=25	
35		
36		
37	TIC Curve	
38	std 50244	
39	see SOP for	
40		
41	TIC ICV	
42	std 53128	
43	5/200(1000)=25	
44		
45		
46	analyzed in	
47		
48		
49		
50		

Position	Sample ID	Dilution
51		
52		
53		
54		
55	curve points	
56		
57		
58		
59		
60		
61		
62		
63		
64	curve pts	
65		
66		
67		
68		
69		
70		
71	duplicate	
72		
73		
74		
75		

Analyst: [signature] Date/Time: 8/1/12

DCN#91827

C:\TOC3201\Data\08-01-2012-DIH-TOC.t32

	Analysi	Sample Name	Result	Status	Date / Time	Vial
1	TC	TCCURVE		Completed	8/1/2012 12:49:06 PM	0, 1,
2	IC	TICCURVE		Completed	8/1/2012 2:02:12 PM	0, 6,
3	TC	TC ICV	TC:24.96mg/L	Completed	8/1/2012 2:15:51 PM	11
4	IC	TIC ICV	IC:23.44mg/L	Completed	8/1/2012 2:27:54 PM	12

8/1/2012 4:43:37 PM 1/1

Instr.Information

System TOCVW ASI
Detector Wet Chemical

Cal. Curve

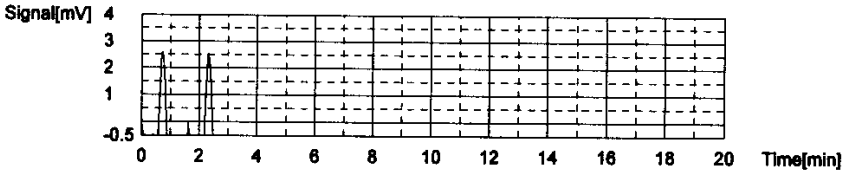
Sample Name: TCCURVE
Sample ID: Untitled
Cal. Curve: TCCURVE-08-01-2012.2012_08_01_11_45_23.cal
Status Completed

Type	Anal.
Standard	TC

Conc: 0.000mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	9.931	500uL	1	*******		8/1/2012 11:49:07 AM
2	9.253	500uL	1	*******		8/1/2012 11:52:47 AM

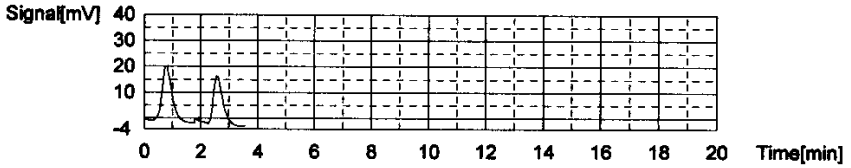
Acid Add. 0.000%
Mean Area 9.592



Conc: 1.000mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	50.85	500uL	1	*******		8/1/2012 11:58:18 AM
2	41.17	500uL	1	*******		8/1/2012 12:02:20 PM

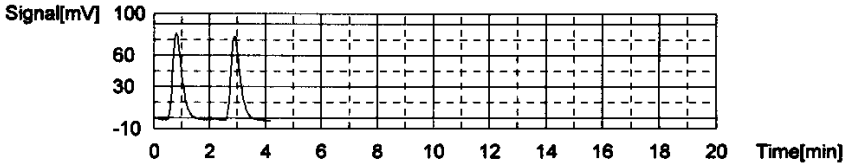
Acid Add. 0.000%
Mean Area 46.01



Conc: 5.000mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	191.8	500uL	1	*******		8/1/2012 12:08:22 PM
2	190.2	500uL	1	*******		8/1/2012 12:12:44 PM

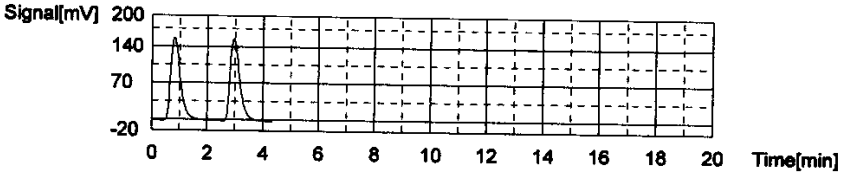
Acid Add. 0.000%
Mean Area 191.0



Conc: 10.00mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	377.0	500uL	1	*******		8/1/2012 12:18:49 PM
2	378.7	500uL	1	*******		8/1/2012 12:23:25 PM

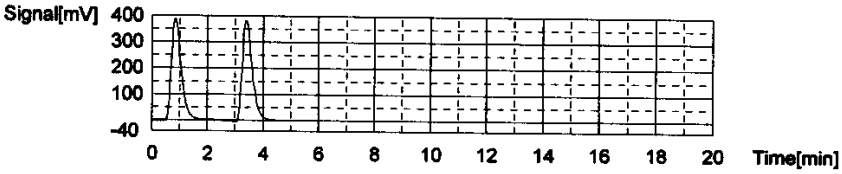
Acid Add. 0.000%
Mean Area 377.9



Conc: 25.00mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	962.3	500uL	1	*******		8/1/2012 12:29:55 PM
2	953.1	500uL	1	*******		8/1/2012 12:35:22 PM

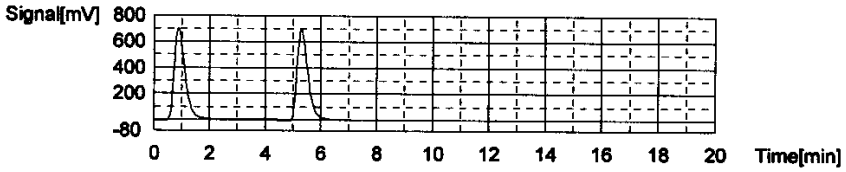
Acid Add. 0.000%
Mean Area 957.7



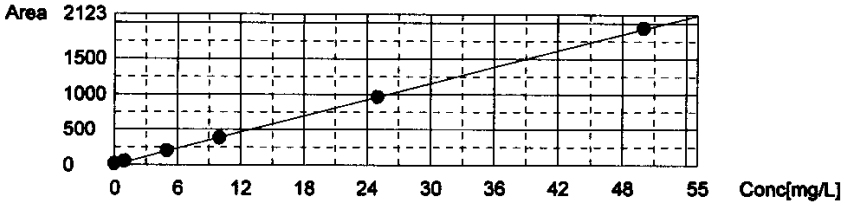
Conc: 50.00mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	1952	500uL	1	*******		8/1/2012 12:43:44 PM
2	1908	500uL	1	*******		8/1/2012 12:49:06 PM

Acid Add. 0.000%
Mean Area 1930



Slope: 38.46
Intercept 2.031
r^2 0.999915
Zero Shift No



Cal. Curve

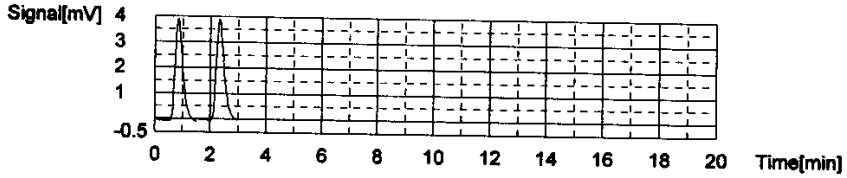
Sample Name: TICCURVE
Sample ID:
Cal. Curve: TICCURVE-08-01-2012.2012_08_01_12_49_06.cal
Status Completed

Type	Anal.
Standard	IC

Conc: 0.000mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	7.630	500uL	1	*******		8/1/2012 12:53:06 PM
2	7.558	500uL	1	*******		8/1/2012 12:57:02 PM

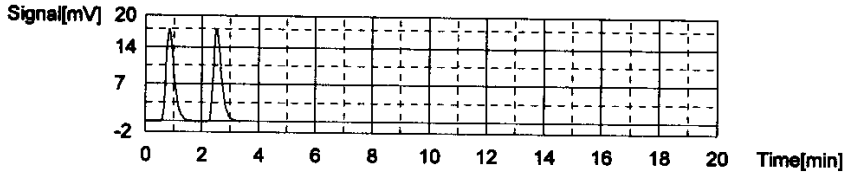
Acid Add. 10.00%
Mean Area 7.594



Conc: 1.000mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	34.30	500uL	1	*******		8/1/2012 1:04:33 PM
2	34.42	500uL	1	*******		8/1/2012 1:08:55 PM

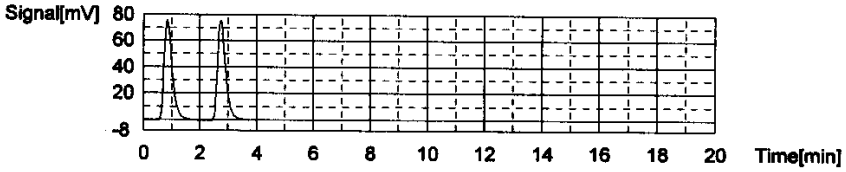
Acid Add. 10.00%
Mean Area 34.36



Conc: 5.000mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	149.6	500uL	1	*******		8/1/2012 1:16:46 PM
2	147.7	500uL	1	*******		8/1/2012 1:21:22 PM

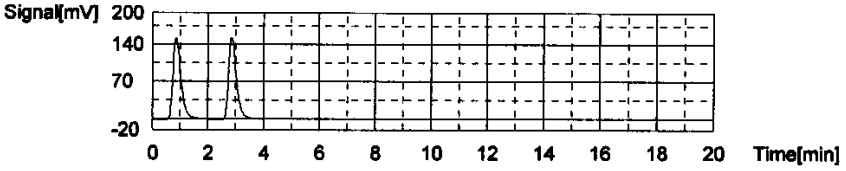
Acid Add. 10.00%
Mean Area 148.7



Conc: 10.00mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	299.8	500uL	1	*******		8/1/2012 1:29:18 PM
2	298.0	500uL	1	*******		8/1/2012 1:34:07 PM

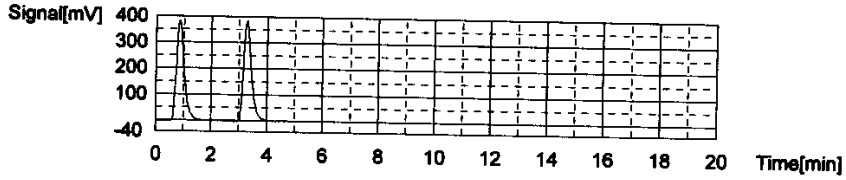
Acid Add. 10.00%
Mean Area 298.9



Conc: 25.00mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	746.0	500uL	1	*******		8/1/2012 1:42:39 PM
2	739.9	500uL	1	*******		8/1/2012 1:47:36 PM

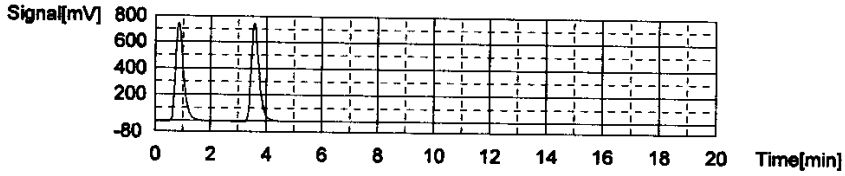
Acid Add. 10.00%
Mean Area 743.0



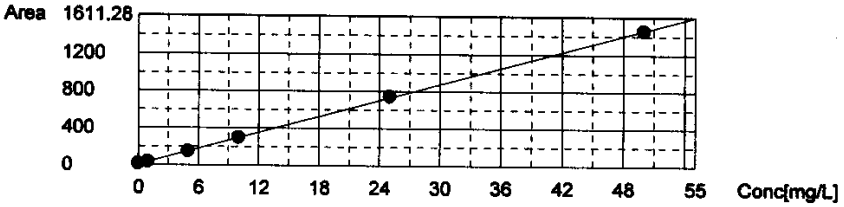
Conc: 50.00mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	1467	500uL	1	*******		8/1/2012 1:56:37 PM
2	1456	500uL	1	*******		8/1/2012 2:02:12 PM

Acid Add. 10.00%
Mean Area 1462



Slope: 29.16
Intercept 6.703
r^2 0.999949
Zero Shift No



Sample

Sample Name: TC ICV
Sample ID: Untitled
Origin: TCCURVE-08-01-2012.cal
Status Completed
Chk. Result

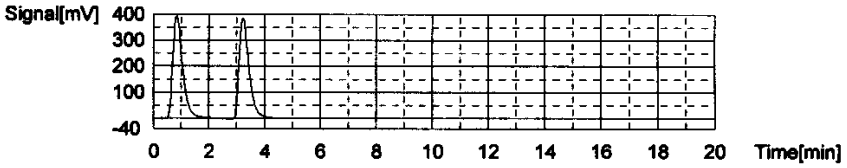
Type	Anal.	Dil.	Result
Unknown	TC	1.000	TC:24.96mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	966.2	25.07mg/L	500uL	1		TCCURVE-08-01-2012.2012_08_01_11_45_2	8/1/2012 2:10:01 PM
2	958.0	24.86mg/L	500uL	1		TCCURVE-08-01-2012.2012_08_01_11_45_2	8/1/2012 2:15:51 PM

Mean Area 962.1
Mean Conc. 24.96mg/L



Sample

Sample Name:	TIC ICV
Sample ID:	
Origin:	TICCURVE-08-01-2012.cal
Status	Completed
Chk. Result	

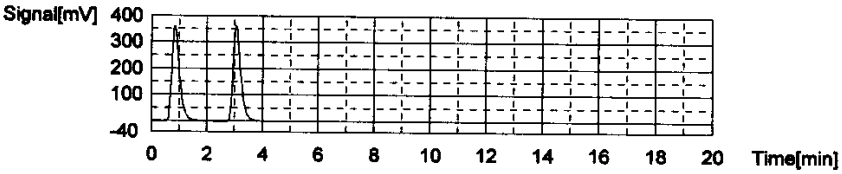
Type	Anal.	Dil.	Result
Unknown	IC	1.000	IC:23.44mg/L

1. Det

Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	689.0	23.40mg/L	500uL	1		TICCURVE-08-01-2012.2012_08_01_12_49_0	8/1/2012 2:22:39 PM
2	691.3	23.48mg/L	500uL	1		TICCURVE-08-01-2012.2012_08_01_12_49_0	8/1/2012 2:27:54 PM

Mean Area 690.2
Mean Conc. 23.44mg/L



WORKGROUP: WG432489

432946 (746)
432747

Total Organic Carbon

MAKE DAILY

CCV (TOC): SAd53579 (5/200)(1000) = 25mg/L

LCS (TOC): SAd57523 (5/200)(1000) = 25mg/L

CCV (TIC): SAd56127 (5/200)(1000) = 25mg/L

MS (TOC): SAd57523 0.4/(1000) = 10 /40

Calibration Curve Date: 8-1-2012

Reagent: ~~RG1726466~~ 27239 RG1726254

☐ SM5310-C : Matrix 2 WG_____

☑ EPA 415.1/9060A(mod): Matrix 1 WG 432489 SOP: K 4151 Rev. 15

WG 432746 WG 432747 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~~ 0	Blk	
4	LCS 25	
~~5~~ 4	LCSDUP	
6	05-1302-47	
7	48	
8	49	
9	50	
10	51	
11	52	
12	53	
13	54	
14	CCV	
~~15~~ 0	CCB	
16	05-1301-02	
17	03	
18	04	
19	MS 05	
20	MSD 06	
21	07	
22	08	
23	09	
24	10	
25	05-1301-11	

Position	Sample ID	Dilution
~~26~~ 2	CCV	
~~27~~ 0	CCB	
28	05-1301-12	
29	05-1304-01	
30	02	
31	DUP 1301-04	
32	~~MS~~ 1513-29	
33	Blk-diss.	
~~34~~ 65	LCS	
~~35~~ 4	LCSDUP	
36	05-1304-03	
37	05-1351-04	
~~38~~ 14	CCV	
~~39~~ 0	CCB	
40	05-1351-05	1/5
41	06	
42	07	
43	08	
44	09	
45	10	
46	11	
47	17	
48	05-1473-01	
49	02	
~~50~~ 14	CCV	

Position	Sample ID	Dilution
~~51~~ 0	CCB	
52	05-1473-03	
* 53	05-1513-02	1/2
54	04	1/2
55	06	1/2
56	08	1/2
57	10	1/2
58	12	1/2
59	14	1/2
60	DUP 1351-17	
61	MS ↓	
62	CCV	
~~63~~ 0	CCB	
~~64~~ 0	Blk	
65	LCS	
~~66~~ 5	LCSDUP	
67	05-1513-01	
68	03	
~~69~~ 3	05	
~~70~~ 5	07	
~~71~~ 15	09	
~~72~~ 27	11	
~~73~~ 34	13	
~~74~~ 2	CCV	
~~75~~ 0	CCB	

Analyst: Brie Fenton Date/Time: ~~6/3/13/1615~~ 6/4/13 0830

* Lab Filtered

>2nd to last CCV = 80.8, surrounding ~~100~~ = 94.7 and 88.9.

DCN#95838

page 1

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

MS (TOC): _____

Calibration Curve Date: _____

Reagent: _____

☐ SM5310-C : Matrix 2 WG_____

☐ EPA 415.1/9060A(mod): Matrix 1 WG_____ SOP: K _____ Rev. _____

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
~~235~~	05-1513-15	
~~239~~	17	
~~251~~	19	
~~263~~	21	
~~264~~	23	
~~266~~	25	
~~726~~	27	
~~838~~	DUP 27 ~~29~~	
~~850~~	MS 27 ~~29~~	
~~10~~	~~DUP~~	
~~162~~	CCV	
~~120~~	CCB	
13		
14		
15		
16		
17		
18		
19		
20		
21		
22		
23		
24		
25		

Position	Sample ID	Dilution
26		
27		
28		
29		
30		
31		
32		
33		
34		
35		
36		
37		
38		
39		
40		
41		
42		
43		
44		
45		
46		
47		
48		
49		
50		

Position	Sample ID	Dilution
51		
52		
53		
54		
55		
56		
57		
58		
59		
60		
61		
62		
63		
64		
65		
66		
67		
68		
69		
70		
71		
72		
73		
74		
75		

Analyst: _____ Date/Time: _____

DCN#95838

page 2

	Analy	Sample Name	Result	Status	Date / Time	Vial
1	TOC	TIC	TOC:1.577mg/L TC:26.31mg/L IC:24.73mg/L	Complete	6/4/2013 9:33:48 AM	1
2	TOC	CCV	TOC:23.49mg/L TC:23.81mg/L IC:0.3198mg/L	Complete	6/4/2013 9:46:03 AM	2
3	TOC	WG432489-01 BLK	TOC:0.3176mg/L TC:0.3497mg/L IC:0.03211mg/L	Complete	6/4/2013 9:55:01 AM	0
4	TOC	WG432489-02 LCS	TOC:25.49mg/L TC:25.67mg/L IC:0.1782mg/L	Complete	6/4/2013 10:07:13 A	4
5	TOC	WG432489-03 LCSDUP	TOC:24.91mg/L TC:25.08mg/L IC:0.1710mg/L	Complete	6/4/2013 10:18:00 A	4
6	TOC	L13051302-47	TOC:1.341mg/L TC:1.346mg/L IC:0.00547mg/L	Complete	6/4/2013 10:29:23 A	6
7	TOC	L13051302-48	TOC:1.332mg/L TC:1.334mg/L IC:0.00249mg/L	Complete	6/4/2013 10:40:45 A	7
8	TOC	L13051302-49	TOC:1.145mg/L TC:1.156mg/L IC:0.01048mg/L	Complete	6/4/2013 10:52:05 A	8
9	TOC	L13051302-50	TOC:1.244mg/L TC:1.244mg/L IC:0.00009mg/L	Complete	6/4/2013 11:03:34 A	9
10	TOC	L13051302-51	TOC:1.155mg/L TC:1.156mg/L IC:0.00074mg/L	Complete	6/4/2013 11:14:54 A	10
11	TOC	L13051302-52	!!Error!! TOC:1.293mg/L TC:1.289mg/L IC:-0.00403m	Complete	6/4/2013 11:26:17 A	11
12	TOC	L13051302-53	!!Error!! TOC:1.269mg/L TC:1.263mg/L IC:-0.00605m	Complete	6/4/2013 11:37:39 A	12
13	TOC	L13051302-54	!!Error!! TOC:1.318mg/L TC:1.317mg/L IC:-0.00122m	Complete	6/4/2013 11:49:00 A	13
14	TOC	CCV	TOC:23.44mg/L TC:23.76mg/L IC:0.3178mg/L	Complete	6/4/2013 12:01:16 P	14
15	TOC	CCB	TOC:0.3101mg/L TC:0.3312mg/L IC:0.02114mg/L	Complete	6/4/2013 12:10:10 P	0
16	TOC	L13051301-02	TOC:1.204mg/L TC:1.758mg/L IC:0.5537mg/L	Complete	6/4/2013 12:21:42 P	16
17	TOC	L13051301-03	TOC:5.859mg/L TC:6.127mg/L IC:0.2680mg/L	Complete	6/4/2013 12:33:40 P	17
18	TOC	L13051301-04	TOC:4.258mg/L TC:4.398mg/L IC:0.1408mg/L	Complete	6/4/2013 12:45:34 P	18
19	TOC	L13051301-05 MS	TOC:12.67mg/L TC:12.68mg/L IC:0.01610mg/L	Complete	6/4/2013 12:57:27 P	19
20	TOC	L13051301-06 MSD	TOC:14.99mg/L TC:15.01mg/L IC:0.01775mg/L	Complete	6/4/2013 1:10:12 PM	20
21	TOC	L13051301-07	TOC:5.725mg/L TC:5.769mg/L IC:0.04336mg/L	Complete	6/4/2013 1:21:37 PM	21
22	TOC	L13051301-08	TOC:3.707mg/L TC:4.721mg/L IC:1.014mg/L	Complete	6/4/2013 1:33:28 PM	22
23	TOC	L13051301-09	TOC:6.777mg/L TC:7.017mg/L IC:0.2392mg/L	Complete	6/4/2013 1:45:55 PM	23
24	TOC	L13051301-10	TOC:1.568mg/L TC:1.999mg/L IC:0.4313mg/L	Complete	6/4/2013 1:57:28 PM	24
25	TOC	L13051301-11	TOC:2.048mg/L TC:2.429mg/L IC:0.3812mg/L	Complete	6/4/2013 2:09:09 PM	25
26	TOC	CCV	TOC:23.83mg/L TC:24.11mg/L IC:0.2866mg/L	Complete	6/4/2013 2:21:32 PM	2
27	TOC	CCB	TOC:0.2868mg/L TC:0.3200mg/L IC:0.03318mg/L	Complete	6/4/2013 2:30:34 PM	0
28	TOC	L13051301-12	TOC:2.051mg/L TC:2.502mg/L IC:0.4512mg/L	Complete	6/4/2013 2:42:32 PM	28
29	TOC	L13051304-01	TOC:0.7432mg/L TC:0.7862mg/L IC:0.04302mg/L	Complete	6/4/2013 2:53:48 PM	29
30	TOC	L13051304-02	TOC:0.8704mg/L TC:0.9524mg/L IC:0.08197mg/L	Complete	6/4/2013 3:05:06 PM	30
31	TOC	WG432489-05 DUP	TOC:3.917mg/L TC:4.045mg/L IC:0.1274mg/L	Complete	6/4/2013 3:16:49 PM	31
32	TOC	L13051513-29	TOC:1.252mg/L TC:1.452mg/L IC:0.1995mg/L	Complete	6/4/2013 3:28:12 PM	32
33	TOC	WG432746-01 BLK	TOC:0.8164mg/L TC:0.8653mg/L IC:0.04885mg/L	Complete	6/4/2013 3:39:32 PM	33
34	TOC	WG432746-02 LCS	TOC:24.20mg/L TC:24.50mg/L IC:0.2965mg/L	Complete	6/4/2013 3:51:58 PM	65
35	TOC	WG432746-03 LCSDUP	TOC:25.03mg/L TC:25.28mg/L IC:0.2557mg/L	Complete	6/4/2013 4:04:30 PM	4
36	TOC	L13051304-03	TOC:0.9018mg/L TC:0.9591mg/L IC:0.05732mg/L	Complete	6/4/2013 4:15:52 PM	36
37	TOC	L13051351-04	TOC:2.443mg/L TC:2.541mg/L IC:0.09891mg/L	Complete	6/4/2013 4:27:22 PM	37
38	TOC	CCV	TOC:21.71mg/L TC:22.00mg/L IC:0.2955mg/L	Complete	6/4/2013 4:39:33 PM	14
39	TOC	CCB	TOC:0.3010mg/L TC:0.3260mg/L IC:0.02502mg/L	Complete	6/4/2013 4:48:29 PM	0
40	TOC	L13051351-05 (5)	TOC:48.50mg/L TC:48.52mg/L IC:0.02042mg/L	Complete	6/4/2013 5:03:56 PM	40
41	TOC	L13051351-06	TOC:13.27mg/L TC:13.30mg/L IC:0.02680mg/L	Complete	6/4/2013 5:16:04 PM	41
42	TOC	L13051351-07	TOC:1.261mg/L TC:1.374mg/L IC:0.1134mg/L	Complete	6/4/2013 5:27:34 PM	42
43	TOC	L13051351-08	TOC:1.742mg/L TC:1.876mg/L IC:0.1340mg/L	Complete	6/4/2013 5:39:05 PM	43
44	TOC	L13051351-09	TOC:15.56mg/L TC:15.81mg/L IC:0.2516mg/L	Complete	6/4/2013 5:51:10 PM	44
45	TOC	L13051351-10	TOC:1.533mg/L TC:1.626mg/L IC:0.09267mg/L	Complete	6/4/2013 6:02:35 PM	45
46	TOC	L13051351-11	TOC:7.622mg/L TC:7.700mg/L IC:0.07817mg/L	Complete	6/4/2013 6:14:24 PM	46
47	TOC	L13051351-17	!!Error!! TOC:1.212mg/L TC:1.209mg/L IC:-0.00334m	Complete	6/4/2013 6:25:44 PM	47
48	TOC	L13051473-01	TOC:2.522mg/L TC:3.712mg/L IC:1.190mg/L	Complete	6/4/2013 6:39:11 PM	48
49	TOC	L13051473-02	TOC:2.269mg/L TC:2.406mg/L IC:0.1374mg/L	Complete	6/4/2013 6:52:23 PM	49
50	TOC	CCV	TOC:21.66mg/L TC:21.89mg/L IC:0.2334mg/L	Complete	6/4/2013 7:04:46 PM	14
51	TOC	CCB	TOC:0.2784mg/L TC:0.3055mg/L IC:0.02704mg/L	Complete	6/4/2013 7:13:40 PM	0
52	TOC	L13051473-03	TOC:2.340mg/L TC:2.414mg/L IC:0.07381mg/L	Complete	6/4/2013 7:27:07 PM	52
53	TOC		!!Error!! TOC:4.656mg/L TC:4.651mg/L IC:-0.00581m	Complete	6/4/2013 7:38:39 PM	53
54	TOC		TOC:2.776mg/L TC:2.786mg/L IC:0.01037mg/L	Complete	6/4/2013 7:50:04 PM	54
55	TOC		!!Error!! TOC:2.698mg/L TC:2.695mg/L IC:-0.00231m	Complete	6/4/2013 8:01:26 PM	55
56	TOC		TOC:2.820mg/L TC:2.854mg/L IC:0.03438mg/L	Complete	6/4/2013 8:12:51 PM	56
57	TOC		TOC:3.518mg/L TC:3.587mg/L IC:0.06929mg/L	Complete	6/4/2013 8:24:22 PM	57
58	TOC		!!Error!! TOC:2.571mg/L TC:2.560mg/L IC:-0.01078m	Complete	6/4/2013 8:35:42 PM	58
59	TOC		TOC:2.542mg/L TC:2.547mg/L IC:0.00454mg/L	Complete	6/4/2013 8:47:06 PM	59
60	TOC	WG432746-05 DUP	!!Error!! TOC:1.089mg/L TC:1.066mg/L IC:-0.02285m	Complete	6/4/2013 8:58:24 PM	60
61	TOC	WG432746-06 MS	!!Error!! TOC:10.91mg/L TC:10.89mg/L IC:-0.02032m	Complete	6/4/2013 9:10:20 PM	61
62	TOC	CCV	TOC:23.03mg/L TC:23.28mg/L IC:0.2516mg/L	Complete	6/4/2013 9:22:31 PM	62
63	TOC	CCB	TOC:0.2655mg/L TC:0.2901mg/L IC:0.02467mg/L	Complete	6/4/2013 9:31:27 PM	0
64	TOC	WG432747-01 BLK	TOC:0.2656mg/L TC:0.2901mg/L IC:0.02450mg/L	Complete	6/4/2013 9:40:19 PM	0
65	TOC	WG432747-02 LCS	TOC:23.77mg/L TC:24.19mg/L IC:0.4213mg/L	Complete	6/4/2013 9:52:58 PM	65
66	TOC	WG432747-03 LCSDUP	TOC:23.67mg/L TC:24.08mg/L IC:0.4175mg/L	Complete	6/4/2013 10:03:55 P	65
67	TOC	L13051513-01	TOC:1.814mg/L TC:1.851mg/L IC:0.03657mg/L	Complete	6/4/2013 10:15:28 P	67

	Analy	Sample Name	Result	Status	Date / Time	Vial
68	TOC	L13051513-03	TOC:1.708mg/L TC:2.092mg/L IC:0.3839mg/L	Complete	6/4/2013 10:27:04 P	68
69	TOC	L13051513-05	TOC:1.574mg/L TC:1.607mg/L IC:0.03325mg/L	Complete	6/4/2013 10:38:32 P	3
70	TOC	L13051513-07	TOC:1.719mg/L TC:1.938mg/L IC:0.2190mg/L	Complete	6/4/2013 10:49:56 P	5
71	TOC	L13051513-09	TOC:1.972mg/L TC:4.071mg/L IC:2.099mg/L	Complete	6/4/2013 11:01:59 P	15
72	TOC	L13051513-11	TOC:1.521mg/L TC:1.551mg/L IC:0.03016mg/L	Complete	6/4/2013 11:13:33 P	27
73	TOC	L13051513-13	TOC:1.706mg/L TC:1.765mg/L IC:0.05866mg/L	Complete	6/4/2013 11:25:04 P	34
74	TOC	CCV	TOC:20.20mg/L TC:20.78mg/L IC:0.5849mg/L	Complete	6/4/2013 11:37:44 P	2
75	TOC	CCB	TOC:0.2757mg/L TC:0.3081mg/L IC:0.03235mg/L	Complete	6/4/2013 11:46:40 P	0
76	TOC	L13051513-15	TOC:2.042mg/L TC:3.426mg/L IC:1.384mg/L	Complete	6/4/2013 11:58:29 P	35
77	TOC	L13051513-17	TOC:1.925mg/L TC:2.013mg/L IC:0.08756mg/L	Complete	6/5/2013 12:10:02 A	39
78	TOC	L13051513-19	TOC:1.762mg/L TC:2.244mg/L IC:0.4820mg/L	Complete	6/5/2013 12:21:56 A	51
79	TOC	L13051513-21	TOC:1.823mg/L TC:2.128mg/L IC:0.3047mg/L	Complete	6/5/2013 12:33:44 A	63
80	TOC	L13051513-23	TOC:2.098mg/L TC:14.53mg/L IC:12.43mg/L	Complete	6/5/2013 12:46:39 A	64
81	TOC	L13051513-25	TOC:2.129mg/L TC:3.174mg/L IC:1.044mg/L	Complete	6/5/2013 12:58:34 A	66
82	TOC	L13051513-27	TOC:1.937mg/L TC:3.098mg/L IC:1.161mg/L	Complete	6/5/2013 1:10:27 AM	26
83	TOC	WG432747-05 DUP	TOC:2.210mg/L TC:3.358mg/L IC:1.149mg/L	Complete	6/5/2013 1:22:26 AM	38
84	TOC	WG432747-06 MS	TOC:11.35mg/L TC:11.43mg/L IC:0.07666mg/L	Complete	6/5/2013 1:34:34 AM	50
85	TOC	CCV	TOC:22.22mg/L TC:22.50mg/L IC:0.2770mg/L	Complete	6/5/2013 1:47:21 AM	62
86	TOC	CCB	TOC:0.2647mg/L TC:0.2883mg/L IC:0.02364mg/L	Complete	6/5/2013 1:56:15 AM	0

Instr.Information

System TOCVW ASI
Detector Wet Chemical

Sample

Sample Name: TIC
Sample ID:
Origin: TOC-08-01-2012.met
Status Completed
Chk. Result

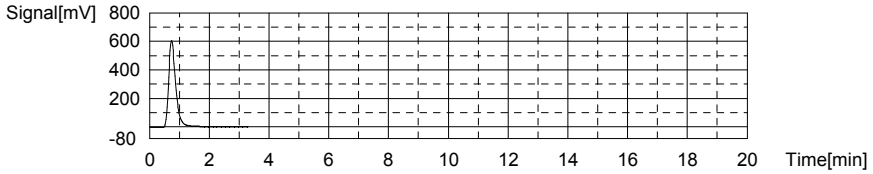
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:1.577mg/L TC:26.31mg/L IC:24.73mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1014	26.31mg/L	500uL	1		TCCURVE-08-01-2012.2012_08_01_11_45_2	6/4/2013 9:28:15 AM

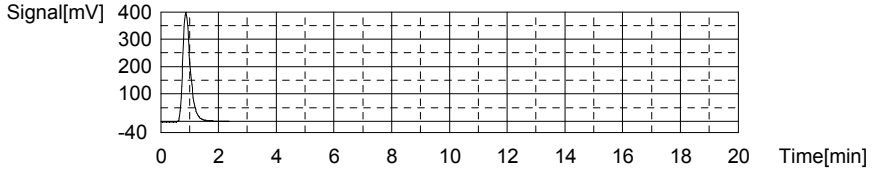
Mean Area 1014
Mean Conc. 26.31mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	728.0	24.73mg/L	500uL	1		TICCURVE-08-01-2012.2012_08_01_12_49_0	6/4/2013 9:33:48 AM

Mean Area 728.0
Mean Conc. 24.73mg/L



Sample

Sample Name: CCV
Sample ID:
Origin: TOC-08-01-2012.met
Status Completed
Chk. Result

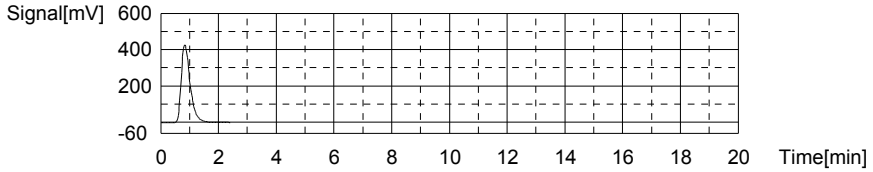
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:23.49mg/L TC:23.81mg/L IC:0.3198mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	917.9	23.81mg/L	500uL	1		TCCURVE-08-01-2012.2012_08_01_11_45_2	6/4/2013 9:41:39 AM

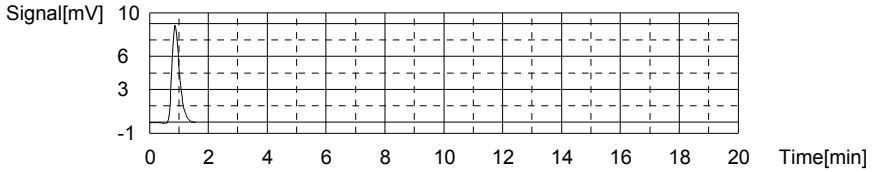
Mean Area 917.9
Mean Conc. 23.81mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	16.03	0.3198mg/L	500uL	1		TICCURVE-08-01-2012.2012_08_01_12_49_0	6/4/2013 9:46:03 AM

Mean Area 16.03
Mean Conc. 0.3198mg/L



Sample

Sample Name: WG432489-01 BLK
Sample ID:
Origin: TOC-08-01-2012.met
Status Completed
Chk. Result

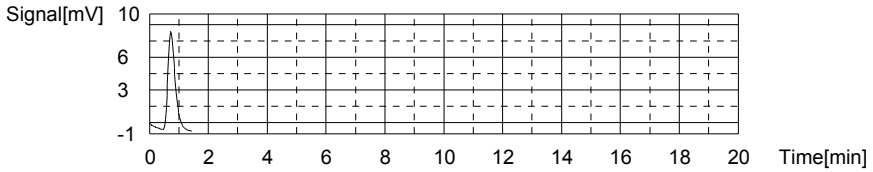
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:0.3176mg/L TC:0.3497mg/L IC:0.03211mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	15.48	0.3497mg/L	500uL	1		TCCURVE-08-01-2012.2012_08_01_11_45_2	6/4/2013 9:51:07 AM

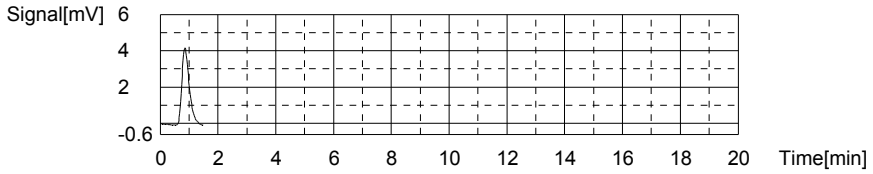
Mean Area 15.48
Mean Conc. 0.3497mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	7.640	0.03211mg/L	500uL	1		TICCURVE-08-01-2012.2012_08_01_12_49_0	6/4/2013 9:55:01 AM

Mean Area 7.640
Mean Conc. 0.03211mg/L



Sample

Sample Name: WG432489-02 LCS
Sample ID:
Origin: TOC-08-01-2012.met
Status Completed
Chk. Result

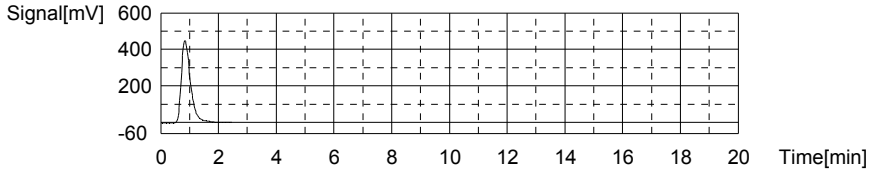
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:25.49mg/L TC:25.67mg/L IC:0.1782mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	989.4	25.67mg/L	500uL	1		TCCURVE-08-01-2012.2012_08_01_11_45_2	6/4/2013 10:02:54 AM

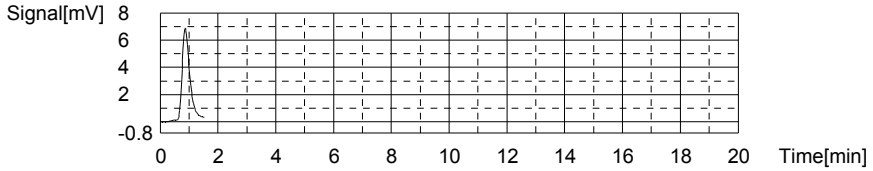
Mean Area 989.4
Mean Conc. 25.67mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	11.90	0.1782mg/L	500uL	1		TICCURVE-08-01-2012.2012_08_01_12_49_0	6/4/2013 10:07:13 AM

Mean Area 11.90
Mean Conc. 0.1782mg/L



Sample

Sample Name: WG432489-03 LCSDUP
Sample ID:
Origin: TOC-08-01-2012.met
Status Completed
Chk. Result

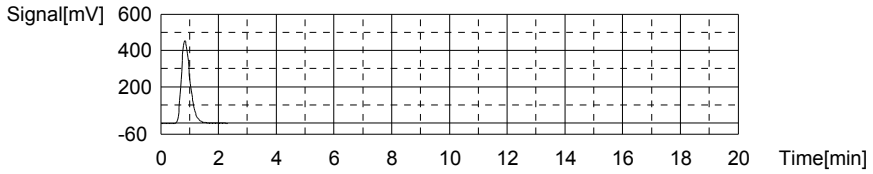
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:24.91mg/L TC:25.08mg/L IC:0.1710mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	966.7	25.08mg/L	500uL	1		TCCURVE-08-01-2012.2012_08_01_11_45_2	6/4/2013 10:13:35 AM

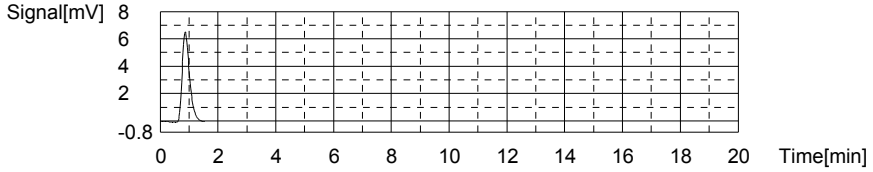
Mean Area 966.7
Mean Conc. 25.08mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	11.69	0.1710mg/L	500uL	1		TICCURVE-08-01-2012.2012_08_01_12_49_0	6/4/2013 10:18:00 AM

Mean Area 11.69
Mean Conc. 0.1710mg/L



Sample

Sample Name: L13051302-47
Sample ID:
Origin: TOC-08-01-2012.met
Status Completed
Chk. Result

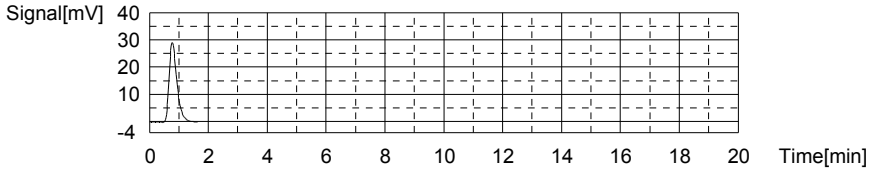
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:1.341mg/L TC:1.346mg/L IC:0.00547mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	53.81	1.346mg/L	500uL	1		TCCURVE-08-01-2012.2012_08_01_11_45_2	6/4/2013 10:25:04 AM

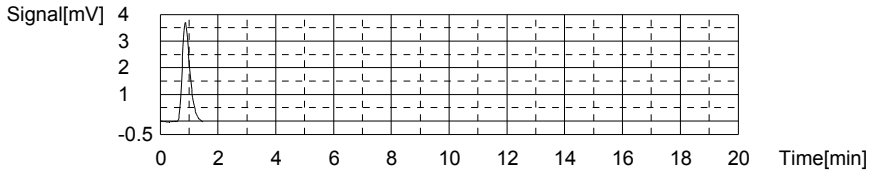
Mean Area 53.81
Mean Conc. 1.346mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	6.863	0.00547mg/L	500uL	1		TICCURVE-08-01-2012.2012_08_01_12_49_0	6/4/2013 10:29:23 AM

Mean Area 6.863
Mean Conc. 0.00547mg/L



Sample

Sample Name: L13051302-48
Sample ID:
Origin: TOC-08-01-2012.met
Status Completed
Chk. Result

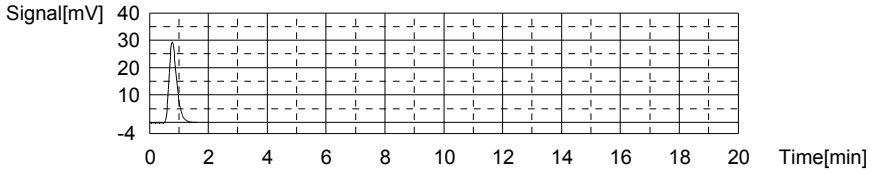
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:1.332mg/L TC:1.334mg/L IC:0.00249mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	53.35	1.334mg/L	500uL	1		TCCURVE-08-01-2012.2012_08_01_11_45_2	6/4/2013 10:36:27 AM

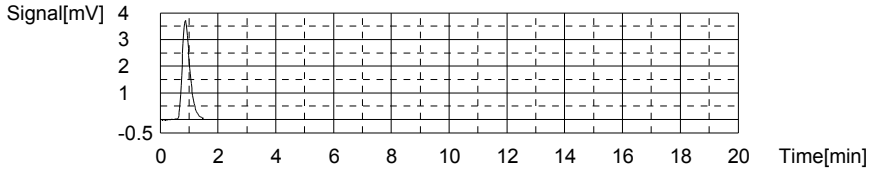
Mean Area 53.35
Mean Conc. 1.334mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	6.776	0.00249mg/L	500uL	1		TICCURVE-08-01-2012.2012_08_01_12_49_0	6/4/2013 10:40:45 AM

Mean Area 6.776
Mean Conc. 0.00249mg/L



Sample

Sample Name: L13051302-49
Sample ID:
Origin: TOC-08-01-2012.met
Status Completed
Chk. Result

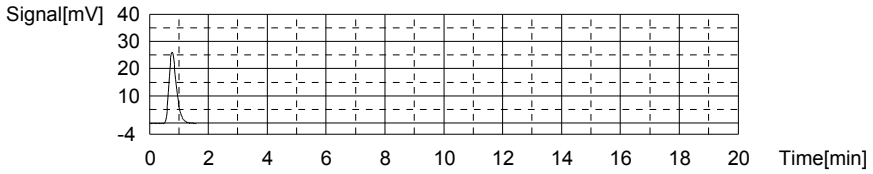
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:1.145mg/L TC:1.156mg/L IC:0.01048mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	46.49	1.156mg/L	500uL	1		TCCURVE-08-01-2012.2012_08_01_11_45_2	6/4/2013 10:47:47 AM

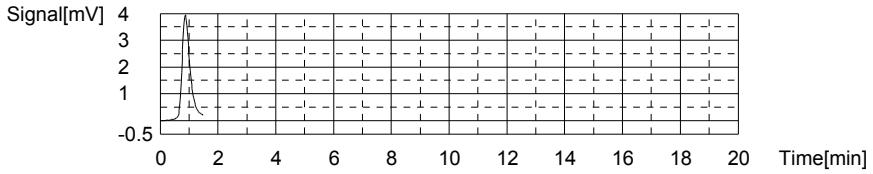
Mean Area 46.49
Mean Conc. 1.156mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	7.009	0.01048mg/L	500uL	1		TICCURVE-08-01-2012.2012_08_01_12_49_0	6/4/2013 10:52:05 AM

Mean Area 7.009
Mean Conc. 0.01048mg/L



Sample

Sample Name: L13051302-50
Sample ID:
Origin: TOC-08-01-2012.met
Status Completed
Chk. Result

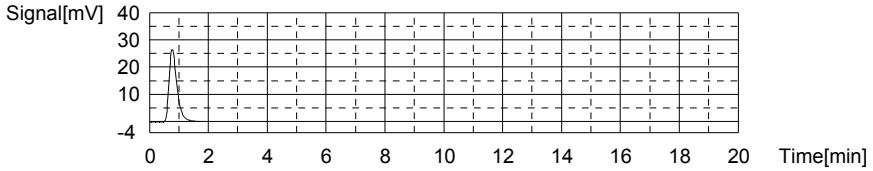
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:1.244mg/L TC:1.244mg/L IC:0.00009mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	49.88	1.244mg/L	500uL	1		TCCURVE-08-01-2012.2012_08_01_11_45_2	6/4/2013 10:59:13 AM

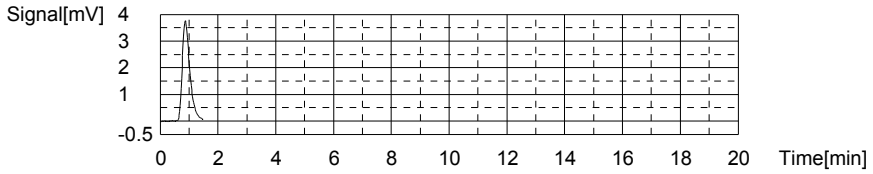
Mean Area 49.88
Mean Conc. 1.244mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	6.706	0.00009mg/L	500uL	1		TICCURVE-08-01-2012.2012_08_01_12_49_0	6/4/2013 11:03:34 AM

Mean Area 6.706
Mean Conc. 0.00009mg/L



Sample

Sample Name: L13051302-51
Sample ID:
Origin: TOC-08-01-2012.met
Status Completed
Chk. Result

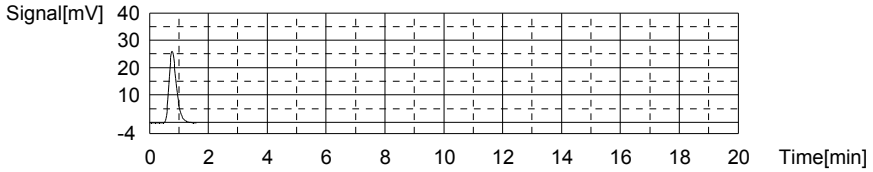
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:1.155mg/L TC:1.156mg/L IC:0.00074mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	46.48	1.156mg/L	500uL	1		TCCURVE-08-01-2012.2012_08_01_11_45_23	6/4/2013 11:10:36 AM

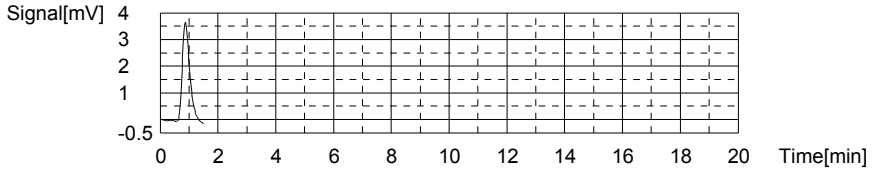
Mean Area 46.48
Mean Conc. 1.156mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	6.725	0.00074mg/L	500uL	1		TICCURVE-08-01-2012.2012_08_01_12_49_0	6/4/2013 11:14:54 AM

Mean Area 6.725
Mean Conc. 0.00074mg/L



Sample

Sample Name: L13051302-52
Sample ID:
Origin: TOC-08-01-2012.met
Status Completed
Chk. Result

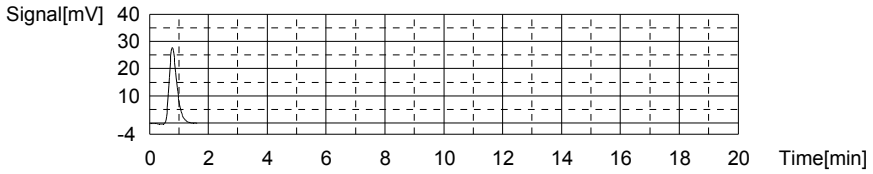
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	!!Error!! TOC:1.293mg/L TC:1.289mg/L IC:-0.00403mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	51.59	1.289mg/L	500uL	1		TCCURVE-08-01-2012.2012_08_01_11_45_2	6/4/2013 11:21:57 AM

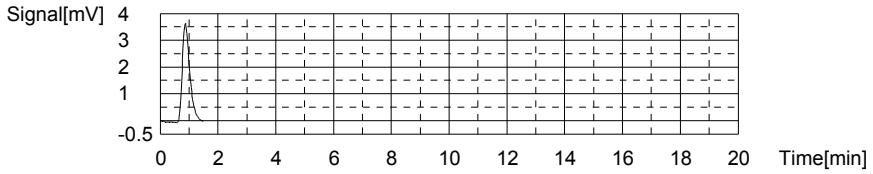
Mean Area 51.59
Mean Conc. 1.289mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	6.586	-0.00403mg/L	500uL	1		TICCURVE-08-01-2012.2012_08_01_12_49_0	6/4/2013 11:26:17 AM

Mean Area 6.586
Mean Conc. -0.00403mg/L



Sample

Sample Name: L13051302-53
Sample ID:
Origin: TOC-08-01-2012.met
Status Completed
Chk. Result

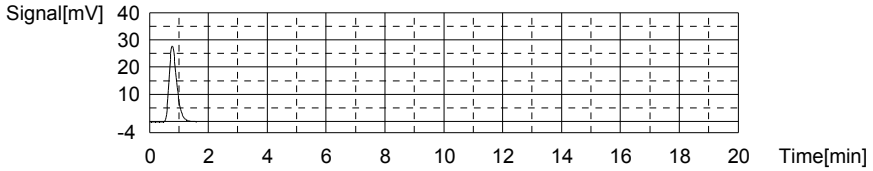
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	!!Error!! TOC:1.269mg/L TC:1.263mg/L IC:-0.00605mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	50.60	1.263mg/L	500uL	1		TCCURVE-08-01-2012.2012_08_01_11_45_2	6/4/2013 11:33:19 AM

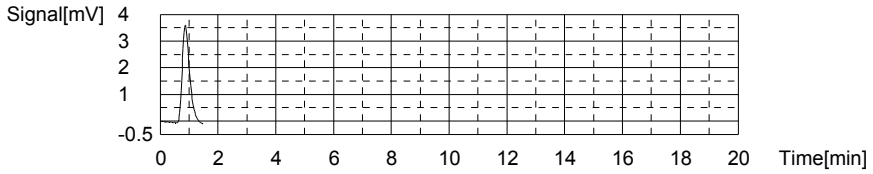
Mean Area 50.60
Mean Conc. 1.263mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	6.527	-0.00605mg/L	500uL	1		TICCURVE-08-01-2012.2012_08_01_12_49_0	6/4/2013 11:37:39 AM

Mean Area 6.527
Mean Conc. -0.00605mg/L



Sample

Sample Name: L13051302-54
Sample ID:
Origin: TOC-08-01-2012.met
Status Completed
Chk. Result

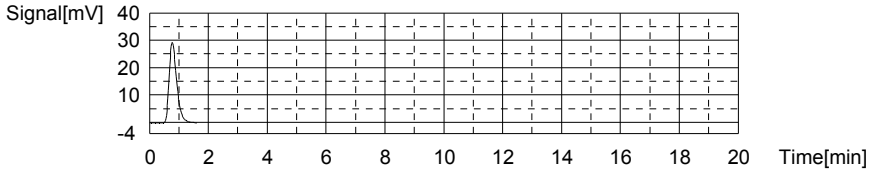
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	!!Error!! TOC:1.318mg/L TC:1.317mg/L IC:-0.00122mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	52.68	1.317mg/L	500uL	1		TCCURVE-08-01-2012.2012_08_01_11_45_23	6/4/2013 11:44:42 AM

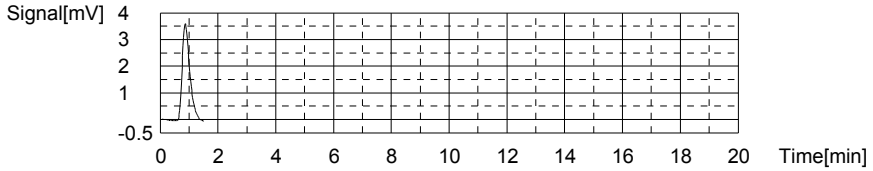
Mean Area 52.68
Mean Conc. 1.317mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	6.668	-0.00122mg/L	500uL	1		TICCURVE-08-01-2012.2012_08_01_12_49_0	6/4/2013 11:49:00 AM

Mean Area 6.668
Mean Conc. -0.00122mg/L



Sample

Sample Name: CCV
Sample ID:
Origin: TOC-08-01-2012.met
Status Completed
Chk. Result

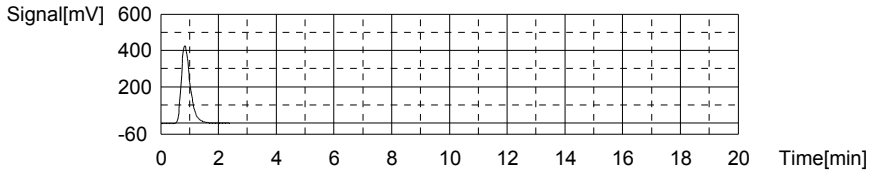
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:23.44mg/L TC:23.76mg/L IC:0.3178mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	915.8	23.76mg/L	500uL	1		TCCURVE-08-01-2012.2012_08_01_11_45_2	6/4/2013 11:56:49 AM

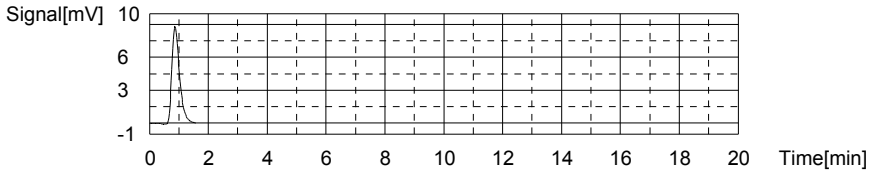
Mean Area 915.8
Mean Conc. 23.76mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	15.97	0.3178mg/L	500uL	1		TICCURVE-08-01-2012.2012_08_01_12_49_0	6/4/2013 12:01:16 PM

Mean Area 15.97
Mean Conc. 0.3178mg/L



Sample

Sample Name: CCB
Sample ID:
Origin: TOC-08-01-2012.met
Status Completed
Chk. Result

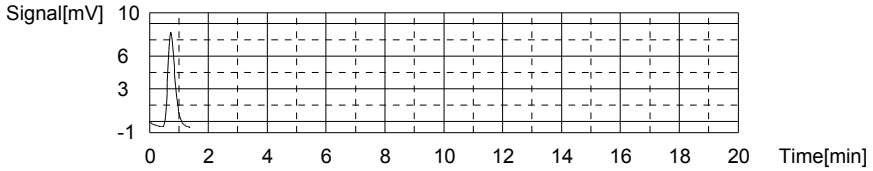
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:0.3101mg/L TC:0.3312mg/L IC:0.02114mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	14.77	0.3312mg/L	500uL	1		TCCURVE-08-01-2012.2012_08_01_11_45_2	6/4/2013 12:06:17 PM

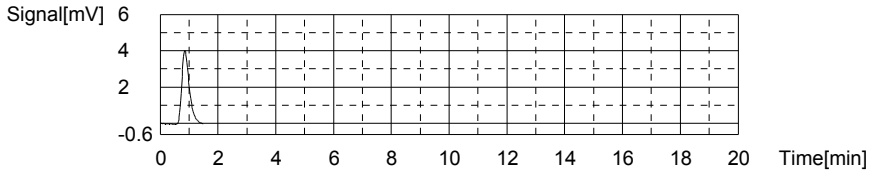
Mean Area 14.77
Mean Conc. 0.3312mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	7.320	0.02114mg/L	500uL	1		TICCURVE-08-01-2012.2012_08_01_12_49_0	6/4/2013 12:10:10 PM

Mean Area 7.320
Mean Conc. 0.02114mg/L



Sample

Sample Name: L13051301-02
Sample ID:
Origin: TOC-08-01-2012.met
Status Completed
Chk. Result

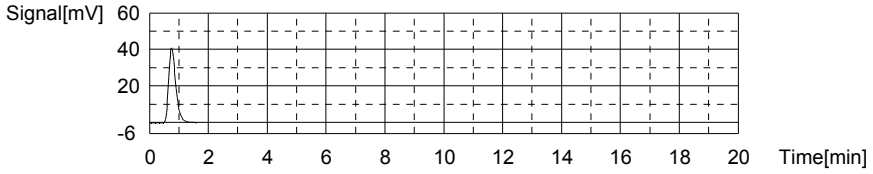
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:1.204mg/L TC:1.758mg/L IC:0.5537mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	69.65	1.758mg/L	500uL	1		TCCURVE-08-01-2012.2012_08_01_11_45_23	6/4/2013 12:17:13 PM

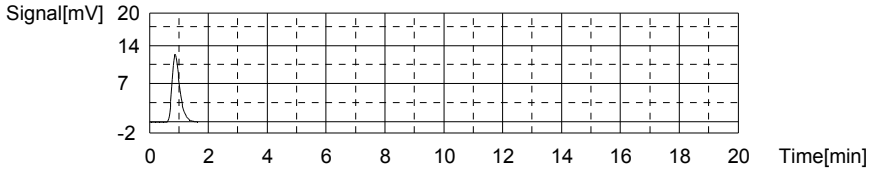
Mean Area 69.65
Mean Conc. 1.758mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	22.85	0.5537mg/L	500uL	1		TICCURVE-08-01-2012.2012_08_01_12_49_06	6/4/2013 12:21:42 PM

Mean Area 22.85
Mean Conc. 0.5537mg/L



Sample

Sample Name: L13051301-03
Sample ID:
Origin: TOC-08-01-2012.met
Status Completed
Chk. Result

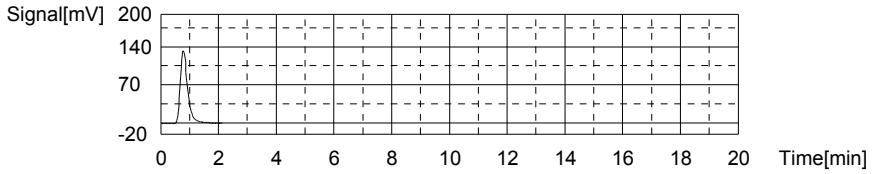
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:5.859mg/L TC:6.127mg/L IC:0.2680mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	237.7	6.127mg/L	500uL	1		TCCURVE-08-01-2012.2012_08_01_11_45_2	6/4/2013 12:29:16 PM

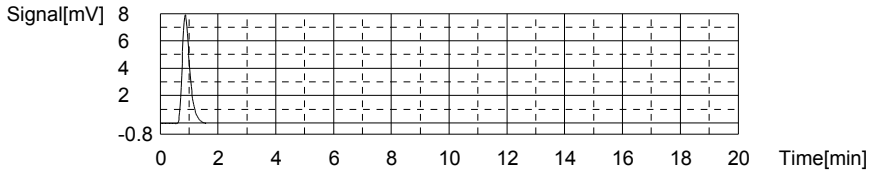
Mean Area 237.7
Mean Conc. 6.127mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	14.52	0.2680mg/L	500uL	1		TICCURVE-08-01-2012.2012_08_01_12_49_0	6/4/2013 12:33:40 PM

Mean Area 14.52
Mean Conc. 0.2680mg/L



Sample

Sample Name: L13051301-04
Sample ID:
Origin: TOC-08-01-2012.met
Status Completed
Chk. Result

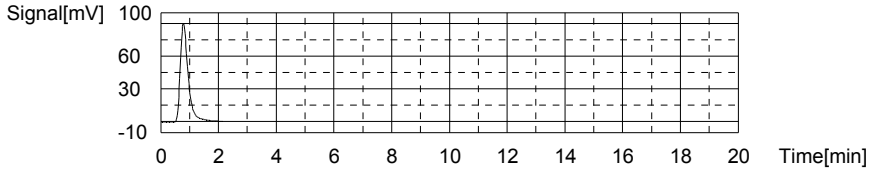
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:4.258mg/L TC:4.398mg/L IC:0.1408mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	171.2	4.398mg/L	500uL	1		TCCURVE-08-01-2012.2012_08_01_11_45_2	6/4/2013 12:41:15 PM

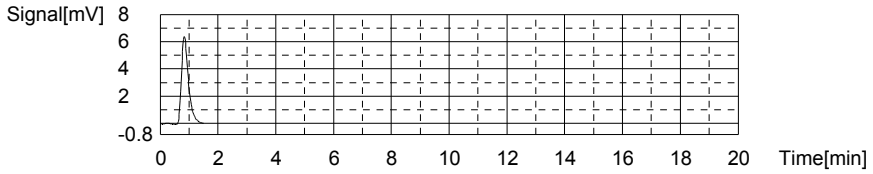
Mean Area 171.2
Mean Conc. 4.398mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	10.81	0.1408mg/L	500uL	1		TICCURVE-08-01-2012.2012_08_01_12_49_0	6/4/2013 12:45:34 PM

Mean Area 10.81
Mean Conc. 0.1408mg/L



Sample

Sample Name: L13051301-05 MS
Sample ID:
Origin: TOC-08-01-2012.met
Status Completed
Chk. Result

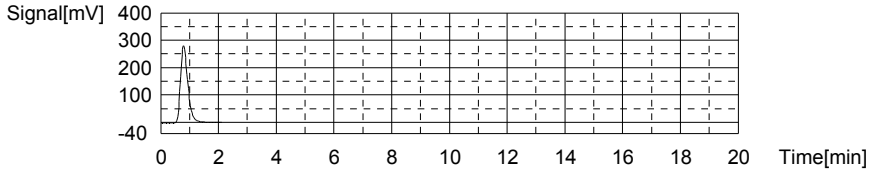
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:12.67mg/L TC:12.68mg/L IC:0.01610mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	489.8	12.68mg/L	500uL	1		TCCURVE-08-01-2012.2012_08_01_11_45_23	6/4/2013 12:53:07 PM

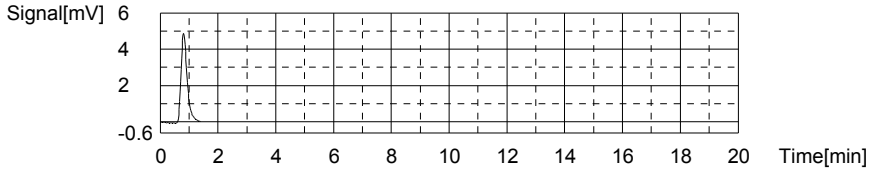
Mean Area 489.8
Mean Conc. 12.68mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	7.173	0.01610mg/L	500uL	1		TICCURVE-08-01-2012.2012_08_01_12_49_06	6/4/2013 12:57:27 PM

Mean Area 7.173
Mean Conc. 0.01610mg/L



Sample

Sample Name: L13051301-06 MSD
Sample ID:
Origin: TOC-08-01-2012.met
Status Completed
Chk. Result

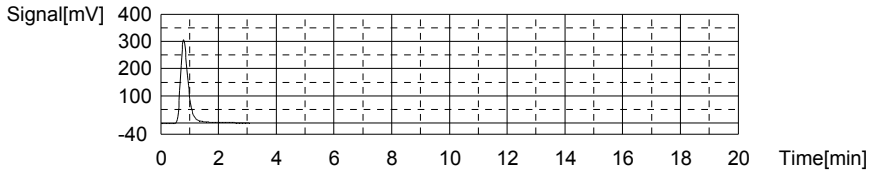
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:14.99mg/L TC:15.01mg/L IC:0.01775mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	579.4	15.01mg/L	500uL	1		TCCURVE-08-01-2012.2012_08_01_11_45_2	6/4/2013 1:05:58 PM

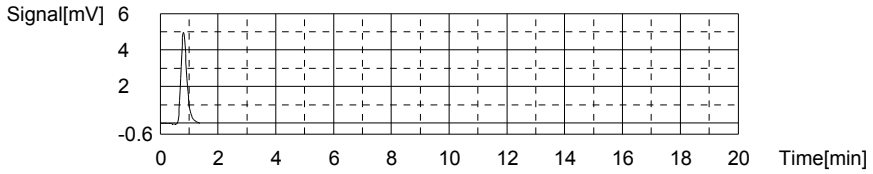
Mean Area 579.4
Mean Conc. 15.01mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	7.221	0.01775mg/L	500uL	1		TICCURVE-08-01-2012.2012_08_01_12_49_0	6/4/2013 1:10:12 PM

Mean Area 7.221
Mean Conc. 0.01775mg/L



Sample

Sample Name: L13051301-07
Sample ID:
Origin: TOC-08-01-2012.met
Status Completed
Chk. Result

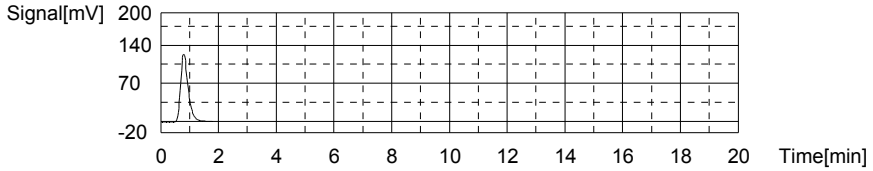
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:5.725mg/L TC:5.769mg/L IC:0.04336mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	223.9	5.769mg/L	500uL	1		TCCURVE-08-01-2012.2012_08_01_11_45_2	6/4/2013 1:17:26 PM

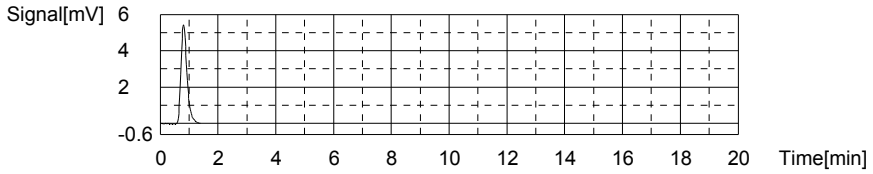
Mean Area 223.9
Mean Conc. 5.769mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	7.968	0.04336mg/L	500uL	1		TICCURVE-08-01-2012.2012_08_01_12_49_0	6/4/2013 1:21:37 PM

Mean Area 7.968
Mean Conc. 0.04336mg/L



Sample

Sample Name: L13051301-08
Sample ID:
Origin: TOC-08-01-2012.met
Status Completed
Chk. Result

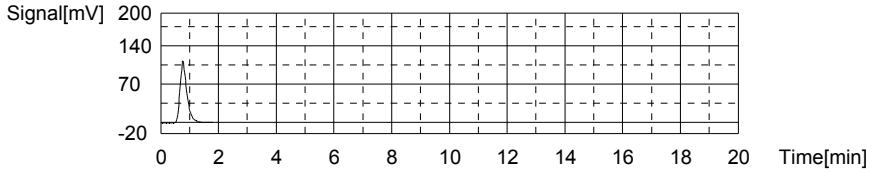
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:3.707mg/L TC:4.721mg/L IC:1.014mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	183.6	4.721mg/L	500uL	1		TCCURVE-08-01-2012.2012_08_01_11_45_23	6/4/2013 1:28:52 PM

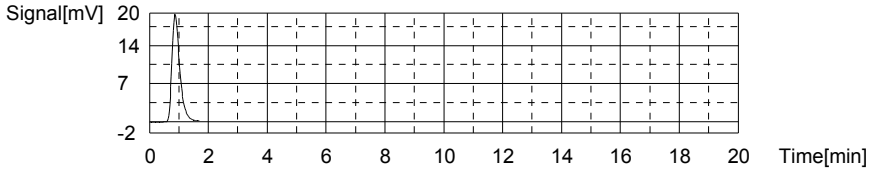
Mean Area 183.6
Mean Conc. 4.721mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	36.26	1.014mg/L	500uL	1		TICCURVE-08-01-2012.2012_08_01_12_49_06	6/4/2013 1:33:28 PM

Mean Area 36.26
Mean Conc. 1.014mg/L



Sample

Sample Name: L13051301-09
Sample ID:
Origin: TOC-08-01-2012.met
Status Completed
Chk. Result

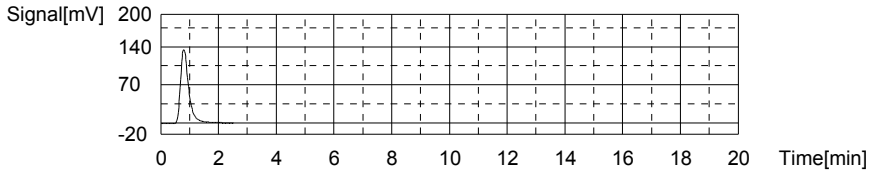
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:6.777mg/L TC:7.017mg/L IC:0.2392mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	271.9	7.017mg/L	500uL	1		TCCURVE-08-01-2012.2012_08_01_11_45_2	6/4/2013 1:41:25 PM

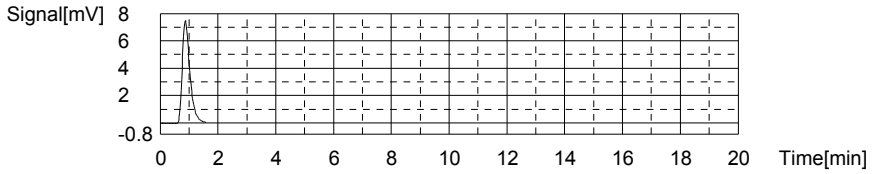
Mean Area 271.9
Mean Conc. 7.017mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	13.68	0.2392mg/L	500uL	1		TICCURVE-08-01-2012.2012_08_01_12_49_0	6/4/2013 1:45:55 PM

Mean Area 13.68
Mean Conc. 0.2392mg/L



Sample

Sample Name: L13051301-10
Sample ID:
Origin: TOC-08-01-2012.met
Status Completed
Chk. Result

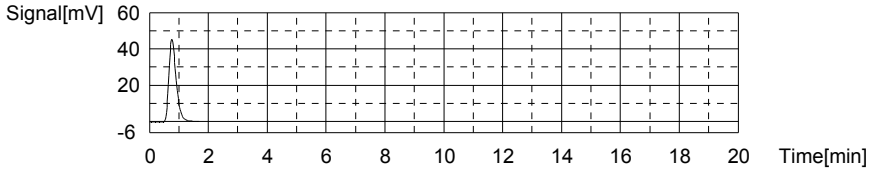
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:1.568mg/L TC:1.999mg/L IC:0.4313mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	78.91	1.999mg/L	500uL	1		TCCURVE-08-01-2012.2012_08_01_11_45_2	6/4/2013 1:53:02 PM

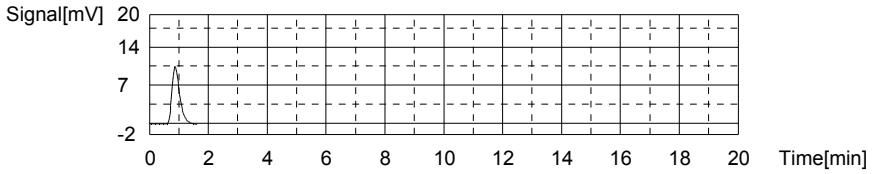
Mean Area 78.91
Mean Conc. 1.999mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	19.28	0.4313mg/L	500uL	1		TICCURVE-08-01-2012.2012_08_01_12_49_0	6/4/2013 1:57:28 PM

Mean Area 19.28
Mean Conc. 0.4313mg/L



Sample

Sample Name: L13051301-11
Sample ID:
Origin: TOC-08-01-2012.met
Status Completed
Chk. Result

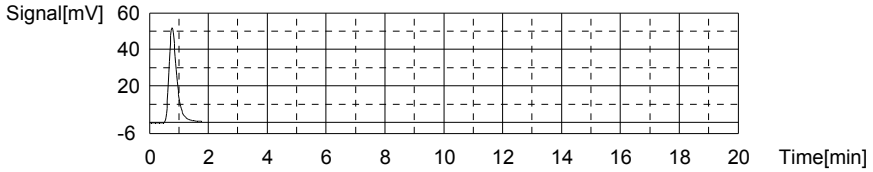
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:2.048mg/L TC:2.429mg/L IC:0.3812mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	95.46	2.429mg/L	500uL	1		TCCURVE-08-01-2012.2012_08_01_11_45_23	6/4/2013 2:04:41 PM

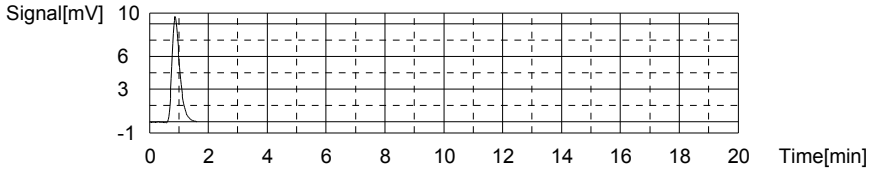
Mean Area 95.46
Mean Conc. 2.429mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	17.82	0.3812mg/L	500uL	1		TICCURVE-08-01-2012.2012_08_01_12_49_0	6/4/2013 2:09:09 PM

Mean Area 17.82
Mean Conc. 0.3812mg/L



Sample

Sample Name: CCV
Sample ID:
Origin: TOC-08-01-2012.met
Status Completed
Chk. Result

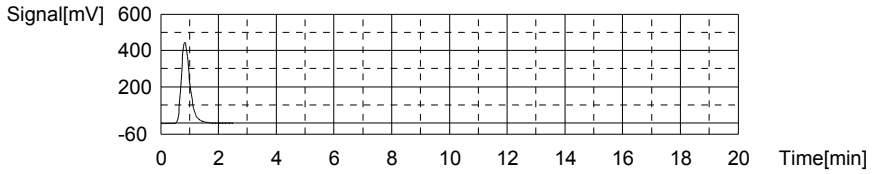
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:23.83mg/L TC:24.11mg/L IC:0.2866mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	929.4	24.11mg/L	500uL	1		TCCURVE-08-01-2012.2012_08_01_11_45_2	6/4/2013 2:17:07 PM

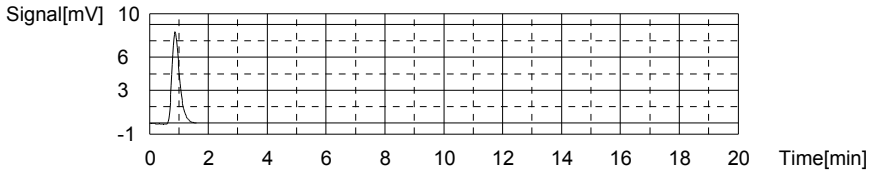
Mean Area 929.4
Mean Conc. 24.11mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	15.06	0.2866mg/L	500uL	1		TICCURVE-08-01-2012.2012_08_01_12_49_0	6/4/2013 2:21:32 PM

Mean Area 15.06
Mean Conc. 0.2866mg/L



Sample

Sample Name: CCB
Sample ID:
Origin: TOC-08-01-2012.met
Status Completed
Chk. Result

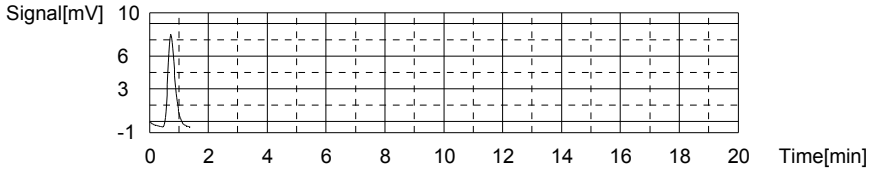
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:0.2868mg/L TC:0.3200mg/L IC:0.03318mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	14.34	0.3200mg/L	500uL	1		TCCURVE-08-01-2012.2012_08_01_11_45_2	6/4/2013 2:26:38 PM

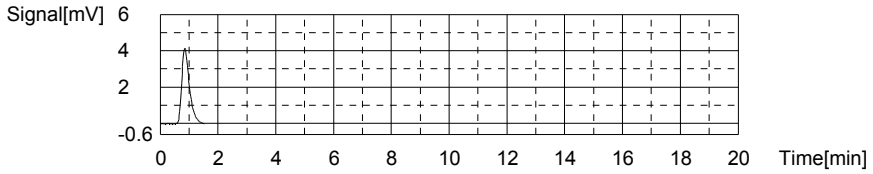
Mean Area 14.34
Mean Conc. 0.3200mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	7.671	0.03318mg/L	500uL	1		TICCURVE-08-01-2012.2012_08_01_12_49_0	6/4/2013 2:30:34 PM

Mean Area 7.671
Mean Conc. 0.03318mg/L



Sample

Sample Name: L13051301-12
Sample ID:
Origin: TOC-08-01-2012.met
Status Completed
Chk. Result

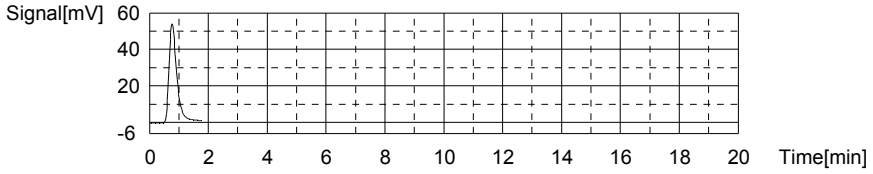
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:2.051mg/L TC:2.502mg/L IC:0.4512mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	98.28	2.502mg/L	500uL	1		TCCURVE-08-01-2012.2012_08_01_11_45_2	6/4/2013 2:38:02 PM

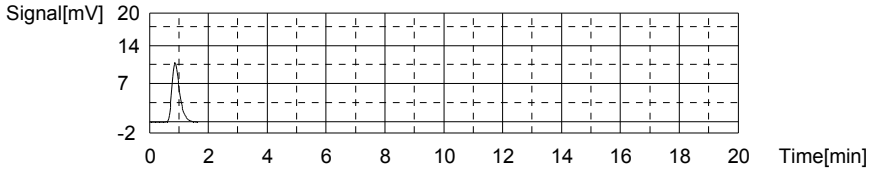
Mean Area 98.28
Mean Conc. 2.502mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	19.86	0.4512mg/L	500uL	1		TICCURVE-08-01-2012.2012_08_01_12_49_0	6/4/2013 2:42:32 PM

Mean Area 19.86
Mean Conc. 0.4512mg/L



Sample

Sample Name: L13051304-01
Sample ID:
Origin: TOC-08-01-2012.met
Status Completed
Chk. Result

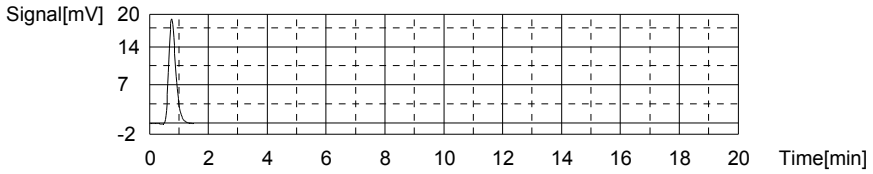
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:0.7432mg/L TC:0.7862mg/L IC:0.04302mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	32.27	0.7862mg/L	500uL	1		TCCURVE-08-01-2012.2012_08_01_11_45_2	6/4/2013 2:49:29 PM

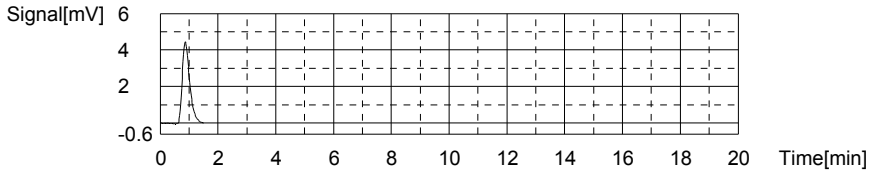
Mean Area 32.27
Mean Conc. 0.7862mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	7.958	0.04302mg/L	500uL	1		TICCURVE-08-01-2012.2012_08_01_12_49_0	6/4/2013 2:53:48 PM

Mean Area 7.958
Mean Conc. 0.04302mg/L



Sample

Sample Name: L13051304-02
Sample ID:
Origin: TOC-08-01-2012.met
Status Completed
Chk. Result

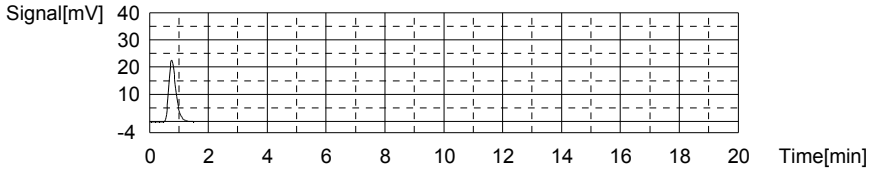
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:0.8704mg/L TC:0.9524mg/L IC:0.08197mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	38.66	0.9524mg/L	500uL	1		TCCURVE-08-01-2012.2012_08_01_11_45_2	6/4/2013 3:00:47 PM

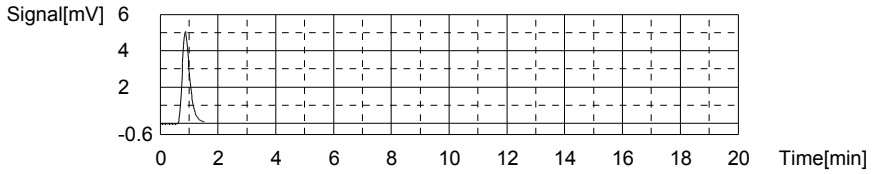
Mean Area 38.66
Mean Conc. 0.9524mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	9.094	0.08197mg/L	500uL	1		TICCURVE-08-01-2012.2012_08_01_12_49_0	6/4/2013 3:05:06 PM

Mean Area 9.094
Mean Conc. 0.08197mg/L



Sample

Sample Name: WG432489-05 DUP
Sample ID:
Origin: TOC-08-01-2012.met
Status Completed
Chk. Result

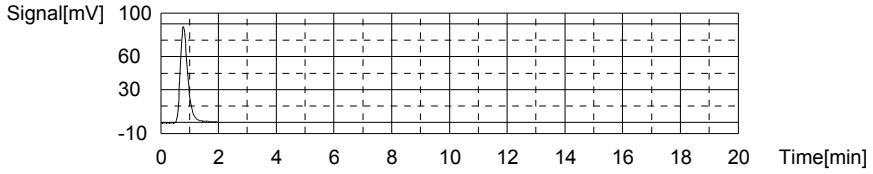
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:3.917mg/L TC:4.045mg/L IC:0.1274mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	157.6	4.045mg/L	500uL	1		TCCURVE-08-01-2012.2012_08_01_11_45_23	6/4/2013 3:12:31 PM

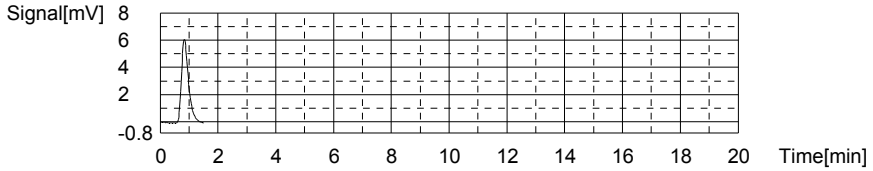
Mean Area 157.6
Mean Conc. 4.045mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	10.42	0.1274mg/L	500uL	1		TICCURVE-08-01-2012.2012_08_01_12_49_06	6/4/2013 3:16:49 PM

Mean Area 10.42
Mean Conc. 0.1274mg/L



Sample

Sample Name: L13051513-29
Sample ID:
Origin: TOC-08-01-2012.met
Status Completed
Chk. Result

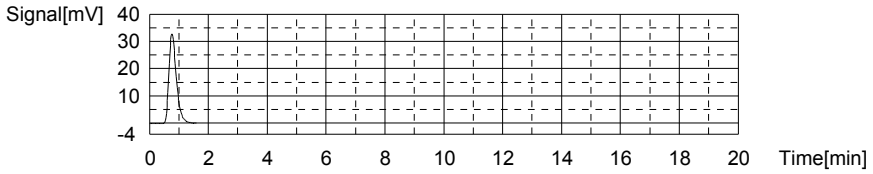
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:1.252mg/L TC:1.452mg/L IC:0.1995mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	57.87	1.452mg/L	500uL	1		TCCURVE-08-01-2012.2012_08_01_11_45_2	6/4/2013 3:23:51 PM

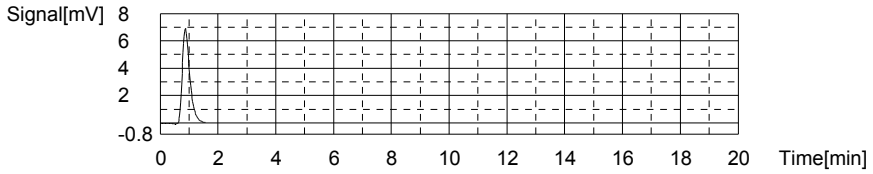
Mean Area 57.87
Mean Conc. 1.452mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	12.52	0.1995mg/L	500uL	1		TICCURVE-08-01-2012.2012_08_01_12_49_0	6/4/2013 3:28:12 PM

Mean Area 12.52
Mean Conc. 0.1995mg/L



Sample

Sample Name: WG432746-01 BLK
Sample ID:
Origin: TOC-08-01-2012.met
Status Completed
Chk. Result

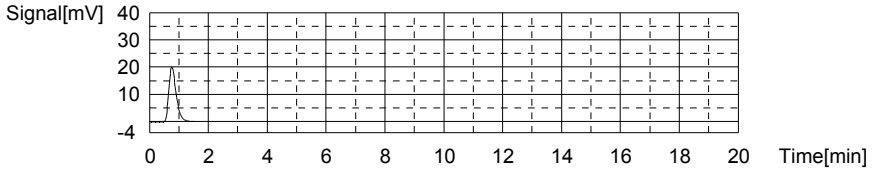
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:0.8164mg/L TC:0.8653mg/L IC:0.04885mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	35.31	0.8653mg/L	500uL	1		TCCURVE-08-01-2012.2012_08_01_11_45_2	6/4/2013 3:35:12 PM

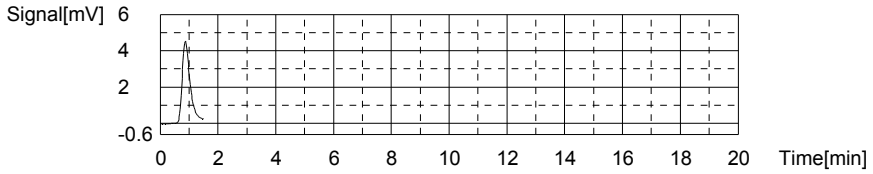
Mean Area 35.31
Mean Conc. 0.8653mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	8.128	0.04885mg/L	500uL	1		TICCURVE-08-01-2012.2012_08_01_12_49_0	6/4/2013 3:39:32 PM

Mean Area 8.128
Mean Conc. 0.04885mg/L



Sample

Sample Name: WG432746-02 LCS
Sample ID:
Origin: TOC-08-01-2012.met
Status Completed
Chk. Result

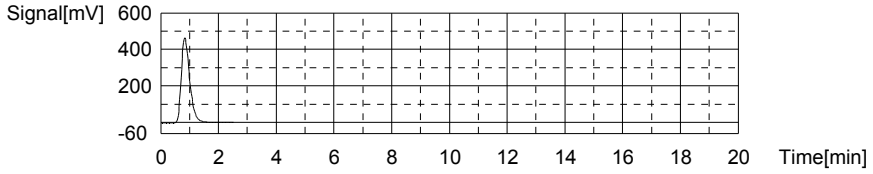
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:24.20mg/L TC:24.50mg/L IC:0.2965mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	944.2	24.50mg/L	500uL	1		TCCURVE-08-01-2012.2012_08_01_11_45_23	6/4/2013 3:47:34 PM

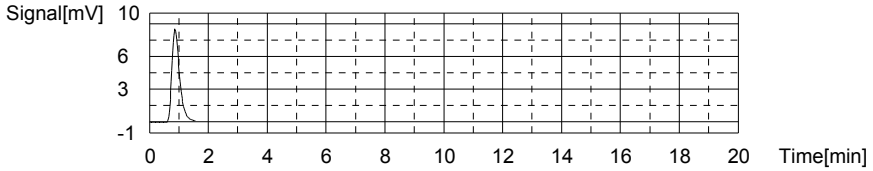
Mean Area 944.2
Mean Conc. 24.50mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	15.35	0.2965mg/L	500uL	1		TICCURVE-08-01-2012.2012_08_01_12_49_0	6/4/2013 3:51:58 PM

Mean Area 15.35
Mean Conc. 0.2965mg/L



Sample

Sample Name: WG432746-03 LCSDUP
Sample ID:
Origin: TOC-08-01-2012.met
Status Completed
Chk. Result

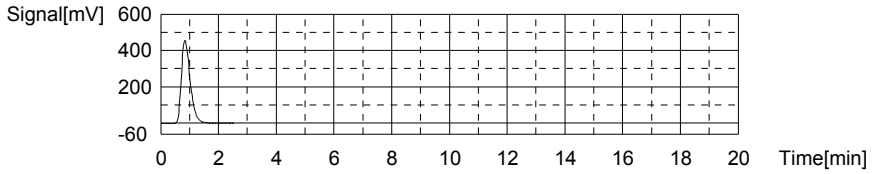
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:25.03mg/L TC:25.28mg/L IC:0.2557mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	974.4	25.28mg/L	500uL	1		TCCURVE-08-01-2012.2012_08_01_11_45_2	6/4/2013 4:00:08 PM

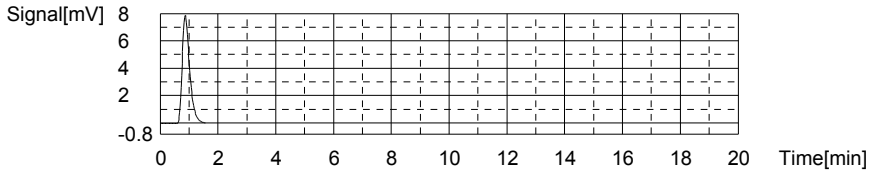
Mean Area 974.4
Mean Conc. 25.28mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	14.16	0.2557mg/L	500uL	1		TICCURVE-08-01-2012.2012_08_01_12_49_0	6/4/2013 4:04:30 PM

Mean Area 14.16
Mean Conc. 0.2557mg/L



Sample

Sample Name: L13051304-03
Sample ID:
Origin: TOC-08-01-2012.met
Status Completed
Chk. Result

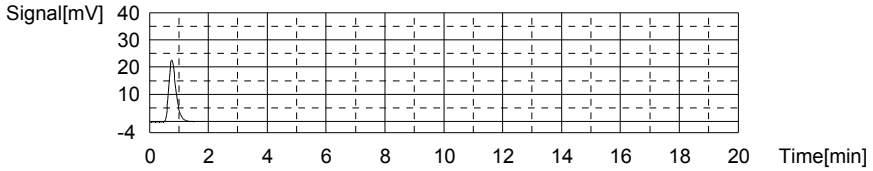
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:0.9018mg/L TC:0.9591mg/L IC:0.05732mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	38.92	0.9591mg/L	500uL	1		TCCURVE-08-01-2012.2012_08_01_11_45_2	6/4/2013 4:11:32 PM

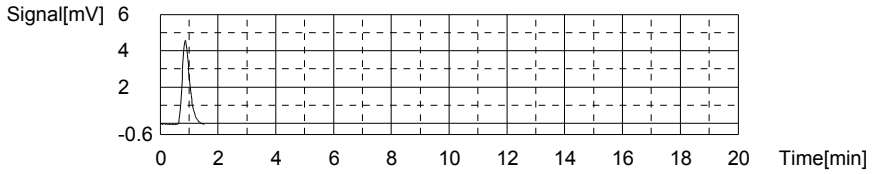
Mean Area 38.92
Mean Conc. 0.9591mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	8.375	0.05732mg/L	500uL	1		TICCURVE-08-01-2012.2012_08_01_12_49_0	6/4/2013 4:15:52 PM

Mean Area 8.375
Mean Conc. 0.05732mg/L



Sample

Sample Name: L13051351-04
Sample ID:
Origin: TOC-08-01-2012.met
Status Completed
Chk. Result

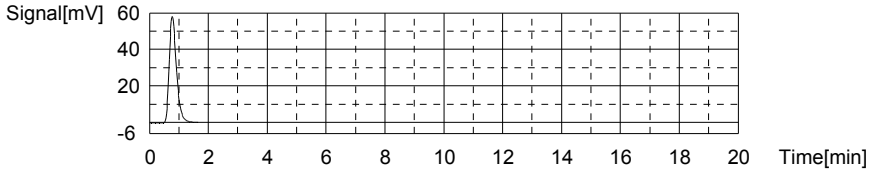
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:2.443mg/L TC:2.541mg/L IC:0.09891mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	99.78	2.541mg/L	500uL	1		TCCURVE-08-01-2012.2012_08_01_11_45_2	6/4/2013 4:22:59 PM

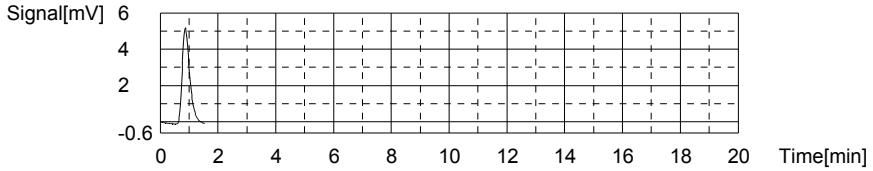
Mean Area 99.78
Mean Conc. 2.541mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	9.588	0.09891mg/L	500uL	1		TICCURVE-08-01-2012.2012_08_01_12_49_0	6/4/2013 4:27:22 PM

Mean Area 9.588
Mean Conc. 0.09891mg/L



Sample

Sample Name: CCV
Sample ID:
Origin: TOC-08-01-2012.met
Status Completed
Chk. Result

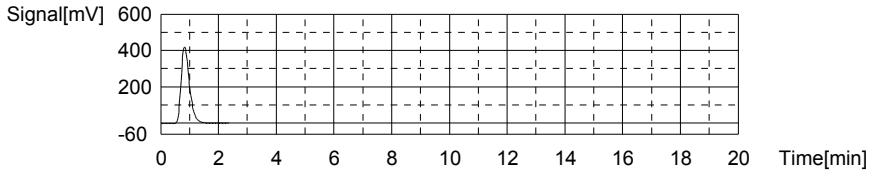
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:21.71mg/L TC:22.00mg/L IC:0.2955mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	848.3	22.00mg/L	500uL	1		TCCURVE-08-01-2012.2012_08_01_11_45_2	6/4/2013 4:35:10 PM

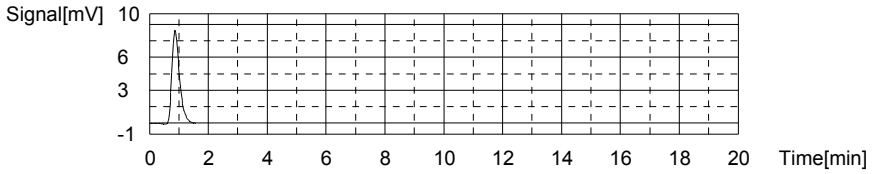
Mean Area 848.3
Mean Conc. 22.00mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	15.32	0.2955mg/L	500uL	1		TICCURVE-08-01-2012.2012_08_01_12_49_0	6/4/2013 4:39:33 PM

Mean Area 15.32
Mean Conc. 0.2955mg/L



Sample

Sample Name: CCB
Sample ID:
Origin: TOC-08-01-2012.met
Status Completed
Chk. Result

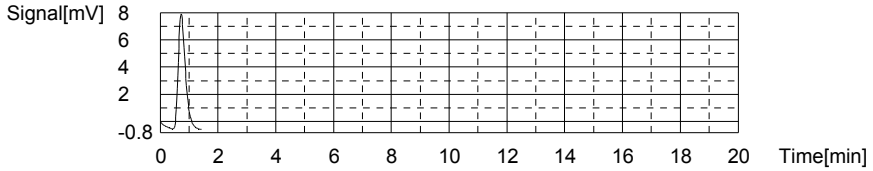
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:0.3010mg/L TC:0.3260mg/L IC:0.02502mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	14.57	0.3260mg/L	500uL	1		TCCURVE-08-01-2012.2012_08_01_11_45_2	6/4/2013 4:44:37 PM

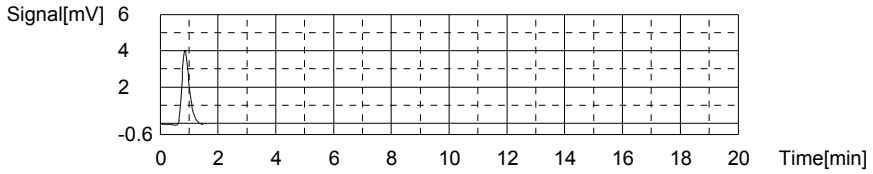
Mean Area 14.57
Mean Conc. 0.3260mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	7.433	0.02502mg/L	500uL	1		TICCURVE-08-01-2012.2012_08_01_12_49_0	6/4/2013 4:48:29 PM

Mean Area 7.433
Mean Conc. 0.02502mg/L



Sample

Sample Name: L13051351-05 (5)
Sample ID:
Origin: TOC-08-01-2012.met
Status Completed
Chk. Result

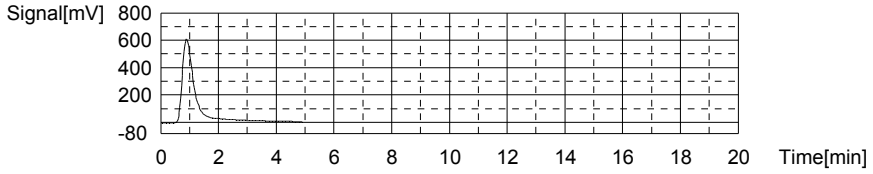
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:48.50mg/L TC:48.52mg/L IC:0.02042mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1868	48.52mg/L	500uL	1		TCCURVE-08-01-2012.2012_08_01_11_45_2	6/4/2013 4:58:51 PM

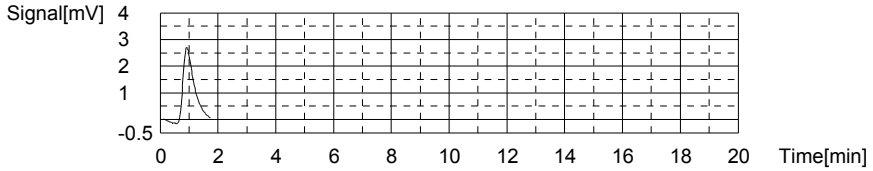
Mean Area 1868
Mean Conc. 48.52mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	7.299	0.02042mg/L	500uL	1		TICCURVE-08-01-2012.2012_08_01_12_49_0	6/4/2013 5:03:56 PM

Mean Area 7.299
Mean Conc. 0.02042mg/L



Sample

Sample Name: L13051351-06
Sample ID:
Origin: TOC-08-01-2012.met
Status Completed
Chk. Result

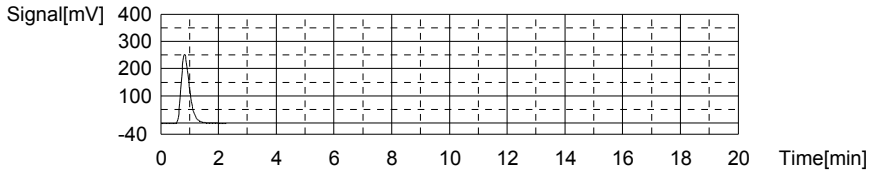
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:13.27mg/L TC:13.30mg/L IC:0.02680mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	513.4	13.30mg/L	500uL	1		TCCURVE-08-01-2012.2012_08_01_11_45_2	6/4/2013 5:11:40 PM

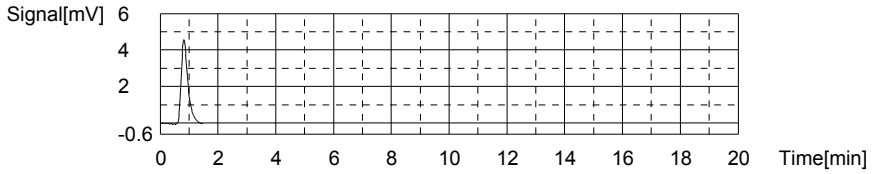
Mean Area 513.4
Mean Conc. 13.30mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	7.485	0.02680mg/L	500uL	1		TICCURVE-08-01-2012.2012_08_01_12_49_0	6/4/2013 5:16:04 PM

Mean Area 7.485
Mean Conc. 0.02680mg/L



Sample

Sample Name: L13051351-07
Sample ID:
Origin: TOC-08-01-2012.met
Status Completed
Chk. Result

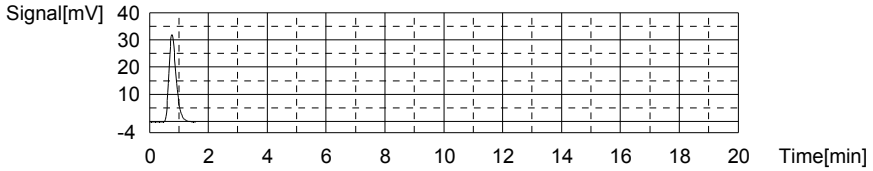
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:1.261mg/L TC:1.374mg/L IC:0.1134mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	54.89	1.374mg/L	500uL	1		TCCURVE-08-01-2012.2012_08_01_11_45_2	6/4/2013 5:23:06 PM

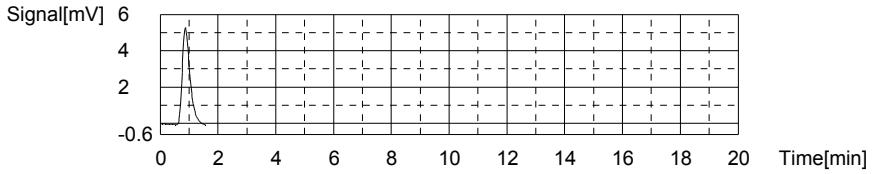
Mean Area 54.89
Mean Conc. 1.374mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	10.01	0.1134mg/L	500uL	1		TICCURVE-08-01-2012.2012_08_01_12_49_0	6/4/2013 5:27:34 PM

Mean Area 10.01
Mean Conc. 0.1134mg/L



Sample

Sample Name: L13051351-08
Sample ID:
Origin: TOC-08-01-2012.met
Status Completed
Chk. Result

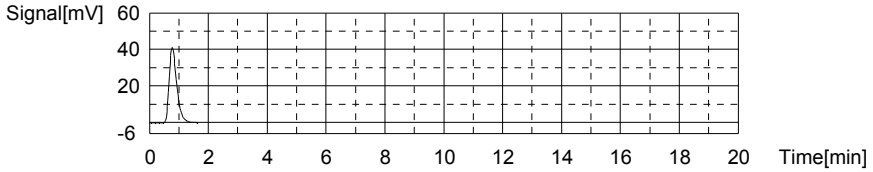
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:1.742mg/L TC:1.876mg/L IC:0.1340mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	74.19	1.876mg/L	500uL	1		TCCURVE-08-01-2012.2012_08_01_11_45_23	6/4/2013 5:34:40 PM

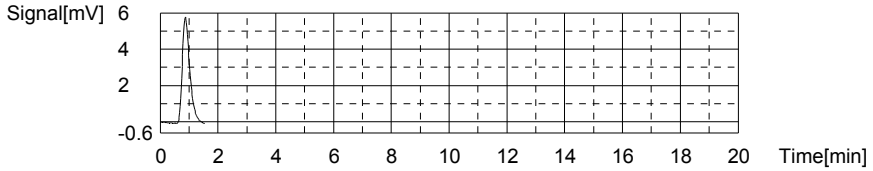
Mean Area 74.19
Mean Conc. 1.876mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	10.61	0.1340mg/L	500uL	1		TICCURVE-08-01-2012.2012_08_01_12_49_0	6/4/2013 5:39:05 PM

Mean Area 10.61
Mean Conc. 0.1340mg/L



Sample

Sample Name: L13051351-09
Sample ID:
Origin: TOC-08-01-2012.met
Status Completed
Chk. Result

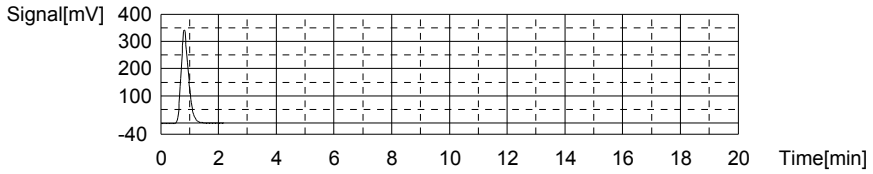
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:15.56mg/L TC:15.81mg/L IC:0.2516mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	610.0	15.81mg/L	500uL	1		TCCURVE-08-01-2012.2012_08_01_11_45_2	6/4/2013 5:46:44 PM

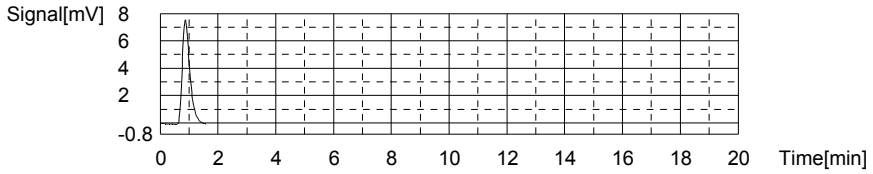
Mean Area 610.0
Mean Conc. 15.81mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	14.04	0.2516mg/L	500uL	1		TICCURVE-08-01-2012.2012_08_01_12_49_0	6/4/2013 5:51:10 PM

Mean Area 14.04
Mean Conc. 0.2516mg/L



Sample

Sample Name: L13051351-10
Sample ID:
Origin: TOC-08-01-2012.met
Status Completed
Chk. Result

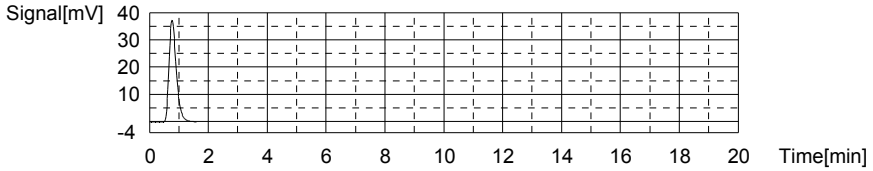
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:1.533mg/L TC:1.626mg/L IC:0.09267mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	64.57	1.626mg/L	500uL	1		TCCURVE-08-01-2012.2012_08_01_11_45_2	6/4/2013 5:58:13 PM

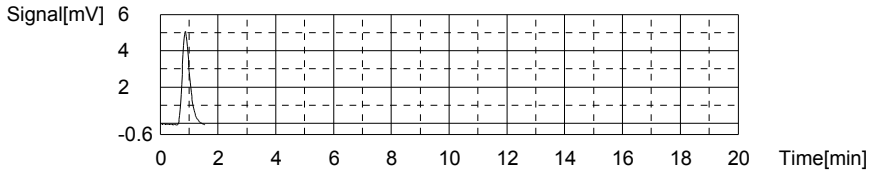
Mean Area 64.57
Mean Conc. 1.626mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	9.406	0.09267mg/L	500uL	1		TICCURVE-08-01-2012.2012_08_01_12_49_0	6/4/2013 6:02:35 PM

Mean Area 9.406
Mean Conc. 0.09267mg/L



Sample

Sample Name: L13051351-11
Sample ID:
Origin: TOC-08-01-2012.met
Status Completed
Chk. Result

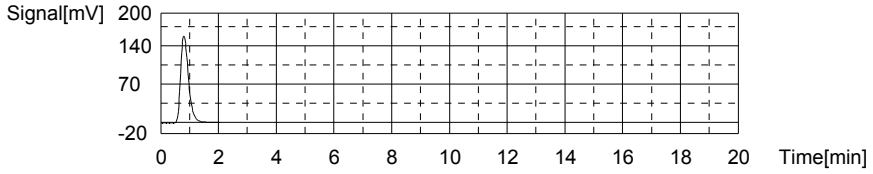
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:7.622mg/L TC:7.700mg/L IC:0.07817mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	298.2	7.700mg/L	500uL	1		TCCURVE-08-01-2012.2012_08_01_11_45_23	6/4/2013 6:10:03 PM

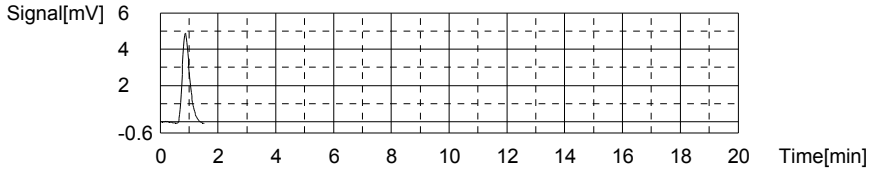
Mean Area 298.2
Mean Conc. 7.700mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	8.983	0.07817mg/L	500uL	1		TICCURVE-08-01-2012.2012_08_01_12_49_0	6/4/2013 6:14:24 PM

Mean Area 8.983
Mean Conc. 0.07817mg/L



Sample

Sample Name: L13051351-17
Sample ID:
Origin: TOC-08-01-2012.met
Status Completed
Chk. Result

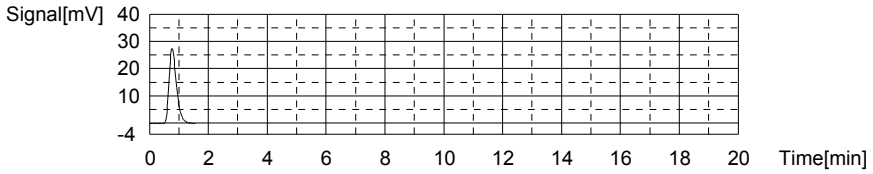
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	!!Error!! TOC:1.212mg/L TC:1.209mg/L IC:-0.00334mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	48.52	1.209mg/L	500uL	1		TCCURVE-08-01-2012.2012_08_01_11_45_2	6/4/2013 6:21:25 PM

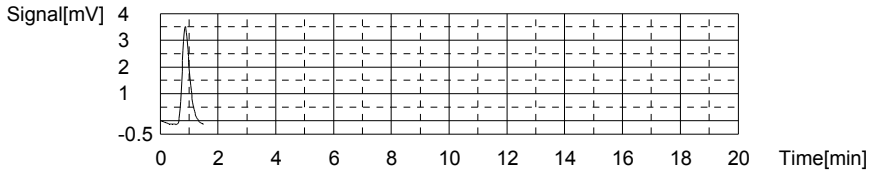
Mean Area 48.52
Mean Conc. 1.209mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	6.606	-0.00334mg/L	500uL	1		TICCURVE-08-01-2012.2012_08_01_12_49_0	6/4/2013 6:25:44 PM

Mean Area 6.606
Mean Conc. -0.00334mg/L



Sample

Sample Name: L13051473-01
Sample ID:
Origin: TOC-08-01-2012.met
Status Completed
Chk. Result

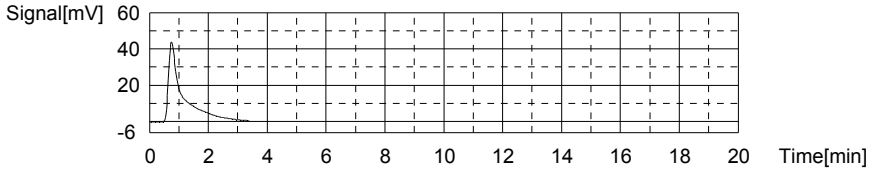
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:2.522mg/L TC:3.712mg/L IC:1.190mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	144.8	3.712mg/L	500uL	1		TCCURVE-08-01-2012.2012_08_01_11_45_2	6/4/2013 6:34:36 PM

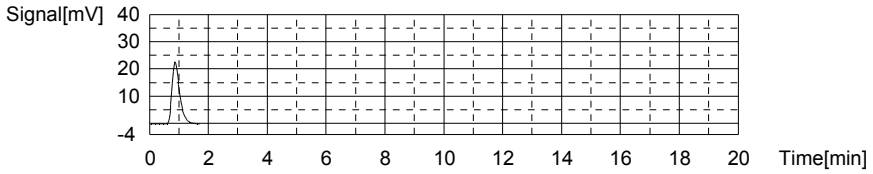
Mean Area 144.8
Mean Conc. 3.712mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	41.40	1.190mg/L	500uL	1		TICCURVE-08-01-2012.2012_08_01_12_49_0	6/4/2013 6:39:11 PM

Mean Area 41.40
Mean Conc. 1.190mg/L



Sample

Sample Name: L13051473-02
Sample ID:
Origin: TOC-08-01-2012.met
Status Completed
Chk. Result

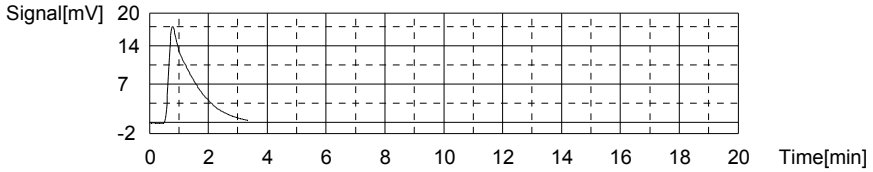
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:2.269mg/L TC:2.406mg/L IC:0.1374mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	94.58	2.406mg/L	500uL	1		TCCURVE-08-01-2012.2012_08_01_11_45_2	6/4/2013 6:47:59 PM

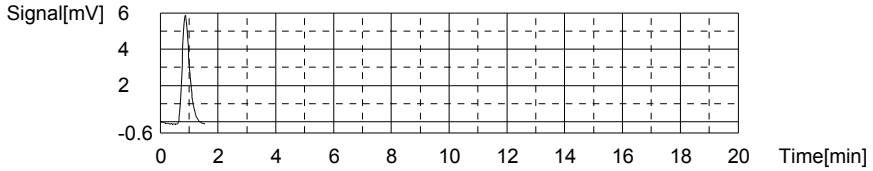
Mean Area 94.58
Mean Conc. 2.406mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	10.71	0.1374mg/L	500uL	1		TICCURVE-08-01-2012.2012_08_01_12_49_0	6/4/2013 6:52:23 PM

Mean Area 10.71
Mean Conc. 0.1374mg/L



Sample

Sample Name: CCV
Sample ID:
Origin: TOC-08-01-2012.met
Status Completed
Chk. Result

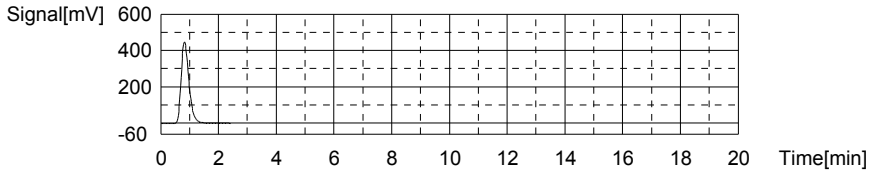
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:21.66mg/L TC:21.89mg/L IC:0.2334mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	844.0	21.89mg/L	500uL	1		TCCURVE-08-01-2012.2012_08_01_11_45_2	6/4/2013 7:00:21 PM

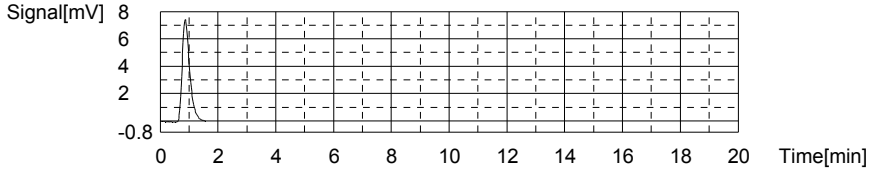
Mean Area 844.0
Mean Conc. 21.89mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	13.51	0.2334mg/L	500uL	1		TICCURVE-08-01-2012.2012_08_01_12_49_0	6/4/2013 7:04:46 PM

Mean Area 13.51
Mean Conc. 0.2334mg/L



Sample

Sample Name: CCB
Sample ID:
Origin: TOC-08-01-2012.met
Status Completed
Chk. Result

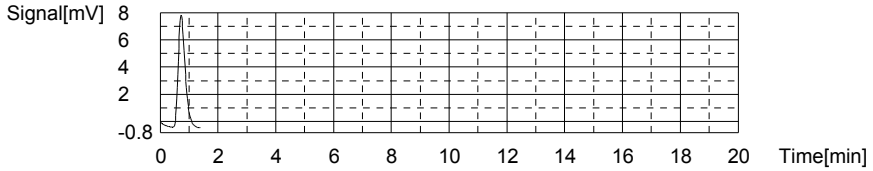
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:0.2784mg/L TC:0.3055mg/L IC:0.02704mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	13.78	0.3055mg/L	500uL	1		TCCURVE-08-01-2012.2012_08_01_11_45_2	6/4/2013 7:09:47 PM

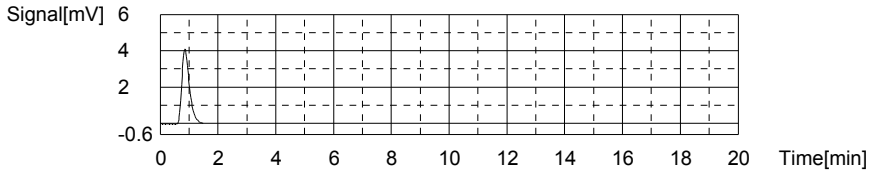
Mean Area 13.78
Mean Conc. 0.3055mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	7.492	0.02704mg/L	500uL	1		TICCURVE-08-01-2012.2012_08_01_12_49_0	6/4/2013 7:13:40 PM

Mean Area 7.492
Mean Conc. 0.02704mg/L



Sample

Sample Name: L13051473-03
Sample ID:
Origin: TOC-08-01-2012.met
Status Completed
Chk. Result

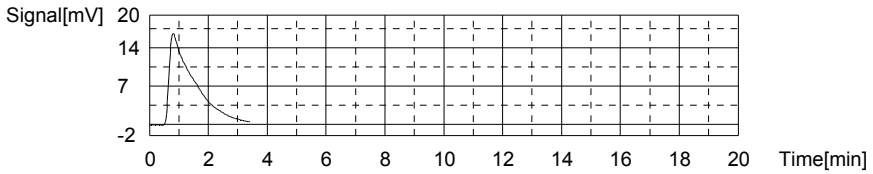
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:2.340mg/L TC:2.414mg/L IC:0.07381mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	94.87	2.414mg/L	500uL	1		TCCURVE-08-01-2012.2012_08_01_11_45_23	6/4/2013 7:22:45 PM

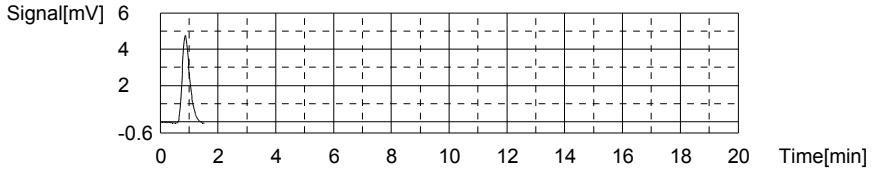
Mean Area 94.87
Mean Conc. 2.414mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	8.856	0.07381mg/L	500uL	1		TICCURVE-08-01-2012.2012_08_01_12_49_0	6/4/2013 7:27:07 PM

Mean Area 8.856
Mean Conc. 0.07381mg/L



Sample

Sample Name:
Sample ID:
Origin: TOC-08-01-2012.met
Status Completed
Chk. Result

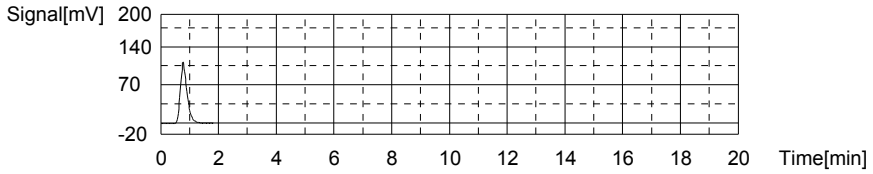
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	!!Error!! TOC:4.656mg/L TC:4.651mg/L IC:-0.00581mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	180.9	4.651mg/L	500uL	1		TCCURVE-08-01-2012.2012_08_01_11_45_2	6/4/2013 7:34:25 PM

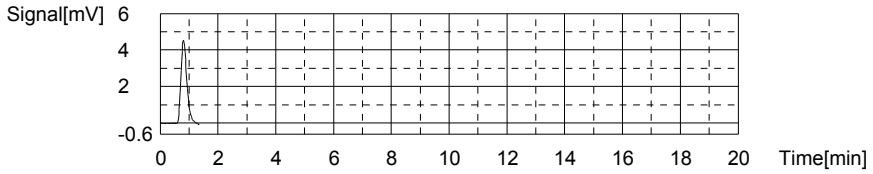
Mean Area 180.9
Mean Conc. 4.651mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	6.534	-0.00581mg/L	500uL	1		TICCURVE-08-01-2012.2012_08_01_12_49_0	6/4/2013 7:38:39 PM

Mean Area 6.534
Mean Conc. -0.00581mg/L



Sample

Sample Name:
Sample ID:
Origin: TOC-08-01-2012.met
Status Completed
Chk. Result

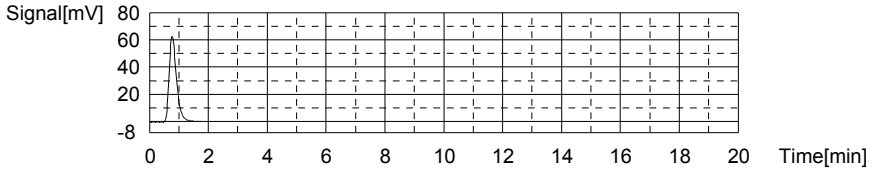
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:2.776mg/L TC:2.786mg/L IC:0.01037mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	109.2	2.786mg/L	500uL	1		TCCURVE-08-01-2012.2012_08_01_11_45_2	6/4/2013 7:45:50 PM

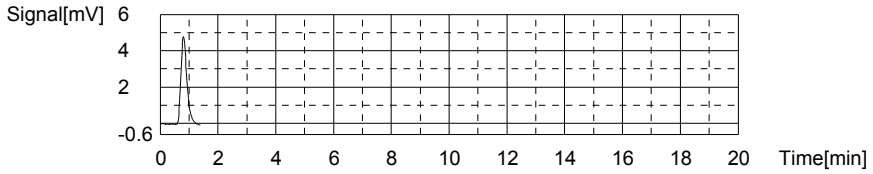
Mean Area 109.2
Mean Conc. 2.786mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	7.006	0.01037mg/L	500uL	1		TICCURVE-08-01-2012.2012_08_01_12_49_0	6/4/2013 7:50:04 PM

Mean Area 7.006
Mean Conc. 0.01037mg/L



Sample

Sample Name:
Sample ID:
Origin: TOC-08-01-2012.met
Status Completed
Chk. Result

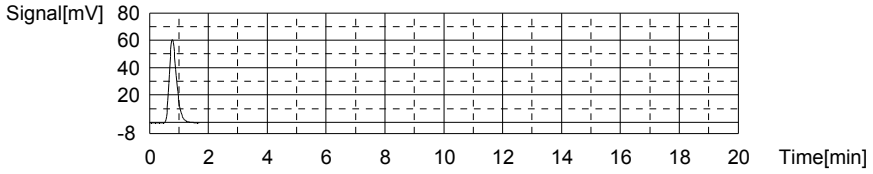
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	!!Error!! TOC:2.698mg/L TC:2.695mg/L IC:-0.00231mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	105.7	2.695mg/L	500uL	1		TCCURVE-08-01-2012.2012_08_01_11_45_23	6/4/2013 7:57:14 PM

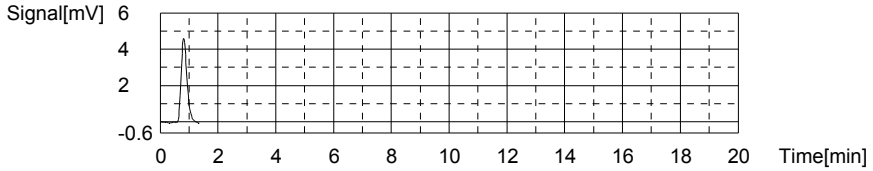
Mean Area 105.7
Mean Conc. 2.695mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	6.636	-0.00231mg/L	500uL	1		TICCURVE-08-01-2012.2012_08_01_12_49_0	6/4/2013 8:01:26 PM

Mean Area 6.636
Mean Conc. -0.00231mg/L



Sample

Sample Name:
Sample ID:
Origin: TOC-08-01-2012.met
Status Completed
Chk. Result

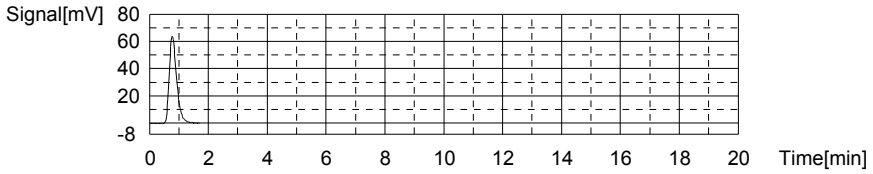
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:2.820mg/L TC:2.854mg/L IC:0.03438mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	111.8	2.854mg/L	500uL	1		TCCURVE-08-01-2012.2012_08_01_11_45_2	6/4/2013 8:08:37 PM

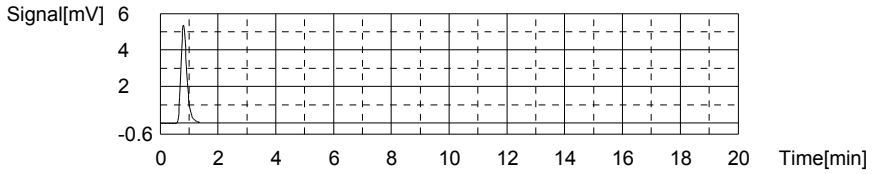
Mean Area 111.8
Mean Conc. 2.854mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	7.706	0.03438mg/L	500uL	1		TICCURVE-08-01-2012.2012_08_01_12_49_0	6/4/2013 8:12:51 PM

Mean Area 7.706
Mean Conc. 0.03438mg/L



Sample

Sample Name:
Sample ID:
Origin: TOC-08-01-2012.met
Status Completed
Chk. Result

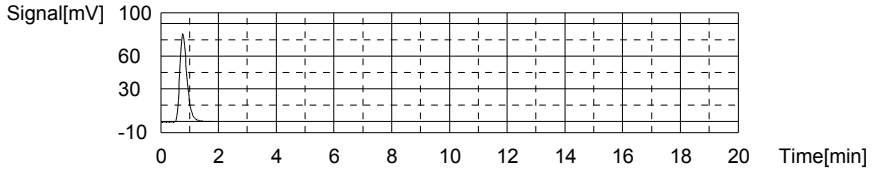
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:3.518mg/L TC:3.587mg/L IC:0.06929mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	140.0	3.587mg/L	500uL	1		TCCURVE-08-01-2012.2012_08_01_11_45_2	6/4/2013 8:20:06 PM

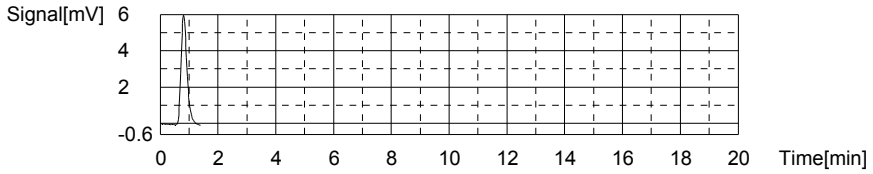
Mean Area 140.0
Mean Conc. 3.587mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	8.724	0.06929mg/L	500uL	1		TICCURVE-08-01-2012.2012_08_01_12_49_0	6/4/2013 8:24:22 PM

Mean Area 8.724
Mean Conc. 0.06929mg/L



Sample

Sample Name:
Sample ID:
Origin: TOC-08-01-2012.met
Status Completed
Chk. Result

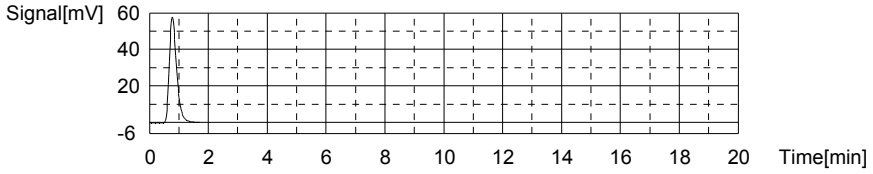
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	!!Error!! TOC:2.571mg/L TC:2.560mg/L IC:-0.01078mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	100.5	2.560mg/L	500uL	1		TCCURVE-08-01-2012.2012_08_01_11_45_23	6/4/2013 8:31:33 PM

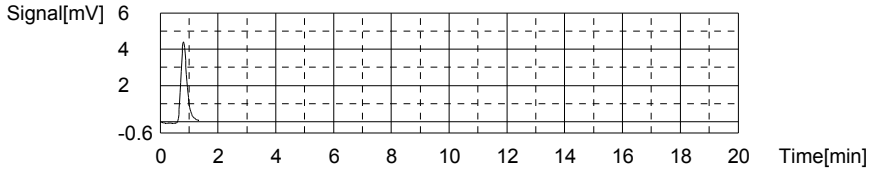
Mean Area 100.5
Mean Conc. 2.560mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	6.389	-0.01078mg/L	500uL	1		TICCURVE-08-01-2012.2012_08_01_12_49_06	6/4/2013 8:35:42 PM

Mean Area 6.389
Mean Conc. -0.01078mg/L



Sample

Sample Name:
Sample ID:
Origin: TOC-08-01-2012.met
Status Completed
Chk. Result

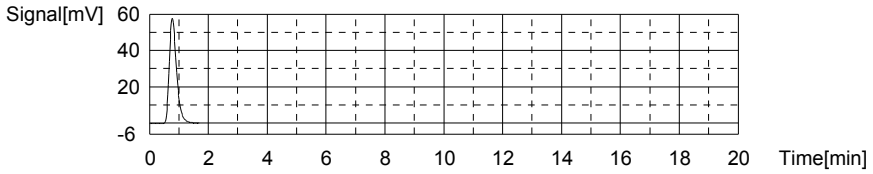
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:2.542mg/L TC:2.547mg/L IC:0.00454mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	99.99	2.547mg/L	500uL	1		TCCURVE-08-01-2012.2012_08_01_11_45_2	6/4/2013 8:42:52 PM

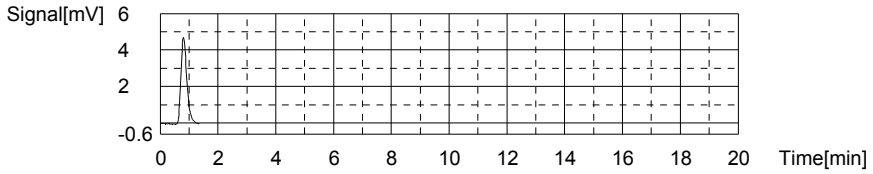
Mean Area 99.99
Mean Conc. 2.547mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	6.836	0.00454mg/L	500uL	1		TICCURVE-08-01-2012.2012_08_01_12_49_0	6/4/2013 8:47:06 PM

Mean Area 6.836
Mean Conc. 0.00454mg/L



Sample

Sample Name: WG432746-05 DUP
Sample ID:
Origin: TOC-08-01-2012.met
Status Completed
Chk. Result

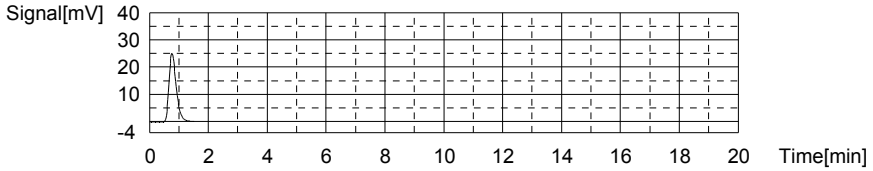
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	!!Error!! TOC:1.089mg/L TC:1.066mg/L IC:-0.02285mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	43.04	1.066mg/L	500uL	1		TCCURVE-08-01-2012.2012_08_01_11_45_2	6/4/2013 8:54:05 PM

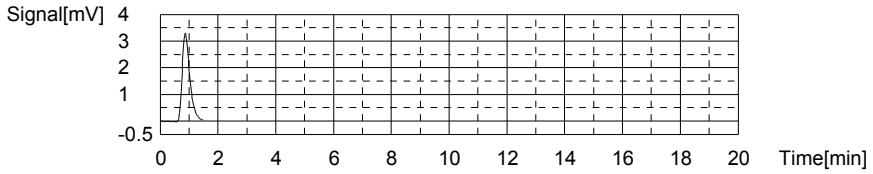
Mean Area 43.04
Mean Conc. 1.066mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	6.037	-0.02285mg/L	500uL	1		TICCURVE-08-01-2012.2012_08_01_12_49_0	6/4/2013 8:58:24 PM

Mean Area 6.037
Mean Conc. -0.02285mg/L



Sample

Sample Name: WG432746-06 MS
Sample ID:
Origin: TOC-08-01-2012.met
Status Completed
Chk. Result

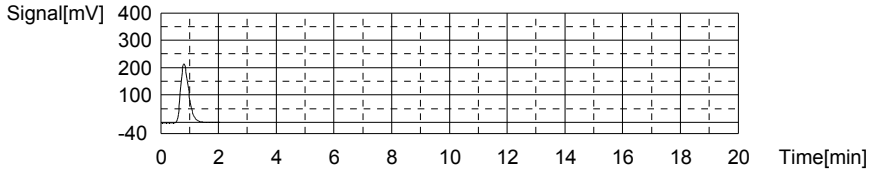
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	!!Error!! TOC:10.91mg/L TC:10.89mg/L IC:-0.02032mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	420.8	10.89mg/L	500uL	1		TCCURVE-08-01-2012.2012_08_01_11_45_23	6/4/2013 9:05:56 PM

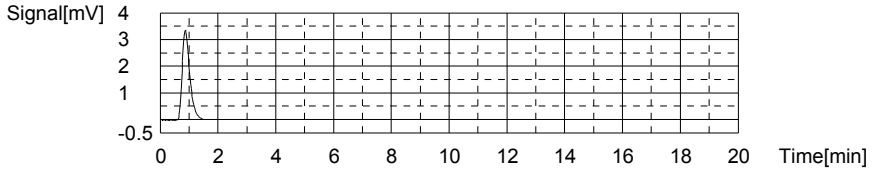
Mean Area 420.8
Mean Conc. 10.89mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	6.111	-0.02032mg/L	500uL	1		TICCURVE-08-01-2012.2012_08_01_12_49_0	6/4/2013 9:10:20 PM

Mean Area 6.111
Mean Conc. -0.02032mg/L



Sample

Sample Name: CCV
Sample ID:
Origin: TOC-08-01-2012.met
Status Completed
Chk. Result

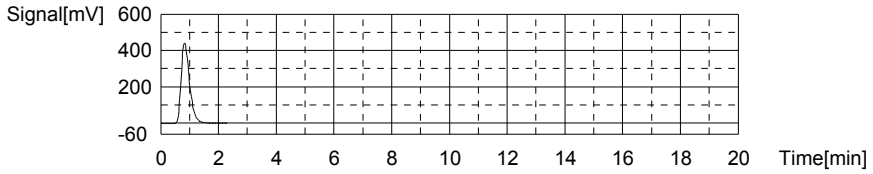
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:23.03mg/L TC:23.28mg/L IC:0.2516mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	897.4	23.28mg/L	500uL	1		TCCURVE-08-01-2012.2012_08_01_11_45_2	6/4/2013 9:18:08 PM

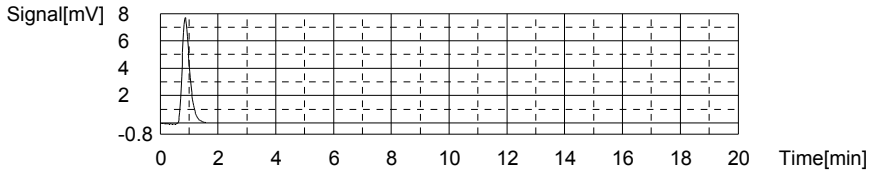
Mean Area 897.4
Mean Conc. 23.28mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	14.04	0.2516mg/L	500uL	1		TICCURVE-08-01-2012.2012_08_01_12_49_0	6/4/2013 9:22:31 PM

Mean Area 14.04
Mean Conc. 0.2516mg/L



Sample

Sample Name: CCB
Sample ID:
Origin: TOC-08-01-2012.met
Status Completed
Chk. Result

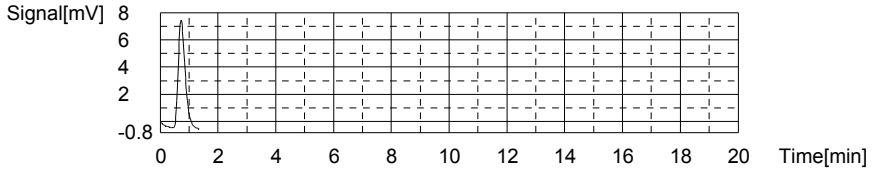
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:0.2655mg/L TC:0.2901mg/L IC:0.02467mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	13.19	0.2901mg/L	500uL	1		TCCURVE-08-01-2012.2012_08_01_11_45_2	6/4/2013 9:27:30 PM

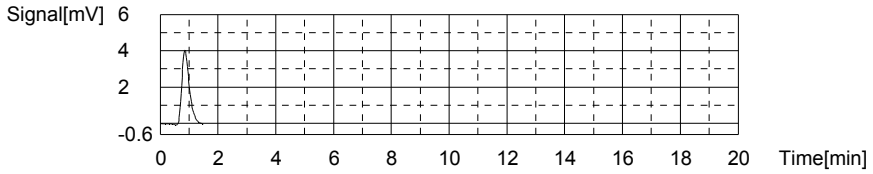
Mean Area 13.19
Mean Conc. 0.2901mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	7.423	0.02467mg/L	500uL	1		TICCURVE-08-01-2012.2012_08_01_12_49_0	6/4/2013 9:31:27 PM

Mean Area 7.423
Mean Conc. 0.02467mg/L



Sample

Sample Name: WG432747-01 BLK
Sample ID:
Origin: TOC-08-01-2012.met
Status Completed
Chk. Result

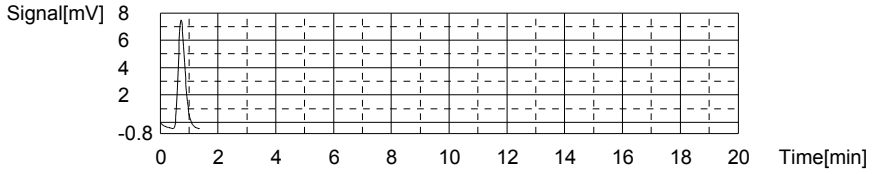
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:0.2656mg/L TC:0.2901mg/L IC:0.02450mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	13.19	0.2901mg/L	500uL	1		TCCURVE-08-01-2012.2012_08_01_11_45_2	6/4/2013 9:36:27 PM

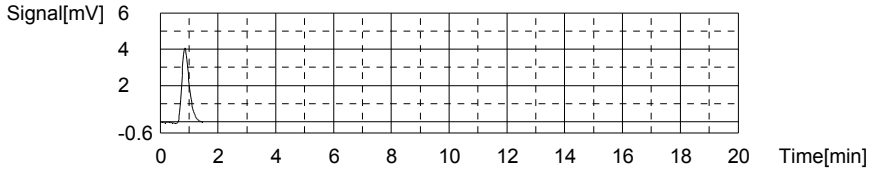
Mean Area 13.19
Mean Conc. 0.2901mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	7.418	0.02450mg/L	500uL	1		TICCURVE-08-01-2012.2012_08_01_12_49_0	6/4/2013 9:40:19 PM

Mean Area 7.418
Mean Conc. 0.02450mg/L



Sample

Sample Name: WG432747-02 LCS
Sample ID:
Origin: TOC-08-01-2012.met
Status Completed
Chk. Result

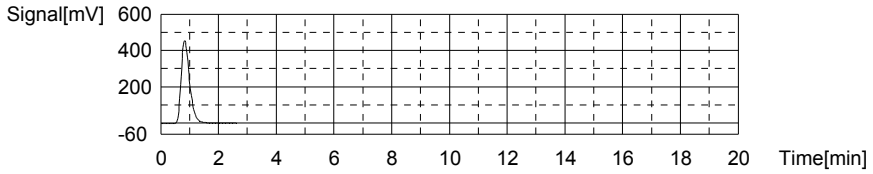
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:23.77mg/L TC:24.19mg/L IC:0.4213mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	932.3	24.19mg/L	500uL	1		TCCURVE-08-01-2012.2012_08_01_11_45_2	6/4/2013 9:48:30 PM

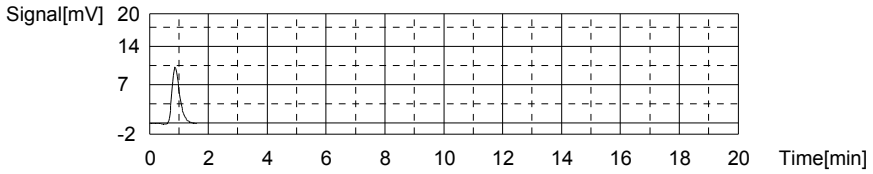
Mean Area 932.3
Mean Conc. 24.19mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	18.99	0.4213mg/L	500uL	1		TICCURVE-08-01-2012.2012_08_01_12_49_0	6/4/2013 9:52:58 PM

Mean Area 18.99
Mean Conc. 0.4213mg/L



Sample

Sample Name: WG432747-03 LCSDUP
Sample ID:
Origin: TOC-08-01-2012.met
Status Completed
Chk. Result

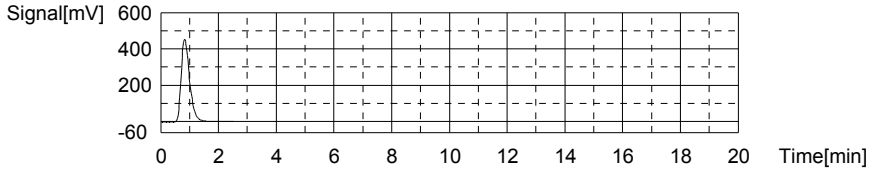
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:23.67mg/L TC:24.08mg/L IC:0.4175mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	928.3	24.08mg/L	500uL	1		TCCURVE-08-01-2012.2012_08_01_11_45_2	6/4/2013 9:59:28 PM

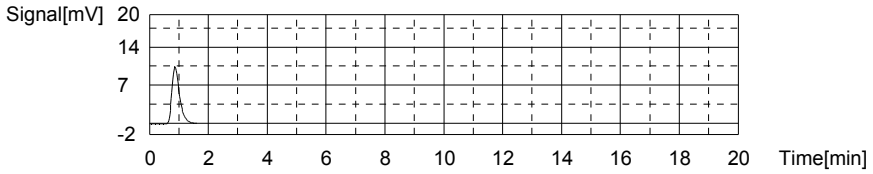
Mean Area 928.3
Mean Conc. 24.08mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	18.88	0.4175mg/L	500uL	1		TICCURVE-08-01-2012.2012_08_01_12_49_0	6/4/2013 10:03:55 PM

Mean Area 18.88
Mean Conc. 0.4175mg/L



Sample

Sample Name: L13051513-01
Sample ID:
Origin: TOC-08-01-2012.met
Status Completed
Chk. Result

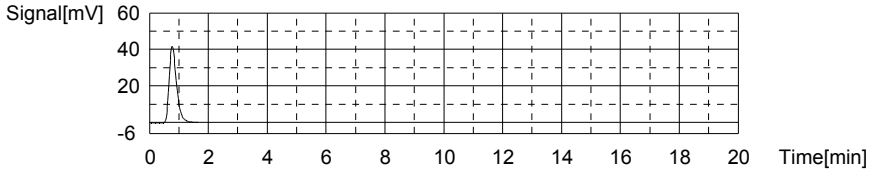
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:1.814mg/L TC:1.851mg/L IC:0.03657mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	73.21	1.851mg/L	500uL	1		TCCURVE-08-01-2012.2012_08_01_11_45_2	6/4/2013 10:11:05 PM

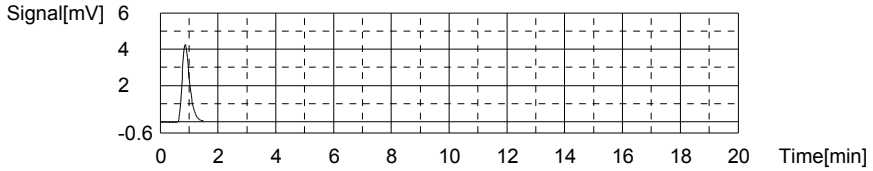
Mean Area 73.21
Mean Conc. 1.851mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	7.770	0.03657mg/L	500uL	1		TICCURVE-08-01-2012.2012_08_01_12_49_0	6/4/2013 10:15:28 PM

Mean Area 7.770
Mean Conc. 0.03657mg/L



Sample

Sample Name: L13051513-03
Sample ID:
Origin: TOC-08-01-2012.met
Status Completed
Chk. Result

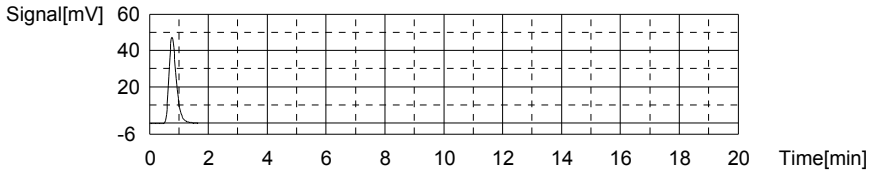
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:1.708mg/L TC:2.092mg/L IC:0.3839mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	82.49	2.092mg/L	500uL	1		TCCURVE-08-01-2012.2012_08_01_11_45_2	6/4/2013 10:22:37 PM

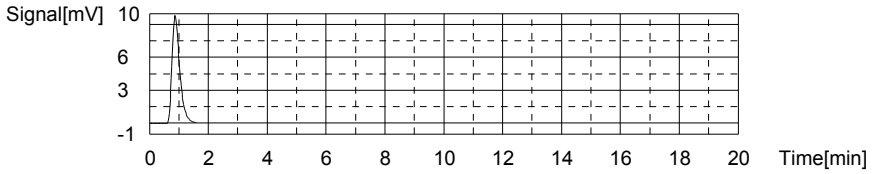
Mean Area 82.49
Mean Conc. 2.092mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	17.90	0.3839mg/L	500uL	1		TICCURVE-08-01-2012.2012_08_01_12_49_0	6/4/2013 10:27:04 PM

Mean Area 17.90
Mean Conc. 0.3839mg/L



Sample

Sample Name: L13051513-05
Sample ID:
Origin: TOC-08-01-2012.met
Status Completed
Chk. Result

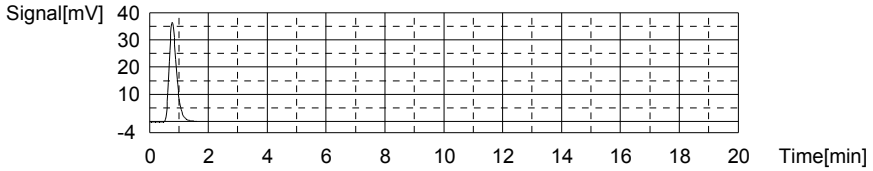
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:1.574mg/L TC:1.607mg/L IC:0.03325mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	63.83	1.607mg/L	500uL	1		TCCURVE-08-01-2012.2012_08_01_11_45_2	6/4/2013 10:34:10 PM

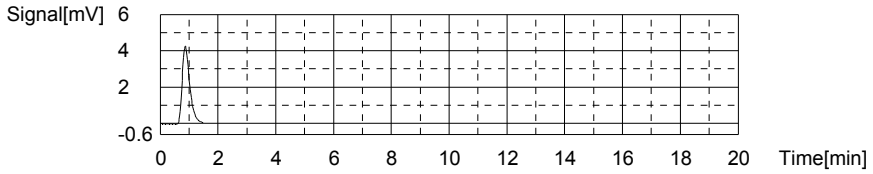
Mean Area 63.83
Mean Conc. 1.607mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	7.673	0.03325mg/L	500uL	1		TICCURVE-08-01-2012.2012_08_01_12_49_0	6/4/2013 10:38:32 PM

Mean Area 7.673
Mean Conc. 0.03325mg/L



Sample

Sample Name: L13051513-07
Sample ID:
Origin: TOC-08-01-2012.met
Status Completed
Chk. Result

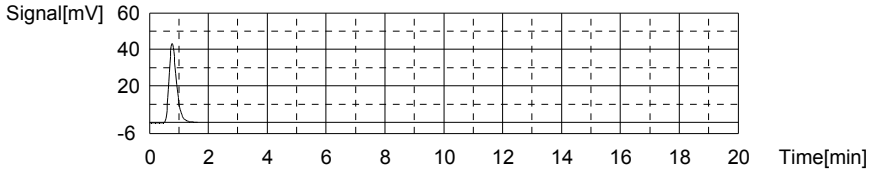
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:1.719mg/L TC:1.938mg/L IC:0.2190mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	76.58	1.938mg/L	500uL	1		TCCURVE-08-01-2012.2012_08_01_11_45_23	6/4/2013 10:45:36 PM

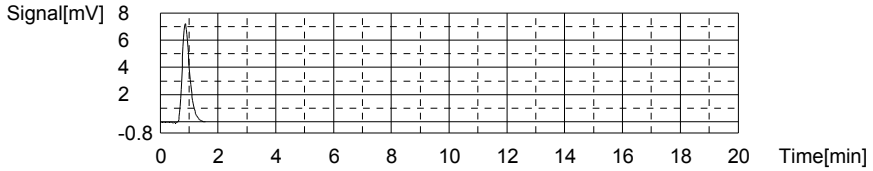
Mean Area 76.58
Mean Conc. 1.938mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	13.09	0.2190mg/L	500uL	1		TICCURVE-08-01-2012.2012_08_01_12_49_06	6/4/2013 10:49:56 PM

Mean Area 13.09
Mean Conc. 0.2190mg/L



Sample

Sample Name: L13051513-09
Sample ID:
Origin: TOC-08-01-2012.met
Status Completed
Chk. Result

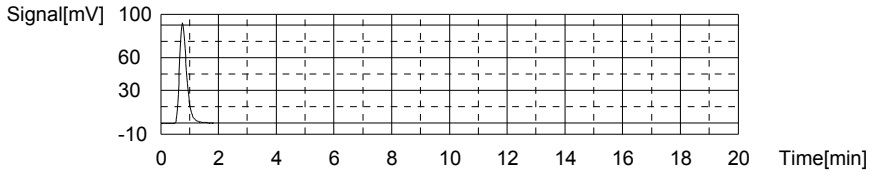
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:1.972mg/L TC:4.071mg/L IC:2.099mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	158.6	4.071mg/L	500uL	1		TCCURVE-08-01-2012.2012_08_01_11_45_2	6/4/2013 10:57:19 PM

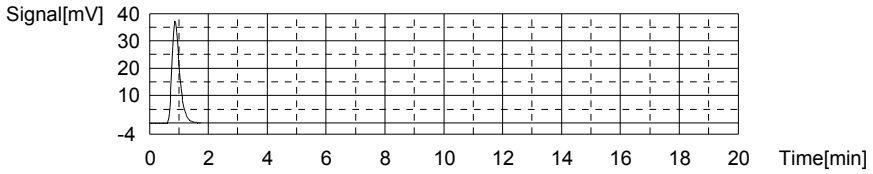
Mean Area 158.6
Mean Conc. 4.071mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	67.90	2.099mg/L	500uL	1		TICCURVE-08-01-2012.2012_08_01_12_49_0	6/4/2013 11:01:59 PM

Mean Area 67.90
Mean Conc. 2.099mg/L



Sample

Sample Name: L13051513-11
Sample ID:
Origin: TOC-08-01-2012.met
Status Completed
Chk. Result

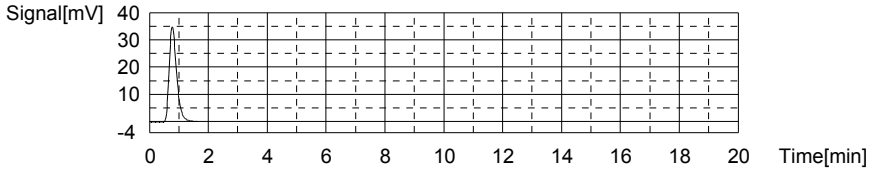
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:1.521mg/L TC:1.551mg/L IC:0.03016mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	61.69	1.551mg/L	500uL	1		TCCURVE-08-01-2012.2012_08_01_11_45_2	6/4/2013 11:09:10 PM

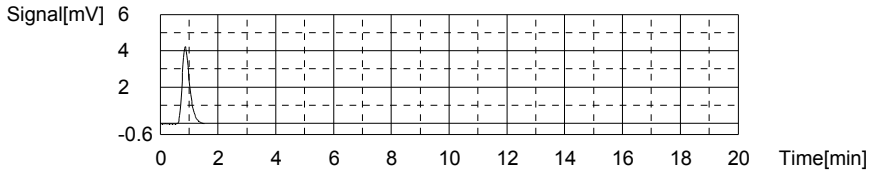
Mean Area 61.69
Mean Conc. 1.551mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	7.583	0.03016mg/L	500uL	1		TICCURVE-08-01-2012.2012_08_01_12_49_0	6/4/2013 11:13:33 PM

Mean Area 7.583
Mean Conc. 0.03016mg/L



Sample

Sample Name: L13051513-13
Sample ID:
Origin: TOC-08-01-2012.met
Status Completed
Chk. Result

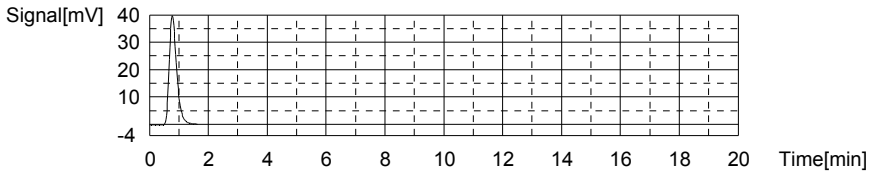
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:1.706mg/L TC:1.765mg/L IC:0.05866mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	69.90	1.765mg/L	500uL	1		TCCURVE-08-01-2012.2012_08_01_11_45_23	6/4/2013 11:20:42 PM

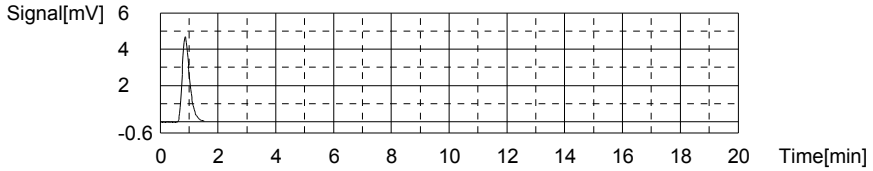
Mean Area 69.90
Mean Conc. 1.765mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	8.414	0.05866mg/L	500uL	1		TICCURVE-08-01-2012.2012_08_01_12_49_0	6/4/2013 11:25:04 PM

Mean Area 8.414
Mean Conc. 0.05866mg/L



Sample

Sample Name: CCV
Sample ID:
Origin: TOC-08-01-2012.met
Status Defined
Chk. Result

Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:0.000mg/L TC:0.000mg/L IC:0.000mg/L

1. Det

Sample

Sample Name: CCB
Sample ID:
Origin: TOC-08-01-2012.met
Status Completed
Chk. Result

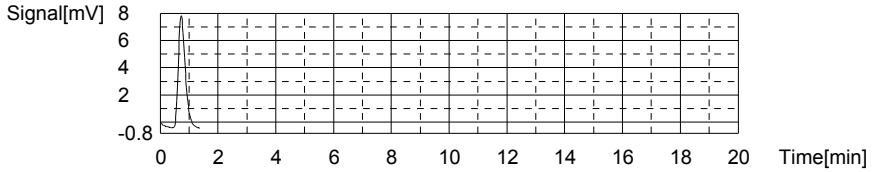
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:0.2757mg/L TC:0.3081mg/L IC:0.03235mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	13.88	0.3081mg/L	500uL	1		TCCURVE-08-01-2012.2012_08_01_11_45_26	6/4/2013 11:42:44 PM

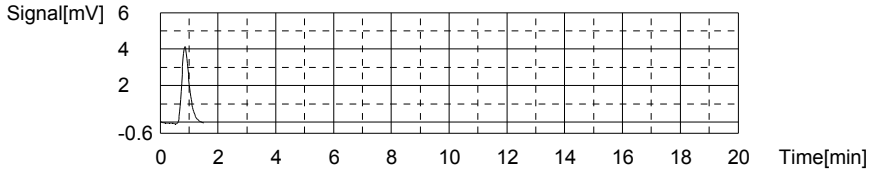
Mean Area 13.88
Mean Conc. 0.3081mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	7.647	0.03235mg/L	500uL	1		TICCURVE-08-01-2012.2012_08_01_12_49_06	6/4/2013 11:46:40 PM

Mean Area 7.647
Mean Conc. 0.03235mg/L



Sample

Sample Name: L13051513-15
Sample ID:
Origin: TOC-08-01-2012.met
Status Completed
Chk. Result

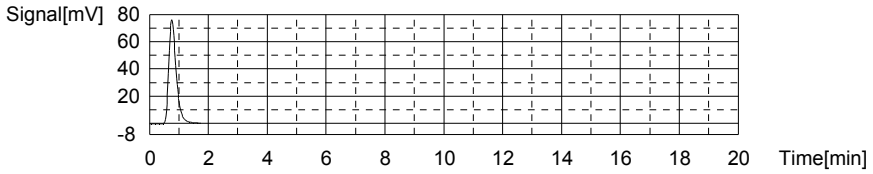
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:2.042mg/L TC:3.426mg/L IC:1.384mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	133.8	3.426mg/L	500uL	1		TCCURVE-08-01-2012.2012_08_01_11_45_26	6/4/2013 11:53:55 PM

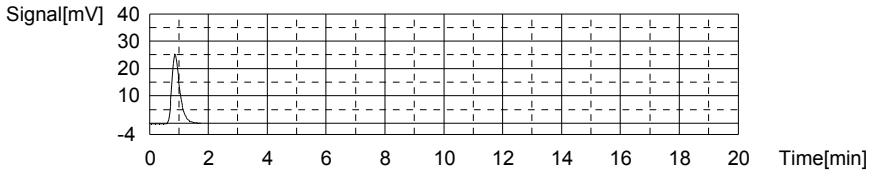
Mean Area 133.8
Mean Conc. 3.426mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	47.07	1.384mg/L	500uL	1		TICCURVE-08-01-2012.2012_08_01_12_49_0	6/4/2013 11:58:29 PM

Mean Area 47.07
Mean Conc. 1.384mg/L



Sample

Sample Name: L13051513-17
Sample ID:
Origin: TOC-08-01-2012.met
Status Completed
Chk. Result

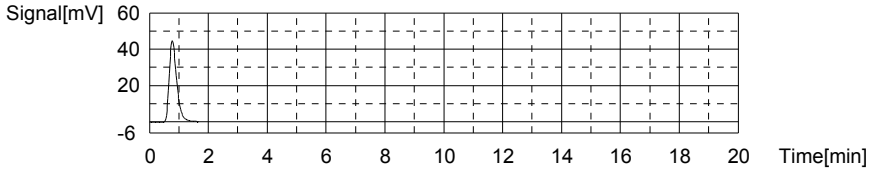
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:1.925mg/L TC:2.013mg/L IC:0.08756mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	79.45	2.013mg/L	500uL	1		TCCURVE-08-01-2012.2012_08_01_11_45_2	6/5/2013 12:05:39 AM

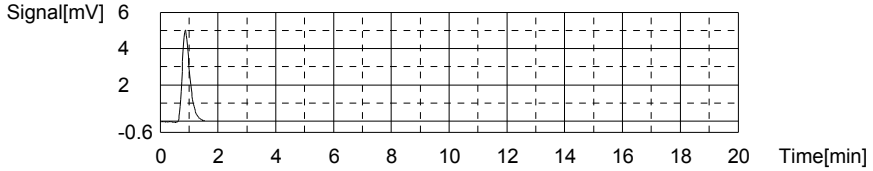
Mean Area 79.45
Mean Conc. 2.013mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	9.257	0.08756mg/L	500uL	1		TICCURVE-08-01-2012.2012_08_01_12_49_0	6/5/2013 12:10:02 AM

Mean Area 9.257
Mean Conc. 0.08756mg/L



Sample

Sample Name: L13051513-19
Sample ID:
Origin: TOC-08-01-2012.met
Status Completed
Chk. Result

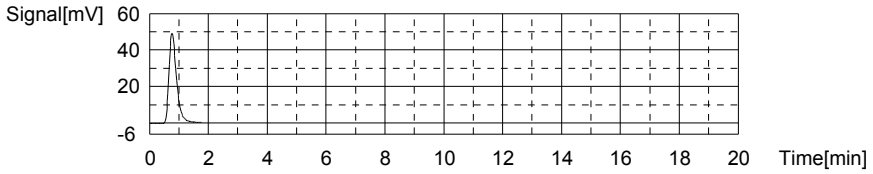
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:1.762mg/L TC:2.244mg/L IC:0.4820mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	88.32	2.244mg/L	500uL	1		TCCURVE-08-01-2012.2012_08_01_11_45_26	6/5/2013 12:17:25 AM

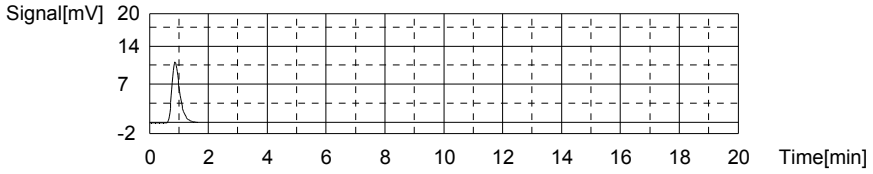
Mean Area 88.32
Mean Conc. 2.244mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	20.76	0.4820mg/L	500uL	1		TICCURVE-08-01-2012.2012_08_01_12_49_06	6/5/2013 12:21:56 AM

Mean Area 20.76
Mean Conc. 0.4820mg/L



Sample

Sample Name: L13051513-21
Sample ID:
Origin: TOC-08-01-2012.met
Status Completed
Chk. Result

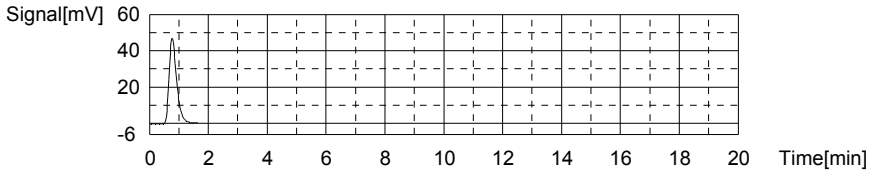
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:1.823mg/L TC:2.128mg/L IC:0.3047mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	83.87	2.128mg/L	500uL	1		TCCURVE-08-01-2012.2012_08_01_11_45_26	6/5/2013 12:29:18 AM

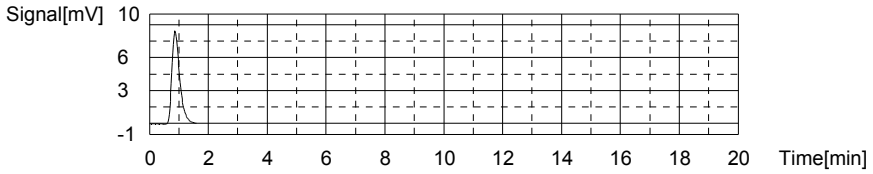
Mean Area 83.87
Mean Conc. 2.128mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	15.59	0.3047mg/L	500uL	1		TICCURVE-08-01-2012.2012_08_01_12_49_0	6/5/2013 12:33:44 AM

Mean Area 15.59
Mean Conc. 0.3047mg/L



Sample

Sample Name: L13051513-23
Sample ID:
Origin: TOC-08-01-2012.met
Status Completed
Chk. Result

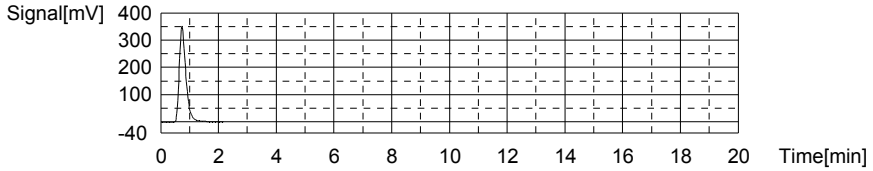
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:2.098mg/L TC:14.53mg/L IC:12.43mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	560.8	14.53mg/L	500uL	1		TCCURVE-08-01-2012.2012_08_01_11_45_2	6/5/2013 12:41:26 AM

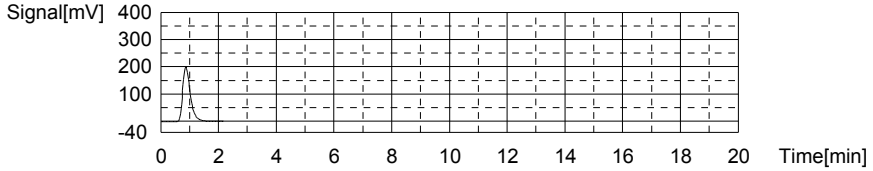
Mean Area 560.8
Mean Conc. 14.53mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	369.2	12.43mg/L	500uL	1		TICCURVE-08-01-2012.2012_08_01_12_49_0	6/5/2013 12:46:39 AM

Mean Area 369.2
Mean Conc. 12.43mg/L



Sample

Sample Name: L13051513-25
Sample ID:
Origin: TOC-08-01-2012.met
Status Completed
Chk. Result

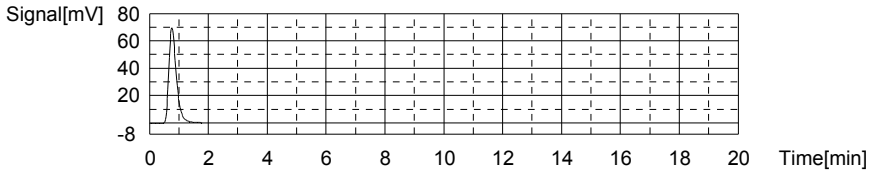
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:2.129mg/L TC:3.174mg/L IC:1.044mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	124.1	3.174mg/L	500uL	1		TCCURVE-08-01-2012.2012_08_01_11_45_26	6/5/2013 12:53:57 AM

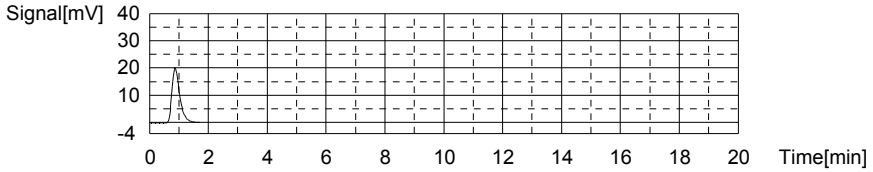
Mean Area 124.1
Mean Conc. 3.174mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	37.16	1.044mg/L	500uL	1		TICCURVE-08-01-2012.2012_08_01_12_49_0	6/5/2013 12:58:34 AM

Mean Area 37.16
Mean Conc. 1.044mg/L



Sample

Sample Name: L13051513-27
Sample ID:
Origin: TOC-08-01-2012.met
Status Completed
Chk. Result

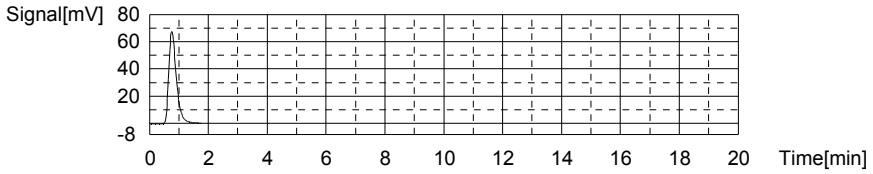
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:1.937mg/L TC:3.098mg/L IC:1.161mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	121.2	3.098mg/L	500uL	1		TCCURVE-08-01-2012.2012_08_01_11_45_26	6/5/2013 1:05:52 AM

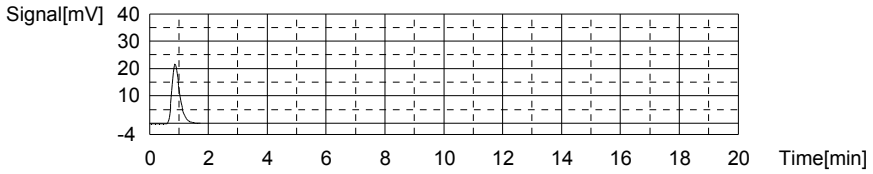
Mean Area 121.2
Mean Conc. 3.098mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	40.56	1.161mg/L	500uL	1		TICCURVE-08-01-2012.2012_08_01_12_49_0	6/5/2013 1:10:27 AM

Mean Area 40.56
Mean Conc. 1.161mg/L



Sample

Sample Name: WG432747-05 DUP
Sample ID:
Origin: TOC-08-01-2012.met
Status Completed
Chk. Result

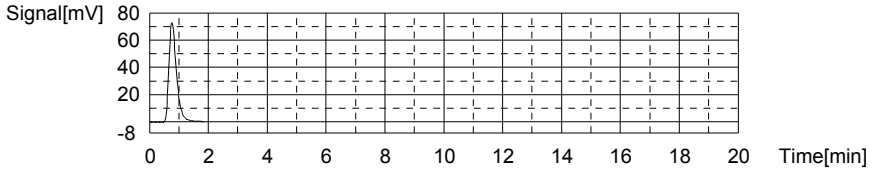
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:2.210mg/L TC:3.358mg/L IC:1.149mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	131.2	3.358mg/L	500uL	1		TCCURVE-08-01-2012.2012_08_01_11_45_2	6/5/2013 1:17:54 AM

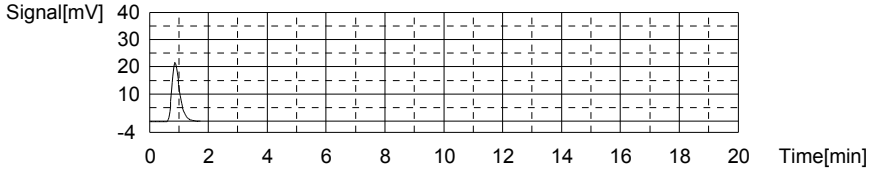
Mean Area 131.2
Mean Conc. 3.358mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	40.20	1.149mg/L	500uL	1		TICCURVE-08-01-2012.2012_08_01_12_49_0	6/5/2013 1:22:26 AM

Mean Area 40.20
Mean Conc. 1.149mg/L



Sample

Sample Name: WG432747-06 MS
Sample ID:
Origin: TOC-08-01-2012.met
Status Completed
Chk. Result

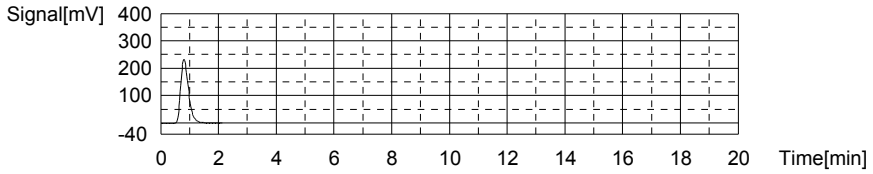
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:11.35mg/L TC:11.43mg/L IC:0.07666mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	441.6	11.43mg/L	500uL	1		TCCURVE-08-01-2012.2012_08_01_11_45_26	6/5/2013 1:30:11 AM

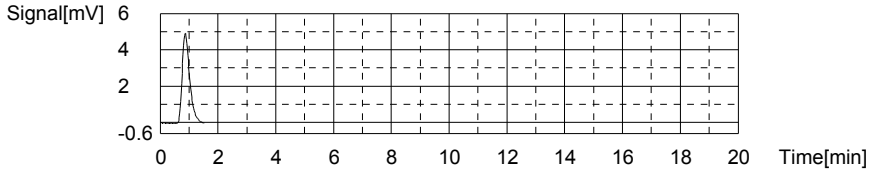
Mean Area 441.6
Mean Conc. 11.43mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	8.939	0.07666mg/L	500uL	1		TICCURVE-08-01-2012.2012_08_01_12_49_06	6/5/2013 1:34:34 AM

Mean Area 8.939
Mean Conc. 0.07666mg/L



Sample

Sample Name: CCV
Sample ID:
Origin: TOC-08-01-2012.met
Status Completed
Chk. Result

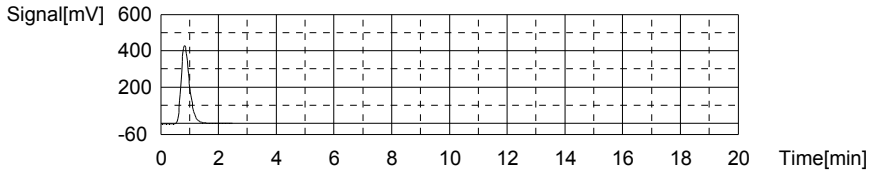
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:22.22mg/L TC:22.50mg/L IC:0.2770mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	867.3	22.50mg/L	500uL	1		TCCURVE-08-01-2012.2012_08_01_11_45_26	6/5/2013 1:42:45 AM

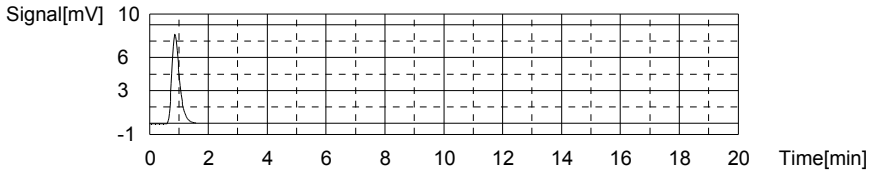
Mean Area 867.3
Mean Conc. 22.50mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	14.78	0.2770mg/L	500uL	1		TICCURVE-08-01-2012.2012_08_01_12_49_0	6/5/2013 1:47:21 AM

Mean Area 14.78
Mean Conc. 0.2770mg/L



Sample

Sample Name: CCB
Sample ID:
Origin: TOC-08-01-2012.met
Status Completed
Chk. Result

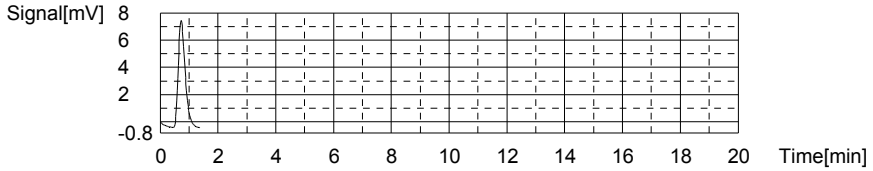
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:0.2647mg/L TC:0.2883mg/L IC:0.02364mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	13.12	0.2883mg/L	500uL	1		TCCURVE-08-01-2012.2012_08_01_11_45_2	6/5/2013 1:52:21 AM

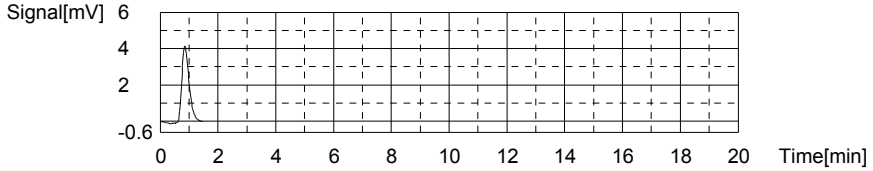
Mean Area 13.12
Mean Conc. 0.2883mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	7.393	0.02364mg/L	500uL	1		TICCURVE-08-01-2012.2012_08_01_12_49_0	6/5/2013 1:56:15 AM

Mean Area 7.393
Mean Conc. 0.02364mg/L



2.2.12 Total Suspended Solids Data

2.2.12.1 Summary Data

Login Number: L13051304
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: 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: 65385
Approved By: Deanna Hesson

Microbac

Lab Report #: L13051304
Lab Project #: 3005.011
Project Name: White Sands MR
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L13051304-01	**PrePrep Method:**	N/A	**Instrument:**	OVEN
Client ID:	SMW1-0513-1	**Prep Method:**	160.2/SM2540D	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	SM2540-D-1997	**Cal Date:**	
Workgroup #:	WG431986	**Analyst:**	ADG	**Run Date:**	05/28/2013 15:43
Collect Date:	05/23/2013 10:42	**Dilution:**	1	**File ID:**	EN.1305281543-13
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 #:	L13051304-02	**PrePrep Method:**	N/A	**Instrument:**	OVEN
Client ID:	SMW4-0513-1	**Prep Method:**	160.2/SM2540D	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	SM2540-D-1997	**Cal Date:**	
Workgroup #:	WG431986	**Analyst:**	ADG	**Run Date:**	05/28/2013 15:43
Collect Date:	05/23/2013 12:20	**Dilution:**	1	**File ID:**	EN.1305281543-14
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 #:	L13051304-03	**PrePrep Method:**	N/A	**Instrument:**	OVEN
Client ID:	MPL25-0513-1	**Prep Method:**	160.2/SM2540D	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	SM2540-D-1997	**Cal Date:**	
Workgroup #:	WG431986	**Analyst:**	ADG	**Run Date:**	05/28/2013 15:43
Collect Date:	05/23/2013 15:00	**Dilution:**	1	**File ID:**	EN.1305281543-15
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

2.2.12.2 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: 28-MAY-2013
Analyst: ADG
Analyst: NA
Method: TSS
Instrument: OVEN
Curve Workgroup: NA
Runlog ID:
Analytical Workgroups: WG431986

Calibration/Linearity	05/28/13
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:
30-MAY-2013

April Greene

Secondary Reviewer:
01-JUN-2013

Dianna Hesson

CHECKLIST1 - Modified 03/05/2008
Generated: JUN-01-2013 08:02:53

Microbac Laboratories Inc.

HOLDING TIMES
EQUIVALENT TO AFCEE FORM 9

Analytical Method: SM2540-D-1997 AAB#: WG431986

Login Number: L13051304

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
SMW1-0513-1	01	05/23/13					05/28/2013	5.2	7		05/28/13	5.2	7	
SMW4-0513-1	02	05/23/13					05/28/2013	5.1	7		05/28/13	5.1	7	
MPL25-0513-1	03	05/23/13					05/28/2013	5	7		05/28/13	5	7	

* = SEE PROJECT QAPP REQUIREMENTS

HOLD_TIMES - Modified 03/06/2008
PDF File ID: 2900421
Report generated 05/30/2013 15:04

Microbac Laboratories Inc.

METHOD BLANK SUMMARY

Login Number: L13051304
Blank File ID: EN.1305281543-01
Prep Date: 05/28/13 15:43
Analyzed Date: 05/28/13 15:43
Analyst: ADG

Work Group: WG431986
Blank Sample ID: WG431986-01
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	WG431986-02	EN.1305281543-02	05/28/13 15:43	
LCS2	WG431986-03	EN.1305281543-03	05/28/13 15:43	
SMW1-0513-1	L13051304-01	EN.1305281543-13	05/28/13 15:43	
SMW4-0513-1	L13051304-02	EN.1305281543-14	05/28/13 15:43	
MPL25-0513-1	L13051304-03	EN.1305281543-15	05/28/13 15:43	
DUP	WG431986-05	EN.1305281543-24	05/28/13 15:43	
DUP	WG431986-07	EN.1305281543-25	05/28/13 15:43	

Report Name: BLANK_SUMMARY
PDF File ID: 2900422
Report generated 05/30/2013 15:04

Microbac Laboratories Inc.

METHOD BLANK REPORT

Login Number: L13051304 Prep Date: 05/28/13 15:43 Sample ID: WG431986-01
Instrument ID: OVEN Run Date: 05/28/13 15:43 Prep Method: 160.2/SM2540D
File ID: EN.1305281543-01 Analyst: ADG Method: SM2540-D-1997
Workgroup (AAB#): WG431986 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: 2900423
30-MAY-2013 15:05

Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L13051304 Analyst: ADG Prep Method: 160.2/SM2540D
Instrument ID: OVEN Matrix: Water Method: SM2540-D-1997
Workgroup (AAB#): WG431986 Units: mg/L
QC Key: DOD4 Lot #: STD58155

Sample ID: WG431986-02 LCS File ID: EN.1305281543-02 Run Date: 05/28/2013 15:43
Sample ID: WG431986-03 LCS2 File ID: EN.1305281543-03 Run Date: 05/28/2013 15:43

Analytes	LCS			LCS2			%RPD	%Rec Limits	RPD Lmt	Q
	Known	Found	% REC	Known	Found	% REC				
Total Suspended Solids	50.0	52.0	104	50.0	52.0	104	0.00	75 - 125	10	

LCS_LCS2 - Modified 03/06/2008
PDF File ID: 2900424
Report generated: 05/30/2013 15:05

2.2.12.3 Raw Data

Tray 1

WORKGROUP: WG431986

TOTAL SUSPENDED SOLIDS

(tss1)

Oven: TSS1 Other
Method: EPA 160.2 / SM2540D
LCS: Std 58155
MS: _____ mL LCS & _____ mL sample

Balance: AND GR-202 / Other
SOP: K1602 Rev #: _____
Filter Lot #: 6498594

		On Temp/Time:	104 / 1815	102 0945	/	/
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				
1239-01	1	200				
-03	2	200				
-05	3	200				
1271-02	4	200				
-04	5	200				
-06	6	200				
-08	7	200				
1272-02	8	200				
1273-01	9	200				
1304-01	10	200				
02	11	200				
03	12	200				
1305-04	13	10				
1327-14	14	200				
-17	15	200				
1368-11	16	200				
-13	17	200				
1370-01	18	200				
03	19	200				
05	20	200				
DUP: 1272-02	Dup1	200				
DUP: 1370-01	Dup2	200				
		Off Temp/Time:	105 1905	/	/	/

ANALYST: April Greene

* Duplicate required on 10% of samples

DATE/TIME: (on) 5-28-13
DATE/TIME: (off) 5-29-13
DATE/TIME: (off)
DATE/TIME: (off)

DCN#95747

Microbac Laboratories Inc.
GRAVIMETRIC REPORT

Workgroup (AAB#): WG431986
Analyst: ADG
Analyte: TOTAL SUSPENDED SOLIDS
Balance: BAL004
Instrument#: OVEN

Method: 160.2/SM2540D
SOP: K1602 Revison 13
Spike Solution: STD58155
Daily Dilution:

SAMPLE NUMBER		INITIAL VOL	INITIAL WT	DRY WT A	DRY WT B	DRY WT C	Anal. Conc	Rep. Conc.	Units
WG431986-01	BLK	200	0.0916	0.0917	0.0915		-0.5000	-0.5000	mg/L
WG431986-02	LCS	100	0.093	0.0987	0.0982		52.00	52.00	mg/L
WG431986-03	LCS2	100	0.0933	0.0988	0.0985		52.00	52.00	mg/L
L13051239-01	1	200	0.0937	0.0942	0.0942		2.500	ND	mg/L
L13051239-03	2	200	0.093	0.0935	0.0933		1.500	ND	mg/L
L13051239-05	3	200	0.0928	0.093	0.093		1.000	ND	mg/L
L13051271-02	4	200	0.0927	0.0928	0.0927		0	ND	mg/L
L13051271-04	5	200	0.0931	0.0935	0.0934		1.500	ND	mg/L
L13051271-06	6	200	0.092	0.0925	0.0926		3.000	3.000	mg/L
L13051271-08	7	200	0.0938	0.0943	0.0941		1.500	ND	mg/L
L13051272-02	8	200	0.0945	0.0945	0.0945		0	ND	mg/L
WG431986-04	8	200	0.0945	0.0945	0.0945		0	0	mg/L
L13051273-01	9	200	0.0939	0.0954	0.0953		7.000	7.000	mg/L
L13051304-01	10	200	0.0915	0.0917	0.0916		0.5000	ND	mg/L
L13051304-02	11	200	0.0932	0.0934	0.0931		-0.5000	ND	mg/L
L13051304-03	12	200	0.0931	0.0933	0.0932		0.5000	ND	mg/L
L13051305-04	13	10	0.093	0.1015	0.1015		850.0	850.0	mg/L
L13051327-14	14	200	0.0928	0.0933	0.0932		2.000	ND	mg/L
L13051327-17	15	200	0.0932	0.096	0.0958		13.00	13.00	mg/L
L13051368-11	16	200	0.0925	0.0945	0.0942		8.500	8.500	mg/L
L13051368-13	17	200	0.0935	0.0934	0.0932		-1.500	ND	mg/L
L13051370-01	18	200	0.0926	0.0941	0.0939		6.500	6.500	mg/L
WG431986-06	18	200	0.0926	0.0941	0.0939		6.500	6.500	mg/L
L13051370-03	19	200	0.0935	0.0953	0.0953		9.000	9.000	mg/L
L13051370-05	20	200	0.0937	0.0949	0.0948		5.500	5.500	mg/L
WG431986-05	DUP1	200	0.0938	0.094	0.0938		0	0	mg/L
WG431986-07	DUP2	200	0.0929	0.0944	0.0942		6.500	6.500	mg/L

Analyst: April Greene

*Duplicate required on 10% of samples

Date/Time (on) : 05/28/2013 15:43
Date/Time (off): 05/29/2013 09:42
Date/Time (off): 05/29/2013 12:42
Date/Time (off):

CONT_GRAV_REPORT - Modified 02/18/2011
PDF ID: 2895821
Report generated: 05/30/2013 13:09

Microbac

3.0 Attachments

Microbac Laboratories Inc.
Ohio Valley Division Analyst List
June 5, 2013

---

001 - BIO-CHEM TESTING
002 - REIC Consultants, Inc. WVDEP 060
AJF - AMANDA J. FICKIESEN
BAF - BRICE A. FENTON
CAA - CASSIE A. AUGENSTEIN
CLC - CHRYS L. CRAWFORD
CPD - CHAD P. DAVIS
CTB - CHRIS T. BUCINA
DEV - DAVID E. VANDENBERG
DLP - DOROTHY L. PAYNE
ECL - ERIC C. LAWSON
ERP - ERIN R. PORTER
JBK - JEREMY B. KINNEY
JWR - JOHN W. RICHARDS
KDW - KATHRYN D. WELCH
KRA - KATHY R. ALBERTSON
MDA - MIKE D. ALBERTSON
MMB - MAREN M. BEERY
PDM - PIERCE D. MORRIS
RAH - ROY A. HALSTEAD
RS - ROSEMARY SCOTT
SLM - STEPHANIE L. MOSSBURG
TMM - TAMMY M. MORRIS
WTD - WADE T. DELONG

001 - BIO-CHEM TESTING WVDEP 220
ADC - ANTHONY D. CANTER
AML - TONY M. LONG
BLG - BRENDA L. GREENWALT
CAF - CHERYL A. FLOWERS
CLS - CARA L. STRICKLER
CRW - CHRISTINA R. WILSON
DAK - DEAN A. K
DIH - DEANNA I. HESSON
DLR - DIANNA L. RAUCH
EDL - ERIN D. LONG
FJB - FRANCES J. BOLDEN
JDH - JUSTIN D. HESSON
JWS - JACK W. SHEAVES
KEB - KATIE E. BARNES
LKN - LINDA K. NEDEFF
MDC - MIKE D. COCHRAN
MRT - MICHELLE R. TAYLOR
PIT - MICROBAC WARRENDALE
REK - BOB E. KYER
RWC - RODNEY W. CAMPBELL
SLP - SHERI L. PFALZGRAF
VC - VICKI COLLIER
XXX - UNAVAILABLE OR SUBCONTRACT

002 - REIC Cons
ADG - APRIL D.
AZH - AFTER HOU
BRG - BRENDA R
CEB - CHAD E. I
CLW - CHARISSA
CSH - CHRIS S.
DDE - DEBRA D.
DLB - DAVID L.
DSM - DAVID S.
EPT - ETHAN P.
HJR - HOLLY J.
JKS - JANE K. S
JYH - JI Y. HU
KHR - KIM H. RI
LSB - LESLIE S
MES - MARY E. S
MSW - MATT S. W
QX - QIN XU
RLB - BOB BUCHA
SEP - SUZANNE J
TMB - TIFFANY M
WJB - WILL J. I

Microbac Laboratories Inc.
List of Valid Qualifiers
June 05, 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
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.
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).
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.
UB	Analyte was not detected. The concentration is below the reported LOQ, however the reported result is associated with a c
UJ	Undetected; the analyte was analyzed for, but not detected.
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 35195

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 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
SMW 1-0513-1		X	5-23-13	1042	W	8		X	X	X	X	X	X	X	X	X	X	X	X	X	X			
SMW 4-0513-1		X	5-23-13	1220	W	8		X	X	X	X	X	X	X	X	X	X	X	X	X	X			
MPL 25-0513-1		X	5-23-13	1500	W	8		X	X	X	X	X	X	X	X	X	X	X	X	X	X			

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Brad T. Davis	5-23-13	1600			
Relinquished by: (Signature)	Date	Time	Remarks:		

Microbac OVD
Received: 05/24/2013 11:11
By: BOB BUCHANAN
221000036511
RF Buchanan

*Water (W), Soil (S), Solid Waste (SD), Unknown (X)

Page 1 of 1

Microbac Laboratories Inc.

Internal Chain of Custody Report

Login: L13051304
Account: 3005
Project: 3005.011
Samples: 3
Due Date: 04-JUN-2013

Samplenum	Container ID	Products
L13051304-01	194305	300

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	24-MAY-2013 12:35	RS		
2	ANALYZ	W1	WET	29-MAY-2013 15:05	EPT	JKS	
3	ANALYZ	WET	W1	29-MAY-2013 17:56	RS	EPT	
4	ANALYZ	W1	SEM	31-MAY-2013 15:06	JBK	RS	
5	ANALYZ	W1	SEM	03-JUN-2013 09:51	JBK	CLS	

Samplenum	Container ID	Products
L13051304-01	194306	ALK ALK-B ALK-C

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	24-MAY-2013 12:35	RS		
2	ANALYZ	W1	WET	29-MAY-2013 14:17	BAF	RS	
3	STORE	WET	A1	29-MAY-2013 15:56	RS	BAF	

Samplenum	Container ID	Products
L13051304-01	194307	F COND COR-PH PO4

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	24-MAY-2013 12:35	RS		
2	ANALYZ	W1	WET	24-MAY-2013 12:39	AZH	TMM	
3	STORE	WET	A1	29-MAY-2013 15:57	RS	BAF	

Samplenum	Container ID	Products
L13051304-01	194308	TDS TSS

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	24-MAY-2013 12:35	RS		
2	ANALYZ	W1	WET	28-MAY-2013 15:26	ADG	RS	
3	STORE	DIG	A2	30-MAY-2013 08:06	AZH	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: L13051304
Account: 3005
Project: 3005.011
Samples: 3
Due Date: 04-JUN-2013

Samplenum	Container ID	Products
L13051304-01	194309	NH3 NO3NO2 TOC

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	24-MAY-2013 12:35	RS		<2
2	ANALYZ	W1	WET	28-MAY-2013 12:20	BAF	RS	
3	STORE	WET	A1	05-JUN-2013 13:52	RS	ADG	

Samplenum	Container ID	Products
L13051304-01	194310	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	24-MAY-2013 12:35	RS		
2	ANALYZ	W1	DIG	28-MAY-2013 06:33	ERP	JKS	
3	STORE	DIG	A1	04-JUN-2013 15:54	ERP	CLS	

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	24-MAY-2013 12:35	RS		
2	STORE	W1	A2	03-JUN-2013 09:17	RS	RS	

Samplenum	Container ID	Products
L13051304-01	194311	CN CN-A CN-WD

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	24-MAY-2013 12:35	RS		
2	ANALYZ	W1	WET	28-MAY-2013 08:12	HJR	RS	
3	STORE	WET	A1	03-JUN-2013 08:59	RS	HJR	

Samplenum	Container ID	Products
L13051304-02	194312	300

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	24-MAY-2013 12:35	RS		
2	ANALYZ	W1	WET	29-MAY-2013 15:05	EPT	JKS	
3	ANALYZ	WET	W1	29-MAY-2013 17:56	RS	EPT	
4	ANALYZ	W1	SEM	31-MAY-2013 15:06	JBK	RS	
5	ANALYZ	W1	SEM	03-JUN-2013 09:51	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

Internal Chain of Custody Report

Login: L13051304
Account: 3005
Project: 3005.011
Samples: 3
Due Date: 04-JUN-2013

Samplenum	Container ID	Products
L13051304-02	194313	ALK ALK-B ALK-C

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	24-MAY-2013 12:35	RS		
2	ANALYZ	W1	WET	29-MAY-2013 14:17	BAF	RS	
3	STORE	WET	A1	29-MAY-2013 15:56	RS	BAF	

Samplenum	Container ID	Products
L13051304-02	194314	F PO4 COND COR-PH

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	24-MAY-2013 12:35	RS		
2	ANALYZ	W1	WET	24-MAY-2013 12:39	AZH	TMM	
3	STORE	WET	A1	29-MAY-2013 15:57	RS	BAF	

Samplenum	Container ID	Products
L13051304-02	194315	TDS TSS

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	24-MAY-2013 12:35	RS		
2	ANALYZ	W1	WET	28-MAY-2013 15:26	ADG	RS	
3	STORE	DIG	A2	30-MAY-2013 08:06	AZH	ADG	

Samplenum	Container ID	Products
L13051304-02	194316	NH3 NO3NO2 TOC

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	24-MAY-2013 12:35	RS		<2
2	ANALYZ	W1	WET	28-MAY-2013 12:19	BAF	RS	
3	STORE	WET	A1	05-JUN-2013 13:50	CLS	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: L13051304
Account: 3005
Project: 3005.011
Samples: 3
Due Date: 04-JUN-2013

Samplenum	Container ID	Products
L13051304-02	194317	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	24-MAY-2013 12:35	RS		
2	ANALYZ	W1	DIG	28-MAY-2013 06:33	ERP	JKS	
3	STORE	DIG	A1	04-JUN-2013 15:54	ERP	CLS	

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	24-MAY-2013 12:35	RS		
2	STORE	W1	A2	03-JUN-2013 09:17	RS	RS	

Samplenum	Container ID	Products
L13051304-02	194318	CN CN-A CN-WD

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	24-MAY-2013 12:35	RS		
2	ANALYZ	W1	WET	28-MAY-2013 08:12	HJR	RS	
3	STORE	WET	A1	03-JUN-2013 08:59	RS	HJR	

Samplenum	Container ID	Products
L13051304-03	194319	300

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	24-MAY-2013 12:35	RS		
2	ANALYZ	W1	WET	29-MAY-2013 15:05	EPT	JKS	
3	ANALYZ	WET	W1	29-MAY-2013 17:56	RS	EPT	
4	ANALYZ	W1	SEM	31-MAY-2013 15:06	JBK	RS	
5	ANALYZ	W1	SEM	03-JUN-2013 09:51	JBK	CLS	

Samplenum	Container ID	Products
L13051304-03	194320	ALK ALK-B ALK-C

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	24-MAY-2013 12:35	RS		
2	ANALYZ	W1	WET	29-MAY-2013 14:17	BAF	RS	
3	STORE	WET	A1	29-MAY-2013 15:56	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: L13051304
Account: 3005
Project: 3005.011
Samples: 3
Due Date: 04-JUN-2013

Samplenum	Container ID	Products
L13051304-03	194321	F COND COR-PH PO4

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	24-MAY-2013 12:35	RS		
2	ANALYZ	W1	WET	24-MAY-2013 12:39	AZH	TMM	
3	STORE	WET	A1	29-MAY-2013 15:57	RS	BAF	

Samplenum	Container ID	Products
L13051304-03	194322	TDS TSS

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	24-MAY-2013 12:35	RS		
2	ANALYZ	W1	WET	28-MAY-2013 15:26	ADG	RS	
3	STORE	DIG	A2	30-MAY-2013 08:05	AZH	ADG	

Samplenum	Container ID	Products
L13051304-03	194323	NH3 NO3NO2 TOC

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	24-MAY-2013 12:35	RS		<2
2	ANALYZ	W1	WET	28-MAY-2013 12:19	BAF	RS	
3	STORE	WET	A1	05-JUN-2013 13:50	CLS	BAF	

Samplenum	Container ID	Products
L13051304-03	194324	CD-MS CO-MS CR-MS CU-MS HG K AG-MS AS-MS BA-MS

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	24-MAY-2013 12:35	RS		
2	ANALYZ	W1	DIG	28-MAY-2013 06:33	ERP	JKS	
3	STORE	DIG	A1	04-JUN-2013 15:54	ERP	CLS	

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	24-MAY-2013 12:35	RS		
2	STORE	W1	A2	03-JUN-2013 09:17	RS	RS	

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: L13051304
Account: 3005
Project: 3005.011
Samples: 3
Due Date: 04-JUN-2013

Samplenum	Container ID	Products
L13051304-03	194325	CN CN-A CN-WD

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	24-MAY-2013 12:35	RS		
2	ANALYZ	W1	WET	28-MAY-2013 08:12	HJR	RS	
3	STORE	WET	A1	03-JUN-2013 08:58	RS	HJR	

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login