Microbac

Laboratory Report Number: L12070507

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 July 30 2012

David Vandenberg – Managing Director

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

Microbac

Lab Report #: L12070507
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.

There were no discrepancies.

Discrepancy	Resolution

Coolers

Cooler #	Temperature Gun	Temperature	COC #	Airbill #
0016493	H	1.0		1002239522560004575000873013166736

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 perservatives 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 Laboratories ● Ohio Valley Division
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Microbac

Lab Report #: L12070507
Lab Project #: 3005.011
Project Name: White Sands MR
Lab Contact: Stephanie Mossburg

Samples Received

Client ID	Laboratory ID	Date Collected	Date Received
MPL23-0712-1	L12070507-01	07/17/2012 12:42	07/18/2012 10:59
MPL23-0712-2	L12070507-02	07/17/2012 12:42	07/18/2012 10:59

Microbac REPORT L12070507
PREPARED FOR Environmental Waste Solutions
WORK ID:

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2.2.6.3 Raw Data 794
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2.2.7.1 Summary Data 807
2.2.7.2 QC Summary Data 810
2.2.7.3 Raw Data 817
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2.2.8.1 Summary Data 825
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2.2.8.3 Raw Data 837

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1.0 Summary Data

1.1 Narratives

Login Number: L12070507
Department: Conventionals
Analyst: Justin Hesson

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.

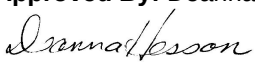
Duplicates: All acceptance criteria were met.

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: 50790
Approved By: Deanna Hesson



Login Number: L12070507
Department: Metals
Analyst: Kim Rhodes

METHOD

Preparation: SW-846 3005

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: WG403974 - All acceptance criteria were met.

Matrix Spikes: All acceptance criteria were met.

SAMPLES

Samples: WG403974 - Client samples 01 and 02 were reanalyzed at dilutions in order to obtain results for calcium within the calibration range.

Narrative ID: 50533
Approved By: Sheri Pfalzgraf

Login Number: L12070507
Department: Metals
Analyst: Ji Hu

METHOD

Preparation: SW-846 3015

Analysis: SW-846 6020

HOLDING TIMES

Sample Preparation: All holding times were met.

Sample Analysis: All holding times were met.

PREPARATION

Sample preparation proceeded normally.

CALIBRATION

Initial Calibration: All acceptance criteria were met.

Alternate Source Standards: All acceptance criteria were met.

Interference Check Standards: All acceptance criteria were met.

Continuing Calibration: All acceptance criteria were met.

Continuing Calibration Blank: All acceptance criteria were met.

Low Level Check: All acceptance criteria were met.

BATCH QA/QC

Method Blank: All acceptance criteria were met.

Laboratory Control Sample: All acceptance criteria were met.

Serial Dilution/Post Digestion Spikes: WG403908 - All acceptance criteria were met.

Matrix Spikes: All acceptance criteria were met.

SAMPLES

Samples: All acceptance criteria were met.

Narrative ID: 50336
Approved By: Sheri Pfalzgraf

Login Number: L12070507
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: WG404314 - All acceptance criteria were met.

Matrix Spikes: All acceptance criteria were met.

SAMPLES

Samples: All acceptance criteria were met.

Narrative ID: 50474
Approved By: Sheri Pfalzgraf

Login Number: L12070507
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 client did not specify an MS/MSD for this sample delivery group.

SAMPLES

Samples: All acceptance criteria were met.

MANUAL INTEGRATION: No manual integration required.

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Narrative ID: 50569
Approved By: Mike Cochran

Login Number: L12070507
Department: Conventionals
Analyst: Deanna Hesson

METHOD

Analysis EPA 310.2 (Alkalinity)

HOLDING TIMES

Sample Analysis: All holding times were met.

PREPARATION

Sample preparation proceeded normally.

BATCH QA/QC

Method Blank: All acceptance criteria were met.

Laboratory Control Sample: All acceptance criteria were met.

Matrix Spikes: All acceptance criteria were met.

Duplicates: All acceptance criteria were met.

SAMPLES

Samples: All acceptance criteria were met.

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Narrative ID: 50788
Approved By: Deanna Hesson

Login Number: L12070507
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.

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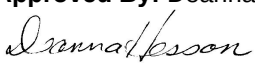
Narrative ID: 50794
Approved By: Deanna Hesson



Login Number: L12070507
Department: Conventionals
Analyst: Tammy Morris

METHOD

Analysis EPA 120.1/SM2510 B (Conductivity)

HOLDING TIMES

Sample Analysis: All holding times were met.

PREPARATION

Sample preparation proceeded normally.

BATCH QA/QC

Method Blank: All acceptance criteria were met.

Laboratory Control Sample: All acceptance criteria were met.

Duplicates: All acceptance criteria were met.

Matrix Spikes: All acceptance criteria were met.

SAMPLES

Samples: All acceptance criteria were met.

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Narrative ID: 50789
Approved By: Deanna Hesson

Login Number: L12070507
Department: Conventionals
Analyst: Deanna Hesson

METHOD

Analysis EPA 350.1/SM4500-NH3 B(NH3)

HOLDING TIMES

Sample Analysis: All holding times were met.

PREPARATION

Sample preparation proceeded normally.

BATCH QA/QC

Method Blank: All acceptance criteria were met.

Laboratory Control Sample: All acceptance criteria were met.

Duplicates: All acceptance criteria were met.

Matrix Spikes: All acceptance criteria were met.

SAMPLES

Samples: All acceptance criteria were met.

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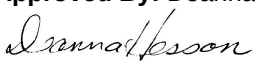
Narrative ID: 50791
Approved By: Deanna Hesson



Login Number: L12070507
Department: Conventionals
Analyst: Deanna Hesson

METHOD

Analysis EPA 353.2/SM4500-NO3 F (Nitrate)

HOLDING TIMES

Sample Analysis: Nitrate is reported as the difference of nitrate-nitrite (28 day hold) and nitrite (48 hour hold). Both analysis were analyzed within the appropriate hold time. The nitrate hold time is within compliance.

PREPARATION

Sample preparation proceeded normally.

BATCH QA/QC

Method Blank: All acceptance criteria were met.

Laboratory Control Sample: All acceptance criteria were met.

Matrix Spikes: All acceptance criteria were met.

Duplicates: All acceptance criteria were met.

SAMPLES

Samples: All acceptance criteria were met.

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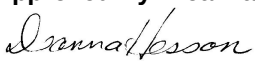
Narrative ID: 50792
Approved By: Deanna Hesson



Login Number: L12070507
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.

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Narrative ID: 50793
Approved By: Deanna Hesson

Login Number: L12070507
Department: Conventionals
Analyst: Erin R Porter

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.

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Narrative ID: 50797
Approved By: Deanna Hesson

Login Number: L12070507
Department: Conventionals
Analyst: Deanna Hesson

METHOD

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

HOLDING TIMES

Sample Analysis: All holding times were met.

PREPARATION

Sample preparation proceeded normally.

BATCH QA/QC

Method Blank: All acceptance criteria were met.

Laboratory Control Sample: All acceptance criteria were met.

Duplicates: All acceptance criteria were met.

Matrix Spikes: All acceptance criteria were met.

SAMPLES

Samples: All acceptance criteria were met.

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Narrative ID: 50795
Approved By: Deanna Hesson

Login Number: L12070507
Department: Conventionals
Analyst: Erin R Porter

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.

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Narrative ID: 50796
Approved By: Deanna Hesson

1.2 Certificate of Analysis

Microbac

Lab Report #: L12070507
Lab Project #: 3005.011
Project Name: White Sands MR
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L12070507-01	**PrePrep Method:**	N/A	**Instrument:**	PE-ICP2
Client ID:	MPL23-0712-1	**Prep Method:**	3005A	**Prep Date:**	07/19/2012 07:00
Matrix:	Water	**Analytical Method:**	6010B	**Cal Date:**	07/24/2012 08:09
Workgroup #:	WG403974	**Analyst:**	KHR	**Run Date:**	07/24/2012 12:02
Collect Date:	07/17/2012 12:42	**Dilution:**	1	**File ID:**	P2.072412.120204
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	3.91		0.500	0.250
Potassium, Total	7440-09-7	2.06		1.00	0.500
Sodium, Total	7440-23-5	24.7		0.500	0.250
Tin, Total	7440-31-5		U	0.500	0.250
Vanadium, Total	7440-62-2	0.00600	J	0.0100	0.00500
Zinc, Total	7440-66-6	0.0119	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 #:	L12070507-01	**PrePrep Method:**	N/A	**Instrument:**	PE-ICP2
Client ID:	MPL23-0712-1	**Prep Method:**	3005A	**Prep Date:**	07/19/2012 07:00
Matrix:	Water	**Analytical Method:**	6010B	**Cal Date:**	07/24/2012 08:09
Workgroup #:	WG403974	**Analyst:**	KHR	**Run Date:**	07/24/2012 12:15
Collect Date:	07/17/2012 12:42	**Dilution:**	10	**File ID:**	P2.072412.121553
Sample Tag:	DL01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Calcium, Total	7440-70-2	31.1		2.00	1.00

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 #:	L12070507-01	**PrePrep Method:**	N/A	**Instrument:**	ICP-MS2
Client ID:	MPL23-0712-1	**Prep Method:**	3015	**Prep Date:**	07/19/2012 07:26
Matrix:	Water	**Analytical Method:**	6020	**Cal Date:**	07/20/2012 08:27
Workgroup #:	WG403908	**Analyst:**	JYH	**Run Date:**	07/20/2012 09:46
Collect Date:	07/17/2012 12:42	**Dilution:**	1	**File ID:**	NI.072012.094655
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Antimony, Total	7440-36-0		U	0.00100	0.000500
Arsenic, Total	7440-38-2	0.00187		0.00100	0.000500
Barium, Total	7440-39-3	0.0186		0.00300	0.00150
Cadmium, Total	7440-43-9		U	0.000600	0.000300
Chromium, Total	7440-47-3	0.00484		0.00200	0.00100
Cobalt, Total	7440-48-4		U	0.00100	0.000500
Copper, Total	7440-50-8	0.00149	J	0.00200	0.00100
Lead, Total	7439-92-1		U	0.00100	0.000500
Manganese, Total	7439-96-5	0.00125	J	0.00200	0.00100
Nickel, Total	7440-02-0		U	0.00400	0.00200
Selenium, Total	7782-49-2	0.00217		0.00100	0.000500
Silver, Total	7440-22-4		U	0.00100	0.000500
Thallium, Total	7440-28-0		U	0.000200	0.000100

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

Certificate of Analysis

Sample #:	L12070507-01	**PrePrep Method:**	N/A	**Instrument:**	HYDRA
Client ID:	MPL23-0712-1	**Prep Method:**	7470A	**Prep Date:**	07/19/2012 08:16
Matrix:	Water	**Analytical Method:**	7470A	**Cal Date:**	07/24/2012 13:01
Workgroup #:	WG404314	**Analyst:**	PDM	**Run Date:**	07/24/2012 13:18
Collect Date:	07/17/2012 12:42	**Dilution:**	1	**File ID:**	HY.072412.131840
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 #:	L12070507-01	**PrePrep Method:**	N/A	**Instrument:**	IC1
Client ID:	MPL23-0712-1	**Prep Method:**	300.0	**Prep Date:**	07/19/2012 15:30
Matrix:	Water	**Analytical Method:**	300.0	**Cal Date:**	04/26/2012 14:46
Workgroup #:	WG403873	**Analyst:**	JBK	**Run Date:**	07/19/2012 20:44
Collect Date:	07/17/2012 12:42	**Dilution:**	1	**File ID:**	I10719122044.21
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Chloride	16887-00-6	13.4		0.200	0.100
Fluoride	16984-48-8	0.327		0.200	0.100
Sulfate	14808-79-8	54.7		1.00	0.500

Sample #:	L12070507-01	**PrePrep Method:**	N/A	**Instrument:**	ORION-4STAR
Client ID:	MPL23-0712-1	**Prep Method:**	9040C	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	9040C	**Cal Date:**	
Workgroup #:	WG403766	**Analyst:**	JDH	**Run Date:**	07/18/2012 17:20
Collect Date:	07/17/2012 12:42	**Dilution:**	1	**File ID:**	OS12072015435301
Sample Tag:		**Units:**	UNITS		

Analyte	CAS #	Result	Qual	LOQ	LOD
Corrosivity pH	10-29-7	8.16		0.000	0.000

Sample #:	L12070507-01	**PrePrep Method:**	N/A	**Instrument:**	SMARTCHEM
Client ID:	MPL23-0712-1	**Prep Method:**	310.2	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	310.2	**Cal Date:**	07/20/2012 12:56
Workgroup #:	WG403975	**Analyst:**	DIH	**Run Date:**	07/20/2012 13:05
Collect Date:	07/17/2012 12:42	**Dilution:**	1	**File ID:**	SC120720007.022
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 #:	L12070507-01	**PrePrep Method:**	N/A	**Instrument:**	SMARTCHEM
Client ID:	MPL23-0712-1	**Prep Method:**	310.2	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	310.2	**Cal Date:**	07/20/2012 12:56
Workgroup #:	WG403975	**Analyst:**	DIH	**Run Date:**	07/20/2012 13:05
Collect Date:	07/17/2012 12:42	**Dilution:**	1	**File ID:**	SC120720007.022
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Alkalinity, Total (as CaCO3)	11-43-8	85.5		20.0	10.0

Sample #:	L12070507-01	**PrePrep Method:**	N/A	**Instrument:**	SMARTCHEM
Client ID:	MPL23-0712-1	**Prep Method:**	310.2	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	310.2	**Cal Date:**	07/20/2012 12:56
Workgroup #:	WG403975	**Analyst:**	DIH	**Run Date:**	07/20/2012 13:05
Collect Date:	07/17/2012 12:42	**Dilution:**	1	**File ID:**	SC120720007.022
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Alkalinity, Bicarbonate (as CaCO3)	13-00-3	85.5		20.0	10.0

Sample #:	L12070507-01	**PrePrep Method:**	N/A	**Instrument:**	UV-120-1V
Client ID:	MPL23-0712-1	**Prep Method:**	9014-9010C	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	9014-9010C	**Cal Date:**	07/27/2012 11:00
Workgroup #:	WG404392	**Analyst:**	HJR	**Run Date:**	07/27/2012 15:30
Collect Date:	07/17/2012 12:42	**Dilution:**	1	**File ID:**	1V.1207271530-06
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 #:	L12070507-01	**PrePrep Method:**	N/A	**Instrument:**	UV-120-1V
Client ID:	MPL23-0712-1	**Prep Method:**	SM4500-CN-C,G	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	SM4500-CN-C,G	**Cal Date:**	07/27/2012 11:00
Workgroup #:	WG404597	**Analyst:**	HJR	**Run Date:**	07/27/2012 16:10
Collect Date:	07/17/2012 12:42	**Dilution:**	1	**File ID:**	1V.1207271610-05
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 #:	L12070507-01	**PrePrep Method:**	N/A	**Instrument:**	UV-120-1V
Client ID:	MPL23-0712-1	**Prep Method:**	SM4500-CN-I	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	SM4500-CN-I	**Cal Date:**	07/27/2012 11:00
Workgroup #:	WG404558	**Analyst:**	HJR	**Run Date:**	07/27/2012 15:50
Collect Date:	07/17/2012 12:42	**Dilution:**	1	**File ID:**	1V.1207271550-06
Sample Tag:	w	**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 #:	L12070507-01	**PrePrep Method:**	N/A	**Instrument:**	YSI-32
Client ID:	MPL23-0712-1	**Prep Method:**	120.1	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	120.1	**Cal Date:**	
Workgroup #:	WG404043	**Analyst:**	TMM	**Run Date:**	07/21/2012 10:30
Collect Date:	07/17/2012 12:42	**Dilution:**	1	**File ID:**	32.1207211030-03
Sample Tag:		**Units:**	umhos/cm		

Analyte	CAS #	Result	Qual	LOQ	LOD
Conductivity		336		1.00	0.500

Sample #:	L12070507-01	**PrePrep Method:**	N/A	**Instrument:**	SMARTCHEM
Client ID:	MPL23-0712-1	**Prep Method:**	350.1	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	350.1	**Cal Date:**	07/26/2012 13:55
Workgroup #:	WG404588	**Analyst:**	DIH	**Run Date:**	07/26/2012 14:07
Collect Date:	07/17/2012 12:42	**Dilution:**	1	**File ID:**	SC120726005.020
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Nitrogen, Ammonia	7664-41-7	0.106		0.100	0.0500

Sample #:	L12070507-01	**PrePrep Method:**	N/A	**Instrument:**	SMARTCHEM
Client ID:	MPL23-0712-1	**Prep Method:**	353.2	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	353.2	**Cal Date:**	07/23/2012 07:28
Workgroup #:	WG404245	**Analyst:**	DIH	**Run Date:**	07/24/2012 10:53
Collect Date:	07/17/2012 12:42	**Dilution:**	1	**File ID:**	SC12072712124601
Sample Tag:		**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Nitrate-Nitrite (as N)		1.53		0.0500	0.0250

Sample #:	L12070507-01	**PrePrep Method:**	N/A	**Instrument:**	UV-120-1V
Client ID:	MPL23-0712-1	**Prep Method:**	SM4500-P-E-20th	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	SM4500-P-E-20th	**Cal Date:**	06/22/2012 08:14
Workgroup #:	WG403756	**Analyst:**	HJR	**Run Date:**	07/18/2012 16:15
Collect Date:	07/17/2012 12:42	**Dilution:**	1	**File ID:**	1V.1207181615-05
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 #:	L12070507-01	**PrePrep Method:**	N/A	**Instrument:**	OVEN
Client ID:	MPL23-0712-1	**Prep Method:**	160.1/SM2540C	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	160.1	**Cal Date:**	
Workgroup #:	WG403831	**Analyst:**	ERP	**Run Date:**	07/19/2012 09:46
Collect Date:	07/17/2012 12:42	**Dilution:**	1	**File ID:**	EN.1207190946-08
Sample Tag:		**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Total Dissolved Solids		206		20.0	10.0

Sample #:	L12070507-01	**PrePrep Method:**	N/A	**Instrument:**	TOC-VWP
Client ID:	MPL23-0712-1	**Prep Method:**	415.1	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	415.1	**Cal Date:**	12/06/2011 09:40
Workgroup #:	WG404426	**Analyst:**	DIH	**Run Date:**	07/25/2012 12:35
Collect Date:	07/17/2012 12:42	**Dilution:**	1	**File ID:**	TC07252012.008
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Total Organic Carbon		0.778	J	1.00	0.500
J	Estimated value ; the analyte concentration was less than the LOQ.				

Certificate of Analysis

Sample #:	L12070507-01	**PrePrep Method:**	N/A	**Instrument:**	OVEN
Client ID:	MPL23-0712-1	**Prep Method:**	160.2/SM2540D	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	160.2	**Cal Date:**	
Workgroup #:	WG403852	**Analyst:**	ERP	**Run Date:**	07/19/2012 12:09
Collect Date:	07/17/2012 12:42	**Dilution:**	1	**File ID:**	EN.1207191209-20
Sample Tag:		**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Total Suspended Solids		3.50	J	5.00	2.50

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

Certificate of Analysis

Sample #:	L12070507-02	**PrePrep Method:**	N/A	**Instrument:**	PE-ICP2
Client ID:	MPL23-0712-2	**Prep Method:**	3005A	**Prep Date:**	07/19/2012 07:00
Matrix:	Water	**Analytical Method:**	6010B	**Cal Date:**	07/24/2012 08:09
Workgroup #:	WG403974	**Analyst:**	KHR	**Run Date:**	07/24/2012 12:08
Collect Date:	07/17/2012 12:42	**Dilution:**	1	**File ID:**	P2.072412.120858
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	3.97		0.500	0.250
Potassium, Total	7440-09-7	2.09		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	0.00715	J	0.0100	0.00500
Zinc, Total	7440-66-6		U	0.0200	0.0100

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

Certificate of Analysis

Sample #:	L12070507-02	**PrePrep Method:**	N/A	**Instrument:**	PE-ICP2
Client ID:	MPL23-0712-2	**Prep Method:**	3005A	**Prep Date:**	07/19/2012 07:00
Matrix:	Water	**Analytical Method:**	6010B	**Cal Date:**	07/24/2012 08:09
Workgroup #:	WG403974	**Analyst:**	KHR	**Run Date:**	07/24/2012 12:22
Collect Date:	07/17/2012 12:42	**Dilution:**	10	**File ID:**	P2.072412.122246
Sample Tag:	DL01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Calcium, Total	7440-70-2	32.0		2.00	1.00

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 #:	L12070507-02	**PrePrep Method:**	N/A	**Instrument:**	ICP-MS2
Client ID:	MPL23-0712-2	**Prep Method:**	3015	**Prep Date:**	07/19/2012 07:26
Matrix:	Water	**Analytical Method:**	6020	**Cal Date:**	07/20/2012 08:27
Workgroup #:	WG403908	**Analyst:**	JYH	**Run Date:**	07/20/2012 09:50
Collect Date:	07/17/2012 12:42	**Dilution:**	1	**File ID:**	NI.072012.095005
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Antimony, Total	7440-36-0		U	0.00100	0.000500
Arsenic, Total	7440-38-2	0.00186		0.00100	0.000500
Barium, Total	7440-39-3	0.0176		0.00300	0.00150
Cadmium, Total	7440-43-9		U	0.000600	0.000300
Chromium, Total	7440-47-3	0.00490		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	0.00106	J	0.00200	0.00100
Nickel, Total	7440-02-0		U	0.00400	0.00200
Selenium, Total	7782-49-2	0.00211		0.00100	0.000500
Silver, Total	7440-22-4		U	0.00100	0.000500
Thallium, Total	7440-28-0		U	0.000200	0.000100

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

Certificate of Analysis

Sample #:	L12070507-02	**PrePrep Method:**	N/A	**Instrument:**	HYDRA
Client ID:	MPL23-0712-2	**Prep Method:**	7470A	**Prep Date:**	07/19/2012 08:16
Matrix:	Water	**Analytical Method:**	7470A	**Cal Date:**	07/24/2012 13:01
Workgroup #:	WG404314	**Analyst:**	PDM	**Run Date:**	07/24/2012 13:23
Collect Date:	07/17/2012 12:42	**Dilution:**	1	**File ID:**	HY.072412.132352
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 #:	L12070507-02	**PrePrep Method:**	N/A	**Instrument:**	IC1
Client ID:	MPL23-0712-2	**Prep Method:**	300.0	**Prep Date:**	07/19/2012 15:30
Matrix:	Water	**Analytical Method:**	300.0	**Cal Date:**	04/26/2012 14:46
Workgroup #:	WG403873	**Analyst:**	JBK	**Run Date:**	07/19/2012 21:01
Collect Date:	07/17/2012 12:42	**Dilution:**	1	**File ID:**	I10719122101.22
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Chloride	16887-00-6	13.3		0.200	0.100
Fluoride	16984-48-8	0.317		0.200	0.100
Sulfate	14808-79-8	54.1		1.00	0.500

Sample #:	L12070507-02	**PrePrep Method:**	N/A	**Instrument:**	ORION-4STAR
Client ID:	MPL23-0712-2	**Prep Method:**	9040C	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	9040C	**Cal Date:**	
Workgroup #:	WG403766	**Analyst:**	JDH	**Run Date:**	07/18/2012 17:20
Collect Date:	07/17/2012 12:42	**Dilution:**	1	**File ID:**	OS12072015435601
Sample Tag:		**Units:**	UNITS		

Analyte	CAS #	Result	Qual	LOQ	LOD
Corrosivity pH	10-29-7	8.16		0.000	0.000

Sample #:	L12070507-02	**PrePrep Method:**	N/A	**Instrument:**	SMARTCHEM
Client ID:	MPL23-0712-2	**Prep Method:**	310.2	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	310.2	**Cal Date:**	07/20/2012 12:56
Workgroup #:	WG403975	**Analyst:**	DIH	**Run Date:**	07/20/2012 13:05
Collect Date:	07/17/2012 12:42	**Dilution:**	1	**File ID:**	SC120720007.023
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 #:	L12070507-02	**PrePrep Method:**	N/A	**Instrument:**	SMARTCHEM
Client ID:	MPL23-0712-2	**Prep Method:**	310.2	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	310.2	**Cal Date:**	07/20/2012 12:56
Workgroup #:	WG403975	**Analyst:**	DIH	**Run Date:**	07/20/2012 13:05
Collect Date:	07/17/2012 12:42	**Dilution:**	1	**File ID:**	SC120720007.023
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Alkalinity, Bicarbonate (as CaCO3)	13-00-3	87.5		20.0	10.0

Sample #:	L12070507-02	**PrePrep Method:**	N/A	**Instrument:**	SMARTCHEM
Client ID:	MPL23-0712-2	**Prep Method:**	310.2	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	310.2	**Cal Date:**	07/20/2012 12:56
Workgroup #:	WG403975	**Analyst:**	DIH	**Run Date:**	07/20/2012 13:05
Collect Date:	07/17/2012 12:42	**Dilution:**	1	**File ID:**	SC120720007.023
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Alkalinity, Total (as CaCO3)	11-43-8	87.5		20.0	10.0

Sample #:	L12070507-02	**PrePrep Method:**	N/A	**Instrument:**	UV-120-1V
Client ID:	MPL23-0712-2	**Prep Method:**	SM4500-CN-I	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	SM4500-CN-I	**Cal Date:**	07/27/2012 11:00
Workgroup #:	WG404558	**Analyst:**	HJR	**Run Date:**	07/27/2012 15:50
Collect Date:	07/17/2012 12:42	**Dilution:**	1	**File ID:**	1V.1207271550-07
Sample Tag:	w	**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 #:	L12070507-02	**PrePrep Method:**	N/A	**Instrument:**	UV-120-1V
Client ID:	MPL23-0712-2	**Prep Method:**	SM4500-CN-C,G	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	SM4500-CN-C,G	**Cal Date:**	07/27/2012 11:00
Workgroup #:	WG404597	**Analyst:**	HJR	**Run Date:**	07/27/2012 16:10
Collect Date:	07/17/2012 12:42	**Dilution:**	1	**File ID:**	1V.1207271610-06
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 #:	L12070507-02	**PrePrep Method:**	N/A	**Instrument:**	UV-120-1V
Client ID:	MPL23-0712-2	**Prep Method:**	9014-9010C	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	9014-9010C	**Cal Date:**	07/27/2012 11:00
Workgroup #:	WG404392	**Analyst:**	HJR	**Run Date:**	07/27/2012 15:30
Collect Date:	07/17/2012 12:42	**Dilution:**	1	**File ID:**	1V.1207271530-07
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 #:	L12070507-02	**PrePrep Method:**	N/A	**Instrument:**	YSI-32
Client ID:	MPL23-0712-2	**Prep Method:**	120.1	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	120.1	**Cal Date:**	
Workgroup #:	WG404043	**Analyst:**	TMM	**Run Date:**	07/21/2012 10:30
Collect Date:	07/17/2012 12:42	**Dilution:**	1	**File ID:**	32.1207211030-04
Sample Tag:		**Units:**	umhos/cm		

Analyte	CAS #	Result	Qual	LOQ	LOD
Conductivity		361		1.00	0.500

Sample #:	L12070507-02	**PrePrep Method:**	N/A	**Instrument:**	SMARTCHEM
Client ID:	MPL23-0712-2	**Prep Method:**	350.1	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	350.1	**Cal Date:**	07/26/2012 13:55
Workgroup #:	WG404588	**Analyst:**	DIH	**Run Date:**	07/26/2012 14:08
Collect Date:	07/17/2012 12:42	**Dilution:**	1	**File ID:**	SC120726005.021
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Nitrogen, Ammonia	7664-41-7	0.0930	J	0.100	0.0500
J	Estimated value ; the analyte concentration was less than the LOQ.				

Certificate of Analysis

Sample #:	L12070507-02	**PrePrep Method:**	N/A	**Instrument:**	SMARTCHEM
Client ID:	MPL23-0712-2	**Prep Method:**	353.2	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	353.2	**Cal Date:**	07/23/2012 07:28
Workgroup #:	WG404245	**Analyst:**	DIH	**Run Date:**	07/24/2012 10:53
Collect Date:	07/17/2012 12:42	**Dilution:**	1	**File ID:**	SC12072712124901
Sample Tag:		**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Nitrate-Nitrite (as N)		1.57		0.0500	0.0250

Sample #:	L12070507-02	**PrePrep Method:**	N/A	**Instrument:**	UV-120-1V
Client ID:	MPL23-0712-2	**Prep Method:**	SM4500-P-E-20th	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	SM4500-P-E-20th	**Cal Date:**	06/22/2012 08:14
Workgroup #:	WG403756	**Analyst:**	HJR	**Run Date:**	07/18/2012 16:15
Collect Date:	07/17/2012 12:42	**Dilution:**	1	**File ID:**	1V.1207181615-06
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 #:	L12070507-02	**PrePrep Method:**	N/A	**Instrument:**	OVEN
Client ID:	MPL23-0712-2	**Prep Method:**	160.1/SM2540C	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	160.1	**Cal Date:**	
Workgroup #:	WG403831	**Analyst:**	ERP	**Run Date:**	07/19/2012 09:46
Collect Date:	07/17/2012 12:42	**Dilution:**	1	**File ID:**	EN.1207190946-09
Sample Tag:		**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Total Dissolved Solids		216		20.0	10.0

Sample #:	L12070507-02	**PrePrep Method:**	N/A	**Instrument:**	TOC-VWP
Client ID:	MPL23-0712-2	**Prep Method:**	415.1	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	415.1	**Cal Date:**	12/06/2011 09:40
Workgroup #:	WG404426	**Analyst:**	DIH	**Run Date:**	07/25/2012 12:47
Collect Date:	07/17/2012 12:42	**Dilution:**	1	**File ID:**	TC07252012.009
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Total Organic Carbon		0.773	J	1.00	0.500

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

Certificate of Analysis

Sample #:	L12070507-02	**PrePrep Method:**	N/A	**Instrument:**	OVEN
Client ID:	MPL23-0712-2	**Prep Method:**	160.2/SM2540D	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	160.2	**Cal Date:**	
Workgroup #:	WG403852	**Analyst:**	ERP	**Run Date:**	07/19/2012 12:09
Collect Date:	07/17/2012 12:42	**Dilution:**	1	**File ID:**	EN.1207191209-21
Sample Tag:		**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Total Suspended Solids		4.00	J	5.00	2.50

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

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: L12070507
Department: Metals
Analyst: Kim Rhodes

METHOD

Preparation: SW-846 3005

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: WG403974 - All acceptance criteria were met.

Matrix Spikes: All acceptance criteria were met.

SAMPLES

Samples: WG403974 - Client samples 01 and 02 were reanalyzed at dilutions in order to obtain results for calcium within the calibration range.

Narrative ID: 50533
Approved By: Sheri Pfalzgraf

Microbac

Lab Report #: L12070507
Lab Project #: 3005.011
Project Name: White Sands MR
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L12070507-01	**PrePrep Method:**	N/A	**Instrument:**	PE-ICP2
Client ID:	MPL23-0712-1	**Prep Method:**	3005A	**Prep Date:**	07/19/2012 07:00
Matrix:	Water	**Analytical Method:**	6010B	**Cal Date:**	07/24/2012 08:09
Workgroup #:	WG403974	**Analyst:**	KHR	**Run Date:**	07/24/2012 12:02
Collect Date:	07/17/2012 12:42	**Dilution:**	1	**File ID:**	P2.072412.120204
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	3.91		0.500	0.250
Potassium, Total	7440-09-7	2.06		1.00	0.500
Sodium, Total	7440-23-5	24.7		0.500	0.250
Tin, Total	7440-31-5		U	0.500	0.250
Vanadium, Total	7440-62-2	0.00600	J	0.0100	0.00500
Zinc, Total	7440-66-6	0.0119	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 #:	L12070507-01	**PrePrep Method:**	N/A	**Instrument:**	PE-ICP2
Client ID:	MPL23-0712-1	**Prep Method:**	3005A	**Prep Date:**	07/19/2012 07:00
Matrix:	Water	**Analytical Method:**	6010B	**Cal Date:**	07/24/2012 08:09
Workgroup #:	WG403974	**Analyst:**	KHR	**Run Date:**	07/24/2012 12:15
Collect Date:	07/17/2012 12:42	**Dilution:**	10	**File ID:**	P2.072412.121553
Sample Tag:	DL01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Calcium, Total	7440-70-2	31.1		2.00	1.00

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 #:	L12070507-02	**PrePrep Method:**	N/A	**Instrument:**	PE-ICP2
Client ID:	MPL23-0712-2	**Prep Method:**	3005A	**Prep Date:**	07/19/2012 07:00
Matrix:	Water	**Analytical Method:**	6010B	**Cal Date:**	07/24/2012 08:09
Workgroup #:	WG403974	**Analyst:**	KHR	**Run Date:**	07/24/2012 12:08
Collect Date:	07/17/2012 12:42	**Dilution:**	1	**File ID:**	P2.072412.120858
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	3.97		0.500	0.250
Potassium, Total	7440-09-7	2.09		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	0.00715	J	0.0100	0.00500
Zinc, Total	7440-66-6		U	0.0200	0.0100

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

Certificate of Analysis

Sample #:	L12070507-02	**PrePrep Method:**	N/A	**Instrument:**	PE-ICP2
Client ID:	MPL23-0712-2	**Prep Method:**	3005A	**Prep Date:**	07/19/2012 07:00
Matrix:	Water	**Analytical Method:**	6010B	**Cal Date:**	07/24/2012 08:09
Workgroup #:	WG403974	**Analyst:**	KHR	**Run Date:**	07/24/2012 12:22
Collect Date:	07/17/2012 12:42	**Dilution:**	10	**File ID:**	P2.072412.122246
Sample Tag:	DL01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Calcium, Total	7440-70-2	32.0		2.00	1.00

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

Certificate of Analysis

2.1.1.2 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.
Metals Digest Log

Workgroup: WG403777
Analyst: REK
Spike Analyst: REK
Method: 3005A
Run Date: 07/19/2012 07:00
Hotblock Start Temp: 95 @ 05:45
Hotblock End Temp: 95.2 @ 09:45

SOP: ME401 Revison 14
Spike Solution: STD52371
Spike Witness: VC
HNO3 Lot #: COA16174
ICP;WG401305 Filter Lot COA16240
Digestion Tubes Lot #: COA16262
HCL Lot #: COA16290

	SAMPLE #	Type	Matrix	Initial Amount	Final Volume	Spike Amount	Due Date
1	WG403777-02	BLANK	1	50 mL	50 mL		
2	WG403777-03	LCS	1	50 mL	50 mL	5 mL	
3	L12070504-01	SAMP	1	50 mL	50 mL		07/27/12
4	WG403777-01	REF	1	50 mL	50 mL		
5	L12070504-02	SAMP	1	50 mL	50 mL		07/27/12
6	L12070504-03	SAMP	1	50 mL	50 mL		07/27/12
7	L12070504-04	SAMP	1	50 mL	50 mL		07/27/12
8	L12070504-05	SAMP	1	50 mL	50 mL		07/27/12
9	L12070504-06	SAMP	1	50 mL	50 mL		07/27/12
10	L12070504-07	SAMP	1	50 mL	50 mL		07/27/12
11	L12070504-08	SAMP	1	50 mL	50 mL		07/27/12
12	L12070504-09	SAMP	1	50 mL	50 mL		07/27/12
13	L12070504-10	SAMP	1	50 mL	50 mL		07/27/12
14	L12070504-11	SAMP	1	50 mL	50 mL		07/27/12
15	L12070504-12	SAMP	1	50 mL	50 mL		07/27/12
16	L12070504-13	SAMP	1	50 mL	50 mL		07/27/12
17	L12070504-14	SAMP	1	50 mL	50 mL		07/27/12
18	L12070504-15	SAMP	1	50 mL	50 mL		07/27/12
19	L12070507-01	SAMP	1	50 mL	50 mL		07/27/12
20	L12070507-02	SAMP	1	50 mL	50 mL		07/27/12
21	L12070509-01	SAMP	1	50 mL	50 mL		07/27/12
22	WG403777-04	MS	1	50 mL	50 mL	5 mL	
23	WG403777-05	MSD	1	50 mL	50 mL	5 mL	

Analyst: [signature]

Reviewer: Brenda Gregory

HB_DIG - Modified 09/30/2009
PDF ID: 2503940
Report generated: 07/19/2012 10:41

Microbac Laboratories Inc.

Instrument Run Log

Instrument: PE-ICP2 Dataset: 072412HR.CSV
Analyst1: KHR Analyst2: N/A
Method: 6010 SOP: ME600E Rev: 12
Maintenance Log ID: 42594

Calibration Std: STD52748 ICV Std: STD52745 Post Spike: STD52370
ICSA: STD52744 ICSAB: STD52974 Int. Std: RGT17310
CCV: STD52910 LLCCV:

Workgroups: 403974, 404120, 404284, 404241, 404320

Comments:

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
1	P2.072412.074313	WG404330-01	Calibration Point		1		07/24/12 07:43
2	P2.072412.075008	WG404330-02	Calibration Point		1		07/24/12 07:50
3	P2.072412.075702	WG404330-03	Calibration Point		1		07/24/12 07:57
4	P2.072412.080357	WG404330-04	Calibration Point		1		07/24/12 08:03
5	P2.072412.080955	WG404330-05	Calibration Point		1		07/24/12 08:09
6	P2.072412.081556	WG404330-06	Initial Calibration Verification		1		07/24/12 08:15
7	P2.072412.082151	WG404330-07	Initial Calib Blank		1		07/24/12 08:21
8	P2.072412.082845	WG404330-08	Interference Check		1		07/24/12 08:28
9	P2.072412.083441	WG404330-09	Interference Check		1		07/24/12 08:34
10	P2.072412.084038	WG404330-10	CCV		1		07/24/12 08:40
11	P2.072412.084637	WG404330-11	CCB		1		07/24/12 08:46
12	P2.072412.085628	WG403777-02	Method/Prep Blank	50/50	1		07/24/12 08:56
13	P2.072412.090322	WG403777-03	Laboratory Control S	50/50	1		07/24/12 09:03
14	P2.072412.090920	L12070504-01	LF30/31-EWTS-EFF-16JULY	50/50	1		07/24/12 09:09
15	P2.072412.091615	WG403777-01	Reference Sample		1	L12070504-02	07/24/12 09:16
16	P2.072412.092311	WG403777-04	Matrix Spike	50/50	1	L12070504-02	07/24/12 09:23
17	P2.072412.092909	WG403777-05	Matrix Spike Duplica	50/50	1	L12070504-02	07/24/12 09:29
18	P2.072412.093510	L12070504-03	LF30/31-EWTS-MH2-16JULY	50/50	1		07/24/12 09:35
19	P2.072412.094109	WG403974-01	Post Digestion Spike		1	L12070504-03	07/24/12 09:41
20	P2.072412.094708	WG403974-02	Serial Dilution		5	L12070504-03	07/24/12 09:47
21	P2.072412.095405	WG404330-12	CCV		1		07/24/12 09:54
22	P2.072412.100005	WG404330-13	CCB		1		07/24/12 10:00
23	P2.072412.100658	L12070504-04	LF30/31-EWTS-MH1-16JULY	50/50	1		07/24/12 10:06
24	P2.072412.101255	L12070504-05	LF30/31-EWTS-INF-16JULY2	50/50	1		07/24/12 10:12
25	P2.072412.101851	L12070504-06	LF30/31-PW5-16JULY2012	50/50	1		07/24/12 10:18
26	P2.072412.102448	L12070504-07	LF30/31-PW4-16JULY2012	50/50	1		07/24/12 10:24
27	P2.072412.103046	L12070504-08	LF30/31-PW3-16JULY2012	50/50	1		07/24/12 10:30
28	P2.072412.103643	L12070504-09	LF30/31-PW2-16JULY2012	50/50	1		07/24/12 10:36
29	P2.072412.104240	L12070504-10	LF30/31-PW6-16JULY2012	50/50	1		07/24/12 10:42
30	P2.072412.111722	WG404330-14	CCV		1		07/24/12 11:17
31	P2.072412.112321	WG404330-15	CCB		1		07/24/12 11:23
32	P2.072412.113015	L12070504-11	LF30/31-PW7-16JULY2012	50/50	1		07/24/12 11:30
33	P2.072412.113613	L12070504-12	LF30/31-PW8-16JULY2012	50/50	1		07/24/12 11:36
34	P2.072412.114211	L12070504-13	LF30/31-PW9-16JULY2012	50/50	1		07/24/12 11:42

Page: 1 Approved: July 25, 2012

Microbac Laboratories Inc.

Instrument Run Log

Instrument: PE-ICP2 Dataset: 072412HR.CSV
Analyst1: KHR Analyst2: N/A
Method: 6010 SOP: ME600E Rev: 12
Maintenance Log ID: 42594

Calibration Std: STD52748 ICV Std: STD52745 Post Spike: STD52370
ICSA: STD52744 ICSAB: STD52974 Int. Std: RGT17310
CCV: STD52910 LLCCV:

Workgroups: 403974, 404120, 404284, 404241, 404320

Comments:

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
35	P2.072412.114810	L12070504-14	LF30/31-EWTS01S-16JULY2	50/50	1		07/24/12 11:48
36	P2.072412.115507	L12070504-15	LF30/31-EWTS01M-16JULY2	50/50	1		07/24/12 11:55
37	P2.072412.120204	L12070507-01	MPL23-0712-1	50/50	1		07/24/12 12:02
38	P2.072412.120858	L12070507-02	MPL23-0712-2	50/50	1		07/24/12 12:08
39	P2.072412.121553	L12070507-01	MPL23-0712-1	50/50	10		07/24/12 12:15
40	P2.072412.122246	L12070507-02	MPL23-0712-2	50/50	10		07/24/12 12:22
41	P2.072412.122941	L12070509-01	MW1109PT4-03	50/50	1		07/24/12 12:29
42	P2.072412.123538	WG404330-16	CCV		1		07/24/12 12:35
43	P2.072412.124137	WG404330-17	CCB		1		07/24/12 12:41
44	P2.072412.124955	L12070522-01	2070961-01		1		07/24/12 12:49
45	P2.072412.125655	WG403927-02	Method/Prep Blank	50/50	1		07/24/12 12:56
46	P2.072412.130350	WG403927-03	Laboratory Control S	50/50	1		07/24/12 13:03
47	P2.072412.130949	L12070498-01	EFFLUENT	50/50	1		07/24/12 13:09
48	P2.072412.131649	L12070502-01	C-004	50/50	1		07/24/12 13:16
49	P2.072412.132347	L12070528-01	1213PWT005-INF	50/50	5		07/24/12 13:23
50	P2.072412.132949	WG403927-01	Reference Sample		1	L12070534-02	07/24/12 13:29
51	P2.072412.133652	WG403927-04	Duplicate	50/50	1	L12070534-02	07/24/12 13:36
52	P2.072412.134350	WG404120-01	Post Digestion Spike		1	L12070534-02	07/24/12 13:43
53	P2.072412.134947	WG404120-02	Serial Dilution		5	L12070534-02	07/24/12 13:49
54	P2.072412.135642	WG404330-18	CCV		1		07/24/12 13:56
55	P2.072412.140242	WG404330-19	CCB		1		07/24/12 14:02
56	P2.072412.141055	L12070534-06	LCL-G-MW6-DIS	50/50	1		07/24/12 14:10
57	P2.072412.141755	L12070534-08	LCL-G-MW9-DIS	50/50	1		07/24/12 14:17
58	P2.072412.142454	L12070534-10	LCL-G-MW10-DIS	50/50	1		07/24/12 14:24
59	P2.072412.143153	L12070534-12	LCL-K-EQBLK-1-DIS	50/50	1		07/24/12 14:31
60	P2.072412.143848	WG403927-05	Matrix Spike	50/50	1	L12070534-02	07/24/12 14:38
61	P2.072412.144453	WG403927-06	Matrix Spike Duplica	50/50	1	L12070534-02	07/24/12 14:44
62	P2.072412.145051	L12070583-01	001	50/50	1		07/24/12 14:50
63	P2.072412.145655	L12070599-01	001/COMP.	50/50	1		07/24/12 14:56
64	P2.072412.150259	WG404330-20	CCV		1		07/24/12 15:02
65	P2.072412.150858	WG404330-21	CCB		1		07/24/12 15:08
66	P2.072412.151551	WG404090-02	Method/Prep Blank	50/50	1		07/24/12 15:15
67	P2.072412.152248	WG404090-03	Laboratory Control S	50/50	1		07/24/12 15:22
68	P2.072412.152846	WG404090-01	Reference Sample		1	L12070636-01	07/24/12 15:28

Page: 2 Approved: July 25, 2012

Microbac Laboratories Inc.

Instrument Run Log

Instrument: PE-ICP2 Dataset: 072412HR.CSV
Analyst1: KHR Analyst2: N/A
Method: 6010 SOP: ME600E Rev: 12
Maintenance Log ID: 42594

Calibration Std: STD52748 ICV Std: STD52745 Post Spike: STD52370
ICSA: STD52744 ICSAB: STD52974 Int. Std: RGT17310
CCV: STD52910 LLCCV:

Workgroups: 403974, 404120, 404284, 404241, 404320

Comments:

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
69	P2.072412.153544	WG404090-04	Duplicate	50/50	1	L12070636-01	07/24/12 15:35
70	P2.072412.154242	WG404090-05	Matrix Spike	50/50	1	L12070636-01	07/24/12 15:42
71	P2.072412.154844	L12070648-01	004	50/50	1		07/24/12 15:48
72	P2.072412.155443	L12070659-01	1207-272-1	50/50	2		07/24/12 15:54
73	P2.072412.160144	L12070662-01	1207-195-3	50/50	1		07/24/12 16:01
74	P2.072412.160742	WG404284-01	Post Digestion Spike		1	L12070662-01	07/24/12 16:07
75	P2.072412.161342	WG404284-02	Serial Dilution		5	L12070662-01	07/24/12 16:13
76	P2.072412.162037	WG404330-22	CCV		1		07/24/12 16:20
77	P2.072412.162637	WG404330-23	CCB		1		07/24/12 16:26
78	P2.072412.163330	L12070663-01	1207-275-1	50/50	1		07/24/12 16:33
79	P2.072412.163930	L12070669-01	1207-220-3	50/50	1		07/24/12 16:39
80	P2.072412.164530	L12070671-01	1207-273-1	50/50	1		07/24/12 16:45
81	P2.072412.165227	L12070671-03	1207-274-1	50/50	1		07/24/12 16:52
82	P2.072412.165826	WG404330-24	CCV		1		07/24/12 16:58
83	P2.072412.170425	WG404330-25	CCB		1		07/24/12 17:04
84	P2.072412.171118	WG403933-02	Method/Prep Blank	50/50	1		07/24/12 17:11
85	P2.072412.171813	WG403933-03	Laboratory Control S	50/50	1		07/24/12 17:18
86	P2.072412.172411	L12070549-01	03-012-08700 W-2	50/50	1		07/24/12 17:24
87	P2.072412.173013	L12070550-01	49-009A-02600 W-1	50/50	1		07/24/12 17:30
88	P2.072412.173611	L12070550-02	49-009A-02600 DW-2	50/50	1		07/24/12 17:36
89	P2.072412.174307	L12070551-01	49-009A-05500 W-1	50/50	1		07/24/12 17:43
90	P2.072412.174906	L12070552-01	49-009A-05700 W-1	50/50	1		07/24/12 17:49
91	P2.072412.175505	L12070553-01	49-015A-00200 DW-1	50/50	1		07/24/12 17:55
92	P2.072412.180105	WG404241-01	Post Digestion Spike		1	L12070553-01	07/24/12 18:01
93	P2.072412.180703	WG404241-02	Serial Dilution		5	L12070553-01	07/24/12 18:07
94	P2.072412.181400	WG404330-26	CCV		1		07/24/12 18:14
95	P2.072412.181959	WG404330-27	CCB		1		07/24/12 18:19
96	P2.072412.182653	L12070554-01	49-015A-00400 W-1	50/50	1		07/24/12 18:26
97	P2.072412.183353	L12070555-01	49-015A-01300 W-1	50/50	1		07/24/12 18:33
98	P2.072412.183951	L12070556-01	49-015A-01500 W-1	50/50	1		07/24/12 18:39
99	P2.072412.184549	L12070557-01	49-009A-02400 W-1	50/50	1		07/24/12 18:45
100	P2.072412.185147	L12070558-01	49-015A-02800 W-1	50/50	1		07/24/12 18:51
101	P2.072412.185746	L12070559-01	49-010-02000 W-1	50/50	1		07/24/12 18:57
102	P2.072412.190445	L12070560-01	49-016-00201 DS-1	50/50	1		07/24/12 19:04

Page: 3 Approved: July 25, 2012

Microbac Laboratories Inc.

Instrument Run Log

Instrument: PE-ICP2 Dataset: 072412HR.CSV
Analyst1: KHR Analyst2: N/A
Method: 6010 SOP: ME600E Rev: 12
Maintenance Log ID: 42594

Calibration Std: STD52748 ICV Std: STD52745 Post Spike: STD52370
ICSA: STD52744 ICSAB: STD52974 Int. Std: RGT17310
CCV: STD52910 LLCCV:

Workgroups: 403974, 404120, 404284, 404241, 404320

Comments:

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
103	P2.072412.191140	L12070561-01	49-016-00900 W-2	50/50	1		07/24/12 19:11
104	P2.072412.191740	L12070561-02	49-016-00900 W-1	50/50	1		07/24/12 19:17
105	P2.072412.192339	WG404330-28	CCV		1		07/24/12 19:23
106	P2.072412.192939	WG404330-29	CCB		1		07/24/12 19:29
107	P2.072412.193632	L12070562-01	49-010-02100 W-1	50/50	1		07/24/12 19:36
108	P2.072412.194231	L12070563-01	49-009A-05900 W-1	50/50	1		07/24/12 19:42
109	P2.072412.194831	L12070564-01	49-009A-01800 W-1	50/50	1		07/24/12 19:48
110	P2.072412.195431	L12070565-01	49-009A-02100 W-1	50/50	1		07/24/12 19:54
111	P2.072412.200031	WG403933-01	Reference Sample		1	L12070566-01	07/24/12 20:00
112	P2.072412.200629	WG403933-04	Matrix Spike	50/50	1	L12070566-01	07/24/12 20:06
113	P2.072412.201228	WG403933-05	Matrix Spike Duplica	50/50	1	L12070566-01	07/24/12 20:12
114	P2.072412.201827	WG404330-30	CCV		1		07/24/12 20:18
115	P2.072412.202427	WG404330-31	CCB		1		07/24/12 20:24
116	P2.072412.203120	WG404274-02	Method/Prep Blank	5/50	1		07/24/12 20:31
117	P2.072412.203815	WG404274-03	Laboratory Control S	5/50	1		07/24/12 20:38
118	P2.072412.204414	WG404216-01	TCLP Fluid Blank 1		1		07/24/12 20:44
119	P2.072412.205113	L12070199-14	2070243-14	5/50	1		07/24/12 20:51
120	P2.072412.205712	L12070199-15	2070243-15	5/50	1		07/24/12 20:57
121	P2.072412.210411	L12070199-16	2070243-16	5/50	1		07/24/12 21:04
122	P2.072412.211110	L12070199-17	2070243-17	5/50	1		07/24/12 21:11
123	P2.072412.211810	L12070199-18	2070243-18	5/50	1		07/24/12 21:18
124	P2.072412.212411	WG404320-01	Post Digestion Spike		1	L12070199-18	07/24/12 21:24
125	P2.072412.213012	WG404320-02	Serial Dilution		5	L12070199-18	07/24/12 21:30
126	P2.072412.213707	WG404330-32	CCV		1		07/24/12 21:37
127	P2.072412.214307	WG404330-33	CCB		1		07/24/12 21:43
128	P2.072412.215000	L12070623-01	SPENT ABRASIVES EXT TA	5/50	1		07/24/12 21:50
129	P2.072412.215659	L12070623-02	SPENT ABRASIVES EXT TA	5/50	1		07/24/12 21:56
130	P2.072412.220259	L12070626-01	SAMMIS 7/19/	5/50	1		07/24/12 22:02
131	P2.072412.221033	L12070199-19	2070243-19	5/50	1		07/24/12 22:10
132	P2.072412.221632	L12070199-20	2070243-20	5/50	1		07/24/12 22:16
133	P2.072412.222332	L12070199-21	2070243-21	5/50	1		07/24/12 22:23
134	P2.072412.223032	L12070199-22	2070243-22	5/50	1		07/24/12 22:30
135	P2.072412.223632	L12070199-23	2070243-23	5/50	1		07/24/12 22:36
136	P2.072412.224231	L12070199-24	2070243-24	5/50	1		07/24/12 22:42

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Microbac Laboratories Inc.

Instrument Run Log

Instrument: PE-ICP2 Dataset: 072412HR.CSV
Analyst1: KHR Analyst2: N/A
Method: 6010 SOP: ME600E Rev: 12
Maintenance Log ID: 42594

Calibration Std: STD52748 ICV Std: STD52745 Post Spike: STD52370
ICSA: STD52744 ICSAB: STD52974 Int. Std: RGT17310
CCV: STD52910 LLCCV:

Workgroups: 403974, 404120, 404284, 404241, 404320

Comments:

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
137	P2.072412.224831	WG404330-34	CCV		1		07/24/12 22:48
138	P2.072412.225431	WG404330-35	CCB		1		07/24/12 22:54
139	P2.072412.230124	L12070199-25	2070243-25	5/50	1		07/24/12 23:01
140	P2.072412.230725	L12070199-26	2070243-26	5/50	1		07/24/12 23:07
141	P2.072412.231325	L12070199-27	2070243-27 - RS		1	WG404274-01	07/24/12 23:13
142	P2.072412.232024	L12070199-28	2070243-28/IN HOUSE QC	5/50	1		07/24/12 23:20
143	P2.072412.232720	L12070199-30	2070243-27 - MS	5/50	1	WG404274-04	07/24/12 23:27
144	P2.072412.233320	L12070199-31	2070243-27 - MSD	5/50	1	WG404274-05	07/24/12 23:33
145	P2.072412.233920	WG403974-01	Post Digestion Spike		1	L12070504-03	07/24/12 23:39
146	P2.072412.234519	WG404330-36	CCV		1		07/24/12 23:45
147	P2.072412.235117	WG404330-37	CCB		1		07/24/12 23:51

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Microbac

Microbac Laboratories Inc.

Data Checklist

Date: 24-JUL-2012
Analyst: KHR
Analyst: NA
Method: 6010
Instrument: PE-ICP2
Curve Workgroup: 404330
Runlog ID: 48021
Analytical Workgroups: 403974, 404120, 404284, 404241, 404320

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	
Level 3	528, 636
Level 4	504, 507, 509, 199
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:
25-JUL-2012

Secondary Reviewer:
25-JUL-2012

CHECKLIST1 - Modified 03/05/2008
Generated: JUL-25-2012 12:52:47

Microbac Laboratories Inc.

HOLDING TIMES
EQUIVALENT TO AFCEE FORM 9

Analytical Method: 6010B

AAB#: WG403974

Login Number: L12070507

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
MPL23-0712-1	01	07/17/12					07/19/2012	1.8	180		07/24/12	7	180	
MPL23-0712-1	01	07/17/12					07/19/2012	1.8	180		07/24/12	7	180	
MPL23-0712-2	02	07/17/12					07/19/2012	1.8	180		07/24/12	7	180	
MPL23-0712-2	02	07/17/12					07/19/2012	1.8	180		07/24/12	7	180	

* = SEE PROJECT QAPP REQUIREMENTS

HOLD_TIMES - Modified 03/06/2008
PDF File ID: 2514857
Report generated 07/25/2012 09:04

Microbac Laboratories Inc.

METHOD BLANK SUMMARY

Login Number: L12070507
Blank File ID: P2.072412.085628
Prep Date: 07/19/12 07:00
Analyzed Date: 07/24/12 08:56
Analyst: KHR

Work Group: WG403974
Blank Sample ID: WG403777-02
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	WG403777-03	P2.072412.090322	07/24/12 09:03	01
MPL23-0712-1	L12070507-01	P2.072412.120204	07/24/12 12:02	01
MPL23-0712-2	L12070507-02	P2.072412.120858	07/24/12 12:08	01
MPL23-0712-1	L12070507-01	P2.072412.121553	07/24/12 12:15	DL01
MPL23-0712-2	L12070507-02	P2.072412.122246	07/24/12 12:22	DL01

Report Name: BLANK_SUMMARY
PDF File ID: 2514858
Report generated 07/25/2012 09:05

Microbac Laboratories Inc.

METHOD BLANK REPORT

Login Number: L12070507 Prep Date: 07/19/12 07:00 Sample ID: WG403777-02
Instrument ID: PE-ICP2 Run Date: 07/24/12 08:56 Prep Method: 3005A
File ID: P2.072412.085628 Analyst: KHR Method: 6010B
Workgroup (AAB#): WG403974 Matrix: Water Units: mg/L
Contract #: Cal ID: PE-ICP-24-JUL-12

Analytes	LOD	LOQ	Concentration	Dilution	Qualifier
Beryllium, Total	0.00100	0.00200	0.00100	1	U
Calcium, Total	0.100	0.200	0.100	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: 2514859
25-JUL-2012 09:05

Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L12070507 Run Date: 07/24/2012 Sample ID: WG403777-03
Instrument ID: PE-ICP2 Run Time: 09:03 Prep Method: 3005A
File ID: P2.072412.090322 Analyst: KHR Method: 6010B
Workgroup (AAB#): WG403974 Matrix: Water Units: mg/L
QC Key: DOD4 Lot#: STD52371 Cal ID: PE-ICP-24-JUL-12

Analytes	Expected	Found	% Rec	LCS Limits	Q
Beryllium, Total	0.0250	0.0229	91.8	80 - 120	
Calcium, Total	5.00	4.78	95.7	80 - 120	
Magnesium, Total	5.00	4.90	98.0	80 - 120	
Potassium, Total	25.0	24.6	98.4	80 - 120	
Sodium, Total	25.0	24.5	97.9	80 - 120	
Tin, Total	0.500	0.485	97.0	80 - 120	
Vanadium, Total	0.500	0.495	99.1	80 - 120	
Zinc, Total	0.500	0.485	97.0	80 - 120	

LCS - Modified 03/06/2008
PDF File ID: 2514860
Report generated: 07/25/2012 09:05

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

Loginnum: L12070507 Cal ID: PE-ICP2- Worknum: WG403974
Instrument ID: PE-ICP2 Contract #: Method: 6010B
Parent ID: WG403777-01 File ID: P2.072412.091615 Dil: 1 Matrix: WATER
Sample ID: WG403777-04 MS File ID: P2.072412.092311 Dil: 1 Units: mg/L
Sample ID: WG403777-05 MSD File ID: P2.072412.092909 Dil: 1

Analyte	Parent	MS Spiked	MS Found	MS %Rec	MSD Spiked	MSD Found	MSD %Rec	%RPD	%Rec Limits	RPD Limit	Q
Beryllium	ND	0.0250	0.0236	94.6	0.0250	0.0232	92.8	1.92	80 - 120	20	
Calcium	56.5	5.00	67.0	210	5.00	66.6	201	0.661	80 - 120	20	*
Magnesium	8.77	5.00	13.1	87.5	5.00	13.5	94.5	2.66	80 - 120	20	
Potassium	0.635	25.0	25.2	98.1	25.0	25.4	99.3	1.10	80 - 120	20	
Sodium	3.19	25.0	27.8	98.4	25.0	28.3	100	1.73	80 - 120	20	
Tin	ND	0.500	0.479	95.8	0.500	0.482	96.4	0.582	80 - 120	20	
Vanadium	ND	0.500	0.496	99.2	0.500	0.503	101	1.30	80 - 120	20	
Zinc	ND	0.500	0.474	94.8	0.500	0.476	95.2	0.366	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: 2514861
Report generated 07/25/2012 09:05

Microbac Laboratories Inc.
Serial Dilution Report

Login: L12070507 **Worknum:** WG403974
Instrument: PE-ICP2 **Method:** 6010B
Serial Dil: WG403974-02 **File ID:** P2.072412.094708 **Dil:** 5 **Units:** mg/L
Sample: L12070504-03 **File ID:** P2.072412.093510 **Dil:** 1

Analyte	Sample	Qual	Serial Dil	Qual	% Diff	Q
Beryllium	ND	U	ND	U		
Calcium	60.3		59.2		1.79	
Magnesium	8.77	X	8.62	X	1.74	
Potassium	0.741	F	ND	U		
Sodium	3.36	X	3.36	X	0.15	
Tin	ND	U	ND	U		
Vanadium	ND	U	ND	U		
Zinc	ND	U	ND	U		

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

SERIAL_DIL - Modified 09/22/2008
PDF File ID: 2514855
07/25/2012 09:04

Microbac Laboratories Inc.
POST SPIKE REPORT

Sample Login ID: L12070507 **Worknum:** WG403974
Instrument ID: PE-ICP2 **Method:** 6010B
Post Spike ID: WG403974-01 **File ID:** P2.072412.233920 **Dil:** 1 **Units:** mg/L
Sample ID: L12070504-03 **File ID:** P2.072412.093510 **Dil:** 1 **Matrix:** Water

Analyte	Post Spike Result	C	Sample Result	C	Spike Added(SA)	% R	Control Limit %R	Q
BERYLLIUM	0.0254		0	U	.025	101.8	75 - 125	
CALCIUM	63.5		60.3		5	184.5	75 - 125	N
MAGNESIUM	12.6		8.77		5	95.0	75 - 125	
POTASSIUM	25.9		0.741	F	25	101.0	75 - 125	
SODIUM	28.9		3.36		25	103.6	75 - 125	
TIN	0.471	F	0	U	.5	94.1	75 - 125	
VANADIUM	0.502		0	U	.5	100.3	75 - 125	
ZINC	0.484		0	U	.5	96.9	75 - 125	

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

POST_SPIKE - Modified 03/06/2008
PDF File ID: 2514856
Report generated: 07/25/2012 09:04

Microbac Laboratories Inc.
Initial Calibration Summary

Login:	**L12070507**	Workgroup (AAB#):	**WG403974**
Analytical Method:	**6010B**	Instrument ID:	**PE-ICP2**
ICAL Worknum:	**WG404330**	Initial Calibration Date:	**24-JUL-2012 08:09**

	WG404330-01		WG404330-02		WG404330-03		WG404330-04		WG404330-05			
	Conc	INT	Conc	INT	Conc	INT	Conc	INT	Conc	INT	R	Q
BERYLLIUM	0	-1720	.0005	707	.001	1410	.05	72900	.1	142000	.999928	
CALCIUM	0	-39.2	NA	NA	.2	74.4	10	4690	20	9360	.999997	
MAGNESIUM	0	40.2	.1	373	.2	767	10	37400	20	75300	.999995	
POTASSIUM	0	-318	.5	1830	1	3270	50	137000	100	272000	1	
SODIUM	0	750	.5	9930	1	20100	50	984000	100	1910000	1	
TIN	0	25.5	.01	151	.02	302	1	15600	1	30900	.999995	
VANADIUM	0	8110	.01	2790	.02	5700	1	282000	2	561000	.999997	
ZINC	0	7.15	.01	837	.02	1650	1	81400	2	160000	.999973	

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: 2514864
Report generated: 25-JUL-2012 09:18

Microbac Laboratories Inc.
INITIAL CALIBRATION BLANK (ICB)

Login Number: L12070507
Run Date: 07/24/2012
Sample ID: WG404330-07
Instrument ID: PE-ICP2
Run Time: 08:21
Method: 6010B
File ID: P2.072412.082151
Analyst: KHR
Units: mg/L
Workgroup (AAB#): WG403974
Cal ID: PE-ICP2 - 24-JUL-12
Matrix: WATER

Analytes	MDL	RDL	Concentration	Qualifier
BERYLLIUM	.001	.002	.001	U
CALCIUM	.1	.2	.1	U
MAGNESIUM	.25	.5	.25	U
POTASSIUM	.5	1	.5	U
SODIUM	.25	.5	.25	U
TIN	.25	.5	.25	U
VANADIUM	.005	.01	.005	U
ZINC	.01	.02	.01	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: 2514866
Report generated 07/25/2012 09:04

Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L12070507
Run Date: 07/24/2012
Sample ID: WG404330-11
Instrument ID: PE-ICP2
Run Time: 08:46
Method: 6010B
File ID: P2.072412.084637
Analyst: KHR
Units: mg/L
Workgroup (AAB#): WG403974
Cal ID: PE-ICP - 24-JUL-12
Matrix: WATER
QAPP: DOD4

Analytes	MDL	RDL	Concentration	Qualifier
Beryllium	0.00100	0.00200	0.00100	U
Calcium	0.100	0.200	0.100	U
Magnesium	0.250	0.500	0.250	U
Potassium	0.500	1.00	0.500	U
Sodium	0.250	0.500	0.250	U
Tin	0.250	0.500	0.250	U
Vanadium	0.00500	0.0100	0.00500	U
Zinc	0.0100	0.0200	0.0100	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: 2514869
Report generated 07/25/2012 09:04

Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L12070507
Run Date: 07/24/2012
Sample ID: WG404330-13
Instrument ID: PE-ICP2
Run Time: 10:00
Method: 6010B
File ID: P2.072412.100005
Analyst: KHR
Units: mg/L
Workgroup (AAB#): WG403974
Cal ID: PE-ICP - 24-JUL-12
Matrix: WATER
QAPP: DOD4

Analytes	MDL	RDL	Concentration	Qualifier
Beryllium	0.00100	0.00200	0.00100	U
Calcium	0.100	0.200	0.100	U
Magnesium	0.250	0.500	0.250	U
Potassium	0.500	1.00	0.500	U
Sodium	0.250	0.500	0.250	U
Tin	0.250	0.500	0.250	U
Vanadium	0.00500	0.0100	0.00500	U
Zinc	0.0100	0.0200	0.0100	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: 2514869
Report generated 07/25/2012 09:04

Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L12070507
Run Date: 07/24/2012
Sample ID: WG404330-15
Instrument ID: PE-ICP2
Run Time: 11:23
Method: 6010B
File ID: P2.072412.112321
Analyst: KHR
Units: mg/L
Workgroup (AAB#): WG403974
Cal ID: PE-ICP - 24-JUL-12
Matrix: WATER
QAPP: DOD4

Analytes	MDL	RDL	Concentration	Qualifier
Beryllium	0.00100	0.00200	0.00100	U
Calcium	0.100	0.200	0.100	U
Magnesium	0.250	0.500	0.250	U
Potassium	0.500	1.00	0.500	U
Sodium	0.250	0.500	0.250	U
Tin	0.250	0.500	0.250	U
Vanadium	0.00500	0.0100	0.00500	U
Zinc	0.0100	0.0200	0.0100	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: 2514869
Report generated 07/25/2012 09:04

Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L12070507
Run Date: 07/24/2012
Sample ID: WG404330-17
Instrument ID: PE-ICP2
Run Time: 12:41
Method: 6010B
File ID: P2.072412.124137
Analyst: KHR
Units: mg/L
Workgroup (AAB#): WG403974
Cal ID: PE-ICP - 24-JUL-12
Matrix: WATER
QAPP: DOD4

Analytes	MDL	RDL	Concentration	Qualifier
Beryllium	0.00100	0.00200	0.00100	U
Calcium	0.100	0.200	0.100	U
Magnesium	0.250	0.500	0.250	U
Potassium	0.500	1.00	0.500	U
Sodium	0.250	0.500	0.250	U
Tin	0.250	0.500	0.250	U
Vanadium	0.00500	0.0100	0.00500	U
Zinc	0.0100	0.0200	0.0100	U

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

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CONTINUING CALIBRATION BLANK (CCB)

Login Number: L12070507
Run Date: 07/24/2012
Sample ID: WG404330-21
Instrument ID: PE-ICP2
Run Time: 15:08
Method: 6010B
File ID: P2.072412.150858
Analyst: KHR
Units: mg/L
Workgroup (AAB#): WG403974
Cal ID: PE-ICP - 24-JUL-12
Matrix: WATER
QAPP: DOD4

Analytes	MDL	RDL	Concentration	Qualifier
Beryllium	0.00100	0.00200	0.00100	U
Calcium	0.100	0.200	0.100	U
Magnesium	0.250	0.500	0.250	U
Potassium	0.500	1.00	0.500	U
Sodium	0.250	0.500	0.250	U
Tin	0.250	0.500	0.250	U
Vanadium	0.00500	0.0100	0.00500	U
Zinc	0.0100	0.0200	0.0100	U

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

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Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L12070507
Run Date: 07/24/2012
Sample ID: WG404330-35
Instrument ID: PE-ICP2
Run Time: 22:54
Method: 6010B
File ID: P2.072412.225431
Analyst: KHR
Units: mg/L
Workgroup (AAB#): WG403974
Cal ID: PE-ICP - 24-JUL-12
Matrix: WATER
QAPP: DOD4

Analytes	MDL	RDL	Concentration	Qualifier
Beryllium	0.00100	0.00200	0.00100	U
Calcium	0.100	0.200	0.100	U
Magnesium	0.250	0.500	0.250	U
Potassium	0.500	1.00	0.500	U
Sodium	0.250	0.500	0.250	U
Tin	0.250	0.500	0.250	U
Vanadium	0.00500	0.0100	0.00500	U
Zinc	0.0100	0.0200	0.0100	U

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

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Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L12070507
Run Date: 07/24/2012
Sample ID: WG404330-37
Instrument ID: PE-ICP2
Run Time: 23:51
Method: 6010B
File ID: P2.072412.235117
Analyst: KHR
Units: mg/L
Workgroup (AAB#): WG403974
Cal ID: PE-ICP - 24-JUL-12
Matrix: WATER
QAPP: DOD4

Analytes	MDL	RDL	Concentration	Qualifier
Beryllium	0.00100	0.00200	0.00100	U
Calcium	0.100	0.200	0.100	U
Magnesium	0.250	0.500	0.250	U
Potassium	0.500	1.00	0.500	U
Sodium	0.250	0.500	0.250	U
Tin	0.250	0.500	0.250	U
Vanadium	0.00500	0.0100	0.00500	U
Zinc	0.0100	0.0200	0.0100	U

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

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Microbac Laboratories Inc.

INITIAL CALIBRATION VERIFICATION (ICV)

(Alternate Source)

Login Number: L12070507 Run Date: 07/24/2012 Sample ID: WG404330-06

Instrument ID: PE-ICP2 Run Time: 08:15 Method: 6010B

File ID: P2.072412.081556 Analyst: KHR Units: mg/L

Workgroup (AAB#): WG403974 Cal ID: PE-ICP - 24-JUL-12

QC Key: DOD4

Analyte		Expected	Found	%REC	LIMITS	Q
Beryllium		.05	0.0495	98.9	90 - 110	
Calcium		10	10.3	103	90 - 110	
Magnesium		10	9.96	99.6	90 - 110	
Potassium		50	49.7	99.5	90 - 110	
Sodium		50	49.0	98.1	90 - 110	
Tin		1	1.01	101	90 - 110	
Vanadium		1	1.00	100	90 - 110	
Zinc		1	1.01	101	90 - 110	

* Exceeds LIMITS Limit

ICV - Modified 03/06/2008
PDF File ID: 2514865
Report generated 07/25/2012 09:04

Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12070507
Run Date: 07/24/2012
Sample ID: WG404330-10
Instrument ID: PE-ICP2
Run Time: 08:40
Method: 6010B
File ID: P2.072412.084038
Analyst: KHR
QC Key: DOD4
Workgroup (AAB#): WG403974
Cal ID: PE-ICP - 24-JUL-12
Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Beryllium		0.0500	0.0488	mg/L	97.7	90 - 110		
Calcium		10.0	10.2	mg/L	102	90 - 110		
Magnesium		10.0	9.91	mg/L	99.1	90 - 110		
Potassium		50.0	50.0	mg/L	100	90 - 110		
Sodium		50.0	48.8	mg/L	97.6	90 - 110		
Tin		1.00	0.998	mg/L	99.8	90 - 110		
Vanadium		1.00	0.994	mg/L	99.4	90 - 110		
Zinc		1.00	0.997	mg/L	99.7	90 - 110		

* Exceeds LIMITS Criteria

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Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12070507
Run Date: 07/24/2012
Sample ID: WG404330-12
Instrument ID: PE-ICP2
Run Time: 09:54
Method: 6010B
File ID: P2.072412.095405
Analyst: KHR
QC Key: DOD4
Workgroup (AAB#): WG403974
Cal ID: PE-ICP - 24-JUL-12
Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Beryllium		0.0500	0.0488	mg/L	97.6	90 - 110		
Calcium		10.0	10.3	mg/L	103	90 - 110		
Magnesium		10.0	9.85	mg/L	98.5	90 - 110		
Potassium		50.0	50.2	mg/L	100	90 - 110		
Sodium		50.0	50.4	mg/L	101	90 - 110		
Tin		1.00	0.995	mg/L	99.5	90 - 110		
Vanadium		1.00	1.01	mg/L	101	90 - 110		
Zinc		1.00	0.995	mg/L	99.5	90 - 110		

* Exceeds LIMITS Criteria

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Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12070507
Run Date: 07/24/2012
Sample ID: WG404330-14
Instrument ID: PE-ICP2
Run Time: 11:17
Method: 6010B
File ID: P2.072412.111722
Analyst: KHR
QC Key: DOD4
Workgroup (AAB#): WG403974
Cal ID: PE-ICP - 24-JUL-12
Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Beryllium		0.0500	0.0535	mg/L	107	90 - 110		
Calcium		10.0	10.9	mg/L	109	90 - 110		
Magnesium		10.0	10.3	mg/L	103	90 - 110		
Potassium		50.0	50.5	mg/L	101	90 - 110		
Sodium		50.0	50.3	mg/L	101	90 - 110		
Tin		1.00	1.02	mg/L	102	90 - 110		
Vanadium		1.00	1.01	mg/L	101	90 - 110		
Zinc		1.00	1.05	mg/L	105	90 - 110		

* Exceeds LIMITS Criteria

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Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12070507
Run Date: 07/24/2012
Sample ID: WG404330-16
Instrument ID: PE-ICP2
Run Time: 12:35
Method: 6010B
File ID: P2.072412.123538
Analyst: KHR
QC Key: DOD4
Workgroup (AAB#): WG403974
Cal ID: PE-ICP - 24-JUL-12
Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Beryllium		0.0500	0.0528	mg/L	106	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	50.1	mg/L	100	90 - 110		
Sodium		50.0	49.1	mg/L	98.2	90 - 110		
Tin		1.00	1.01	mg/L	101	90 - 110		
Vanadium		1.00	0.999	mg/L	99.9	90 - 110		
Zinc		1.00	1.03	mg/L	103	90 - 110		

* Exceeds LIMITS Criteria

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Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12070507
Run Date: 07/24/2012
Sample ID: WG404330-20
Instrument ID: PE-ICP2
Run Time: 15:02
Method: 6010B
File ID: P2.072412.150259
Analyst: KHR
QC Key: DOD4
Workgroup (AAB#): WG403974
Cal ID: PE-ICP - 24-JUL-12
Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Beryllium		0.0500	0.0525	mg/L	105	90 - 110		
Calcium		10.0	10.7	mg/L	107	90 - 110		
Magnesium		10.0	10.1	mg/L	101	90 - 110		
Potassium		50.0	50.2	mg/L	100	90 - 110		
Sodium		50.0	49.6	mg/L	99.2	90 - 110		
Tin		1.00	1.01	mg/L	101	90 - 110		
Vanadium		1.00	1.00	mg/L	100	90 - 110		
Zinc		1.00	1.03	mg/L	103	90 - 110		

* Exceeds LIMITS Criteria

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Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12070507
Run Date: 07/24/2012
Sample ID: WG404330-34
Instrument ID: PE-ICP2
Run Time: 22:48
Method: 6010B
File ID: P2.072412.224831
Analyst: KHR
QC Key: DOD4
Workgroup (AAB#): WG403974
Cal ID: PE-ICP - 24-JUL-12
Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Beryllium		0.0500	0.0524	mg/L	105	90 - 110		
Calcium		10.0	10.6	mg/L	106	90 - 110		
Magnesium		10.0	9.88	mg/L	98.8	90 - 110		
Potassium		50.0	50.6	mg/L	101	90 - 110		
Sodium		50.0	49.8	mg/L	99.6	90 - 110		
Tin		1.00	0.988	mg/L	98.8	90 - 110		
Vanadium		1.00	1.01	mg/L	101	90 - 110		
Zinc		1.00	1.00	mg/L	100	90 - 110		

* Exceeds LIMITS Criteria

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Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12070507
Run Date: 07/24/2012
Sample ID: WG404330-36
Instrument ID: PE-ICP2
Run Time: 23:45
Method: 6010B
File ID: P2.072412.234519
Analyst: KHR
QC Key: DOD4
Workgroup (AAB#): WG403974
Cal ID: PE-ICP - 24-JUL-12
Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Beryllium		0.0500	0.0515	mg/L	103	90 - 110		
Calcium		10.0	10.5	mg/L	105	90 - 110		
Magnesium		10.0	9.72	mg/L	97.2	90 - 110		
Potassium		50.0	50.2	mg/L	100	90 - 110		
Sodium		50.0	49.1	mg/L	98.3	90 - 110		
Tin		1.00	0.981	mg/L	98.1	90 - 110		
Vanadium		1.00	0.993	mg/L	99.3	90 - 110		
Zinc		1.00	0.985	mg/L	98.5	90 - 110		

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008
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Microbac Laboratories Inc.
INTERFERENCE CHECK SAMPLES

Login number: L12070507 **Workgroup (AAB#):** WG403974
Instrument ID: PE-ICP2 **Method:** 6010B
Sol. A : WG404330-08 **File ID:** P2.072412.082845 **Units:** mg/L
Sol. AB : WG404330-09 **File ID:** P2.072412.083441 **Matrix:** Water

	Sol. A			Sol. AB			
ANALYTE	True	Found	%Recovery	True	Found	%Recovery	Q
Beryllium	NS	-0.000410	NS	0.250	0.246	98.4	
Calcium	250	257	103	250	257	103	
Magnesium	250	244	97.6	250	241	96.4	
Potassium	NS	-0.160	NS	5.00	4.87	97.4	
Sodium	NS	0.0324	NS	5.00	4.92	98.4	
Tin	NS	-0.0270	NS	NS	-0.0273	NS	
Vanadium	NS	-0.00323	NS	0.250	0.244	97.6	
Zinc	NS	0.00204	NS	0.500	0.467	93.4	

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

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Report generated 07/25/2012 09:04

Microbac Laboratories Inc.
INTERELEMENT CORRECTION FACTORS (ANNUALLY)

Login Number: L12070507 **Date:** 12/30/2011
Insturment ID: PE-ICP2 **Method:** 6010B

Analyte	Wave Length	AG	AL	AS	B	BA
ALUMINUM	396.15	0	0	0.206	0	0
ANTIMONY	206.84	0	0	-0.740	0	0
ARSENIC	188.98	0	0.0776	0	0	0
BARIUM	233.53	0	0	0	0	0
BERYLLIUM	234.86	0	0	0	0	0
BORON	249.68	0	1.12	0	0	0
CADMIUM	228.80	0	0	3.00	0	0
CALCIUM	227.55	0	0.195	10.0	0	0
CHROMIUM	267.72	0	-0.00252	0	0	0
COBALT	228.62	0	0	0	0	0.337
COPPER	327.39	0	0	0	0	0
IRON	239.56	0	0	0	0	0
LEAD	220.35	0	-0.0265	0	0	0
LITHIUM	670.78	0	0	0	0	0
MAGNESIUM	279.08	0	0	0	0	0
MANGANESE	257.61	-0.185	0	-0.231	-0.0949	-0.230
MOLYBDENUM	202.03	0	0	0	0	0
NICKEL	231.60	0	0	0	0	0
POTASSIUM	766.49	0	0	0	0	0
SELENIUM	196.03	0	0.147	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	0	0	0
VANADIUM	290.88	0	0	0.200	0	0.0400
ZINC	206.20	0	0	0	0	0

CORR_FACTORS - Modified 03/05/2008
PDF File ID: 2514863
Report generated: 07/25/2012 09:04

Microbac Laboratories Inc.
INTERELEMENT CORRECTION FACTORS (ANNUALLY)

Login Number: L12070507 **Date:** 12/30/2011
Insturment ID: PE-ICP2 **Method:** 6010B

Analyte	Wave Length	BE	CA	CD	CO	CR
ALUMINUM	396.15	0	0	0	0	0
ANTIMONY	206.84	0	0	0	0	6.33
ARSENIC	188.98	0	0.0200	0	0	-6.59
BARIUM	233.53	0	0	0	0	0
BERYLLIUM	234.86	0	0	0	0	-0.0733
BORON	249.68	0	0	24.1	5.90	1.50
CADMIUM	228.80	0	0	0	0	0
CALCIUM	227.55	0	0	0	300	0
CHROMIUM	267.72	0	0	0	0	0
COBALT	228.62	0	0	0	0	-0.244
COPPER	327.39	0	0	0	0.380	-0.0400
IRON	239.56	0	0	0	1.91	0
LEAD	220.35	0	-0.0480	0	0.116	-0.0700
LITHIUM	670.78	0	0	0	0	0
MAGNESIUM	279.08	0	0	0	0	0
MANGANESE	257.61	-1.04	0	-0.755	-0.0418	-0.110
MOLYBDENUM	202.03	0	0	0	0	0
NICKEL	231.60	0	0	0	-0.566	0
POTASSIUM	766.49	0	0	0	0	0
SELENIUM	196.03	0	-0.300	0	-1.52	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	0.400	0	3.48	0
TIN	189.93	0	0	0	0	0
TITANIUM	334.94	0	-0.0100	0	0	0.297
VANADIUM	290.88	0	0	0	0	0
ZINC	206.20	0	0	0	0	-3.64

CORR_FACTORS - Modified 03/05/2008
PDF File ID: 2514863
Report generated: 07/25/2012 09:04

Microbac Laboratories Inc.
INTERELEMENT CORRECTION FACTORS (ANNUALLY)

Login Number: L12070507 **Date:** 12/30/2011
Insturment ID: PE-ICP2 **Method:** 6010B

Analyte	Wave Length	CU	FE	K	LI	MG
ALUMINUM	396.15	0	0.0192	0	0	0
ANTIMONY	206.84	0	0	0	0	0
ARSENIC	188.98	0	-0.00250	0	0	0
BARIUM	233.53	0	-0.0187	0	0	0
BERYLLIUM	234.86	0	0.210	0	0	0
BORON	249.68	0	-4.66	0	0	0
CADMIUM	228.80	0	-0.00420	0	0	0
CALCIUM	227.55	-2.00	100	0	0	0.104
CHROMIUM	267.72	0	0.0391	0	0	0
COBALT	228.62	0	0.0262	0	0	0
COPPER	327.39	0	-0.0688	0	0.154	0
IRON	239.56	0	0	0	0	0.0276
LEAD	220.35	0.740	0.0440	0	0	0
LITHIUM	670.78	0	0	0	0	0
MAGNESIUM	279.08	0	0.540	0	0	0
MANGANESE	257.61	-0.0457	-0.0580	-0.0181	-0.794	0.0147
MOLYBDENUM	202.03	0	-0.0494	0	0	0
NICKEL	231.60	0	0	0	0	0
POTASSIUM	766.49	0	0	0	0	0
SELENIUM	196.03	0	-0.465	0	0	0
SILICON	251.61	0	0	0	0	0
SILVER	328.07	0.0717	0.0240	0	0	0
SODIUM	589.59	0	0	0	0	0
STRONTIUM	407.77	0	0.120	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	0	0.134	0	0	0
ZINC	206.20	-0.200	0.0198	0	0	0

CORR_FACTORS - Modified 03/05/2008
PDF File ID: 2514863
Report generated: 07/25/2012 09:04

Microbac Laboratories Inc.
INTERELEMENT CORRECTION FACTORS (ANNUALLY)

Login Number: L12070507 **Date:** 12/30/2011
Insturment ID: PE-ICP2 **Method:** 6010B

Analyte	Wave Length	MN	MO	NA	NI	PB
ALUMINUM	396.15	0	13.5	0	0	0
ANTIMONY	206.84	0	-7.69	0	0	0
ARSENIC	188.98	0	6.00	0	0	0
BARIUM	233.53	0	-0.548	0	0	0
BERYLLIUM	234.86	-0.131	-1.50	0	-0.00974	0
BORON	249.68	0	-2.20	0	0	0
CADMIUM	228.80	0	-0.00900	0	-0.398	0
CALCIUM	227.55	0	-8.00	0	-900	0
CHROMIUM	267.72	0.434	-0.00100	0	0	0
COBALT	228.62	0	-0.125	0	0.129	0
COPPER	327.39	0	-0.0774	0	0.150	0.257
IRON	239.56	0.480	0	0	0	0.407
LEAD	220.35	0.100	-5.00	0	0.100	0
LITHIUM	670.78	0	0	0	0	0
MAGNESIUM	279.08	0	-5.00	0	0	0.0252
MANGANESE	257.61	0	-0.0482	-0.00916	-0.0340	-0.0413
MOLYBDENUM	202.03	-0.209	0	0	0.120	0
NICKEL	231.60	0	0	0	0	0
POTASSIUM	766.49	0	0	1.00	0	0
SELENIUM	196.03	0.451	0.300	0	0.0940	0
SILICON	251.61	0	15.0	0	0	0
SILVER	328.07	0.130	0.100	0	0	0
SODIUM	589.59	0	0	0	0	0
STRONTIUM	407.77	0	0	0	0	0
THALLIUM	190.80	-1.50	1.20	0	0	0
TIN	189.93	0	0	0	0	0
TITANIUM	334.94	0	0	0	0	0
VANADIUM	290.88	0	0.578	0	0	0
ZINC	206.20	0	0.180	0	-0.200	-0.100

CORR_FACTORS - Modified 03/05/2008
PDF File ID: 2514863
Report generated: 07/25/2012 09:04

Microbac Laboratories Inc.
INTERELEMENT CORRECTION FACTORS (ANNUALLY)

Login Number: L12070507 **Date:** 12/30/2011
Insturment ID: PE-ICP2 **Method:** 6010B

Analyte	Wave Length	SB	SE	SI	SN	SR
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	0	0	0	0
COBALT	228.62	0	0	0	0	0
COPPER	327.39	0	0.148	0	0	0
IRON	239.56	0	0	0	0	0
LEAD	220.35	-0.0100	0	0	0	0
LITHIUM	670.78	0	0	0	0	0
MAGNESIUM	279.08	0	-0.0924	0	0	0
MANGANESE	257.61	-0.0505	-0.0281	-0.185	-0.0445	-0.625
MOLYBDENUM	202.03	0	0	0	0	0
NICKEL	231.60	-0.0500	-0.0100	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	0.200
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	0	0	0
VANADIUM	290.88	0	0	0	0	0
ZINC	206.20	-0.300	0	0	0	0

CORR_FACTORS - Modified 03/05/2008
PDF File ID: 2514863
Report generated: 07/25/2012 09:04

Microbac Laboratories Inc.
INTERELEMENT CORRECTION FACTORS (ANNUALLY)

Login Number: L12070507 **Date:** 12/30/2011
Insturment ID: PE-ICP2 **Method:** 6010B

Analyte	Wave Length	TI	TL	V	ZN
ALUMINUM	396.15	0	0	0	0
ANTIMONY	206.84	0	0	0.000100	0
ARSENIC	188.98	0	0	0.0930	0
BARIUM	233.53	0	0	-2.29	0
BERYLLIUM	234.86	0	0	0	0
BORON	249.68	0	0	0	0
CADMIUM	228.80	0	0	0.0800	0
CALCIUM	227.55	3.00	0	60.0	0
CHROMIUM	267.72	0	0	-0.567	-0.0400
COBALT	228.62	2.21	0	0	0
COPPER	327.39	-1.05	0	-0.700	-0.0613
IRON	239.56	0	0	0	0
LEAD	220.35	0	0	0.0560	0
LITHIUM	670.78	0	0	0	0
MAGNESIUM	279.08	0	0	0	0
MANGANESE	257.61	-0.00931	-0.0414	-0.0601	-0.0552
MOLYBDENUM	202.03	0	0	-0.288	0
NICKEL	231.60	0	0.617	0	0
POTASSIUM	766.49	0	0	0	0
SELENIUM	196.03	-0.220	0	-0.126	0
SILICON	251.61	0	0	0	0
SILVER	328.07	0	0	-1.67	0
SODIUM	589.59	0	0	0	0
STRONTIUM	407.77	0	0	0	0
THALLIUM	190.80	-12.0	0	-1.41	0
TIN	189.93	0	0	0	0
TITANIUM	334.94	0	0	0	0
VANADIUM	290.88	0	0	0	0
ZINC	206.20	0	0	-0.100	0

CORR_FACTORS - Modified 03/05/2008
PDF File ID: 2514863
Report generated: 07/25/2012 09:04

Microbac Laboratories Inc.
LINEAR RANGE (QUARTERLY)

Login Number: L12070507 **Date:** 06/22/2012
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: 2514862
Report generated: 07/25/2012 09:04

2.1.1.3 Raw Data

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

Results Data Set (original): 072412H
Results Library (original): C:\pe\peicp2\Results\Results.mdb
Results Data Set (reprocessed): 072412HR
Results Library (reprocessed): C:\pe\peicp2\Results\Results.mdb

==========

Sequence No.: 1 **Autosampler Location: 1**
Sample ID: S0 **Date Collected: 7/24/2012 7:43:13 AM**
Analyst: **Data Type: Reprocessed on 7/24/2012 8:55:19 AM**
Logged In Analyst (Original) : peicp2
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: S0

Analyte	Back Pressure	Flow
All	176.0 kPa	0.50 L/min

Mean Data: S0

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Calib Conc.	Units
Y 371.029	2675056.6	11240.35	0.42%		
YRADIAL	293043.7	2753.87	0.94%		
Ga 417.206	1392548.6	16674.79	1.20%		
GaRADIAL	80259.2	1853.77	2.31%		
Ag 328.068†	78.6	64.16	81.60%	[0.00]	mg/L
Al 396.153†	-39.6	4.83	12.21%	[0.00]	mg/L
As 188.979†	-22.8	3.80	16.67%	[0.00]	mg/L
Ba 233.527†	-185.1	18.63	10.07%	[0.00]	mg/L
Be 234.861†	-1722.5	40.33	2.34%	[0.00]	mg/L
B 249.677†	304.0	12.22	4.02%	[0.00]	mg/L
Ca 227.546†	-39.2	17.52	44.65%	[0.00]	mg/L
Cd 228.802†	47.9	1.97	4.12%	[0.00]	mg/L
Co 228.616†	-20.5	5.22	25.39%	[0.00]	mg/L
Cr 267.716†	166.7	7.42	4.45%	[0.00]	mg/L
Cu 327.393†	-700.4	118.43	16.91%	[0.00]	mg/L
Fe 239.562†	-17.4	6.64	38.10%	[0.00]	mg/L
Mg 279.077†	40.2	7.01	17.44%	[0.00]	mg/L
Mn 257.610†	494.2	14.39	2.91%	[0.00]	mg/L
Mo 202.031†	84.3	4.68	5.55%	[0.00]	mg/L
Ni 231.604†	-212.1	8.46	3.99%	[0.00]	mg/L
Pb 220.353†	-79.7	10.23	12.84%	[0.00]	mg/L
Sb 206.836†	13.5	4.39	32.44%	[0.00]	mg/L
Se 196.026†	29.5	7.07	24.00%	[0.00]	mg/L
Si 251.611†	702.9	19.98	2.84%	[0.00]	mg/L
Sn 189.927†	25.5	6.47	25.39%	[0.00]	mg/L
Ti 334.940†	781.6	132.88	17.00%	[0.00]	mg/L
Tl 190.801†	-87.8	2.65	3.02%	[0.00]	mg/L
V 290.880†	8106.0	66.51	0.82%	[0.00]	mg/L
Zn 206.200†	7.1	3.44	48.09%	[0.00]	mg/L
K 766.490†	-318.1	68.94	21.67%	[0.00]	mg/L
Na 589.592†	749.7	31.05	4.14%	[0.00]	mg/L
Sr 407.771†	-404.2	61.27	15.16%	[0.00]	mg/L
Li 670.784†	-193.1	53.94	27.93%	[0.00]	mg/L

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Sequence No.: 2 **Autosampler Location: 2**
Sample ID: S1 **Date Collected: 7/24/2012 7:50:08 AM**
Analyst: **Data Type: Reprocessed on 7/24/2012 8:55:21 AM**
Logged In Analyst (Original) : peicp2
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: S1

Analyte	Back Pressure	Flow

Approved: July 25, 2012
Kym H. Rhoden

All	176.0 kPa	0.50 L/min

Mean Data: S1

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Calib Units
Y 371.029	2697229.7	19842.33	0.74%		
YRADIAL	291692.6	6272.75	2.15%		
Ga 417.206	1408534.3	9086.70	0.65%		
GaRADIAL	79442.3	1927.76	2.43%		
Ag 328.068†	1381.8	34.76	2.52%	[0.0040]	mg/L
Al 396.153†	648.6	15.26	2.35%	[0.10]	mg/L
Ba 233.527†	2031.0	29.32	1.44%	[0.010]	mg/L
Be 234.861†	706.9	15.19	2.15%	[0.0005]	mg/L
Cd 228.802†	22.8	8.56	37.53%	[0.00050]	mg/L
Co 228.616†	109.1	2.67	2.45%	[0.0020]	mg/L
Cr 267.716†	774.7	18.18	2.35%	[0.0050]	mg/L
Cu 327.393†	1308.1	40.88	3.13%	[0.0050]	mg/L
Fe 239.562†	637.7	14.74	2.31%	[0.040]	mg/L
Mg 279.077†	373.4	29.26	7.84%	[0.10]	mg/L
Mn 257.610†	5039.5	37.05	0.74%	[0.0050]	mg/L
Mo 202.031†	424.6	10.55	2.48%	[0.010]	mg/L
Ni 231.604†	435.2	3.69	0.85%	[0.0050]	mg/L
Pb 220.353†	92.4	9.22	9.98%	[0.0050]	mg/L
Sb 206.836†	63.8	4.01	6.29%	[0.012]	mg/L
Si 251.611†	2915.5	52.94	1.82%	[0.050]	mg/L
Sn 189.927†	150.9	6.09	4.04%	[0.010]	mg/L
Ti 334.940†	11145.6	171.47	1.54%	[0.010]	mg/L
V 290.880†	2788.3	304.92	10.94%	[0.010]	mg/L
Zn 206.200†	837.3	6.26	0.75%	[0.010]	mg/L
K 766.490†	1832.4	27.97	1.53%	[0.50]	mg/L
Na 589.592†	9934.7	223.31	2.25%	[0.50]	mg/L
Sr 407.771†	24538.3	812.60	3.31%	[0.010]	mg/L
Li 670.784†	1456.2	44.35	3.05%	[0.010]	mg/L

Sequence No.: 3 **Autosampler Location: 3**
Sample ID: S2 **Date Collected: 7/24/2012 7:57:02 AM**
Analyst: **Data Type: Reprocessed on 7/24/2012 8:55:22 AM**
Logged In Analyst (Original) : peicp2
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: S2

Analyte	Back Pressure	Flow
All	176.0 kPa	0.50 L/min

Mean Data: S2

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Calib Units
Y 371.029	2688578.7	23783.14	0.88%		
YRADIAL	290626.4	7781.61	2.68%		
Ga 417.206	1411707.3	15950.80	1.13%		
GaRADIAL	79305.8	618.72	0.78%		
Ag 328.068†	2882.6	76.73	2.66%	[0.0080]	mg/L
Al 396.153†	1313.0	20.83	1.59%	[0.20]	mg/L
As 188.979†	36.9	3.36	9.11%	[0.0080]	mg/L
Ba 233.527†	4129.8	32.37	0.78%	[0.020]	mg/L
Be 234.861†	1411.7	21.96	1.56%	[0.0010]	mg/L
B 249.677†	1147.8	20.84	1.82%	[0.010]	mg/L
Ca 227.546†	74.4	12.25	16.46%	[0.20]	mg/L
Cd 228.802†	66.0	10.57	16.02%	[0.0010]	mg/L
Co 228.616†	211.3	10.08	4.77%	[0.0040]	mg/L
Cr 267.716†	1557.4	25.20	1.62%	[0.010]	mg/L
Cu 327.393†	2670.5	66.77	2.50%	[0.010]	mg/L
Fe 239.562†	1299.8	20.02	1.54%	[0.080]	mg/L
Mg 279.077†	767.3	7.88	1.03%	[0.20]	mg/L
Mn 257.610†	10122.5	131.87	1.30%	[0.010]	mg/L
Mo 202.031†	857.1	13.72	1.60%	[0.020]	mg/L
Ni 231.604†	886.4	2.44	0.28%	[0.010]	mg/L

Approved: July 25, 2012

Kym H. Rhoden

Pb 220.353†	159.8	9.91	6.20%	[0.010]	mg/L
Sb 206.836†	130.1	0.41	0.31%	[0.024]	mg/L
Se 196.026†	11.7	2.17	18.50%	[0.0080]	mg/L
Si 251.611†	5885.1	63.45	1.08%	[0.10]	mg/L
Sn 189.927†	301.6	2.59	0.86%	[0.020]	mg/L
Ti 334.940†	22534.3	318.83	1.41%	[0.020]	mg/L
Tl 190.801†	50.5	5.98	11.83%	[0.010]	mg/L
V 290.880†	5699.7	345.02	6.05%	[0.020]	mg/L
Zn 206.200†	1654.1	11.56	0.70%	[0.020]	mg/L
K 766.490†	3266.0	52.43	1.61%	[1.00]	mg/L
Na 589.592†	20072.2	413.19	2.06%	[1.00]	mg/L
Sr 407.771†	49848.3	1543.09	3.10%	[0.020]	mg/L
Li 670.784†	2739.9	46.15	1.68%	[0.020]	mg/L

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Sequence No.: 4 **Autosampler Location: 4**
Sample ID: S3 **Date Collected: 7/24/2012 8:03:57 AM**
Analyst: **Data Type: Reprocessed on 7/24/2012 8:55:23 AM**
Logged In Analyst (Original) : peicp2
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: S3

Analyte	Back Pressure	Flow
All	177.0 kPa	0.50 L/min

Mean Data: S3

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Calib Conc.	Units
Y 371.029	2574727.6	5851.95	0.23%		
YRADIAL	289119.4	3447.05	1.19%		
Ga 417.206	1320335.8	33742.25	2.56%		
GaRADIAL	77834.0	567.28	0.73%		
Ag 328.068†	142445.8	3877.12	2.72%	[0.40]	mg/L
Al 396.153†	63311.2	224.11	0.35%	[10.00]	mg/L
As 188.979†	1764.9	36.43	2.06%	[0.40]	mg/L
Ba 233.527†	201646.6	809.96	0.40%	[1.00]	mg/L
Be 234.861†	72887.6	2158.87	2.96%	[0.05]	mg/L
B 249.677†	61954.3	1737.80	2.80%	[0.50]	mg/L
Ca 227.546†	4688.2	137.83	2.94%	[10.00]	mg/L
Cd 228.802†	3422.2	153.47	4.48%	[0.05]	mg/L
Co 228.616†	10722.0	86.87	0.81%	[0.20]	mg/L
Cr 267.716†	75022.8	414.77	0.55%	[0.50]	mg/L
Cu 327.393†	131843.8	3345.70	2.54%	[0.50]	mg/L
Fe 239.562†	64885.0	491.56	0.76%	[4.00]	mg/L
Mg 279.077†	37433.3	206.49	0.55%	[10.00]	mg/L
Mn 257.610†	473433.2	3108.18	0.66%	[0.50]	mg/L
Mo 202.031†	43312.5	332.27	0.77%	[1.00]	mg/L
Ni 231.604†	43899.6	370.42	0.84%	[0.50]	mg/L
Pb 220.353†	8607.2	46.75	0.54%	[0.50]	mg/L
Sb 206.836†	6594.7	201.97	3.06%	[1.20]	mg/L
Se 196.026†	999.2	36.14	3.62%	[0.40]	mg/L
Si 251.611†	293906.9	5788.14	1.97%	[5.00]	mg/L
Sn 189.927†	15554.4	79.98	0.51%	[1.00]	mg/L
Ti 334.940†	1137634.0	1309.98	0.12%	[1.00]	mg/L
Tl 190.801†	2377.7	30.84	1.30%	[0.50]	mg/L
V 290.880†	281763.0	1227.72	0.44%	[1.00]	mg/L
Zn 206.200†	81378.3	412.32	0.51%	[1.00]	mg/L
K 766.490†	136994.8	882.80	0.64%	[50.00]	mg/L
Na 589.592†	984243.0	15527.23	1.58%	[50.00]	mg/L
Sr 407.771†	2393126.4	48117.83	2.01%	[1.00]	mg/L
Li 670.784†	130462.4	814.27	0.62%	[1.00]	mg/L

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Sequence No.: 5 **Autosampler Location: 5**
Sample ID: S4 **Date Collected: 7/24/2012 8:09:55 AM**
Analyst: **Data Type: Reprocessed on 7/24/2012 8:55:24 AM**
Logged In Analyst (Original) : peicp2
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Approved: July 25, 2012
Lynn H. Rhoden

Nebulizer Parameters: S4

Analyte	Back Pressure	Flow
All	177.0 kPa	0.50 L/min

Mean Data: S4

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Calib Units
Y 371.029	2547430.0	32131.99	1.26%		
YRADIAL	285711.2	4596.14	1.61%		
Ga 417.206	1326883.9	28351.24	2.14%		
GaRADIAL	78776.3	856.56	1.09%		
Ag 328.068†	278660.1	5291.44	1.90%	[0.80]	mg/L
Al 396.153†	125871.9	410.04	0.33%	[20.00]	mg/L
As 188.979†	3456.2	67.00	1.94%	[0.80]	mg/L
Ba 233.527†	398664.1	2707.25	0.68%	[2.00]	mg/L
Be 234.861†	142275.5	2849.28	2.00%	[0.10]	mg/L
B 249.677†	122265.6	2021.96	1.65%	[1.00]	mg/L
Ca 227.546†	9360.9	240.93	2.57%	[20.00]	mg/L
Cd 228.802†	6726.7	236.44	3.52%	[0.10]	mg/L
Co 228.616†	21223.3	123.02	0.58%	[0.40]	mg/L
Cr 267.716†	148366.5	1065.46	0.72%	[1.00]	mg/L
Cu 327.393†	257941.7	3759.50	1.46%	[1.00]	mg/L
Fe 239.562†	129576.7	493.66	0.38%	[8.00]	mg/L
Mg 279.077†	75349.6	523.81	0.70%	[20.00]	mg/L
Mn 257.610†	935714.8	2355.53	0.25%	[1.00]	mg/L
Mo 202.031†	85725.9	79.80	0.09%	[2.00]	mg/L
Ni 231.604†	83177.9	188.76	0.23%	[1.00]	mg/L
Pb 220.353†	17006.3	164.64	0.97%	[1.00]	mg/L
Sb 206.836†	12951.6	323.37	2.50%	[2.40]	mg/L
Se 196.026†	1966.3	58.99	3.00%	[0.80]	mg/L
Si 251.611†	577124.0	8041.94	1.39%	[10.00]	mg/L
Sn 189.927†	30921.7	243.57	0.79%	[2.00]	mg/L
Ti 334.940†	2273424.9	13203.95	0.58%	[2.00]	mg/L
Tl 190.801†	4631.5	74.94	1.62%	[1.00]	mg/L
V 290.880†	560907.1	6091.78	1.09%	[2.00]	mg/L
Zn 206.200†	160314.1	1520.41	0.95%	[2.00]	mg/L
K 766.490†	272409.9	2002.92	0.74%	[100.00]	mg/L
Na 589.592†	1905582.3	19703.11	1.03%	[100.00]	mg/L
Sr 407.771†	4785116.7	68961.72	1.44%	[2.00]	mg/L
Li 670.784†	254175.8	2605.26	1.02%	[2.00]	mg/L

Calibration Summary

Analyte	Stds.	Equation	Intercept	Slope	Curvature	Corr. Coef.	Reslope
Ag 328.068	4	Lin, Calc Int	414.4	349300	0.00000	0.999941	
Al 396.153	4	Lin, Calc Int	69.7	6297	0.00000	0.999996	
As 188.979	3	Wt. Lin	2.0	4362	0.00000	0.999946	
Ba 233.527	4	Lin, Calc Int	344.8	199600	0.00000	0.999984	
Be 234.861	4	Lin, Calc Int	213.1	1427000	0.00000	0.999928	
B 249.677	3	Lin, Calc Int	115.5	122500	0.00000	0.999975	
Ca 227.546	3	Lin, Calc Int	-7.3	468.6	0.00000	0.999997	
Cd 228.802	4	Lin, Calc Int	3.5	67460	0.00000	0.999960	
Co 228.616	4	Lin, Calc Int	14.4	53130	0.00000	0.999987	
Cr 267.716	4	Lin, Calc Int	137.9	148500	0.00000	0.999985	
Cu 327.393	4	Lin, Calc Int	392.0	258600	0.00000	0.999942	
Fe 239.562	4	Lin, Calc Int	10.1	16200	0.00000	1.000000	
Mg 279.077	4	Lin, Calc Int	-26.8	3764	0.00000	0.999995	
Mn 257.610	4	Lin, Calc Int	1046.8	936700	0.00000	0.999984	
Mo 202.031	4	Lin, Calc Int	54.7	42920	0.00000	0.999987	
Ni 231.604	4	Lin, Calc Int	310.9	83730	0.00000	0.999642	
Pb 220.353	4	Lin, Calc Int	12.1	17030	0.00000	0.999982	
Sb 206.836	4	Lin, Calc Int	14.7	5409	0.00000	0.999960	
Se 196.026	3	Wt. Lin	-8.2	2493	0.00000	0.999947	
Si 251.611	4	Lin, Calc Int	710.6	57840	0.00000	0.999960	
Sn 189.927	4	Lin, Calc Int	8.1	15470	0.00000	0.999995	
Ti 334.940	4	Lin, Calc Int	-17.3	1137000	0.00000	1.000000	
Tl 190.801	3	Lin, Calc Int	13.2	4640	0.00000	0.999908	
V 290.880	4	Lin, Calc Int	186.3	280600	0.00000	0.999997	

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Zn 206.200	4	Lin, Calc Int	179.3	80290	0.00000	0.999973
K 766.490	4	Non Lin, Calc Int	323.7	2746	-0.25593	1.000000
Na 589.592	4	Non Lin, Calc Int	-150.4	20320	-12.60870	1.000000
Sr 407.771	4	Lin, Calc Int	886.8	2392000	0.00000	1.000000
Li 670.784	4	Lin, Calc Int	540.4	127400	0.00000	0.999920

Sequence No.: 6 **Autosampler Location: 11**
Sample ID: ICV 2nd Vendor **Date Collected: 7/24/2012 8:15:56 AM**
Analyst: **Data Type: Reprocessed on 7/24/2012 8:55:25 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	177.0 kPa	0.50 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	2591683.5				7852.45	0.30%
YRADIAL	291114.2				3962.23	1.36%
Ga 417.206	1350588.2				34964.12	2.59%
GaRADIAL	78704.8				265.02	0.34%
Ag 328.068†	139459.2	0.402 mg/L	0.0100	0.402 mg/L	0.0100	2.48%
QC value within limits for Ag 328.068 Recovery = 100.43%						
Al 396.153†	62866.4	9.90 mg/L	0.034	9.90 mg/L	0.034	0.34%
QC value within limits for Al 396.153 Recovery = 99.03%						
As 188.979†	1716.8	0.388 mg/L	0.0127	0.388 mg/L	0.0127	3.27%
QC value within limits for As 188.979 Recovery = 97.03%						
Ba 233.527†	201086.1	1.01 mg/L	0.002	1.01 mg/L	0.002	0.22%
QC value within limits for Ba 233.527 Recovery = 100.60%						
Be 234.861†	71496.6	0.0495 mg/L	0.00147	0.0495 mg/L	0.00147	2.98%
QC value within limits for Be 234.861 Recovery = 98.93%						
B 249.677†	60959.2	0.493 mg/L	0.0118	0.493 mg/L	0.0118	2.39%
QC value within limits for B 249.677 Recovery = 98.61%						
Ca 227.546†	4589.7	10.3 mg/L	0.28	10.3 mg/L	0.28	2.74%
QC value within limits for Ca 227.546 Recovery = 102.83%						
Cd 228.802†	3366.6	0.0485 mg/L	0.00221	0.0485 mg/L	0.00221	4.55%
QC value within limits for Cd 228.802 Recovery = 97.02%						
Co 228.616†	10678.4	0.200 mg/L	0.0005	0.200 mg/L	0.0005	0.24%
QC value within limits for Co 228.616 Recovery = 99.97%						
Cr 267.716†	74207.4	0.499 mg/L	0.0024	0.499 mg/L	0.0024	0.49%
QC value within limits for Cr 267.716 Recovery = 99.81%						
Cu 327.393†	129015.1	0.499 mg/L	0.0124	0.499 mg/L	0.0124	2.49%
QC value within limits for Cu 327.393 Recovery = 99.78%						
Fe 239.562†	64497.3	3.98 mg/L	0.038	3.98 mg/L	0.038	0.97%
QC value within limits for Fe 239.562 Recovery = 99.50%						
Mg 279.077†	37386.9	9.96 mg/L	0.132	9.96 mg/L	0.132	1.32%
QC value within limits for Mg 279.077 Recovery = 99.55%						
Mn 257.610†	471558.3	0.503 mg/L	0.0030	0.503 mg/L	0.0030	0.59%
QC value within limits for Mn 257.610 Recovery = 100.57%						
Mo 202.031†	43469.4	1.01 mg/L	0.004	1.01 mg/L	0.004	0.41%
QC value within limits for Mo 202.031 Recovery = 101.23%						
Ni 231.604†	43725.4	0.518 mg/L	0.0021	0.518 mg/L	0.0021	0.40%
QC value within limits for Ni 231.604 Recovery = 103.64%						
Pb 220.353†	8561.5	0.503 mg/L	0.0013	0.503 mg/L	0.0013	0.27%
QC value within limits for Pb 220.353 Recovery = 100.68%						
Sb 206.836†	6473.9	1.19 mg/L	0.041	1.19 mg/L	0.041	3.45%
QC value within limits for Sb 206.836 Recovery = 99.42%						
Se 196.026†	985.4	0.400 mg/L	0.0125	0.400 mg/L	0.0125	3.12%
QC value within limits for Se 196.026 Recovery = 99.99%						
Si 251.611†	289502.5	4.98 mg/L	0.093	4.98 mg/L	0.093	1.87%
QC value within limits for Si 251.611 Recovery = 99.63%						
Sn 189.927†	15599.5	1.01 mg/L	0.004	1.01 mg/L	0.004	0.43%
QC value within limits for Sn 189.927 Recovery = 100.75%						
Ti 334.940†	1135500.6	1.00 mg/L	0.004	1.00 mg/L	0.004	0.36%
QC value within limits for Ti 334.940 Recovery = 100.01%						
Tl 190.801†	2379.1	0.524 mg/L	0.0042	0.524 mg/L	0.0042	0.79%

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QC value within limits for Tl 190.801 Recovery = 104.86%

V 290.880†	281125.0	1.00 mg/L	0.008	1.00 mg/L	0.008	0.77%

QC value within limits for V 290.880 Recovery = 100.01%

Zn 206.200†	81036.4	1.01 mg/L	0.004	1.01 mg/L	0.004	0.42%

QC value within limits for Zn 206.200 Recovery = 101.17%

K 766.490†	136448.4	49.7 mg/L	0.27	49.7 mg/L	0.27	0.54%

QC value within limits for K 766.490 Recovery = 99.49%

Na 589.592†	965862.0	49.0 mg/L	0.46	49.0 mg/L	0.46	0.93%

QC value within limits for Na 589.592 Recovery = 98.07%

Sr 407.771†	2382761.6	0.995 mg/L	0.0167	0.995 mg/L	0.0167	1.67%

QC value within limits for Sr 407.771 Recovery = 99.55%

Li 670.784†	128830.6	1.01 mg/L	0.010	1.01 mg/L	0.010	0.99%

QC value within limits for Li 670.784 Recovery = 100.67%

All analyte(s) passed QC.

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Sequence No.: 7 **Autosampler Location: 1**
Sample ID: ICB **Date Collected: 7/24/2012 8:21:51 AM**
Analyst: **Data Type: Reprocessed on 7/24/2012 8:55:27 AM**
Logged In Analyst (Original) : peicp2
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: ICB

Analyte	Back Pressure	Flow
All	177.0 kPa	0.50 L/min

Mean Data: ICB

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2676629.1						17617.45	0.66%
YRADIAL	295450.1						1080.48	0.37%
Ga 417.206	1424970.0						9967.64	0.70%
GaRADIAL	81629.5						2159.09	2.64%
Ag 328.068†	36.9	-0.00108	mg/L	0.000305	-0.00108	mg/L	0.000305	28.19%
QC value within limits for Ag 328.068 Recovery = Not calculated								
Al 396.153†	8.1	-0.00972	mg/L	0.001253	-0.00972	mg/L	0.001253	12.89%
QC value within limits for Al 396.153 Recovery = Not calculated								
As 188.979†	2.1	0.00003	mg/L	0.002114	0.00003	mg/L	0.002114	>999.9%
QC value within limits for As 188.979 Recovery = Not calculated								
Ba 233.527†	3.8	-0.00171	mg/L	0.000053	-0.00171	mg/L	0.000053	3.10%
QC value within limits for Ba 233.527 Recovery = Not calculated								
Be 234.861†	20.4	-0.00014	mg/L	0.000009	-0.00014	mg/L	0.000009	6.79%
QC value within limits for Be 234.861 Recovery = Not calculated								
B 249.677†	244.4	0.00106	mg/L	0.000315	0.00106	mg/L	0.000315	29.78%
QC value within limits for B 249.677 Recovery = Not calculated								
Ca 227.546†	-15.1	-0.0197	mg/L	0.01774	-0.0197	mg/L	0.01774	90.25%
QC value within limits for Ca 227.546 Recovery = Not calculated								
Cd 228.802†	-7.8	-0.00017	mg/L	0.000069	-0.00017	mg/L	0.000069	40.72%
QC value within limits for Cd 228.802 Recovery = Not calculated								
Co 228.616†	-0.1	-0.00027	mg/L	0.000251	-0.00027	mg/L	0.000251	91.87%
QC value within limits for Co 228.616 Recovery = Not calculated								
Cr 267.716†	21.6	-0.00078	mg/L	0.000104	-0.00078	mg/L	0.000104	13.31%
QC value within limits for Cr 267.716 Recovery = Not calculated								
Cu 327.393†	31.5	-0.00139	mg/L	0.000285	-0.00139	mg/L	0.000285	20.45%
QC value within limits for Cu 327.393 Recovery = Not calculated								
Fe 239.562†	5.9	-0.00026	mg/L	0.000250	-0.00026	mg/L	0.000250	96.90%
QC value within limits for Fe 239.562 Recovery = Not calculated								
Mg 279.077†	-2.0	0.00658	mg/L	0.003792	0.00658	mg/L	0.003792	57.60%
QC value within limits for Mg 279.077 Recovery = Not calculated								
Mn 257.610†	-39.4	-0.00116	mg/L	0.000013	-0.00116	mg/L	0.000013	1.16%
QC value within limits for Mn 257.610 Recovery = Not calculated								
Mo 202.031†	18.3	-0.00085	mg/L	0.000200	-0.00085	mg/L	0.000200	23.61%
QC value within limits for Mo 202.031 Recovery = Not calculated								
Ni 231.604†	-10.3	-0.00383	mg/L	0.000062	-0.00383	mg/L	0.000062	1.61%
QC value within limits for Ni 231.604 Recovery = Not calculated								
Pb 220.353†	3.0	-0.00053	mg/L	0.000256	-0.00053	mg/L	0.000256	48.12%
QC value within limits for Pb 220.353 Recovery = Not calculated								
Sb 206.836†	3.9	-0.00199	mg/L	0.000709	-0.00199	mg/L	0.000709	35.60%
QC value within limits for Sb 206.836 Recovery = Not calculated								

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Se 196.026†              -11.2    -0.00122 mg/L      0.001330    -0.00122 mg/L      0.001330 109.30%
   QC value within limits for Se 196.026  Recovery = Not calculated
Si 251.611†               44.5     -0.0115 mg/L       0.00050     -0.0115 mg/L       0.00050   4.36%
   QC value within limits for Si 251.611  Recovery = Not calculated
Sn 189.927†               22.8     0.00095 mg/L      0.000682     0.00095 mg/L      0.000682  71.91%
   QC value within limits for Sn 189.927  Recovery = Not calculated
Ti 334.940†               29.4     0.00004 mg/L      0.000054     0.00004 mg/L      0.000054 139.67%
   QC value within limits for Ti 334.940  Recovery = Not calculated
Tl 190.801†               -2.0    -0.00328 mg/L      0.002597    -0.00328 mg/L      0.002597  79.21%
   QC value within limits for Tl 190.801  Recovery = Not calculated
V 290.880†               111.5    -0.00027 mg/L      0.001074    -0.00027 mg/L      0.001074 402.96%
   QC value within limits for V 290.880  Recovery = Not calculated
Zn 206.200†                2.3    -0.00221 mg/L      0.000136    -0.00221 mg/L      0.000136   6.14%
   QC value within limits for Zn 206.200  Recovery = Not calculated
K 766.490†                62.6     -0.0951 mg/L       0.02150     -0.0951 mg/L       0.02150  22.61%
   QC value within limits for K 766.490  Recovery = Not calculated
Na 589.592†              102.1      0.0124 mg/L       0.00336      0.0124 mg/L       0.00336  27.04%
   QC value within limits for Na 589.592  Recovery = Not calculated
Sr 407.771†              -82.1    -0.00040 mg/L      0.000018    -0.00040 mg/L      0.000018   4.36%
   QC value within limits for Sr 407.771  Recovery = Not calculated
Li 670.784†               70.7    -0.00369 mg/L      0.000947    -0.00369 mg/L      0.000947  25.70%
   QC value within limits for Li 670.784  Recovery = Not calculated
All analyte(s) passed QC.

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Sequence No.: 8                                    Autosampler Location: 12
Sample ID: ICSA                                    Date Collected: 7/24/2012 8:28:45 AM
Analyst:                                           Data Type: Reprocessed on 7/24/2012 8:55:28 AM
Logged In Analyst (Original) : peicp2
Initial Sample Wt:                                 Initial Sample Vol:
Dilution:                                          Sample Prep Vol:

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Nebulizer Parameters: ICSA
Analyte                 Back Pressure    Flow
All                     177.0 kPa        0.50 L/min

------------------------------------------------------------------------------------------
Mean Data: ICSA
                   Mean Corrected        Calib.                          Sample
Analyte               Intensity     Conc. Units      Std.Dev.     Conc. Units      Std.Dev.   RSD
Y 371.029            2469836.4                                                   29959.09   1.21%
YRADIAL               285825.7                                                    4048.90   1.42%
Ga 417.206           1344953.4                                                    9833.94   0.73%
GaRADIAL               79751.6                                                     953.65   1.20%
Ag 328.068†           -14446.1    -0.00005 mg/L      0.000996    -0.00005 mg/L      0.000996 >999.9%
   QC value within limits for Ag 328.068  Recovery = Not calculated
Al 396.153†          1543013.0         245 mg/L           0.3         245 mg/L           0.3   0.14%
   QC value within limits for Al 396.153  Recovery = 98.02%
As 188.979†              -21.2     0.00027 mg/L      0.002289     0.00027 mg/L      0.002289 851.43%
   QC value within limits for As 188.979  Recovery = Not calculated
Ba 233.527†              906.6    -0.00264 mg/L      0.000201    -0.00264 mg/L      0.000201   7.63%
   QC value within limits for Ba 233.527  Recovery = Not calculated
Be 234.861†            30328.0    -0.00041 mg/L      0.000334    -0.00041 mg/L      0.000334  81.75%
   QC value within limits for Be 234.861  Recovery = Not calculated
B 249.677†              6690.1      0.0140 mg/L       0.00225      0.0140 mg/L       0.00225  16.07%
   QC value within limits for B 249.677  Recovery = Not calculated
Ca 227.546†           119446.2         257 mg/L           6.1         257 mg/L           6.1   2.36%
   QC value within limits for Ca 227.546  Recovery = 102.85%
Cd 228.802†               -7.3    -0.00024 mg/L      0.000179    -0.00024 mg/L      0.000179  75.66%
   QC value within limits for Cd 228.802  Recovery = Not calculated
Co 228.616†               30.0    -0.00206 mg/L      0.000264    -0.00206 mg/L      0.000264  12.80%
   QC value within limits for Co 228.616  Recovery = Not calculated
Cr 267.716†                9.5    -0.00203 mg/L      0.000175    -0.00203 mg/L      0.000175   8.62%
   QC value within limits for Cr 267.716  Recovery = Not calculated
Cu 327.393†            -1717.9    -0.00367 mg/L      0.000203    -0.00367 mg/L      0.000203   5.53%
   QC value within limits for Cu 327.393  Recovery = Not calculated
Fe 239.562†          1495465.4        92.3 mg/L          0.39        92.3 mg/L          0.39   0.43%
   QC value within limits for Fe 239.562  Recovery = 92.30%
Mg 279.077†           919544.1         244 mg/L           0.2         244 mg/L           0.2   0.09%
   QC value within limits for Mg 279.077  Recovery = 97.70%
Mn 257.610†            -1817.1    -0.00283 mg/L      0.000705    -0.00283 mg/L      0.000705  24.88%
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   QC value within limits for Mn 257.610  Recovery = Not calculated
Mo 202.031†            -114.6     0.00059 mg/L      0.000331     0.00059 mg/L      0.000331  56.50%
   QC value within limits for Mo 202.031  Recovery = Not calculated
Ni 231.604†              56.6    -0.00303 mg/L      0.000357    -0.00303 mg/L      0.000357  11.79%
   QC value within limits for Ni 231.604  Recovery = Not calculated
Pb 220.353†            -652.5     0.00011 mg/L      0.001351     0.00011 mg/L      0.001351 >999.9%
   QC value within limits for Pb 220.353  Recovery = Not calculated
Sb 206.836†             -31.5    -0.00515 mg/L      0.001681    -0.00515 mg/L      0.001681  32.62%
   QC value within limits for Sb 206.836  Recovery = Not calculated
Se 196.026†             -64.8     0.00064 mg/L      0.001728     0.00064 mg/L      0.001728 269.81%
   QC value within limits for Se 196.026  Recovery = Not calculated
Si 251.611†           11814.5       0.192 mg/L        0.0014       0.192 mg/L        0.0014   0.75%
   QC value within limits for Si 251.611  Recovery = Not calculated
Sn 189.927†            -410.0     -0.0270 mg/L       0.00090     -0.0270 mg/L       0.00090   3.34%
   QC value within limits for Sn 189.927  Recovery = Not calculated
Ti 334.940†          -37313.8     0.00543 mg/L      0.002363     0.00543 mg/L      0.002363  43.52%
   QC value within limits for Ti 334.940  Recovery = Not calculated
Tl 190.801†             -77.8     -0.0133 mg/L       0.00039     -0.0133 mg/L       0.00039   2.89%
   QC value within limits for Tl 190.801  Recovery = Not calculated
V 290.880†             4480.3    -0.00323 mg/L      0.002571    -0.00323 mg/L      0.002571  79.54%
   QC value within limits for V 290.880  Recovery = Not calculated
Zn 206.200†             485.1     0.00204 mg/L      0.000353     0.00204 mg/L      0.000353  17.28%
   QC value within limits for Zn 206.200  Recovery = Not calculated
K 766.490†             -114.9      -0.160 mg/L        0.0459      -0.160 mg/L        0.0459  28.75%
   QC value within limits for K 766.490  Recovery = Not calculated
Na 589.592†             508.6      0.0324 mg/L       0.00464      0.0324 mg/L       0.00464  14.29%
   QC value within limits for Na 589.592  Recovery = Not calculated
Sr 407.771†            2111.0    -0.00510 mg/L      0.000148    -0.00510 mg/L      0.000148   2.90%
   QC value within limits for Sr 407.771  Recovery = Not calculated
Li 670.784†             338.4    -0.00159 mg/L      0.000448    -0.00159 mg/L      0.000448  28.28%
   QC value within limits for Li 670.784  Recovery = Not calculated
All analyte(s) passed QC.

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Sequence No.: 9                                    Autosampler Location: 13
Sample ID: ICSAB                                   Date Collected: 7/24/2012 8:34:41 AM
Analyst:                                           Data Type: Reprocessed on 7/24/2012 8:55:29 AM
Logged In Analyst (Original) : peicp2
Initial Sample Wt:                                 Initial Sample Vol:
Dilution:                                          Sample Prep Vol:

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Nebulizer Parameters: ICSAB
Analyte                 Back Pressure    Flow
All                    176.0 kPa        0.50 L/min

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Mean Data: ICSAB
                   Mean Corrected         Calib.                          Sample
Analyte               Intensity     Conc. Units      Std.Dev.      Conc. Units      Std.Dev.   RSD
Y 371.029            2456569.8                                                    16643.68   0.68%
YRADIAL               286965.7                                                     3816.91   1.33%
Ga 417.206           1338000.9                                                    31581.81   2.36%
GaRADIAL               78839.9                                                      893.62   1.13%
Ag 328.068†           162510.5       0.507 mg/L        0.0124       0.507 mg/L        0.0124   2.46%
   QC value within limits for Ag 328.068  Recovery = 101.32%
Al 396.153†          1535565.6         244 mg/L           4.5         244 mg/L           4.5   1.86%
   QC value within limits for Al 396.153  Recovery = 97.54%
As 188.979†              991.2       0.232 mg/L        0.0049       0.232 mg/L        0.0049   2.09%
   QC value within limits for As 188.979  Recovery = 92.92%
Ba 233.527†            50299.9       0.245 mg/L        0.0017       0.245 mg/L        0.0017   0.69%
   QC value within limits for Ba 233.527  Recovery = 97.94%
Be 234.861†           381397.4       0.246 mg/L        0.0072       0.246 mg/L        0.0072   2.92%
   QC value within limits for Be 234.861  Recovery = 98.34%
B 249.677†              4663.2     -0.0152 mg/L       0.00347     -0.0152 mg/L       0.00347  22.90%
   QC value within limits for B 249.677  Recovery = Not calculated
Ca 227.546†           119261.1         257 mg/L           8.4         257 mg/L           8.4   3.25%
   QC value within limits for Ca 227.546  Recovery = 102.82%
Cd 228.802†            31588.3       0.468 mg/L        0.0113       0.468 mg/L        0.0113   2.43%
   QC value within limits for Cd 228.802  Recovery = 93.56%
Co 228.616†            12382.0       0.230 mg/L        0.0018       0.230 mg/L        0.0018   0.77%
   QC value within limits for Co 228.616  Recovery = 92.15%
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Cr 267.716†	36180.7	0.242 mg/L	0.0029	0.242 mg/L	0.0029	1.19%
QC value within limits for Cr 267.716 Recovery = 96.67%						
Cu 327.393†	62274.5	0.244 mg/L	0.0048	0.244 mg/L	0.0048	1.95%
QC value within limits for Cu 327.393 Recovery = 97.49%						
Fe 239.562†	1479794.9	91.3 mg/L	2.24	91.3 mg/L	2.24	2.45%
QC value within limits for Fe 239.562 Recovery = 91.34%						
Mg 279.077†	908268.8	241 mg/L	6.1	241 mg/L	6.1	2.53%
QC value within limits for Mg 279.077 Recovery = 96.50%						
Mn 257.610†	227083.7	0.242 mg/L	0.0012	0.242 mg/L	0.0012	0.49%
QC value within limits for Mn 257.610 Recovery = 96.66%						
Mo 202.031†	-109.8	0.00082 mg/L	0.000207	0.00082 mg/L	0.000207	25.20%
QC value within limits for Mo 202.031 Recovery = Not calculated						
Ni 231.604†	40094.9	0.475 mg/L	0.0027	0.475 mg/L	0.0027	0.58%
QC value within limits for Ni 231.604 Recovery = 94.95%						
Pb 220.353†	7470.6	0.477 mg/L	0.0037	0.477 mg/L	0.0037	0.79%
QC value within limits for Pb 220.353 Recovery = 95.30%						
Sb 206.836†	2588.2	0.478 mg/L	0.0113	0.478 mg/L	0.0113	2.36%
QC value within limits for Sb 206.836 Recovery = 95.53%						
Se 196.026†	540.0	0.243 mg/L	0.0104	0.243 mg/L	0.0104	4.26%
QC value within limits for Se 196.026 Recovery = 97.30%						
Si 251.611†	-480.2	-0.0205 mg/L	0.00092	-0.0205 mg/L	0.00092	4.46%
QC value within limits for Si 251.611 Recovery = Not calculated						
Sn 189.927†	-413.7	-0.0273 mg/L	0.00060	-0.0273 mg/L	0.00060	2.21%
QC value within limits for Sn 189.927 Recovery = Not calculated						
Ti 334.940†	-37588.7	0.00506 mg/L	0.002914	0.00506 mg/L	0.002914	57.64%
QC value within limits for Ti 334.940 Recovery = Not calculated						
Tl 190.801†	2221.2	0.482 mg/L	0.0015	0.482 mg/L	0.0015	0.32%
QC value within limits for Tl 190.801 Recovery = 96.45%						
V 290.880†	73673.9	0.244 mg/L	0.0077	0.244 mg/L	0.0077	3.15%
QC value within limits for V 290.880 Recovery = 97.40%						
Zn 206.200†	37644.2	0.467 mg/L	0.0065	0.467 mg/L	0.0065	1.40%
QC value within limits for Zn 206.200 Recovery = 93.44%						
K 766.490†	13698.0	4.87 mg/L	0.048	4.87 mg/L	0.048	0.98%
QC value within limits for K 766.490 Recovery = 97.34%						
Na 589.592†	99590.1	4.92 mg/L	0.028	4.92 mg/L	0.028	0.57%
QC value within limits for Na 589.592 Recovery = 98.48%						
Sr 407.771†	2177.6	-0.00506 mg/L	0.000240	-0.00506 mg/L	0.000240	4.75%
QC value within limits for Sr 407.771 Recovery = Not calculated						
Li 670.784†	274.4	-0.00209 mg/L	0.000658	-0.00209 mg/L	0.000658	31.55%
QC value within limits for Li 670.784 Recovery = Not calculated						

All analyte(s) passed QC.

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Sequence No.: 10 **Autosampler Location: 6**
Sample ID: CCV **Date Collected: 7/24/2012 8:40:38 AM**
Analyst: **Data Type: Reprocessed on 7/24/2012 8:55:30 AM**
Logged In Analyst (Original) : peicp2
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: CCV

Analyte	**Back Pressure**	**Flow**
All	178.0 kPa	0.50 L/min

Mean Data: CCV

Analyte	**Mean Corrected Intensity**	**Calib. Conc.**	**Units**	**Std.Dev.**	**Sample Conc.**	**Units**	**Std.Dev.**	**RSD**
Y 371.029	2591525.7						24896.39	0.96%
YRADIAL	293269.9						4574.34	1.56%
Ga 417.206	1368762.4						23420.38	1.71%
GaRADIAL	79373.5						173.81	0.22%
Ag 328.068†	137990.0	0.397	mg/L	0.0042	0.397	mg/L	0.0042	1.06%
QC value within limits for Ag 328.068 Recovery = 99.37%								
Al 396.153†	62922.3	9.91	mg/L	0.026	9.91	mg/L	0.026	0.27%
QC value within limits for Al 396.153 Recovery = 99.13%								
As 188.979†	1689.7	0.382	mg/L	0.0070	0.382	mg/L	0.0070	1.83%
QC value within limits for As 188.979 Recovery = 95.50%								
Ba 233.527†	199713.3	0.999	mg/L	0.0030	0.999	mg/L	0.0030	0.30%
QC value within limits for Ba 233.527 Recovery = 99.91%								
Be 234.861†	70605.2	0.0488	mg/L	0.00081	0.0488	mg/L	0.00081	1.66%

Approved: July 25, 2012

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   QC value within limits for Be 234.861  Recovery = 97.67%
B 249.677†            59654.6       0.482 mg/L        0.0059       0.482 mg/L        0.0059   1.21%
   QC value within limits for B 249.677  Recovery = 96.48%
Ca 227.546†            4546.5        10.2 mg/L          0.19        10.2 mg/L          0.19   1.87%
   QC value within limits for Ca 227.546  Recovery = 101.90%
Cd 228.802†            3313.7      0.0478 mg/L       0.00162      0.0478 mg/L       0.00162   3.39%
   QC value within limits for Cd 228.802  Recovery = 95.52%
Co 228.616†           10652.1       0.199 mg/L        0.0013       0.199 mg/L        0.0013   0.64%
   QC value within limits for Co 228.616  Recovery = 99.71%
Cr 267.716†           74074.3       0.498 mg/L        0.0047       0.498 mg/L        0.0047   0.95%
   QC value within limits for Cr 267.716  Recovery = 99.63%
Cu 327.393†          128263.5       0.496 mg/L        0.0041       0.496 mg/L        0.0041   0.83%
   QC value within limits for Cu 327.393  Recovery = 99.19%
Fe 239.562†           64481.4        3.98 mg/L         0.016        3.98 mg/L         0.016   0.39%
   QC value within limits for Fe 239.562  Recovery = 99.47%
Mg 279.077†           37200.2        9.91 mg/L         0.085        9.91 mg/L         0.085   0.86%
   QC value within limits for Mg 279.077  Recovery = 99.05%
Mn 257.610†          470441.3       0.502 mg/L        0.0017       0.502 mg/L        0.0017   0.33%
   QC value within limits for Mn 257.610  Recovery = 100.33%
Mo 202.031†           42862.5       0.998 mg/L        0.0091       0.998 mg/L        0.0091   0.91%
   QC value within limits for Mo 202.031  Recovery = 99.82%
Ni 231.604†           43653.9       0.517 mg/L        0.0051       0.517 mg/L        0.0051   0.98%
   QC value within limits for Ni 231.604  Recovery = 103.46%
Pb 220.353†            8558.5       0.503 mg/L        0.0046       0.503 mg/L        0.0046   0.92%
   QC value within limits for Pb 220.353  Recovery = 100.65%
Sb 206.836†            6376.4        1.17 mg/L         0.027        1.17 mg/L         0.027   2.30%
   QC value within limits for Sb 206.836  Recovery = 97.92%
Se 196.026†             972.5       0.395 mg/L        0.0139       0.395 mg/L        0.0139   3.52%
   QC value within limits for Se 196.026  Recovery = 98.69%
Si 251.611†          286101.7        4.92 mg/L         0.039        4.92 mg/L         0.039   0.78%
   QC value within limits for Si 251.611  Recovery = 98.46%
Sn 189.927†           15444.4       0.998 mg/L        0.0104       0.998 mg/L        0.0104   1.04%
   QC value within limits for Sn 189.927  Recovery = 99.75%
Ti 334.940†         1132666.6       0.998 mg/L        0.0050       0.998 mg/L        0.0050   0.50%
   QC value within limits for Ti 334.940  Recovery = 99.76%
Tl 190.801†            2378.4       0.524 mg/L        0.0107       0.524 mg/L        0.0107   2.05%
   QC value within limits for Tl 190.801  Recovery = 104.82%
V 290.880†           279478.1       0.994 mg/L        0.0122       0.994 mg/L        0.0122   1.23%
   QC value within limits for V 290.880  Recovery = 99.43%
Zn 206.200†           79847.7       0.997 mg/L        0.0079       0.997 mg/L        0.0079   0.79%
   QC value within limits for Zn 206.200  Recovery = 99.69%
K 766.490†           137107.9        50.0 mg/L          0.81        50.0 mg/L          0.81   1.62%
   QC value within limits for K 766.490  Recovery = 99.98%
Na 589.592†          961299.5        48.8 mg/L          0.21        48.8 mg/L          0.21   0.43%
   QC value within limits for Na 589.592  Recovery = 97.59%
Sr 407.771†         2369121.9       0.990 mg/L        0.0276       0.990 mg/L        0.0276   2.79%
   QC value within limits for Sr 407.771  Recovery = 98.98%
Li 670.784†          130319.8        1.02 mg/L         0.004        1.02 mg/L         0.004   0.37%
   QC value within limits for Li 670.784  Recovery = 101.84%
All analyte(s) passed QC.

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Sequence No.: 11                                  Autosampler Location: 1
Sample ID: CCB                                    Date Collected: 7/24/2012 8:46:37 AM
Analyst:                                          Data Type: Reprocessed on 7/24/2012 8:55:31 AM
Logged In Analyst (Original) : peicp2
Initial Sample Wt:                                Initial Sample Vol:
Dilution:                                         Sample Prep Vol:

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Nebulizer Parameters: CCB
Analyte                 Back Pressure    Flow
All                    178.0 kPa         0.50 L/min

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Mean Data: CCB
                   Mean Corrected         Calib.                          Sample
Analyte               Intensity     Conc. Units      Std.Dev.     Conc. Units      Std.Dev.   RSD
Y 371.029            2696995.1                                                    54167.68   2.01%
YRADIAL               293303.2                                                     5521.46   1.88%
Ga 417.206           1428470.5                                                    46214.15   3.24%
GaRADIAL               80314.7                                                     1792.68   2.23%
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Approved: July 25, 2012

Kym H. Rhoden

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Ag 328.068†              -5.7    -0.00120 mg/L      0.000470    -0.00120 mg/L      0.000470  39.13%
   QC value within limits for Ag 328.068  Recovery = Not calculated
Al 396.153†              13.0    -0.00892 mg/L      0.001581    -0.00892 mg/L      0.001581  17.73%
   QC value within limits for Al 396.153  Recovery = Not calculated
As 188.979†               4.4     0.00056 mg/L      0.000846     0.00056 mg/L      0.000846 150.30%
   QC value within limits for As 188.979  Recovery = Not calculated
Ba 233.527†              21.7    -0.00162 mg/L      0.000090    -0.00162 mg/L      0.000090   5.55%
   QC value within limits for Ba 233.527  Recovery = Not calculated
Be 234.861†              12.5    -0.00014 mg/L      0.000040    -0.00014 mg/L      0.000040  28.47%
   QC value within limits for Be 234.861  Recovery = Not calculated
B 249.677†              158.2     0.00035 mg/L      0.000085     0.00035 mg/L      0.000085  24.15%
   QC value within limits for B 249.677  Recovery = Not calculated
Ca 227.546†              -1.5     0.00929 mg/L      0.009525     0.00929 mg/L      0.009525 102.53%
   QC value within limits for Ca 227.546  Recovery = Not calculated
Cd 228.802†              -3.2    -0.00010 mg/L      0.000145    -0.00010 mg/L      0.000145 140.79%
   QC value within limits for Cd 228.802  Recovery = Not calculated
Co 228.616†               3.9    -0.00020 mg/L      0.000128    -0.00020 mg/L      0.000128  64.49%
   QC value within limits for Co 228.616  Recovery = Not calculated
Cr 267.716†              19.0    -0.00080 mg/L      0.000069    -0.00080 mg/L      0.000069   8.59%
   QC value within limits for Cr 267.716  Recovery = Not calculated
Cu 327.393†              72.2    -0.00124 mg/L      0.000273    -0.00124 mg/L      0.000273  22.10%
   QC value within limits for Cu 327.393  Recovery = Not calculated
Fe 239.562†              81.7     0.00442 mg/L      0.000372     0.00442 mg/L      0.000372   8.40%
   QC value within limits for Fe 239.562  Recovery = Not calculated
Mg 279.077†              13.9      0.0108 mg/L       0.00296      0.0108 mg/L       0.00296  27.41%
   QC value within limits for Mg 279.077  Recovery = Not calculated
Mn 257.610†              51.7    -0.00106 mg/L      0.000019    -0.00106 mg/L      0.000019   1.77%
   QC value within limits for Mn 257.610  Recovery = Not calculated
Mo 202.031†               2.0    -0.00123 mg/L      0.000042    -0.00123 mg/L      0.000042   3.46%
   QC value within limits for Mo 202.031  Recovery = Not calculated
Ni 231.604†              -7.2    -0.00380 mg/L      0.000026    -0.00380 mg/L      0.000026   0.67%
   QC value within limits for Ni 231.604  Recovery = Not calculated
Pb 220.353†               7.5    -0.00027 mg/L      0.000368    -0.00027 mg/L      0.000368 136.08%
   QC value within limits for Pb 220.353  Recovery = Not calculated
Sb 206.836†               2.4    -0.00226 mg/L      0.000999    -0.00226 mg/L      0.000999  44.16%
   QC value within limits for Sb 206.836  Recovery = Not calculated
Se 196.026†              -5.6     0.00103 mg/L      0.001358     0.00103 mg/L      0.001358 132.12%
   QC value within limits for Se 196.026  Recovery = Not calculated
Si 251.611†              17.8     -0.0120 mg/L       0.00034     -0.0120 mg/L       0.00034   2.87%
   QC value within limits for Si 251.611  Recovery = Not calculated
Sn 189.927†              17.3     0.00059 mg/L      0.000566     0.00059 mg/L      0.000566  95.31%
   QC value within limits for Sn 189.927  Recovery = Not calculated
Ti 334.940†             -33.7    -0.00001 mg/L      0.000140    -0.00001 mg/L      0.000140 >999.9%
   QC value within limits for Ti 334.940  Recovery = Not calculated
Tl 190.801†              -1.1    -0.00307 mg/L      0.000037    -0.00307 mg/L      0.000037   1.21%
   QC value within limits for Tl 190.801  Recovery = Not calculated
V 290.880†               64.0    -0.00044 mg/L      0.000365    -0.00044 mg/L      0.000365  83.66%
   QC value within limits for V 290.880  Recovery = Not calculated
Zn 206.200†              15.6    -0.00205 mg/L      0.000168    -0.00205 mg/L      0.000168   8.20%
   QC value within limits for Zn 206.200  Recovery = Not calculated
K 766.490†               18.0      -0.111 mg/L        0.0283      -0.111 mg/L        0.0283  25.42%
   QC value within limits for K 766.490  Recovery = Not calculated
Na 589.592†              32.7     0.00901 mg/L      0.003105     0.00901 mg/L      0.003105  34.46%
   QC value within limits for Na 589.592  Recovery = Not calculated
Sr 407.771†              -7.6    -0.00037 mg/L      0.000007    -0.00037 mg/L      0.000007   1.86%
   QC value within limits for Sr 407.771  Recovery = Not calculated
Li 670.784†             107.9    -0.00339 mg/L      0.000710    -0.00339 mg/L      0.000710  20.94%
   QC value within limits for Li 670.784  Recovery = Not calculated
All analyte(s) passed QC.
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Approved: July 25, 2012

Kym H. Rhoden

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Analysis Begun

Start Time: 7/24/2012 8:56:26 AM **Plasma On Time: 7/23/2012 7:31:37 AM**
Logged In Analyst: peicp2 **Technique: ICP Continuous**
Spectrometer Model: Optima 4300 DV, S/N 077N4011401 **Autosampler Model: Cetac**

Sample Information File: C:\pe\peicp2\Sample Information\TUESDAY1.sif
Batch ID:
Results Data Set: 072412HR
Results Library: C:\pe\peicp2\Results\Results.mdb

==========

Sequence No.: 1 **Autosampler Location: 14**
Sample ID: PBW C5 WG403777-02 **Date Collected: 7/24/2012 8:56:28 AM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: PBW C5 WG403777-02

Analyte	Back Pressure	Flow
All	177.0 kPa	0.50 L/min

Mean Data: PBW C5 WG403777-02

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2679787.4						31010.39	1.16%
YRADIAL	292761.1						7145.84	2.44%
Ga 417.206	1474590.6						21027.00	1.43%
GaRADIAL	81007.3						2906.84	3.59%
Ag 328.068†	119.1	-0.00084	mg/L	0.000518	-0.00084	mg/L	0.000518	61.55%
Al 396.153†	-43.3	-0.0179	mg/L	0.00122	-0.0179	mg/L	0.00122	6.81%
As 188.979†	6.7	0.00109	mg/L	0.000651	0.00109	mg/L	0.000651	59.67%
Ba 233.527†	14.5	-0.00166	mg/L	0.000081	-0.00166	mg/L	0.000081	4.87%
Be 234.861†	109.0	-0.00007	mg/L	0.000012	-0.00007	mg/L	0.000012	15.57%
B 249.677†	-71.0	-0.00152	mg/L	0.000133	-0.00152	mg/L	0.000133	8.71%
Ca 227.546†	-7.2	-0.00263	mg/L	0.022525	-0.00263	mg/L	0.022525	855.80%
Cd 228.802†	-2.7	-0.00010	mg/L	0.000079	-0.00010	mg/L	0.000079	80.03%
Co 228.616†	13.9	-0.00001	mg/L	0.000056	-0.00001	mg/L	0.000056	562.02%
Cr 267.716†	-20.4	-0.00107	mg/L	0.000014	-0.00107	mg/L	0.000014	1.33%
Cu 327.393†	119.5	-0.00105	mg/L	0.000369	-0.00105	mg/L	0.000369	35.03%
Fe 239.562†	64.4	0.00336	mg/L	0.000365	0.00336	mg/L	0.000365	10.88%
Mg 279.077†	9.2	0.00954	mg/L	0.001230	0.00954	mg/L	0.001230	12.90%
Mn 257.610†	47.7	-0.00107	mg/L	0.000015	-0.00107	mg/L	0.000015	1.37%
Mo 202.031†	-0.8	-0.00129	mg/L	0.000333	-0.00129	mg/L	0.000333	25.78%
Ni 231.604†	3.8	-0.00367	mg/L	0.000132	-0.00367	mg/L	0.000132	3.61%
Pb 220.353†	24.0	0.00070	mg/L	0.000791	0.00070	mg/L	0.000791	113.68%
Sb 206.836†	3.9	-0.00198	mg/L	0.001357	-0.00198	mg/L	0.001357	68.56%
Se 196.026†	-8.0	0.00010	mg/L	0.000316	0.00010	mg/L	0.000316	316.25%
Si 251.611†	198.0	-0.00885	mg/L	0.000373	-0.00885	mg/L	0.000373	4.21%
Sn 189.927†	5.9	-0.00015	mg/L	0.000148	-0.00015	mg/L	0.000148	102.34%
Ti 334.940†	74.9	0.00008	mg/L	0.000046	0.00008	mg/L	0.000046	56.48%
Tl 190.801†	-0.7	-0.00298	mg/L	0.001393	-0.00298	mg/L	0.001393	46.70%
V 290.880†	447.7	0.00093	mg/L	0.000455	0.00093	mg/L	0.000455	48.90%
Zn 206.200†	147.0	-0.00041	mg/L	0.000259	-0.00041	mg/L	0.000259	62.93%
K 766.490†	36.5	-0.105	mg/L	0.0216	-0.105	mg/L	0.0216	20.64%
Na 589.592†	118.1	0.0132	mg/L	0.00325	0.0132	mg/L	0.00325	24.62%
Sr 407.771†	-307.9	-0.00050	mg/L	0.000004	-0.00050	mg/L	0.000004	0.87%
Li 670.784†	110.0	-0.00338	mg/L	0.001002	-0.00338	mg/L	0.001002	29.67%

==========

Sequence No.: 2 **Autosampler Location: 15**
Sample ID: LCSW C5 WG403777-03 **Date Collected: 7/24/2012 9:03:22 AM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: LCSW C5 WG403777-03

Approved: July 25, 2012
Kym H. Rhoden

Analyte	Back Pressure	Flow
All	178.0 kPa	0.50 L/min

Mean Data: LCSW C5 WG403777-03

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	2644688.8						24579.20	0.93%
YRADIAL	297299.9						1704.96	0.57%
Ga 417.206	1448931.0						32083.09	2.21%
GaRADIAL	80415.4						331.81	0.41%
Ag 328.068†	67119.7	0.193	mg/L	0.0062	0.193	mg/L	0.0062	3.21%
Al 396.153†	31058.8	4.89	mg/L	0.017	4.89	mg/L	0.017	0.35%
As 188.979†	782.1	0.176	mg/L	0.0057	0.176	mg/L	0.0057	3.21%
Ba 233.527†	98790.7	0.493	mg/L	0.0057	0.493	mg/L	0.0057	1.17%
Be 234.861†	33284.8	0.0229	mg/L	0.00074	0.0229	mg/L	0.00074	3.24%
B 249.677†	113556.2	0.925	mg/L	0.0345	0.925	mg/L	0.0345	3.73%
Ca 227.546†	2130.1	4.78	mg/L	0.102	4.78	mg/L	0.102	2.14%
Cd 228.802†	1547.9	0.0223	mg/L	0.00095	0.0223	mg/L	0.00095	4.25%
Co 228.616†	5226.9	0.0977	mg/L	0.00129	0.0977	mg/L	0.00129	1.32%
Cr 267.716†	36343.9	0.244	mg/L	0.0034	0.244	mg/L	0.0034	1.37%
Cu 327.393†	62327.7	0.240	mg/L	0.0090	0.240	mg/L	0.0090	3.73%
Fe 239.562†	31330.9	1.93	mg/L	0.003	1.93	mg/L	0.003	0.17%
Mg 279.077†	18396.9	4.90	mg/L	0.043	4.90	mg/L	0.043	0.88%
Mn 257.610†	234681.3	0.250	mg/L	0.0029	0.250	mg/L	0.0029	1.15%
Mo 202.031†	20936.8	0.487	mg/L	0.0057	0.487	mg/L	0.0057	1.17%
Ni 231.604†	20685.7	0.243	mg/L	0.0017	0.243	mg/L	0.0017	0.69%
Pb 220.353†	4181.6	0.246	mg/L	0.0037	0.246	mg/L	0.0037	1.53%
Sb 206.836†	2998.6	0.551	mg/L	0.0170	0.551	mg/L	0.0170	3.09%
Se 196.026†	451.3	0.185	mg/L	0.0078	0.185	mg/L	0.0078	4.22%
Si 251.611†	141919.7	2.44	mg/L	0.066	2.44	mg/L	0.066	2.69%
Sn 189.927†	7512.6	0.485	mg/L	0.0044	0.485	mg/L	0.0044	0.92%
Ti 334.940†	553093.2	0.487	mg/L	0.0018	0.487	mg/L	0.0018	0.37%
Tl 190.801†	1173.3	0.257	mg/L	0.0042	0.257	mg/L	0.0042	1.63%
V 290.880†	139348.1	0.495	mg/L	0.0071	0.495	mg/L	0.0071	1.42%
Zn 206.200†	38927.4	0.485	mg/L	0.0047	0.485	mg/L	0.0047	0.96%
K 766.490†	67815.9	24.6	mg/L	0.10	24.6	mg/L	0.10	0.42%
Na 589.592†	489727.9	24.5	mg/L	0.25	24.5	mg/L	0.25	1.04%
Sr 407.771†	1179503.5	0.493	mg/L	0.0084	0.493	mg/L	0.0084	1.70%
Li 670.784†	66826.4	0.520	mg/L	0.0023	0.520	mg/L	0.0023	0.44%

Sequence No.: 3
Sample ID: L1207050401
Analyst: KHR
Initial Sample Wt:
Dilution:

Autosampler Location: 16
Date Collected: 7/24/2012 9:09:20 AM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: L1207050401

Analyte	Back Pressure	Flow
All	178.0 kPa	0.50 L/min

Mean Data: L1207050401

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	2621518.0						23708.58	0.90%
YRADIAL	290365.2						4821.70	1.66%
Ga 417.206	1525258.8						4137.13	0.27%
GaRADIAL	82102.6						1031.17	1.26%
Ag 328.068†	533.6	0.00034	mg/L	0.000312	0.00034	mg/L	0.000312	92.15%
Al 396.153†	10.9	-0.00935	mg/L	0.002432	-0.00935	mg/L	0.002432	26.01%
As 188.979†	-10.0	-0.00274	mg/L	0.001245	-0.00274	mg/L	0.001245	45.45%
Ba 233.527†	3372.4	0.0152	mg/L	0.00015	0.0152	mg/L	0.00015	1.01%
Be 234.861†	185.4	-0.00002	mg/L	0.000015	-0.00002	mg/L	0.000015	60.59%
B 249.677†	1441.2	0.0108	mg/L	0.00030	0.0108	mg/L	0.00030	2.77%
Ca 227.546†	26235.4	56.0	mg/L	1.37	56.0	mg/L	1.37	2.45%
Cd 228.802†	-7.8	-0.00016	mg/L	0.000133	-0.00016	mg/L	0.000133	85.46%
Co 228.616†	-3.9	-0.00033	mg/L	0.000038	-0.00033	mg/L	0.000038	11.61%
Cr 267.716†	135.7	-0.00002	mg/L	0.000094	-0.00002	mg/L	0.000094	624.29%
Cu 327.393†	182.3	-0.00082	mg/L	0.000222	-0.00082	mg/L	0.000222	27.14%

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Fe 239.562†	345.2	0.0205	mg/L	0.00028	0.0205	mg/L	0.00028	1.36%
Mg 279.077†	32702.2	8.69	mg/L	0.142	8.69	mg/L	0.142	1.63%
Mn 257.610†	1031.8	-0.00002	mg/L	0.000012	-0.00002	mg/L	0.000012	79.29%
Mo 202.031†	63.1	0.00020	mg/L	0.000181	0.00020	mg/L	0.000181	91.65%
Ni 231.604†	65.1	-0.00293	mg/L	0.000221	-0.00293	mg/L	0.000221	7.54%
Pb 220.353†	28.2	0.00139	mg/L	0.000986	0.00139	mg/L	0.000986	70.68%
Sb 206.836†	-0.5	-0.00281	mg/L	0.000166	-0.00281	mg/L	0.000166	5.90%
Se 196.026†	-5.9	0.00094	mg/L	0.001525	0.00094	mg/L	0.001525	163.06%
Si 251.611†	179657.9	3.09	mg/L	0.058	3.09	mg/L	0.058	1.89%
Sn 189.927†	-296.9	-0.0197	mg/L	0.00112	-0.0197	mg/L	0.00112	5.66%
Ti 334.940†	-10787.1	-0.00107	mg/L	0.000247	-0.00107	mg/L	0.000247	23.05%
Tl 190.801†	-26.8	-0.00872	mg/L	0.002355	-0.00872	mg/L	0.002355	27.01%
V 290.880†	533.0	0.00101	mg/L	0.001241	0.00101	mg/L	0.001241	123.27%
Zn 206.200†	263.1	0.00104	mg/L	0.000167	0.00104	mg/L	0.000167	16.01%
K 766.490†	1937.7	0.584	mg/L	0.0105	0.584	mg/L	0.0105	1.79%
Na 589.592†	65020.2	3.21	mg/L	0.065	3.21	mg/L	0.065	2.02%
Sr 407.771†	183251.1	0.0750	mg/L	0.00267	0.0750	mg/L	0.00267	3.56%
Li 670.784†	238.6	-0.00237	mg/L	0.000147	-0.00237	mg/L	0.000147	6.22%

Sequence No.: 4 **Autosampler Location: 17**
Sample ID: L1207050402 WG403777-01 **Date Collected: 7/24/2012 9:16:15 AM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1207050402 WG403777-01

Analyte	Back Pressure	Flow
All	178.0 kPa	0.50 L/min

Mean Data: L1207050402 WG403777-01

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2629169.5						13320.08	0.51%
YRADIAL	287342.1						3987.46	1.39%
Ga 417.206	1514503.0						22903.27	1.51%
GaRADIAL	82041.7						2226.94	2.71%
Ag 328.068†	538.8	0.00036	mg/L	0.000216	0.00036	mg/L	0.000216	59.92%
Al 396.153†	-72.9	-0.0226	mg/L	0.00056	-0.0226	mg/L	0.00056	2.48%
As 188.979†	-4.0	-0.00135	mg/L	0.001744	-0.00135	mg/L	0.001744	129.65%
Ba 233.527†	3126.3	0.0139	mg/L	0.00022	0.0139	mg/L	0.00022	1.61%
Be 234.861†	160.8	-0.00005	mg/L	0.000014	-0.00005	mg/L	0.000014	30.44%
B 249.677†	1301.5	0.00967	mg/L	0.000137	0.00967	mg/L	0.000137	1.41%
Ca 227.546†	26476.4	56.5	mg/L	0.99	56.5	mg/L	0.99	1.76%
Cd 228.802†	-2.4	-0.00008	mg/L	0.000061	-0.00008	mg/L	0.000061	73.18%
Co 228.616†	-1.8	-0.00029	mg/L	0.000273	-0.00029	mg/L	0.000273	94.02%
Cr 267.716†	86.8	-0.00035	mg/L	0.000067	-0.00035	mg/L	0.000067	19.41%
Cu 327.393†	6.4	-0.00150	mg/L	0.000309	-0.00150	mg/L	0.000309	20.60%
Fe 239.562†	670.0	0.0406	mg/L	0.00053	0.0406	mg/L	0.00053	1.30%
Mg 279.077†	32995.9	8.77	mg/L	0.090	8.77	mg/L	0.090	1.03%
Mn 257.610†	3278.4	0.00238	mg/L	0.000031	0.00238	mg/L	0.000031	1.32%
Mo 202.031†	55.0	0.00001	mg/L	0.000403	0.00001	mg/L	0.000403	>999.9%
Ni 231.604†	50.8	-0.00310	mg/L	0.000122	-0.00310	mg/L	0.000122	3.95%
Pb 220.353†	24.9	0.00120	mg/L	0.000739	0.00120	mg/L	0.000739	61.71%
Sb 206.836†	-4.0	-0.00346	mg/L	0.001509	-0.00346	mg/L	0.001509	43.67%
Se 196.026†	-6.4	0.00072	mg/L	0.002382	0.00072	mg/L	0.002382	332.49%
Si 251.611†	182304.1	3.14	mg/L	0.039	3.14	mg/L	0.039	1.26%
Sn 189.927†	-298.1	-0.0198	mg/L	0.00056	-0.0198	mg/L	0.00056	2.81%
Ti 334.940†	-10610.7	-0.00084	mg/L	0.000247	-0.00084	mg/L	0.000247	29.37%
Tl 190.801†	-28.3	-0.00906	mg/L	0.001597	-0.00906	mg/L	0.001597	17.64%
V 290.880†	289.9	0.00014	mg/L	0.001320	0.00014	mg/L	0.001320	973.34%
Zn 206.200†	190.4	0.00013	mg/L	0.000050	0.00013	mg/L	0.000050	37.71%
K 766.490†	2077.3	0.635	mg/L	0.0152	0.635	mg/L	0.0152	2.39%
Na 589.592†	64574.2	3.19	mg/L	0.062	3.19	mg/L	0.062	1.93%
Sr 407.771†	182604.3	0.0747	mg/L	0.00255	0.0747	mg/L	0.00255	3.41%
Li 670.784†	211.6	-0.00258	mg/L	0.000099	-0.00258	mg/L	0.000099	3.84%

Sequence No.: 5 **Autosampler Location: 18**
Sample ID: L1207050402S WG403777-04 **Date Collected: 7/24/2012 9:23:11 AM**

Approved: July 25, 2012
Kym H. Rhoden

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

Nebulizer Parameters: L1207050402S WG403777-04

Analyte	Back Pressure	Flow
All	178.0 kPa	0.50 L/min

Mean Data: L1207050402S WG403777-04

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2582227.0						13639.26	0.53%
YRADIAL	298186.9						2082.48	0.70%
Ga 417.206	1433705.8						33338.10	2.33%
GaRADIAL	80804.7						485.95	0.60%
Ag 328.068†	67144.1	0.193	mg/L	0.0067	0.193	mg/L	0.0067	3.47%
Al 396.153†	31034.8	4.88	mg/L	0.033	4.88	mg/L	0.033	0.68%
As 188.979†	782.4	0.176	mg/L	0.0043	0.176	mg/L	0.0043	2.42%
Ba 233.527†	100048.9	0.500	mg/L	0.0040	0.500	mg/L	0.0040	0.80%
Be 234.861†	34289.6	0.0236	mg/L	0.00095	0.0236	mg/L	0.00095	4.00%
B 249.677†	115873.1	0.944	mg/L	0.0356	0.944	mg/L	0.0356	3.78%
Ca 227.546†	31287.0	67.0	mg/L	1.92	67.0	mg/L	1.92	2.86%
Cd 228.802†	1524.1	0.0219	mg/L	0.00107	0.0219	mg/L	0.00107	4.86%
Co 228.616†	5131.3	0.0960	mg/L	0.00129	0.0960	mg/L	0.00129	1.34%
Cr 267.716†	36198.4	0.243	mg/L	0.0019	0.243	mg/L	0.0019	0.77%
Cu 327.393†	61575.4	0.237	mg/L	0.0057	0.237	mg/L	0.0057	2.42%
Fe 239.562†	31470.9	1.94	mg/L	0.008	1.94	mg/L	0.008	0.40%
Mg 279.077†	49425.4	13.1	mg/L	0.11	13.1	mg/L	0.11	0.80%
Mn 257.610†	234939.5	0.250	mg/L	0.0026	0.250	mg/L	0.0026	1.04%
Mo 202.031†	21641.0	0.503	mg/L	0.0030	0.503	mg/L	0.0030	0.60%
Ni 231.604†	20818.0	0.245	mg/L	0.0023	0.245	mg/L	0.0023	0.94%
Pb 220.353†	4150.8	0.244	mg/L	0.0021	0.244	mg/L	0.0021	0.87%
Sb 206.836†	3008.7	0.553	mg/L	0.0176	0.553	mg/L	0.0176	3.17%
Se 196.026†	459.5	0.188	mg/L	0.0030	0.188	mg/L	0.0030	1.57%
Si 251.611†	329785.7	5.68	mg/L	0.117	5.68	mg/L	0.117	2.06%
Sn 189.927†	7423.6	0.479	mg/L	0.0035	0.479	mg/L	0.0035	0.72%
Ti 334.940†	547088.9	0.491	mg/L	0.0022	0.491	mg/L	0.0022	0.44%
Tl 190.801†	1136.5	0.249	mg/L	0.0011	0.249	mg/L	0.0011	0.45%
V 290.880†	139624.5	0.496	mg/L	0.0040	0.496	mg/L	0.0040	0.81%
Zn 206.200†	38073.1	0.474	mg/L	0.0036	0.474	mg/L	0.0036	0.75%
K 766.490†	69364.9	25.2	mg/L	0.13	25.2	mg/L	0.13	0.53%
Na 589.592†	554759.8	27.8	mg/L	0.31	27.8	mg/L	0.31	1.12%
Sr 407.771†	1350264.5	0.563	mg/L	0.0091	0.563	mg/L	0.0091	1.62%
Li 670.784†	66542.8	0.518	mg/L	0.0017	0.518	mg/L	0.0017	0.34%

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Sequence No.: 6 **Autosampler Location: 19**
Sample ID: L1207050402SD WG403777-05 **Date Collected: 7/24/2012 9:29:09 AM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1207050402SD WG403777-05

Analyte	Back Pressure	Flow
All	178.0 kPa	0.50 L/min

Mean Data: L1207050402SD WG403777-05

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2591680.1						32398.44	1.25%
YRADIAL	296035.9						2163.25	0.73%
Ga 417.206	1441732.0						16243.38	1.13%
GaRADIAL	80085.8						883.72	1.10%
Ag 328.068†	66985.2	0.192	mg/L	0.0029	0.192	mg/L	0.0029	1.52%
Al 396.153†	31375.2	4.94	mg/L	0.021	4.94	mg/L	0.021	0.43%
As 188.979†	784.2	0.177	mg/L	0.0026	0.177	mg/L	0.0026	1.48%
Ba 233.527†	99971.0	0.499	mg/L	0.0072	0.499	mg/L	0.0072	1.44%
Be 234.861†	33657.4	0.0232	mg/L	0.00042	0.0232	mg/L	0.00042	1.83%

Approved: July 25, 2012
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B 249.677†	115825.4	0.943	mg/L	0.0214	0.943	mg/L	0.0214	2.27%
Ca 227.546†	31082.0	66.6	mg/L	0.94	66.6	mg/L	0.94	1.42%
Cd 228.802†	1519.4	0.0219	mg/L	0.00054	0.0219	mg/L	0.00054	2.47%
Co 228.616†	5152.9	0.0963	mg/L	0.00170	0.0963	mg/L	0.00170	1.76%
Cr 267.716†	36506.9	0.245	mg/L	0.0023	0.245	mg/L	0.0023	0.93%
Cu 327.393†	61050.9	0.235	mg/L	0.0039	0.235	mg/L	0.0039	1.67%
Fe 239.562†	31727.3	1.96	mg/L	0.016	1.96	mg/L	0.016	0.81%
Mg 279.077†	50761.5	13.5	mg/L	0.03	13.5	mg/L	0.03	0.20%
Mn 257.610†	235401.8	0.250	mg/L	0.0047	0.250	mg/L	0.0047	1.89%
Mo 202.031†	21240.8	0.494	mg/L	0.0078	0.494	mg/L	0.0078	1.58%
Ni 231.604†	20386.5	0.240	mg/L	0.0038	0.240	mg/L	0.0038	1.59%
Pb 220.353†	4163.8	0.245	mg/L	0.0036	0.245	mg/L	0.0036	1.45%
Sb 206.836†	3005.5	0.552	mg/L	0.0087	0.552	mg/L	0.0087	1.58%
Se 196.026†	461.7	0.189	mg/L	0.0059	0.189	mg/L	0.0059	3.09%
Si 251.611†	337971.5	5.83	mg/L	0.051	5.83	mg/L	0.051	0.88%
Sn 189.927†	7466.9	0.482	mg/L	0.0079	0.482	mg/L	0.0079	1.63%
Ti 334.940†	550261.4	0.494	mg/L	0.0008	0.494	mg/L	0.0008	0.17%
Tl 190.801†	1145.3	0.251	mg/L	0.0018	0.251	mg/L	0.0018	0.70%
V 290.880†	141446.3	0.503	mg/L	0.0060	0.503	mg/L	0.0060	1.19%
Zn 206.200†	38211.4	0.476	mg/L	0.0035	0.476	mg/L	0.0035	0.73%
K 766.490†	70126.4	25.4	mg/L	0.24	25.4	mg/L	0.24	0.93%
Na 589.592†	564284.1	28.3	mg/L	0.53	28.3	mg/L	0.53	1.88%
Sr 407.771†	1362830.7	0.568	mg/L	0.0070	0.568	mg/L	0.0070	1.23%
Li 670.784†	67258.4	0.524	mg/L	0.0015	0.524	mg/L	0.0015	0.28%

Sequence No.: 7
Sample ID: L1207050403
Analyst: KHR
Initial Sample Wt:
Dilution:

Autosampler Location: 20
Date Collected: 7/24/2012 9:35:10 AM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: L1207050403

Analyte	Back Pressure	Flow
All	177.0 kPa	0.50 L/min

Mean Data: L1207050403

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2584685.0						32214.10	1.25%
YRADIAL	291787.8						1443.66	0.49%
Ga 417.206	1448429.2						45044.66	3.11%
GaRADIAL	80600.8						298.64	0.37%
Ag 328.068†	559.8	0.00056	mg/L	0.000530	0.00056	mg/L	0.000530	94.26%
Al 396.153†	-96.7	-0.0264	mg/L	0.00343	-0.0264	mg/L	0.00343	12.99%
As 188.979†	-6.9	-0.00194	mg/L	0.000872	-0.00194	mg/L	0.000872	44.85%
Ba 233.527†	3319.2	0.0149	mg/L	0.00007	0.0149	mg/L	0.00007	0.45%
Be 234.861†	260.4	-0.00004	mg/L	0.000029	-0.00004	mg/L	0.000029	71.66%
B 249.677†	1862.9	0.0141	mg/L	0.00087	0.0141	mg/L	0.00087	6.15%
Ca 227.546†	28259.6	60.3	mg/L	2.09	60.3	mg/L	2.09	3.46%
Cd 228.802†	10.4	0.00011	mg/L	0.000100	0.00011	mg/L	0.000100	89.96%
Co 228.616†	21.0	0.00013	mg/L	0.000233	0.00013	mg/L	0.000233	176.25%
Cr 267.716†	91.4	-0.00032	mg/L	0.000060	-0.00032	mg/L	0.000060	18.47%
Cu 327.393†	30.3	-0.00139	mg/L	0.000804	-0.00139	mg/L	0.000804	57.97%
Fe 239.562†	5732.7	0.353	mg/L	0.0103	0.353	mg/L	0.0103	2.91%
Mg 279.077†	32983.0	8.77	mg/L	0.134	8.77	mg/L	0.134	1.53%
Mn 257.610†	81063.2	0.0854	mg/L	0.00126	0.0854	mg/L	0.00126	1.47%
Mo 202.031†	84.1	0.00072	mg/L	0.000128	0.00072	mg/L	0.000128	17.65%
Ni 231.604†	71.4	-0.00286	mg/L	0.000507	-0.00286	mg/L	0.000507	17.74%
Pb 220.353†	3.1	-0.00013	mg/L	0.000660	-0.00013	mg/L	0.000660	519.00%
Sb 206.836†	-7.8	-0.00413	mg/L	0.000243	-0.00413	mg/L	0.000243	5.88%
Se 196.026†	-7.0	0.00052	mg/L	0.001138	0.00052	mg/L	0.001138	218.98%
Si 251.611†	200267.0	3.45	mg/L	0.088	3.45	mg/L	0.088	2.55%
Sn 189.927†	-300.4	-0.0199	mg/L	0.00084	-0.0199	mg/L	0.00084	4.23%
Ti 334.940†	-9889.0	0.00036	mg/L	0.000795	0.00036	mg/L	0.000795	217.96%
Tl 190.801†	-22.4	-0.00785	mg/L	0.002605	-0.00785	mg/L	0.002605	33.18%
V 290.880†	1398.8	0.00405	mg/L	0.000440	0.00405	mg/L	0.000440	10.87%
Zn 206.200†	187.5	0.00009	mg/L	0.000073	0.00009	mg/L	0.000073	79.20%
K 766.490†	2368.7	0.741	mg/L	0.0294	0.741	mg/L	0.0294	3.97%
Na 589.592†	67886.9	3.36	mg/L	0.007	3.36	mg/L	0.007	0.22%

Approved: July 25, 2012

Kyn H. Rhoden

Sr 407.771†	178728.5	0.0730	mg/L	0.00119	0.0730	mg/L	0.00119	1.63%
Li 670.784†	207.1	-0.00262	mg/L	0.000421	-0.00262	mg/L	0.000421	16.09%

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Sequence No.: 8 **Autosampler Location: 21**
Sample ID: L1207050403PS WG403974-01 **Date Collected: 7/24/2012 9:41:09 AM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1207050403PS WG403974-01

Analyte	Back Pressure	Flow
All	178.0 kPa	0.50 L/min

Mean Data: L1207050403PS WG403974-01

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2564277.6						23787.34	0.93%
YRADIAL	287986.8						3287.22	1.14%
Ga 417.206	1409974.2						23719.96	1.68%
GaRADIAL	78661.7						950.27	1.21%
Ag 328.068†	67519.1	0.194	mg/L	0.0055	0.194	mg/L	0.0055	2.81%
Al 396.153†	31033.0	4.88	mg/L	0.016	4.88	mg/L	0.016	0.33%
As 188.979†	784.7	0.177	mg/L	0.0042	0.177	mg/L	0.0042	2.37%
Ba 233.527†	100409.5	0.501	mg/L	0.0063	0.501	mg/L	0.0063	1.26%
Be 234.861†	34489.2	0.0237	mg/L	0.00059	0.0237	mg/L	0.00059	2.48%
B 249.677†	116721.5	0.950	mg/L	0.0331	0.950	mg/L	0.0331	3.48%
Ca 227.546†	28672.9	61.4	mg/L	1.43	61.4	mg/L	1.43	2.33%
Cd 228.802†	1559.5	0.0225	mg/L	0.00093	0.0225	mg/L	0.00093	4.14%
Co 228.616†	5147.9	0.0963	mg/L	0.00105	0.0963	mg/L	0.00105	1.09%
Cr 267.716†	36274.0	0.243	mg/L	0.0027	0.243	mg/L	0.0027	1.09%
Cu 327.393†	61462.6	0.237	mg/L	0.0063	0.237	mg/L	0.0063	2.67%
Fe 239.562†	36018.6	2.22	mg/L	0.005	2.22	mg/L	0.005	0.23%
Mg 279.077†	47073.9	12.5	mg/L	0.04	12.5	mg/L	0.04	0.30%
Mn 257.610†	301613.8	0.321	mg/L	0.0038	0.321	mg/L	0.0038	1.20%
Mo 202.031†	21680.5	0.504	mg/L	0.0043	0.504	mg/L	0.0043	0.86%
Ni 231.604†	20893.4	0.246	mg/L	0.0029	0.246	mg/L	0.0029	1.19%
Pb 220.353†	4174.2	0.245	mg/L	0.0035	0.245	mg/L	0.0035	1.43%
Sb 206.836†	3079.2	0.566	mg/L	0.0127	0.566	mg/L	0.0127	2.25%
Se 196.026†	463.3	0.190	mg/L	0.0041	0.190	mg/L	0.0041	2.16%
Si 251.611†	320313.2	5.52	mg/L	0.089	5.52	mg/L	0.089	1.61%
Sn 189.927†	-296.1	-0.0197	mg/L	0.00074	-0.0197	mg/L	0.00074	3.79%
Ti 334.940†	547493.7	0.491	mg/L	0.0026	0.491	mg/L	0.0026	0.52%
Tl 190.801†	1150.6	0.252	mg/L	0.0023	0.252	mg/L	0.0023	0.92%
V 290.880†	140024.4	0.498	mg/L	0.0004	0.498	mg/L	0.0004	0.07%
Zn 206.200†	38418.6	0.479	mg/L	0.0040	0.479	mg/L	0.0040	0.84%
K 766.490†	69177.2	25.1	mg/L	0.18	25.1	mg/L	0.18	0.71%
Na 589.592†	565520.3	28.3	mg/L	0.32	28.3	mg/L	0.32	1.12%
Sr 407.771†	1376583.1	0.574	mg/L	0.0030	0.574	mg/L	0.0030	0.52%
Li 670.784†	65918.4	0.513	mg/L	0.0022	0.513	mg/L	0.0022	0.44%

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Sequence No.: 9 **Autosampler Location: 22**
Sample ID: L1207050403DL WG403974-02 **Date Collected: 7/24/2012 9:47:08 AM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1207050403DL WG403974-02

Analyte	Back Pressure	Flow
All	178.0 kPa	0.50 L/min

Mean Data: L1207050403DL WG403974-02

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2657771.7						27452.61	1.03%
YRADIAL	291110.1						4509.70	1.55%
Ga 417.206	1438342.2						40646.52	2.83%

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GaRADIAL	80773.6					1330.95	1.65%
Ag 328.068†	62.3	-0.00098	mg/L	0.000108	-0.00098 mg/L	0.000108	10.96%
Al 396.153†	-7.3	-0.0122	mg/L	0.00120	-0.0122 mg/L	0.00120	9.85%
As 188.979†	3.1	0.00028	mg/L	0.000775	0.00028 mg/L	0.000775	275.40%
Ba 233.527†	664.6	0.00160	mg/L	0.000098	0.00160 mg/L	0.000098	6.14%
Be 234.861†	58.9	-0.00012	mg/L	0.000025	-0.00012 mg/L	0.000025	20.63%
B 249.677†	667.9	0.00449	mg/L	0.000403	0.00449 mg/L	0.000403	8.97%
Ca 227.546†	5545.7	11.8	mg/L	0.43	11.8 mg/L	0.43	3.59%
Cd 228.802†	-6.6	-0.00015	mg/L	0.000069	-0.00015 mg/L	0.000069	44.99%
Co 228.616†	-6.0	-0.00038	mg/L	0.000273	-0.00038 mg/L	0.000273	71.21%
Cr 267.716†	44.7	-0.00063	mg/L	0.000190	-0.00063 mg/L	0.000190	30.21%
Cu 327.393†	130.5	-0.00101	mg/L	0.000435	-0.00101 mg/L	0.000435	43.07%
Fe 239.562†	1111.4	0.0679	mg/L	0.00074	0.0679 mg/L	0.00074	1.10%
Mg 279.077†	6460.3	1.72	mg/L	0.025	1.72 mg/L	0.025	1.43%
Mn 257.610†	16435.2	0.0164	mg/L	0.00010	0.0164 mg/L	0.00010	0.64%
Mo 202.031†	24.2	-0.00070	mg/L	0.000140	-0.00070 mg/L	0.000140	19.96%
Ni 231.604†	13.8	-0.00355	mg/L	0.000031	-0.00355 mg/L	0.000031	0.87%
Pb 220.353†	7.9	-0.00017	mg/L	0.000801	-0.00017 mg/L	0.000801	478.45%
Sb 206.836†	-1.7	-0.00302	mg/L	0.000991	-0.00302 mg/L	0.000991	32.76%
Se 196.026†	-11.3	-0.00123	mg/L	0.002827	-0.00123 mg/L	0.002827	229.22%
Si 251.611†	39929.7	0.678	mg/L	0.0188	0.678 mg/L	0.0188	2.77%
Sn 189.927†	-130.1	-0.00893	mg/L	0.000588	-0.00893 mg/L	0.000588	6.58%
Ti 334.940†	-2288.0	-0.00022	mg/L	0.000152	-0.00022 mg/L	0.000152	69.13%
Tl 190.801†	-19.1	-0.00700	mg/L	0.001605	-0.00700 mg/L	0.001605	22.94%
V 290.880†	230.4	0.00010	mg/L	0.000613	0.00010 mg/L	0.000613	593.36%
Zn 206.200†	174.2	-0.00007	mg/L	0.000036	-0.00007 mg/L	0.000036	50.04%
K 766.490†	831.4	0.184	mg/L	0.0029	0.184 mg/L	0.0029	1.59%
Na 589.592†	13500.2	0.672	mg/L	0.0195	0.672 mg/L	0.0195	2.90%
Sr 407.771†	36242.8	0.0145	mg/L	0.00051	0.0145 mg/L	0.00051	3.50%
Li 670.784†	164.5	-0.00295	mg/L	0.000183	-0.00295 mg/L	0.000183	6.20%

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Sequence No.: 10 **Autosampler Location: 6**
Sample ID: CCV **Date Collected: 7/24/2012 9:54:05 AM**
Analyst: **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: CCV

Analyte	Back Pressure	Flow
All	178.0 kPa	0.50 L/min

Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2546680.1						19548.09	0.77%
YRADIAL	293533.2						1216.73	0.41%
Ga 417.206	1356609.2						19476.59	1.44%
GaRADIAL	78400.8						406.62	0.52%
Ag 328.068†	138574.3	0.399	mg/L	0.0060	0.399	mg/L	0.0060	1.51%
QC value within limits for Ag 328.068 Recovery = 99.80%								
Al 396.153†	63814.2	10.1	mg/L	0.04	10.1	mg/L	0.04	0.37%
QC value within limits for Al 396.153 Recovery = 100.54%								
As 188.979†	1688.3	0.382	mg/L	0.0060	0.382	mg/L	0.0060	1.58%
QC value within limits for As 188.979 Recovery = 95.40%								
Ba 233.527†	201122.2	1.01	mg/L	0.009	1.01	mg/L	0.009	0.85%
QC value within limits for Ba 233.527 Recovery = 100.62%								
Be 234.861†	70583.0	0.0488	mg/L	0.00098	0.0488	mg/L	0.00098	2.02%
QC value within limits for Be 234.861 Recovery = 97.65%								
B 249.677†	60420.3	0.489	mg/L	0.0124	0.489	mg/L	0.0124	2.54%
QC value within limits for B 249.677 Recovery = 97.73%								
Ca 227.546†	4580.4	10.3	mg/L	0.21	10.3	mg/L	0.21	2.03%
QC value within limits for Ca 227.546 Recovery = 102.62%								
Cd 228.802†	3290.7	0.0474	mg/L	0.00176	0.0474	mg/L	0.00176	3.70%
QC value within limits for Cd 228.802 Recovery = 94.83%								
Co 228.616†	10651.5	0.199	mg/L	0.0024	0.199	mg/L	0.0024	1.20%
QC value within limits for Co 228.616 Recovery = 99.70%								
Cr 267.716†	74733.4	0.503	mg/L	0.0051	0.503	mg/L	0.0051	1.02%
QC value within limits for Cr 267.716 Recovery = 100.52%								
Cu 327.393†	129854.3	0.502	mg/L	0.0091	0.502	mg/L	0.0091	1.81%

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   QC value within limits for Cu 327.393  Recovery = 100.43%
Fe 239.562†            64629.8        3.99 mg/L         0.001        3.99 mg/L         0.001   0.02%
   QC value within limits for Fe 239.562  Recovery = 99.70%
Mg 279.077†            36999.9        9.85 mg/L         0.020        9.85 mg/L         0.020   0.21%
   QC value within limits for Mg 279.077  Recovery = 98.52%
Mn 257.610†           474618.7       0.506 mg/L        0.0049       0.506 mg/L        0.0049   0.96%
   QC value within limits for Mn 257.610  Recovery = 101.22%
Mo 202.031†            43460.3        1.01 mg/L         0.014        1.01 mg/L         0.014   1.41%
   QC value within limits for Mo 202.031  Recovery = 101.21%
Ni 231.604†            43627.0       0.517 mg/L        0.0052       0.517 mg/L        0.0052   1.01%
   QC value within limits for Ni 231.604  Recovery = 103.40%
Pb 220.353†             8531.2       0.502 mg/L        0.0050       0.502 mg/L        0.0050   1.00%
   QC value within limits for Pb 220.353  Recovery = 100.33%
Sb 206.836†             6356.1        1.17 mg/L         0.025        1.17 mg/L         0.025   2.15%
   QC value within limits for Sb 206.836  Recovery = 97.60%
Se 196.026†              960.4       0.390 mg/L        0.0127       0.390 mg/L        0.0127   3.25%
   QC value within limits for Se 196.026  Recovery = 97.48%
Si 251.611†           286958.8        4.94 mg/L         0.061        4.94 mg/L         0.061   1.24%
   QC value within limits for Si 251.611  Recovery = 98.75%
Sn 189.927†            15404.6       0.995 mg/L        0.0097       0.995 mg/L        0.0097   0.98%
   QC value within limits for Sn 189.927  Recovery = 99.50%
Ti 334.940†          1147989.1        1.01 mg/L         0.008        1.01 mg/L         0.008   0.76%
   QC value within limits for Ti 334.940  Recovery = 101.11%
Tl 190.801†             2385.1       0.526 mg/L        0.0078       0.526 mg/L        0.0078   1.48%
   QC value within limits for Tl 190.801  Recovery = 105.14%
V 290.880†            283159.6        1.01 mg/L         0.009        1.01 mg/L         0.009   0.92%
   QC value within limits for V 290.880  Recovery = 100.74%
Zn 206.200†            79678.0       0.995 mg/L        0.0090       0.995 mg/L        0.0090   0.91%
   QC value within limits for Zn 206.200  Recovery = 99.48%
K 766.490†            137565.5        50.2 mg/L          0.14        50.2 mg/L          0.14   0.29%
   QC value within limits for K 766.490  Recovery = 100.31%
Na 589.592†           991644.9        50.4 mg/L          0.61        50.4 mg/L          0.61   1.22%
   QC value within limits for Na 589.592  Recovery = 100.78%
Sr 407.771†          2411682.2        1.01 mg/L         0.005        1.01 mg/L         0.005   0.48%
   QC value within limits for Sr 407.771  Recovery = 100.76%
Li 670.784†           133697.0        1.04 mg/L         0.009        1.04 mg/L         0.009   0.84%
   QC value within limits for Li 670.784  Recovery = 104.49%
All analyte(s) passed QC.

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Sequence No.: 11                                  Autosampler Location: 1
Sample ID: CCB                                    Date Collected: 7/24/2012 10:00:05 AM
Analyst:                                          Data Type: Original
Initial Sample Wt:                                Initial Sample Vol:
Dilution:                                         Sample Prep Vol:

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Nebulizer Parameters: CCB
Analyte                 Back Pressure    Flow
All                    178.0 kPa         0.50 L/min

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Mean Data: CCB
                   Mean Corrected         Calib.                          Sample
Analyte               Intensity     Conc. Units      Std.Dev.      Conc. Units      Std.Dev.   RSD
Y 371.029            2650599.7                                                      1292.00   0.05%
YRADIAL               289548.8                                                      5142.50   1.78%
Ga 417.206           1395028.6                                                     19516.08   1.40%
GaRADIAL               79663.9                                                      3422.23   4.30%
Ag 328.068†               44.3    -0.00106 mg/L      0.000317    -0.00106 mg/L      0.000317  29.92%
   QC value within limits for Ag 328.068  Recovery = Not calculated
Al 396.153†               27.7    -0.00661 mg/L      0.002113    -0.00661 mg/L      0.002113  31.96%
   QC value within limits for Al 396.153  Recovery = Not calculated
As 188.979†                5.4     0.00079 mg/L      0.001137     0.00079 mg/L      0.001137 144.06%
   QC value within limits for As 188.979  Recovery = Not calculated
Ba 233.527†               21.5    -0.00162 mg/L      0.000143    -0.00162 mg/L      0.000143   8.80%
   QC value within limits for Ba 233.527  Recovery = Not calculated
Be 234.861†                0.2    -0.00015 mg/L      0.000005    -0.00015 mg/L      0.000005   3.12%
   QC value within limits for Be 234.861  Recovery = Not calculated
B 249.677†               334.9     0.00179 mg/L      0.000235     0.00179 mg/L      0.000235  13.10%
   QC value within limits for B 249.677  Recovery = Not calculated
Ca 227.546†              -10.9     -0.0106 mg/L       0.00199     -0.0106 mg/L       0.00199  18.87%
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   QC value within limits for Ca 227.546  Recovery = Not calculated
Cd 228.802†              -1.2    -0.00008 mg/L      0.000118    -0.00008 mg/L      0.000118 156.91%
   QC value within limits for Cd 228.802  Recovery = Not calculated
Co 228.616†              -1.7    -0.00030 mg/L      0.000050    -0.00030 mg/L      0.000050  16.29%
   QC value within limits for Co 228.616  Recovery = Not calculated
Cr 267.716†              12.1    -0.00085 mg/L      0.000081    -0.00085 mg/L      0.000081   9.53%
   QC value within limits for Cr 267.716  Recovery = Not calculated
Cu 327.393†              12.0    -0.00147 mg/L      0.000371    -0.00147 mg/L      0.000371  25.30%
   QC value within limits for Cu 327.393  Recovery = Not calculated
Fe 239.562†              48.6     0.00238 mg/L      0.000281     0.00238 mg/L      0.000281  11.79%
   QC value within limits for Fe 239.562  Recovery = Not calculated
Mg 279.077†              -0.1     0.00708 mg/L      0.001045     0.00708 mg/L      0.001045  14.75%
   QC value within limits for Mg 279.077  Recovery = Not calculated
Mn 257.610†             -20.8    -0.00114 mg/L      0.000008    -0.00114 mg/L      0.000008   0.74%
   QC value within limits for Mn 257.610  Recovery = Not calculated
Mo 202.031†              16.0    -0.00090 mg/L      0.000016    -0.00090 mg/L      0.000016   1.78%
   QC value within limits for Mo 202.031  Recovery = Not calculated
Ni 231.604†              -3.2    -0.00375 mg/L      0.000109    -0.00375 mg/L      0.000109   2.91%
   QC value within limits for Ni 231.604  Recovery = Not calculated
Pb 220.353†              -4.1    -0.00095 mg/L      0.000587    -0.00095 mg/L      0.000587  61.93%
   QC value within limits for Pb 220.353  Recovery = Not calculated
Sb 206.836†               4.9    -0.00179 mg/L      0.001001    -0.00179 mg/L      0.001001  55.78%
   QC value within limits for Sb 206.836  Recovery = Not calculated
Se 196.026†              -5.5     0.00110 mg/L      0.002396     0.00110 mg/L      0.002396 217.76%
   QC value within limits for Se 196.026  Recovery = Not calculated
Si 251.611†              19.8     -0.0119 mg/L       0.00027     -0.0119 mg/L       0.00027   2.24%
   QC value within limits for Si 251.611  Recovery = Not calculated
Sn 189.927†               8.6     0.00003 mg/L      0.000518     0.00003 mg/L      0.000518 >999.9%
   QC value within limits for Sn 189.927  Recovery = Not calculated
Ti 334.940†              86.7     0.00009 mg/L      0.000033     0.00009 mg/L      0.000033  36.20%
   QC value within limits for Ti 334.940  Recovery = Not calculated
Tl 190.801†              -7.5    -0.00447 mg/L      0.001687    -0.00447 mg/L      0.001687  37.78%
   QC value within limits for Tl 190.801  Recovery = Not calculated
V 290.880†              220.9     0.00012 mg/L      0.000868     0.00012 mg/L      0.000868 706.34%
   QC value within limits for V 290.880  Recovery = Not calculated
Zn 206.200†               7.0    -0.00215 mg/L      0.000084    -0.00215 mg/L      0.000084   3.90%
   QC value within limits for Zn 206.200  Recovery = Not calculated
K 766.490†              -27.7      -0.128 mg/L        0.0083      -0.128 mg/L        0.0083   6.50%
   QC value within limits for K 766.490  Recovery = Not calculated
Na 589.592†             210.0      0.0177 mg/L       0.00643      0.0177 mg/L       0.00643  36.26%
   QC value within limits for Na 589.592  Recovery = Not calculated
Sr 407.771†             265.6    -0.00026 mg/L      0.000106    -0.00026 mg/L      0.000106  40.71%
   QC value within limits for Sr 407.771  Recovery = Not calculated
Li 670.784†              54.5    -0.00381 mg/L      0.000055    -0.00381 mg/L      0.000055   1.43%
   QC value within limits for Li 670.784  Recovery = Not calculated
All analyte(s) passed QC.

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Sequence No.: 12                                   Autosampler Location: 23
Sample ID: L1207050404                             Date Collected: 7/24/2012 10:06:58 AM
Analyst: KHR                                       Data Type: Original
Initial Sample Wt:                                 Initial Sample Vol:
Dilution:                                          Sample Prep Vol:

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Nebulizer Parameters: L1207050404
Analyte                  Back Pressure    Flow
All                    177.0 kPa         0.50 L/min

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Mean Data: L1207050404
                    Mean Corrected         Calib.                          Sample
Analyte                Intensity     Conc. Units      Std.Dev.      Conc. Units      Std.Dev.   RSD
Y 371.029            2608288.0                                                      26594.72   1.02%
YRADIAL               291561.1                                                       7086.44   2.43%
Ga 417.206           1477442.0                                                      41384.94   2.80%
GaRADIAL               80471.8                                                       1099.67   1.37%
Ag 328.068†              561.8     0.00088 mg/L      0.000750     0.00088 mg/L      0.000750  85.56%
Al 396.153†             -111.2     -0.0286 mg/L       0.00509     -0.0286 mg/L       0.00509  17.77%
As 188.979†               -2.0    -0.00065 mg/L      0.002852    -0.00065 mg/L      0.002852 440.80%
Ba 233.527†             3418.1      0.0153 mg/L       0.00029      0.0153 mg/L       0.00029   1.90%
Be 234.861†              591.1     0.00004 mg/L      0.000038     0.00004 mg/L      0.000038 105.74%
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B 249.677†	1659.5	0.0122	mg/L	0.00071	0.0122	mg/L	0.00071	5.84%
Ca 227.546†	28469.0	60.8	mg/L	1.58	60.8	mg/L	1.58	2.60%
Cd 228.802†	-0.7	-0.00006	mg/L	0.000131	-0.00006	mg/L	0.000131	221.61%
Co 228.616†	20.8	0.00011	mg/L	0.000110	0.00011	mg/L	0.000110	101.41%
Cr 267.716†	113.9	-0.00020	mg/L	0.000083	-0.00020	mg/L	0.000083	42.10%
Cu 327.393†	96.3	-0.00110	mg/L	0.000418	-0.00110	mg/L	0.000418	38.01%
Fe 239.562†	16815.7	1.04	mg/L	0.032	1.04	mg/L	0.032	3.06%
Mg 279.077†	33217.3	8.83	mg/L	0.284	8.83	mg/L	0.284	3.21%
Mn 257.610†	117114.1	0.124	mg/L	0.0012	0.124	mg/L	0.0012	0.95%
Mo 202.031†	68.6	0.00040	mg/L	0.000469	0.00040	mg/L	0.000469	116.18%
Ni 231.604†	73.7	-0.00283	mg/L	0.000359	-0.00283	mg/L	0.000359	12.67%
Pb 220.353†	7.1	0.00003	mg/L	0.000690	0.00003	mg/L	0.000690	>999.9%
Sb 206.836†	-2.1	-0.00306	mg/L	0.000674	-0.00306	mg/L	0.000674	22.04%
Se 196.026†	-3.9	0.00187	mg/L	0.001026	0.00187	mg/L	0.001026	54.93%
Si 251.611†	214375.1	3.69	mg/L	0.084	3.69	mg/L	0.084	2.26%
Sn 189.927†	-289.8	-0.0193	mg/L	0.00025	-0.0193	mg/L	0.00025	1.32%
Ti 334.940†	-9951.4	0.00038	mg/L	0.001002	0.00038	mg/L	0.001002	265.83%
Tl 190.801†	-28.1	-0.00912	mg/L	0.001033	-0.00912	mg/L	0.001033	11.32%
V 290.880†	1357.8	0.00381	mg/L	0.001944	0.00381	mg/L	0.001944	51.04%
Zn 206.200†	497.6	0.00394	mg/L	0.000189	0.00394	mg/L	0.000189	4.78%
K 766.490†	2543.4	0.805	mg/L	0.0178	0.805	mg/L	0.0178	2.21%
Na 589.592†	70323.5	3.48	mg/L	0.086	3.48	mg/L	0.086	2.47%
Sr 407.771†	181824.5	0.0743	mg/L	0.00114	0.0743	mg/L	0.00114	1.53%
Li 670.784†	176.9	-0.00285	mg/L	0.000957	-0.00285	mg/L	0.000957	33.56%

Sequence No.: 13 **Autosampler Location: 24**
Sample ID: L1207050405 **Date Collected: 7/24/2012 10:12:55 AM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1207050405

Analyte	Back Pressure	Flow
All	177.0 kPa	0.50 L/min

Mean Data: L1207050405

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2586939.2						13154.46	0.51%
YRADIAL	295207.9						6832.72	2.31%
Ga 417.206	1457463.4						28838.54	1.98%
GaRADIAL	80880.9						1476.20	1.83%
Ag 328.068†	285.7	0.00073	mg/L	0.000639	0.00073	mg/L	0.000639	87.18%
Al 396.153†	-167.9	-0.0375	mg/L	0.01677	-0.0375	mg/L	0.01677	44.77%
As 188.979†	-10.2	-0.00220	mg/L	0.000942	-0.00220	mg/L	0.000942	42.79%
Ba 233.527†	3841.4	0.0174	mg/L	0.00007	0.0174	mg/L	0.00007	0.42%
Be 234.861†	968.7	-0.00003	mg/L	0.000049	-0.00003	mg/L	0.000049	189.38%
B 249.677†	1718.6	0.0120	mg/L	0.00040	0.0120	mg/L	0.00040	3.33%
Ca 227.546†	30068.2	64.2	mg/L	2.08	64.2	mg/L	2.08	3.23%
Cd 228.802†	8.5	0.00009	mg/L	0.000104	0.00009	mg/L	0.000104	121.16%
Co 228.616†	23.9	0.00013	mg/L	0.000152	0.00013	mg/L	0.000152	116.43%
Cr 267.716†	95.3	-0.00037	mg/L	0.000141	-0.00037	mg/L	0.000141	37.75%
Cu 327.393†	92.3	-0.00104	mg/L	0.000050	-0.00104	mg/L	0.000050	4.77%
Fe 239.562†	39753.7	2.45	mg/L	0.064	2.45	mg/L	0.064	2.61%
Mg 279.077†	32841.3	8.73	mg/L	0.226	8.73	mg/L	0.226	2.59%
Mn 257.610†	151104.0	0.160	mg/L	0.0018	0.160	mg/L	0.0018	1.13%
Mo 202.031†	69.3	0.00050	mg/L	0.000371	0.00050	mg/L	0.000371	74.70%
Ni 231.604†	207.6	-0.00123	mg/L	0.000324	-0.00123	mg/L	0.000324	26.35%
Pb 220.353†	11.6	0.00017	mg/L	0.001209	0.00017	mg/L	0.001209	698.81%
Sb 206.836†	-9.1	-0.00431	mg/L	0.000261	-0.00431	mg/L	0.000261	6.06%
Se 196.026†	-8.1	0.00039	mg/L	0.003285	0.00039	mg/L	0.003285	848.31%
Si 251.611†	236638.0	4.08	mg/L	0.098	4.08	mg/L	0.098	2.40%
Sn 189.927†	-304.7	-0.0202	mg/L	0.00034	-0.0202	mg/L	0.00034	1.70%
Ti 334.940†	-10491.8	0.00041	mg/L	0.000444	0.00041	mg/L	0.000444	107.35%
Tl 190.801†	-27.3	-0.00899	mg/L	0.000519	-0.00899	mg/L	0.000519	5.77%
V 290.880†	1467.5	0.00401	mg/L	0.001186	0.00401	mg/L	0.001186	29.55%
Zn 206.200†	2271.7	0.0260	mg/L	0.00030	0.0260	mg/L	0.00030	1.14%
K 766.490†	2340.1	0.731	mg/L	0.0375	0.731	mg/L	0.0375	5.14%
Na 589.592†	71487.3	3.53	mg/L	0.107	3.53	mg/L	0.107	3.02%

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Sr 407.771†	181633.5	0.0741 mg/L	0.00092	0.0741 mg/L	0.00092	1.24%
Li 670.784†	208.3	-0.00261 mg/L	0.000702	-0.00261 mg/L	0.000702	26.93%

Sequence No.: 14 **Autosampler Location: 25**
Sample ID: L1207050406 **Date Collected: 7/24/2012 10:18:51 AM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1207050406

Analyte	Back Pressure	Flow
All	178.0 kPa	0.50 L/min

Mean Data: L1207050406

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2589625.9						22781.85	0.88%
YRADIAL	292906.3						3182.17	1.09%
Ga 417.206	1449999.7						33480.87	2.31%
GaRADIAL	80649.5						1401.99	1.74%
Ag 328.068†	195.8	0.00151	mg/L	0.000440	0.00151	mg/L	0.000440	29.03%
Al 396.153†	-105.8	-0.0273	mg/L	0.00972	-0.0273	mg/L	0.00972	35.57%
As 188.979†	-1.3	0.00039	mg/L	0.000592	0.00039	mg/L	0.000592	150.76%
Ba 233.527†	4852.1	0.0223	mg/L	0.00025	0.0223	mg/L	0.00025	1.11%
Be 234.861†	1762.3	0.00001	mg/L	0.000078	0.00001	mg/L	0.000078	>999.9%
B 249.677†	1947.1	0.0129	mg/L	0.00054	0.0129	mg/L	0.00054	4.20%
Ca 227.546†	35988.6	76.9	mg/L	3.46	76.9	mg/L	3.46	4.50%
Cd 228.802†	5.9	0.00004	mg/L	0.000107	0.00004	mg/L	0.000107	303.18%
Co 228.616†	38.4	0.00035	mg/L	0.000014	0.00035	mg/L	0.000014	3.92%
Cr 267.716†	104.4	-0.00040	mg/L	0.000156	-0.00040	mg/L	0.000156	39.43%
Cu 327.393†	24.3	-0.00120	mg/L	0.000304	-0.00120	mg/L	0.000304	25.37%
Fe 239.562†	76659.7	4.73	mg/L	0.114	4.73	mg/L	0.114	2.40%
Mg 279.077†	34592.6	9.19	mg/L	0.205	9.19	mg/L	0.205	2.23%
Mn 257.610†	212009.8	0.225	mg/L	0.0028	0.225	mg/L	0.0028	1.23%
Mo 202.031†	73.1	0.00071	mg/L	0.000095	0.00071	mg/L	0.000095	13.42%
Ni 231.604†	162.8	-0.00177	mg/L	0.000324	-0.00177	mg/L	0.000324	18.38%
Pb 220.353†	24.1	0.00077	mg/L	0.002149	0.00077	mg/L	0.002149	278.90%
Sb 206.836†	-4.1	-0.00328	mg/L	0.001409	-0.00328	mg/L	0.001409	42.91%
Se 196.026†	-5.7	0.00167	mg/L	0.001742	0.00167	mg/L	0.001742	104.48%
Si 251.611†	260960.4	4.50	mg/L	0.141	4.50	mg/L	0.141	3.14%
Sn 189.927†	-329.0	-0.0218	mg/L	0.00017	-0.0218	mg/L	0.00017	0.80%
Ti 334.940†	-12260.0	0.00075	mg/L	0.000873	0.00075	mg/L	0.000873	115.87%
Tl 190.801†	-31.7	-0.0100	mg/L	0.00176	-0.0100	mg/L	0.00176	17.56%
V 290.880†	1562.9	0.00404	mg/L	0.001609	0.00404	mg/L	0.001609	39.80%
Zn 206.200†	1493.5	0.0163	mg/L	0.00026	0.0163	mg/L	0.00026	1.63%
K 766.490†	2735.7	0.874	mg/L	0.0040	0.874	mg/L	0.0040	0.46%
Na 589.592†	87794.9	4.34	mg/L	0.110	4.34	mg/L	0.110	2.53%
Sr 407.771†	204396.6	0.0834	mg/L	0.00085	0.0834	mg/L	0.00085	1.02%
Li 670.784†	196.4	-0.00270	mg/L	0.000511	-0.00270	mg/L	0.000511	18.93%

Sequence No.: 15 **Autosampler Location: 26**
Sample ID: L1207050407 **Date Collected: 7/24/2012 10:24:48 AM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1207050407

Analyte	Back Pressure	Flow
All	177.0 kPa	0.50 L/min

Mean Data: L1207050407

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2602653.2						34181.86	1.31%
YRADIAL	294252.5						5115.96	1.74%
Ga 417.206	1491047.3						33352.73	2.24%

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GaRADIAL	82378.2					1203.55	1.46%
Ag 328.068†	210.9	0.00119	mg/L	0.000192	0.00119 mg/L	0.000192	16.14%
Al 396.153†	-72.5	-0.0221	mg/L	0.01490	-0.0221 mg/L	0.01490	67.29%
As 188.979†	-6.3	-0.00094	mg/L	0.000563	-0.00094 mg/L	0.000563	60.16%
Ba 233.527†	4779.4	0.0220	mg/L	0.00023	0.0220 mg/L	0.00023	1.04%
Be 234.861†	1464.6	-0.00002	mg/L	0.000030	-0.00002 mg/L	0.000030	175.77%
B 249.677†	2065.4	0.0142	mg/L	0.00061	0.0142 mg/L	0.00061	4.27%
Ca 227.546†	38983.3	83.3	mg/L	2.06	83.3 mg/L	2.06	2.48%
Cd 228.802†	2.0	-0.00002	mg/L	0.000080	-0.00002 mg/L	0.000080	481.63%
Co 228.616†	32.6	0.00026	mg/L	0.000148	0.00026 mg/L	0.000148	57.39%
Cr 267.716†	92.5	-0.00045	mg/L	0.000145	-0.00045 mg/L	0.000145	32.52%
Cu 327.393†	-168.8	-0.00198	mg/L	0.000393	-0.00198 mg/L	0.000393	19.80%
Fe 239.562†	63988.8	3.95	mg/L	0.115	3.95 mg/L	0.115	2.91%
Mg 279.077†	35226.2	9.36	mg/L	0.233	9.36 mg/L	0.233	2.49%
Mn 257.610†	245319.4	0.261	mg/L	0.0062	0.261 mg/L	0.0062	2.37%
Mo 202.031†	75.6	0.00074	mg/L	0.000333	0.00074 mg/L	0.000333	45.09%
Ni 231.604†	193.4	-0.00140	mg/L	0.000560	-0.00140 mg/L	0.000560	40.00%
Pb 220.353†	5.0	-0.00025	mg/L	0.000773	-0.00025 mg/L	0.000773	311.54%
Sb 206.836†	-2.9	-0.00310	mg/L	0.000993	-0.00310 mg/L	0.000993	32.04%
Se 196.026†	-16.9	-0.00296	mg/L	0.001082	-0.00296 mg/L	0.001082	36.57%
Si 251.611†	257860.9	4.45	mg/L	0.099	4.45 mg/L	0.099	2.23%
Sn 189.927†	-332.3	-0.0220	mg/L	0.00090	-0.0220 mg/L	0.00090	4.10%
Ti 334.940†	-13616.1	0.00052	mg/L	0.001136	0.00052 mg/L	0.001136	218.82%
Tl 190.801†	-36.5	-0.0111	mg/L	0.00385	-0.0111 mg/L	0.00385	34.68%
V 290.880†	1584.8	0.00422	mg/L	0.000641	0.00422 mg/L	0.000641	15.19%
Zn 206.200†	383.2	0.00246	mg/L	0.000082	0.00246 mg/L	0.000082	3.35%
K 766.490†	3095.0	1.01	mg/L	0.006	1.01 mg/L	0.006	0.57%
Na 589.592†	73160.2	3.62	mg/L	0.093	3.62 mg/L	0.093	2.57%
Sr 407.771†	219744.4	0.0897	mg/L	0.00035	0.0897 mg/L	0.00035	0.39%
Li 670.784†	194.1	-0.00272	mg/L	0.000688	-0.00272 mg/L	0.000688	25.31%

Sequence No.: 16 **Autosampler Location: 27**
Sample ID: L1207050408 **Date Collected: 7/24/2012 10:30:46 AM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1207050408

Analyte	Back Pressure	Flow
All	178.0 kPa	0.50 L/min

Mean Data: L1207050408

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2615436.3						3331.65	0.13%
YRADIAL	296555.9						714.87	0.24%
Ga 417.206	1475585.2						39081.56	2.65%
GaRADIAL	80604.5						2346.62	2.91%
Ag 328.068†	254.0	0.00099	mg/L	0.000232	0.00099	mg/L	0.000232	23.52%
Al 396.153†	-145.1	-0.0338	mg/L	0.01285	-0.0338	mg/L	0.01285	38.07%
As 188.979†	1.8	0.00073	mg/L	0.000609	0.00073	mg/L	0.000609	84.05%
Ba 233.527†	3635.4	0.0163	mg/L	0.00013	0.0163	mg/L	0.00013	0.79%
Be 234.861†	1203.7	-0.00004	mg/L	0.000013	-0.00004	mg/L	0.000013	34.67%
B 249.677†	1693.5	0.0115	mg/L	0.00059	0.0115	mg/L	0.00059	5.17%
Ca 227.546†	31622.8	67.6	mg/L	1.94	67.6	mg/L	1.94	2.87%
Cd 228.802†	10.6	0.00010	mg/L	0.000117	0.00010	mg/L	0.000117	115.92%
Co 228.616†	14.1	-0.00007	mg/L	0.000269	-0.00007	mg/L	0.000269	369.36%
Cr 267.716†	97.3	-0.00039	mg/L	0.000058	-0.00039	mg/L	0.000058	15.06%
Cu 327.393†	-19.9	-0.00144	mg/L	0.000885	-0.00144	mg/L	0.000885	61.33%
Fe 239.562†	51771.4	3.19	mg/L	0.069	3.19	mg/L	0.069	2.15%
Mg 279.077†	34514.8	9.17	mg/L	0.153	9.17	mg/L	0.153	1.67%
Mn 257.610†	130162.4	0.138	mg/L	0.0018	0.138	mg/L	0.0018	1.27%
Mo 202.031†	69.2	0.00053	mg/L	0.000413	0.00053	mg/L	0.000413	78.44%
Ni 231.604†	180.6	-0.00155	mg/L	0.000422	-0.00155	mg/L	0.000422	27.17%
Pb 220.353†	3.4	-0.00033	mg/L	0.001021	-0.00033	mg/L	0.001021	304.75%
Sb 206.836†	-4.6	-0.00344	mg/L	0.000861	-0.00344	mg/L	0.000861	25.02%
Se 196.026†	-13.9	-0.00184	mg/L	0.005288	-0.00184	mg/L	0.005288	288.13%
Si 251.611†	233137.3	4.02	mg/L	0.081	4.02	mg/L	0.081	2.00%
Sn 189.927†	-303.6	-0.0201	mg/L	0.00066	-0.0201	mg/L	0.00066	3.27%

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Ti 334.940†	-10816.0	0.00063	mg/L	0.000911	0.00063	mg/L	0.000911	145.52%
Tl 190.801†	-20.2	-0.00744	mg/L	0.003152	-0.00744	mg/L	0.003152	42.37%
V 290.880†	1285.9	0.00326	mg/L	0.001904	0.00326	mg/L	0.001904	58.44%
Zn 206.200†	385.2	0.00250	mg/L	0.000122	0.00250	mg/L	0.000122	4.87%
K 766.490†	2030.6	0.618	mg/L	0.0477	0.618	mg/L	0.0477	7.72%
Na 589.592†	72662.1	3.59	mg/L	0.094	3.59	mg/L	0.094	2.61%
Sr 407.771†	177123.7	0.0722	mg/L	0.00045	0.0722	mg/L	0.00045	0.62%
Li 670.784†	152.9	-0.00304	mg/L	0.000677	-0.00304	mg/L	0.000677	22.27%

Sequence No.: 17 **Autosampler Location: 28**
Sample ID: L1207050409 **Date Collected: 7/24/2012 10:36:43 AM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1207050409

Analyte	Back Pressure	Flow
All	178.0 kPa	0.50 L/min

Mean Data: L1207050409

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2640005.0						17188.06	0.65%
YRADIAL	292308.6						6203.47	2.12%
Ga 417.206	1515769.6						27767.27	1.83%
GaRADIAL	80418.4						1710.60	2.13%
Ag 328.068†	613.8	0.00068	mg/L	0.000175	0.00068	mg/L	0.000175	25.92%
Al 396.153†	-76.3	-0.0232	mg/L	0.00677	-0.0232	mg/L	0.00677	29.26%
As 188.979†	-3.2	-0.00112	mg/L	0.001618	-0.00112	mg/L	0.001618	144.67%
Ba 233.527†	1846.2	0.00751	mg/L	0.000203	0.00751	mg/L	0.000203	2.70%
Be 234.861†	314.6	0.00002	mg/L	0.000022	0.00002	mg/L	0.000022	116.39%
B 249.677†	822.7	0.00567	mg/L	0.000231	0.00567	mg/L	0.000231	4.08%
Ca 227.546†	20940.6	44.7	mg/L	1.30	44.7	mg/L	1.30	2.90%
Cd 228.802†	9.1	0.00009	mg/L	0.000087	0.00009	mg/L	0.000087	98.58%
Co 228.616†	12.7	-0.00003	mg/L	0.000045	-0.00003	mg/L	0.000045	169.38%
Cr 267.716†	104.0	-0.00023	mg/L	0.000095	-0.00023	mg/L	0.000095	40.39%
Cu 327.393†	681.8	0.00113	mg/L	0.000182	0.00113	mg/L	0.000182	16.14%
Fe 239.562†	3903.9	0.240	mg/L	0.0046	0.240	mg/L	0.0046	1.90%
Mg 279.077†	33464.6	8.90	mg/L	0.186	8.90	mg/L	0.186	2.09%
Mn 257.610†	34471.5	0.0357	mg/L	0.00035	0.0357	mg/L	0.00035	0.99%
Mo 202.031†	51.6	-0.00005	mg/L	0.000287	-0.00005	mg/L	0.000287	570.44%
Ni 231.604†	371.2	0.00072	mg/L	0.000458	0.00072	mg/L	0.000458	63.53%
Pb 220.353†	22.6	0.00093	mg/L	0.001129	0.00093	mg/L	0.001129	121.52%
Sb 206.836†	-8.0	-0.00418	mg/L	0.000965	-0.00418	mg/L	0.000965	23.11%
Se 196.026†	-7.9	0.00014	mg/L	0.000952	0.00014	mg/L	0.000952	672.05%
Si 251.611†	185320.4	3.19	mg/L	0.054	3.19	mg/L	0.054	1.70%
Sn 189.927†	-273.1	-0.0182	mg/L	0.00042	-0.0182	mg/L	0.00042	2.30%
Ti 334.940†	-7471.1	0.00015	mg/L	0.000560	0.00015	mg/L	0.000560	376.28%
Tl 190.801†	1.3	-0.00265	mg/L	0.001150	-0.00265	mg/L	0.001150	43.34%
V 290.880†	1517.4	0.00448	mg/L	0.001152	0.00448	mg/L	0.001152	25.71%
Zn 206.200†	721.1	0.00674	mg/L	0.000195	0.00674	mg/L	0.000195	2.89%
K 766.490†	1839.7	0.547	mg/L	0.0067	0.547	mg/L	0.0067	1.23%
Na 589.592†	92092.6	4.55	mg/L	0.062	4.55	mg/L	0.062	1.37%
Sr 407.771†	131609.6	0.0537	mg/L	0.00111	0.0537	mg/L	0.00111	2.06%
Li 670.784†	110.8	-0.00337	mg/L	0.000224	-0.00337	mg/L	0.000224	6.64%

Sequence No.: 18 **Autosampler Location: 29**
Sample ID: L1207050410 **Date Collected: 7/24/2012 10:42:40 AM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1207050410

Analyte	Back Pressure	Flow
All	178.0 kPa	0.50 L/min

Approved: July 25, 2012

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Mean Data: L1207050410

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	2309054.3						93552.91	4.05%
YRADIAL	296712.1						1278.93	0.43%
Ga 417.206	1131633.0						18516.15	1.64%
GaRADIAL	78646.6						2016.84	2.56%
Ag 328.068†	572.1	0.00161	mg/L	0.000216	0.00161	mg/L	0.000216	13.36%
Al 396.153†	-159.9	-0.0362	mg/L	0.00357	-0.0362	mg/L	0.00357	9.86%
As 188.979†	-11.1	-0.00238	mg/L	0.004138	-0.00238	mg/L	0.004138	174.13%
Ba 233.527†	4220.0	0.0193	mg/L	0.00898	0.0193	mg/L	0.00898	46.60%
Be 234.861†	654.3	-0.00026	mg/L	0.000189	-0.00026	mg/L	0.000189	72.15%
B 249.677†	3452.3	0.0261	mg/L	0.01136	0.0261	mg/L	0.01136	43.46%
Ca 227.546†	39225.1	83.8	mg/L	1.08	83.8	mg/L	1.08	1.29%
Cd 228.802†	20.0	0.00026	mg/L	0.000452	0.00026	mg/L	0.000452	177.19%
Co 228.616†	34.3	0.00032	mg/L	0.000244	0.00032	mg/L	0.000244	74.97%
Cr 267.716†	73.4	-0.00052	mg/L	0.000703	-0.00052	mg/L	0.000703	135.57%
Cu 327.393†	-558.7	-0.00355	mg/L	0.000662	-0.00355	mg/L	0.000662	18.62%
Fe 239.562†	41597.0	2.57	mg/L	0.036	2.57	mg/L	0.036	1.39%
Mg 279.077†	36557.6	9.72	mg/L	0.115	9.72	mg/L	0.115	1.19%
Mn 257.610†	251978.1	0.268	mg/L	0.0078	0.268	mg/L	0.0078	2.93%
Mo 202.031†	78.3	0.00074	mg/L	0.001331	0.00074	mg/L	0.001331	179.40%
Ni 231.604†	135.5	-0.00209	mg/L	0.000381	-0.00209	mg/L	0.000381	18.19%
Pb 220.353†	-29.5	-0.00215	mg/L	0.002106	-0.00215	mg/L	0.002106	97.85%
Sb 206.836†	-19.6	-0.00622	mg/L	0.000272	-0.00622	mg/L	0.000272	4.38%
Se 196.026†	1.9	0.00437	mg/L	0.005428	0.00437	mg/L	0.005428	124.26%
Si 251.611†	293820.1	5.07	mg/L	0.046	5.07	mg/L	0.046	0.91%
Sn 189.927†	-276.1	-0.0184	mg/L	0.00768	-0.0184	mg/L	0.00768	41.81%
Ti 334.940†	-11683.5	0.00230	mg/L	0.000536	0.00230	mg/L	0.000536	23.33%
Tl 190.801†	-13.6	-0.00612	mg/L	0.006656	-0.00612	mg/L	0.006656	108.75%
V 290.880†	5240.3	0.0174	mg/L	0.00289	0.0174	mg/L	0.00289	16.57%
Zn 206.200†	254.3	0.00088	mg/L	0.001531	0.00088	mg/L	0.001531	173.66%
K 766.490†	2923.1	0.943	mg/L	0.0215	0.943	mg/L	0.0215	2.28%
Na 589.592†	68312.2	3.38	mg/L	0.093	3.38	mg/L	0.093	2.75%
Sr 407.771†	249994.3	0.102	mg/L	0.0009	0.102	mg/L	0.0009	0.88%
Li 670.784†	267.9	-0.00214	mg/L	0.000789	-0.00214	mg/L	0.000789	36.91%

Plasma has been extinguished

Approved: July 25, 2012

Kym H. Rhoden

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Analysis Begun

Start Time: 7/24/2012 11:17:20 AM **Plasma On Time: 7/24/2012 10:54:30 AM**
Logged In Analyst: peicp2 **Technique: ICP Continuous**
Spectrometer Model: Optima 4300 DV, S/N 077N4011401 **Autosampler Model: Cetac**

Sample Information File: C:\pe\peicp2\Sample Information\TUESDAY1.sif
Batch ID:
Results Data Set: 072412HR
Results Library: C:\pe\peicp2\Results\Results.mdb

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Sequence No.: 1 **Autosampler Location: 6**
Sample ID: CCV **Date Collected: 7/24/2012 11:17:22 AM**
Analyst: **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: CCV

Analyte	Back Pressure	Flow
All	175.0 kPa	0.50 L/min

Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2585821.0						18148.22	0.70%
YRADIAL	284891.6						3880.64	1.36%
Ga 417.206	1250416.7						33895.66	2.71%
GaRADIAL	75759.7						1149.21	1.52%
Ag 328.068†	150082.7	0.432	mg/L	0.0135	0.432	mg/L	0.0135	3.13%
QC value within limits for Ag 328.068 Recovery = 108.05%								
Al 396.153†	64346.4	10.1	mg/L	0.05	10.1	mg/L	0.05	0.50%
QC value within limits for Al 396.153 Recovery = 101.37%								
As 188.979†	1876.6	0.425	mg/L	0.0108	0.425	mg/L	0.0108	2.53%
QC value within limits for As 188.979 Recovery = 106.18%								
Ba 233.527†	204131.2	1.02	mg/L	0.002	1.02	mg/L	0.002	0.19%
QC value within limits for Ba 233.527 Recovery = 102.12%								
Be 234.861†	77258.7	0.0535	mg/L	0.00162	0.0535	mg/L	0.00162	3.02%
QC value within limits for Be 234.861 Recovery = 106.97%								
B 249.677†	64690.0	0.523	mg/L	0.0143	0.523	mg/L	0.0143	2.73%
QC value within limits for B 249.677 Recovery = 104.67%								
Ca 227.546†	4864.2	10.9	mg/L	0.29	10.9	mg/L	0.29	2.67%
QC value within limits for Ca 227.546 Recovery = 108.77%								
Cd 228.802†	3659.2	0.0527	mg/L	0.00203	0.0527	mg/L	0.00203	3.85%
QC value within limits for Cd 228.802 Recovery = 105.35%								
Co 228.616†	10812.2	0.202	mg/L	0.0028	0.202	mg/L	0.0028	1.40%
QC value within limits for Co 228.616 Recovery = 101.23%								
Cr 267.716†	75805.4	0.510	mg/L	0.0048	0.510	mg/L	0.0048	0.94%
QC value within limits for Cr 267.716 Recovery = 101.96%								
Cu 327.393†	137577.5	0.532	mg/L	0.0163	0.532	mg/L	0.0163	3.06%
QC value within limits for Cu 327.393 Recovery = 106.40%								
Fe 239.562†	66228.3	4.09	mg/L	0.011	4.09	mg/L	0.011	0.28%
QC value within limits for Fe 239.562 Recovery = 102.17%								
Mg 279.077†	38586.8	10.3	mg/L	0.06	10.3	mg/L	0.06	0.58%
QC value within limits for Mg 279.077 Recovery = 102.74%								
Mn 257.610†	478605.1	0.510	mg/L	0.0037	0.510	mg/L	0.0037	0.72%
QC value within limits for Mn 257.610 Recovery = 102.07%								
Mo 202.031†	44000.9	1.02	mg/L	0.005	1.02	mg/L	0.005	0.50%
QC value within limits for Mo 202.031 Recovery = 102.47%								
Ni 231.604†	44419.6	0.526	mg/L	0.0056	0.526	mg/L	0.0056	1.06%
QC value within limits for Ni 231.604 Recovery = 105.29%								
Pb 220.353†	8667.0	0.510	mg/L	0.0055	0.510	mg/L	0.0055	1.08%
QC value within limits for Pb 220.353 Recovery = 101.92%								
Sb 206.836†	7017.5	1.29	mg/L	0.036	1.29	mg/L	0.036	2.78%
QC value within limits for Sb 206.836 Recovery = 107.79%								
Se 196.026†	1072.9	0.435	mg/L	0.0152	0.435	mg/L	0.0152	3.49%
QC value within limits for Se 196.026 Recovery = 108.76%								
Si 251.611†	310807.2	5.35	mg/L	0.123	5.35	mg/L	0.123	2.29%

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QC value within limits for Si 251.611 Recovery = 107.00%
Sn 189.927† 15742.0 1.02 mg/L 0.010 1.02 mg/L 0.010 0.96%
QC value within limits for Sn 189.927 Recovery = 101.68%
Ti 334.940† 1146142.9 1.01 mg/L 0.003 1.01 mg/L 0.003 0.26%
QC value within limits for Ti 334.940 Recovery = 100.95%
Tl 190.801† 2381.6 0.525 mg/L 0.0028 0.525 mg/L 0.0028 0.54%
QC value within limits for Tl 190.801 Recovery = 104.99%
V 290.880† 283583.0 1.01 mg/L 0.004 1.01 mg/L 0.004 0.39%
QC value within limits for V 290.880 Recovery = 100.88%
Zn 206.200† 83943.1 1.05 mg/L 0.002 1.05 mg/L 0.002 0.21%
QC value within limits for Zn 206.200 Recovery = 104.81%
K 766.490† 138628.7 50.5 mg/L 0.39 50.5 mg/L 0.39 0.77%
QC value within limits for K 766.490 Recovery = 101.09%
Na 589.592† 989493.9 50.3 mg/L 0.86 50.3 mg/L 0.86 1.70%
QC value within limits for Na 589.592 Recovery = 100.55%
Sr 407.771† 2376880.9 0.993 mg/L 0.0150 0.993 mg/L 0.0150 1.51%
QC value within limits for Sr 407.771 Recovery = 99.30%
Li 670.784† 130048.7 1.02 mg/L 0.005 1.02 mg/L 0.005 0.54%
QC value within limits for Li 670.784 Recovery = 101.63%
All analyte(s) passed QC.

==========

Sequence No.: 2 **Autosampler Location: 1**
Sample ID: CCB **Date Collected: 7/24/2012 11:23:21 AM**
Analyst: **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: CCB

Analyte	Back Pressure	Flow
All	175.0 kPa	0.50 L/min

Mean Data: CCB

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2704084.5						29354.23	1.09%
YRADIAL	290397.8						9004.19	3.10%
Ga 417.206	1318422.7						5805.72	0.44%
GaRADIAL	78631.8						1046.18	1.33%
Ag 328.068†	-90.7	-0.00145	mg/L	0.000440	-0.00145	mg/L	0.000440	30.41%
QC value within limits for Ag 328.068 Recovery = Not calculated								
Al 396.153†	32.4	-0.00585	mg/L	0.003294	-0.00585	mg/L	0.003294	56.26%
QC value within limits for Al 396.153 Recovery = Not calculated								
As 188.979†	6.0	0.00093	mg/L	0.001270	0.00093	mg/L	0.001270	137.10%
QC value within limits for As 188.979 Recovery = Not calculated								
Ba 233.527†	17.6	-0.00164	mg/L	0.000102	-0.00164	mg/L	0.000102	6.21%
QC value within limits for Ba 233.527 Recovery = Not calculated								
Be 234.861†	-88.5	-0.00021	mg/L	0.000018	-0.00021	mg/L	0.000018	8.46%
QC value within limits for Be 234.861 Recovery = Not calculated								
B 249.677†	369.7	0.00208	mg/L	0.000383	0.00208	mg/L	0.000383	18.42%
QC value within limits for B 249.677 Recovery = Not calculated								
Ca 227.546†	-6.9	-0.00195	mg/L	0.042711	-0.00195	mg/L	0.042711	>999.9%
QC value within limits for Ca 227.546 Recovery = Not calculated								
Cd 228.802†	1.4	-0.00004	mg/L	0.000081	-0.00004	mg/L	0.000081	214.36%
QC value within limits for Cd 228.802 Recovery = Not calculated								
Co 228.616†	-1.7	-0.00030	mg/L	0.000238	-0.00030	mg/L	0.000238	78.44%
QC value within limits for Co 228.616 Recovery = Not calculated								
Cr 267.716†	15.3	-0.00083	mg/L	0.000054	-0.00083	mg/L	0.000054	6.56%
QC value within limits for Cr 267.716 Recovery = Not calculated								
Cu 327.393†	176.5	-0.00083	mg/L	0.000291	-0.00083	mg/L	0.000291	34.96%
QC value within limits for Cu 327.393 Recovery = Not calculated								
Fe 239.562†	30.4	0.00126	mg/L	0.000249	0.00126	mg/L	0.000249	19.84%
QC value within limits for Fe 239.562 Recovery = Not calculated								
Mg 279.077†	26.4	0.0141	mg/L	0.00327	0.0141	mg/L	0.00327	23.17%
QC value within limits for Mg 279.077 Recovery = Not calculated								
Mn 257.610†	33.6	-0.00108	mg/L	0.000007	-0.00108	mg/L	0.000007	0.61%
QC value within limits for Mn 257.610 Recovery = Not calculated								
Mo 202.031†	12.3	-0.00099	mg/L	0.000167	-0.00099	mg/L	0.000167	16.86%
QC value within limits for Mo 202.031 Recovery = Not calculated								
Ni 231.604†	27.2	-0.00339	mg/L	0.000079	-0.00339	mg/L	0.000079	2.35%

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   QC value within limits for Ni 231.604  Recovery = Not calculated
Pb 220.353†              -13.8    -0.00152 mg/L      0.000504    -0.00152 mg/L      0.000504  33.13%
   QC value within limits for Pb 220.353  Recovery = Not calculated
Sb 206.836†                5.7    -0.00165 mg/L      0.000200    -0.00165 mg/L      0.000200  12.11%
   QC value within limits for Sb 206.836  Recovery = Not calculated
Se 196.026†               -8.4    -0.00008 mg/L      0.000738    -0.00008 mg/L      0.000738 959.34%
   QC value within limits for Se 196.026  Recovery = Not calculated
Si 251.611†              231.2    -0.00828 mg/L      0.000965    -0.00828 mg/L      0.000965  11.66%
   QC value within limits for Si 251.611  Recovery = Not calculated
Sn 189.927†               27.5     0.00125 mg/L      0.000322     0.00125 mg/L      0.000322  25.66%
   QC value within limits for Sn 189.927  Recovery = Not calculated
Ti 334.940†               28.5     0.00004 mg/L      0.000101     0.00004 mg/L      0.000101 249.01%
   QC value within limits for Ti 334.940  Recovery = Not calculated
Tl 190.801†              -13.7    -0.00580 mg/L      0.000577    -0.00580 mg/L      0.000577   9.94%
   QC value within limits for Tl 190.801  Recovery = Not calculated
V 290.880†              -204.1    -0.00139 mg/L      0.001947    -0.00139 mg/L      0.001947 139.92%
   QC value within limits for V 290.880  Recovery = Not calculated
Zn 206.200†              278.4     0.00123 mg/L      0.000205     0.00123 mg/L      0.000205  16.74%
   QC value within limits for Zn 206.200  Recovery = Not calculated
K 766.490†                86.4     -0.0865 mg/L       0.02041     -0.0865 mg/L       0.02041  23.60%
   QC value within limits for K 766.490  Recovery = Not calculated
Na 589.592†              845.0      0.0490 mg/L       0.00533      0.0490 mg/L       0.00533  10.87%
   QC value within limits for Na 589.592  Recovery = Not calculated
Sr 407.771†              387.4    -0.00021 mg/L      0.000103    -0.00021 mg/L      0.000103  49.53%
   QC value within limits for Sr 407.771  Recovery = Not calculated
Li 670.784†              187.6    -0.00277 mg/L      0.000274    -0.00277 mg/L      0.000274   9.89%
   QC value within limits for Li 670.784  Recovery = Not calculated
All analyte(s) passed QC.

==========================================================================================
Sequence No.: 3                                   Autosampler Location: 30
Sample ID: L1207050411                            Date Collected: 7/24/2012 11:30:15 AM
Analyst: KHR                                      Data Type: Original
Initial Sample Wt:                                Initial Sample Vol:
Dilution:                                         Sample Prep Vol:

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Nebulizer Parameters: L1207050411
Analyte                 Back Pressure    Flow
All                    176.0 kPa         0.50 L/min

------------------------------------------------------------------------------------------
Mean Data: L1207050411
                   Mean Corrected         Calib.                          Sample
Analyte               Intensity      Conc. Units      Std.Dev.      Conc. Units      Std.Dev.   RSD
Y 371.029            2666008.7                                                     14416.73   0.54%
YRADIAL               291635.7                                                      2729.10   0.94%
Ga 417.206           1374799.6                                                     57021.43   4.15%
GaRADIAL               79987.1                                                      1418.32   1.77%
Ag 328.068†              591.5     0.00098 mg/L      0.000326     0.00098 mg/L      0.000326  33.23%
Al 396.153†             -142.9     -0.0337 mg/L       0.00688     -0.0337 mg/L       0.00688  20.44%
As 188.979†               -6.3    -0.00164 mg/L      0.000186    -0.00164 mg/L      0.000186  11.38%
Ba 233.527†             3688.9      0.0167 mg/L       0.00026      0.0167 mg/L       0.00026   1.53%
Be 234.861†              442.3    -0.00008 mg/L      0.000035    -0.00008 mg/L      0.000035  44.60%
B 249.677†              1529.1      0.0111 mg/L       0.00067      0.0111 mg/L       0.00067   6.09%
Ca 227.546†            27775.6        59.3 mg/L          2.49        59.3 mg/L          2.49   4.20%
Cd 228.802†               13.2     0.00015 mg/L      0.000132     0.00015 mg/L      0.000132  86.88%
Co 228.616†               27.0     0.00022 mg/L      0.000387     0.00022 mg/L      0.000387 175.92%
Cr 267.716†              109.6    -0.00023 mg/L      0.000038    -0.00023 mg/L      0.000038  16.75%
Cu 327.393†              704.9     0.00126 mg/L      0.000406     0.00126 mg/L      0.000406  32.29%
Fe 239.562†            17857.0        1.10 mg/L         0.020        1.10 mg/L         0.020   1.85%
Mg 279.077†            30330.3        8.06 mg/L         0.132        8.06 mg/L         0.132   1.64%
Mn 257.610†           171174.1       0.182 mg/L        0.0011       0.182 mg/L        0.0011   0.59%
Mo 202.031†               70.4     0.00046 mg/L      0.000377     0.00046 mg/L      0.000377  82.07%
Ni 231.604†              400.1     0.00107 mg/L      0.000235     0.00107 mg/L      0.000235  21.98%
Pb 220.353†               16.3     0.00051 mg/L      0.000920     0.00051 mg/L      0.000920 180.88%
Sb 206.836†               -0.3    -0.00272 mg/L      0.001241    -0.00272 mg/L      0.001241  45.65%
Se 196.026†               -3.9     0.00185 mg/L      0.002066     0.00185 mg/L      0.002066 111.58%
Si 251.611†           248811.6        4.29 mg/L         0.150        4.29 mg/L         0.150   3.50%
Sn 189.927†             -289.8     -0.0193 mg/L       0.00055     -0.0193 mg/L       0.00055   2.88%
Ti 334.940†            -8837.0     0.00114 mg/L      0.000733     0.00114 mg/L      0.000733  64.60%
Tl 190.801†              -27.5    -0.00904 mg/L      0.002617    -0.00904 mg/L      0.002617  28.97%
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V 290.880†	826.1	0.00192	mg/L	0.001412	0.00192	mg/L	0.001412	73.35%
Zn 206.200†	1211.2	0.0128	mg/L	0.00016	0.0128	mg/L	0.00016	1.29%
K 766.490†	2360.7	0.739	mg/L	0.0080	0.739	mg/L	0.0080	1.09%
Na 589.592†	59018.8	2.92	mg/L	0.077	2.92	mg/L	0.077	2.65%
Sr 407.771†	169760.7	0.0693	mg/L	0.00134	0.0693	mg/L	0.00134	1.94%
Li 670.784†	142.9	-0.00312	mg/L	0.000624	-0.00312	mg/L	0.000624	19.99%

Sequence No.: 4 **Autosampler Location: 31**
Sample ID: L1207050412 **Date Collected: 7/24/2012 11:36:13 AM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1207050412

Analyte	Back Pressure	Flow
All	175.0 kPa	0.50 L/min

Mean Data: L1207050412

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2708004.3						58876.51	2.17%
YRADIAL	298826.6						8035.75	2.69%
Ga 417.206	1370751.7						42938.72	3.13%
GaRADIAL	81383.0						2314.13	2.84%
Ag 328.068†	524.5	0.00040	mg/L	0.000587	0.00040	mg/L	0.000587	147.13%
Al 396.153†	-106.8	-0.0280	mg/L	0.00608	-0.0280	mg/L	0.00608	21.74%
As 188.979†	-0.7	-0.00055	mg/L	0.001123	-0.00055	mg/L	0.001123	205.04%
Ba 233.527†	2436.2	0.0105	mg/L	0.00025	0.0105	mg/L	0.00025	2.42%
Be 234.861†	141.5	-0.00009	mg/L	0.000047	-0.00009	mg/L	0.000047	49.67%
B 249.677†	1074.6	0.00774	mg/L	0.000462	0.00774	mg/L	0.000462	5.97%
Ca 227.546†	20227.2	43.2	mg/L	1.59	43.2	mg/L	1.59	3.67%
Cd 228.802†	9.4	0.00009	mg/L	0.000053	0.00009	mg/L	0.000053	59.02%
Co 228.616†	16.9	0.00005	mg/L	0.000048	0.00005	mg/L	0.000048	93.27%
Cr 267.716†	110.1	-0.00019	mg/L	0.000092	-0.00019	mg/L	0.000092	47.67%
Cu 327.393†	171.2	-0.00085	mg/L	0.000268	-0.00085	mg/L	0.000268	31.62%
Fe 239.562†	3376.0	0.208	mg/L	0.0044	0.208	mg/L	0.0044	2.14%
Mg 279.077†	29063.8	7.73	mg/L	0.156	7.73	mg/L	0.156	2.02%
Mn 257.610†	38988.5	0.0405	mg/L	0.00159	0.0405	mg/L	0.00159	3.92%
Mo 202.031†	48.3	-0.00013	mg/L	0.000239	-0.00013	mg/L	0.000239	185.32%
Ni 231.604†	114.5	-0.00234	mg/L	0.000404	-0.00234	mg/L	0.000404	17.24%
Pb 220.353†	6.9	-0.00001	mg/L	0.001026	-0.00001	mg/L	0.001026	>999.9%
Sb 206.836†	-3.9	-0.00342	mg/L	0.000749	-0.00342	mg/L	0.000749	21.91%
Se 196.026†	-8.9	-0.00025	mg/L	0.002547	-0.00025	mg/L	0.002547	>999.9%
Si 251.611†	198557.5	3.42	mg/L	0.133	3.42	mg/L	0.133	3.88%
Sn 189.927†	-246.0	-0.0164	mg/L	0.00059	-0.0164	mg/L	0.00059	3.60%
Ti 334.940†	-6294.8	0.00096	mg/L	0.000447	0.00096	mg/L	0.000447	46.81%
Tl 190.801†	-13.6	-0.00587	mg/L	0.000812	-0.00587	mg/L	0.000812	13.84%
V 290.880†	672.8	0.00151	mg/L	0.001568	0.00151	mg/L	0.001568	104.15%
Zn 206.200†	473.9	0.00366	mg/L	0.000169	0.00366	mg/L	0.000169	4.60%
K 766.490†	2069.1	0.633	mg/L	0.0261	0.633	mg/L	0.0261	4.13%
Na 589.592†	56859.0	2.81	mg/L	0.026	2.81	mg/L	0.026	0.92%
Sr 407.771†	125103.6	0.0510	mg/L	0.00049	0.0510	mg/L	0.00049	0.96%
Li 670.784†	192.2	-0.00273	mg/L	0.000141	-0.00273	mg/L	0.000141	5.16%

Sequence No.: 5 **Autosampler Location: 32**
Sample ID: L1207050413 **Date Collected: 7/24/2012 11:42:11 AM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1207050413

Analyte	Back Pressure	Flow
All	175.0 kPa	0.50 L/min

Mean Data: L1207050413

Mean Corrected **Calib.** **Sample**

Approved: July 25, 2012

Kym H. Rhoden

Analyte	Intensity	Conc.	Units	Std.Dev.	Conc.	Units	Std.Dev.	RSD
Y 371.029	2681071.7						34261.63	1.28%
YRADIAL	298222.5						2796.87	0.94%
Ga 417.206	1366605.9						36188.31	2.65%
GaRADIAL	80719.4						857.97	1.06%
Ag 328.068†	427.7	0.00013	mg/L	0.000401	0.00013	mg/L	0.000401	297.89%
Al 396.153†	-52.7	-0.0194	mg/L	0.00350	-0.0194	mg/L	0.00350	18.05%
As 188.979†	2.0	0.00006	mg/L	0.001223	0.00006	mg/L	0.001223	>999.9%
Ba 233.527†	1892.1	0.00774	mg/L	0.000108	0.00774	mg/L	0.000108	1.40%
Be 234.861†	162.9	-0.00008	mg/L	0.000034	-0.00008	mg/L	0.000034	40.43%
B 249.677†	1106.1	0.00799	mg/L	0.000289	0.00799	mg/L	0.000289	3.62%
Ca 227.546†	19473.2	41.6	mg/L	0.90	41.6	mg/L	0.90	2.17%
Cd 228.802†	11.6	0.00012	mg/L	0.000035	0.00012	mg/L	0.000035	29.45%
Co 228.616†	9.3	-0.00009	mg/L	0.000183	-0.00009	mg/L	0.000183	198.40%
Cr 267.716†	103.9	-0.00024	mg/L	0.000105	-0.00024	mg/L	0.000105	44.58%
Cu 327.393†	499.0	0.00042	mg/L	0.000376	0.00042	mg/L	0.000376	89.33%
Fe 239.562†	3635.7	0.224	mg/L	0.0057	0.224	mg/L	0.0057	2.56%
Mg 279.077†	29648.1	7.88	mg/L	0.149	7.88	mg/L	0.149	1.90%
Mn 257.610†	24859.8	0.0254	mg/L	0.00053	0.0254	mg/L	0.00053	2.09%
Mo 202.031†	39.8	-0.00033	mg/L	0.000079	-0.00033	mg/L	0.000079	24.20%
Ni 231.604†	180.5	-0.00156	mg/L	0.000307	-0.00156	mg/L	0.000307	19.72%
Pb 220.353†	1.4	-0.00033	mg/L	0.002121	-0.00033	mg/L	0.002121	639.49%
Sb 206.836†	-8.0	-0.00418	mg/L	0.000833	-0.00418	mg/L	0.000833	19.95%
Se 196.026†	2.3	0.00424	mg/L	0.003777	0.00424	mg/L	0.003777	89.12%
Si 251.611†	226803.5	3.91	mg/L	0.051	3.91	mg/L	0.051	1.31%
Sn 189.927†	-251.7	-0.0168	mg/L	0.00070	-0.0168	mg/L	0.00070	4.19%
Ti 334.940†	-6115.0	0.00087	mg/L	0.000446	0.00087	mg/L	0.000446	51.17%
Tl 190.801†	-19.3	-0.00709	mg/L	0.000224	-0.00709	mg/L	0.000224	3.17%
V 290.880†	1096.6	0.00301	mg/L	0.001334	0.00301	mg/L	0.001334	44.33%
Zn 206.200†	864.6	0.00853	mg/L	0.000201	0.00853	mg/L	0.000201	2.36%
K 766.490†	1519.1	0.433	mg/L	0.0218	0.433	mg/L	0.0218	5.04%
Na 589.592†	48507.8	2.40	mg/L	0.019	2.40	mg/L	0.019	0.78%
Sr 407.771†	113962.6	0.0464	mg/L	0.00035	0.0464	mg/L	0.00035	0.76%
Li 670.784†	204.7	-0.00263	mg/L	0.000216	-0.00263	mg/L	0.000216	8.18%

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Sequence No.: 6 **Autosampler Location: 33**
Sample ID: L1207050414 **Date Collected: 7/24/2012 11:48:10 AM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1207050414

Analyte	Back Pressure	Flow
All	175.0 kPa	0.50 L/min

Mean Data: L1207050414

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2699660.1						7379.16	0.27%
YRADIAL	293549.7						5198.55	1.77%
Ga 417.206	1429246.0						21152.20	1.48%
GaRADIAL	82681.7						1471.33	1.78%
Ag 328.068†	644.7	0.00064	mg/L	0.000321	0.00064	mg/L	0.000321	49.96%
Al 396.153†	-29.8	-0.0158	mg/L	0.00086	-0.0158	mg/L	0.00086	5.47%
As 188.979†	-11.6	-0.00311	mg/L	0.002098	-0.00311	mg/L	0.002098	67.46%
Ba 233.527†	1100.3	0.00379	mg/L	0.000104	0.00379	mg/L	0.000104	2.76%
Be 234.861†	63.3	-0.00011	mg/L	0.000009	-0.00011	mg/L	0.000009	8.07%
B 249.677†	1516.9	0.0114	mg/L	0.00023	0.0114	mg/L	0.00023	1.99%
Ca 227.546†	26310.2	56.2	mg/L	1.03	56.2	mg/L	1.03	1.83%
Cd 228.802†	2.9	0.00001	mg/L	0.000110	0.00001	mg/L	0.000110	>999.9%
Co 228.616†	6.8	-0.00012	mg/L	0.000220	-0.00012	mg/L	0.000220	176.29%
Cr 267.716†	141.9	0.00003	mg/L	0.000093	0.00003	mg/L	0.000093	344.39%
Cu 327.393†	221.5	-0.00067	mg/L	0.000342	-0.00067	mg/L	0.000342	51.30%
Fe 239.562†	57.8	0.00272	mg/L	0.000547	0.00272	mg/L	0.000547	20.12%
Mg 279.077†	42419.0	11.3	mg/L	0.11	11.3	mg/L	0.11	0.98%
Mn 257.610†	147.2	-0.00096	mg/L	0.000009	-0.00096	mg/L	0.000009	0.94%
Mo 202.031†	44.2	-0.00024	mg/L	0.000328	-0.00024	mg/L	0.000328	134.31%
Ni 231.604†	43.3	-0.00319	mg/L	0.000228	-0.00319	mg/L	0.000228	7.15%
Pb 220.353†	19.4	0.00088	mg/L	0.000904	0.00088	mg/L	0.000904	103.06%

Approved: July 25, 2012
Kym H. Rhoden

Sb 206.836†	-0.4	-0.00278	mg/L	0.000508	-0.00278	mg/L	0.000508	18.26%
Se 196.026†	-7.6	0.00023	mg/L	0.000332	0.00023	mg/L	0.000332	145.82%
Si 251.611†	227606.6	3.92	mg/L	0.059	3.92	mg/L	0.059	1.51%
Sn 189.927†	-293.3	-0.0195	mg/L	0.00027	-0.0195	mg/L	0.00027	1.38%
Ti 334.940†	-9601.2	-0.00001	mg/L	0.000446	-0.00001	mg/L	0.000446	>999.9%
Tl 190.801†	-23.2	-0.00794	mg/L	0.001419	-0.00794	mg/L	0.001419	17.87%
V 290.880†	46.2	-0.00079	mg/L	0.000531	-0.00079	mg/L	0.000531	67.00%
Zn 206.200†	501.7	0.00401	mg/L	0.000107	0.00401	mg/L	0.000107	2.66%
K 766.490†	3254.7	1.06	mg/L	0.007	1.06	mg/L	0.007	0.62%
Na 589.592†	79646.2	3.94	mg/L	0.091	3.94	mg/L	0.091	2.30%
Sr 407.771†	201817.4	0.0828	mg/L	0.00282	0.0828	mg/L	0.00282	3.41%
Li 670.784†	143.4	-0.00312	mg/L	0.000321	-0.00312	mg/L	0.000321	10.31%

Sequence No.: 7 **Autosampler Location: 34**
Sample ID: L1207050415 **Date Collected: 7/24/2012 11:55:07 AM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1207050415

Analyte	Back Pressure	Flow
All	175.0 kPa	0.50 L/min

Mean Data: L1207050415

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2670693.6						20233.21	0.76%
YRADIAL	286318.9						12521.21	4.37%
Ga 417.206	1402933.7						18557.13	1.32%
GaRADIAL	81394.9						2165.17	2.66%
Ag 328.068†	846.8	0.00123	mg/L	0.000187	0.00123	mg/L	0.000187	15.17%
Al 396.153†	-23.6	-0.0148	mg/L	0.00073	-0.0148	mg/L	0.00073	4.90%
As 188.979†	-9.9	-0.00270	mg/L	0.000935	-0.00270	mg/L	0.000935	34.56%
Ba 233.527†	3078.4	0.0137	mg/L	0.00021	0.0137	mg/L	0.00021	1.53%
Be 234.861†	39.6	-0.00013	mg/L	0.000004	-0.00013	mg/L	0.000004	3.32%
B 249.677†	1658.5	0.0126	mg/L	0.00023	0.0126	mg/L	0.00023	1.83%
Ca 227.546†	30092.0	64.2	mg/L	1.85	64.2	mg/L	1.85	2.88%
Cd 228.802†	-6.0	-0.00013	mg/L	0.000036	-0.00013	mg/L	0.000036	27.72%
Co 228.616†	-7.4	-0.00039	mg/L	0.000187	-0.00039	mg/L	0.000187	47.50%
Cr 267.716†	134.1	-0.00003	mg/L	0.000024	-0.00003	mg/L	0.000024	87.80%
Cu 327.393†	2504.1	0.00816	mg/L	0.000753	0.00816	mg/L	0.000753	9.23%
Fe 239.562†	641.9	0.0388	mg/L	0.00175	0.0388	mg/L	0.00175	4.52%
Mg 279.077†	35382.1	9.41	mg/L	0.397	9.41	mg/L	0.397	4.22%
Mn 257.610†	738.0	-0.00033	mg/L	0.000013	-0.00033	mg/L	0.000013	3.98%
Mo 202.031†	60.1	0.00013	mg/L	0.000281	0.00013	mg/L	0.000281	220.84%
Ni 231.604†	105.2	-0.00245	mg/L	0.000218	-0.00245	mg/L	0.000218	8.87%
Pb 220.353†	17.4	0.00081	mg/L	0.000838	0.00081	mg/L	0.000838	103.60%
Sb 206.836†	-3.2	-0.00330	mg/L	0.001023	-0.00330	mg/L	0.001023	31.02%
Se 196.026†	1.4	0.00387	mg/L	0.003751	0.00387	mg/L	0.003751	96.98%
Si 251.611†	289848.8	5.00	mg/L	0.100	5.00	mg/L	0.100	2.01%
Sn 189.927†	-307.7	-0.0204	mg/L	0.00041	-0.0204	mg/L	0.00041	2.02%
Ti 334.940†	-11088.9	-0.00010	mg/L	0.000216	-0.00010	mg/L	0.000216	207.12%
Tl 190.801†	-26.2	-0.00861	mg/L	0.003545	-0.00861	mg/L	0.003545	41.20%
V 290.880†	-109.0	-0.00130	mg/L	0.000844	-0.00130	mg/L	0.000844	64.80%
Zn 206.200†	893.5	0.00890	mg/L	0.000051	0.00890	mg/L	0.000051	0.57%
K 766.490†	4221.3	1.42	mg/L	0.048	1.42	mg/L	0.048	3.41%
Na 589.592†	65320.9	3.23	mg/L	0.056	3.23	mg/L	0.056	1.73%
Sr 407.771†	244859.6	0.101	mg/L	0.0038	0.101	mg/L	0.0038	3.74%
Li 670.784†	190.2	-0.00275	mg/L	0.000021	-0.00275	mg/L	0.000021	0.75%

Sequence No.: 8 **Autosampler Location: 35**
Sample ID: L1207050701 **Date Collected: 7/24/2012 12:02:04 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1207050701

Approved: July 25, 2012
Kym H. Rhoden

Analyte	Back Pressure	Flow
All	176.0 kPa	0.50 L/min

Mean Data: L1207050701

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	2677568.5						24043.78	0.90%
YRADIAL	287946.6						9379.11	3.26%
Ga 417.206	1422980.1						4900.29	0.34%
GaRADIAL	82741.3						586.87	0.71%
Ag 328.068†	413.7	-0.00004	mg/L	0.000402	-0.00004	mg/L	0.000402	>999.9%
Al 396.153†	0.7	-0.0113	mg/L	0.00218	-0.0113	mg/L	0.00218	19.35%
As 188.979†	-0.4	-0.00055	mg/L	0.000139	-0.00055	mg/L	0.000139	24.99%
Ba 233.527†	3857.8	0.0176	mg/L	0.00025	0.0176	mg/L	0.00025	1.41%
Be 234.861†	56.4	-0.00011	mg/L	0.000022	-0.00011	mg/L	0.000022	19.42%
B 249.677†	3074.1	0.0242	mg/L	0.00021	0.0242	mg/L	0.00021	0.86%
Ca 227.546†	14508.7	31.0	mg/L	0.32	31.0	mg/L	0.32	1.04%
Cd 228.802†	-0.8	-0.00006	mg/L	0.000012	-0.00006	mg/L	0.000012	18.74%
Co 228.616†	-6.9	-0.00039	mg/L	0.000105	-0.00039	mg/L	0.000105	27.09%
Cr 267.716†	743.6	0.00408	mg/L	0.000142	0.00408	mg/L	0.000142	3.48%
Cu 327.393†	432.2	0.00015	mg/L	0.000781	0.00015	mg/L	0.000781	506.48%
Fe 239.562†	275.9	0.0163	mg/L	0.00073	0.0163	mg/L	0.00073	4.46%
Mg 279.077†	14702.2	3.91	mg/L	0.113	3.91	mg/L	0.113	2.90%
Mn 257.610†	823.7	-0.00023	mg/L	0.000013	-0.00023	mg/L	0.000013	5.68%
Mo 202.031†	252.4	0.00461	mg/L	0.000283	0.00461	mg/L	0.000283	6.13%
Ni 231.604†	63.6	-0.00295	mg/L	0.000068	-0.00295	mg/L	0.000068	2.31%
Pb 220.353†	19.4	0.00068	mg/L	0.000647	0.00068	mg/L	0.000647	95.78%
Sb 206.836†	2.3	-0.00230	mg/L	0.001006	-0.00230	mg/L	0.001006	43.66%
Se 196.026†	-0.3	0.00317	mg/L	0.001934	0.00317	mg/L	0.001934	61.09%
Si 251.611†	776633.1	13.4	mg/L	0.06	13.4	mg/L	0.06	0.44%
Sn 189.927†	-230.5	-0.0154	mg/L	0.00042	-0.0154	mg/L	0.00042	2.71%
Ti 334.940†	-5345.7	-0.00004	mg/L	0.000339	-0.00004	mg/L	0.000339	813.26%
Tl 190.801†	-24.1	-0.00807	mg/L	0.001713	-0.00807	mg/L	0.001713	21.23%
V 290.880†	1900.2	0.00600	mg/L	0.001502	0.00600	mg/L	0.001502	25.03%
Zn 206.200†	1134.3	0.0119	mg/L	0.00016	0.0119	mg/L	0.00016	1.33%
K 766.490†	6046.2	2.06	mg/L	0.048	2.06	mg/L	0.048	2.34%
Na 589.592†	493986.0	24.7	mg/L	0.57	24.7	mg/L	0.57	2.30%
Sr 407.771†	636642.4	0.265	mg/L	0.0090	0.265	mg/L	0.0090	3.39%
Li 670.784†	1625.8	0.00852	mg/L	0.000159	0.00852	mg/L	0.000159	1.86%

Sequence No.: 9
Sample ID: L1207050702
Analyst: KHR
Initial Sample Wt:
Dilution:

Autosampler Location: 36
Date Collected: 7/24/2012 12:08:58 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: L1207050702

Analyte	Back Pressure	Flow
All	176.0 kPa	0.50 L/min

Mean Data: L1207050702

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	2696273.7						20263.68	0.75%
YRADIAL	289258.7						7638.91	2.64%
Ga 417.206	1427700.2						15039.88	1.05%
GaRADIAL	83136.5						859.60	1.03%
Ag 328.068†	384.2	-0.00012	mg/L	0.000226	-0.00012	mg/L	0.000226	193.42%
Al 396.153†	11.2	-0.00962	mg/L	0.000613	-0.00962	mg/L	0.000613	6.37%
As 188.979†	2.2	0.00004	mg/L	0.001105	0.00004	mg/L	0.001105	>999.9%
Ba 233.527†	3854.0	0.0176	mg/L	0.00007	0.0176	mg/L	0.00007	0.42%
Be 234.861†	85.7	-0.00009	mg/L	0.000012	-0.00009	mg/L	0.000012	13.19%
B 249.677†	2981.7	0.0234	mg/L	0.00088	0.0234	mg/L	0.00088	3.75%
Ca 227.546†	15193.2	32.4	mg/L	0.44	32.4	mg/L	0.44	1.36%
Cd 228.802†	-7.0	-0.00016	mg/L	0.000076	-0.00016	mg/L	0.000076	47.55%
Co 228.616†	-15.3	-0.00054	mg/L	0.000167	-0.00054	mg/L	0.000167	30.73%
Cr 267.716†	780.1	0.00433	mg/L	0.000042	0.00433	mg/L	0.000042	0.96%
Cu 327.393†	201.3	-0.00074	mg/L	0.000132	-0.00074	mg/L	0.000132	17.83%

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Fe 239.562†	316.1	0.0188	mg/L	0.00015	0.0188	mg/L	0.00015	0.82%
Mg 279.077†	14929.3	3.97	mg/L	0.090	3.97	mg/L	0.090	2.25%
Mn 257.610†	532.2	-0.00055	mg/L	0.000020	-0.00055	mg/L	0.000020	3.72%
Mo 202.031†	259.6	0.00478	mg/L	0.000172	0.00478	mg/L	0.000172	3.60%
Ni 231.604†	51.9	-0.00309	mg/L	0.000025	-0.00309	mg/L	0.000025	0.81%
Pb 220.353†	10.7	0.00018	mg/L	0.000787	0.00018	mg/L	0.000787	434.69%
Sb 206.836†	-1.0	-0.00292	mg/L	0.000558	-0.00292	mg/L	0.000558	19.10%
Se 196.026†	-4.7	0.00141	mg/L	0.003890	0.00141	mg/L	0.003890	276.89%
Si 251.611†	791437.5	13.7	mg/L	0.11	13.7	mg/L	0.11	0.78%
Sn 189.927†	-230.8	-0.0154	mg/L	0.00066	-0.0154	mg/L	0.00066	4.26%
Ti 334.940†	-5343.5	0.00018	mg/L	0.000287	0.00018	mg/L	0.000287	160.37%
Tl 190.801†	-13.9	-0.00588	mg/L	0.002944	-0.00588	mg/L	0.002944	50.10%
V 290.880†	2221.4	0.00715	mg/L	0.000069	0.00715	mg/L	0.000069	0.97%
Zn 206.200†	746.8	0.00710	mg/L	0.000211	0.00710	mg/L	0.000211	2.96%
K 766.490†	6121.6	2.09	mg/L	0.032	2.09	mg/L	0.032	1.53%
Na 589.592†	503102.9	25.2	mg/L	0.46	25.2	mg/L	0.46	1.85%
Sr 407.771†	648926.9	0.270	mg/L	0.0086	0.270	mg/L	0.0086	3.20%
Li 670.784†	1640.1	0.00863	mg/L	0.000028	0.00863	mg/L	0.000028	0.32%

Sequence No.: 10 **Autosampler Location: 37**
Sample ID: L1207050701 0.1 **Date Collected: 7/24/2012 12:15:53 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1207050701 0.1

Analyte	Back Pressure	Flow
All	176.0 kPa	0.50 L/min

Mean Data: L1207050701 0.1

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2729594.8						25067.67	0.92%
YRADIAL	297543.6						6974.13	2.34%
Ga 417.206	1382953.1						23593.46	1.71%
GaRADIAL	83323.1						2426.13	2.91%
Ag 328.068†	56.1	-0.00103	mg/L	0.000519	-0.00103	mg/L	0.000519	50.30%
Al 396.153†	-69.5	-0.0221	mg/L	0.00234	-0.0221	mg/L	0.00234	10.60%
As 188.979†	9.7	0.00179	mg/L	0.000999	0.00179	mg/L	0.000999	55.87%
Ba 233.527†	426.1	0.00041	mg/L	0.000212	0.00041	mg/L	0.000212	51.99%
Be 234.861†	85.8	-0.00009	mg/L	0.000023	-0.00009	mg/L	0.000023	25.82%
B 249.677†	181.8	0.00054	mg/L	0.000082	0.00054	mg/L	0.000082	15.00%
Ca 227.546†	1450.5	3.11	mg/L	0.100	3.11	mg/L	0.100	3.20%
Cd 228.802†	-5.1	-0.00014	mg/L	0.000027	-0.00014	mg/L	0.000027	19.69%
Co 228.616†	1.0	-0.00025	mg/L	0.000333	-0.00025	mg/L	0.000333	132.52%
Cr 267.716†	74.9	-0.00042	mg/L	0.000030	-0.00042	mg/L	0.000030	7.07%
Cu 327.393†	103.4	-0.00112	mg/L	0.000159	-0.00112	mg/L	0.000159	14.23%
Fe 239.562†	26.4	0.00100	mg/L	0.000510	0.00100	mg/L	0.000510	51.00%
Mg 279.077†	1510.8	0.408	mg/L	0.0121	0.408	mg/L	0.0121	2.97%
Mn 257.610†	-52.9	-0.00117	mg/L	0.000013	-0.00117	mg/L	0.000013	1.11%
Mo 202.031†	20.1	-0.00081	mg/L	0.000224	-0.00081	mg/L	0.000224	27.78%
Ni 231.604†	18.8	-0.00349	mg/L	0.000265	-0.00349	mg/L	0.000265	7.60%
Pb 220.353†	12.5	0.00004	mg/L	0.001023	0.00004	mg/L	0.001023	>999.9%
Sb 206.836†	1.6	-0.00241	mg/L	0.001498	-0.00241	mg/L	0.001498	62.10%
Se 196.026†	-2.7	0.00221	mg/L	0.001109	0.00221	mg/L	0.001109	50.24%
Si 251.611†	83024.1	1.42	mg/L	0.033	1.42	mg/L	0.033	2.28%
Sn 189.927†	-45.0	-0.00344	mg/L	0.000339	-0.00344	mg/L	0.000339	9.88%
Ti 334.940†	-493.5	0.00005	mg/L	0.000192	0.00005	mg/L	0.000192	400.82%
Tl 190.801†	1.7	-0.00247	mg/L	0.002080	-0.00247	mg/L	0.002080	84.09%
V 290.880†	-81.2	-0.00096	mg/L	0.000112	-0.00096	mg/L	0.000112	11.67%
Zn 206.200†	344.3	0.00205	mg/L	0.000295	0.00205	mg/L	0.000295	14.38%
K 766.490†	631.0	0.109	mg/L	0.0612	0.109	mg/L	0.0612	55.99%
Na 589.592†	51563.9	2.55	mg/L	0.104	2.55	mg/L	0.104	4.06%
Sr 407.771†	63747.6	0.0262	mg/L	0.00033	0.0262	mg/L	0.00033	1.26%
Li 670.784†	189.9	-0.00275	mg/L	0.000411	-0.00275	mg/L	0.000411	14.95%

Sequence No.: 11 **Autosampler Location: 38**
Sample ID: L1207050702 0.1 **Date Collected: 7/24/2012 12:22:46 PM**

Approved: July 25, 2012
Kym H. Rhoden

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

Nebulizer Parameters: L1207050702 0.1

Analyte	Back Pressure	Flow
All	176.0 kPa	0.50 L/min

Mean Data: L1207050702 0.1

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2713688.5						23130.49	0.85%
YRADIAL	293066.3						3217.32	1.10%
Ga 417.206	1388027.3						15147.24	1.09%
GaRADIAL	82545.7						1658.07	2.01%
Ag 328.068†	93.2	-0.00092	mg/L	0.000574	-0.00092	mg/L	0.000574	62.07%
Al 396.153†	-53.9	-0.0196	mg/L	0.00272	-0.0196	mg/L	0.00272	13.89%
As 188.979†	5.1	0.00072	mg/L	0.001621	0.00072	mg/L	0.001621	224.90%
Ba 233.527†	416.7	0.00036	mg/L	0.000038	0.00036	mg/L	0.000038	10.65%
Be 234.861†	71.4	-0.00010	mg/L	0.000010	-0.00010	mg/L	0.000010	10.30%
B 249.677†	139.6	0.00020	mg/L	0.000258	0.00020	mg/L	0.000258	127.85%
Ca 227.546†	1495.4	3.20	mg/L	0.041	3.20	mg/L	0.041	1.29%
Cd 228.802†	-10.4	-0.00021	mg/L	0.000174	-0.00021	mg/L	0.000174	82.68%
Co 228.616†	4.6	-0.00018	mg/L	0.000152	-0.00018	mg/L	0.000152	82.32%
Cr 267.716†	65.9	-0.00049	mg/L	0.000089	-0.00049	mg/L	0.000089	18.28%
Cu 327.393†	83.7	-0.00119	mg/L	0.000514	-0.00119	mg/L	0.000514	43.17%
Fe 239.562†	24.7	0.00090	mg/L	0.000429	0.00090	mg/L	0.000429	47.75%
Mg 279.077†	1523.6	0.412	mg/L	0.0056	0.412	mg/L	0.0056	1.37%
Mn 257.610†	-57.7	-0.00118	mg/L	0.000012	-0.00118	mg/L	0.000012	1.00%
Mo 202.031†	14.2	-0.00094	mg/L	0.000140	-0.00094	mg/L	0.000140	14.86%
Ni 231.604†	-0.8	-0.00372	mg/L	0.000105	-0.00372	mg/L	0.000105	2.83%
Pb 220.353†	15.0	0.00019	mg/L	0.000339	0.00019	mg/L	0.000339	174.48%
Sb 206.836†	-2.1	-0.00309	mg/L	0.001778	-0.00309	mg/L	0.001778	57.50%
Se 196.026†	-6.1	0.00084	mg/L	0.001587	0.00084	mg/L	0.001587	187.99%
Si 251.611†	84628.1	1.45	mg/L	0.047	1.45	mg/L	0.047	3.26%
Sn 189.927†	-38.7	-0.00303	mg/L	0.000343	-0.00303	mg/L	0.000343	11.34%
Ti 334.940†	-598.3	-0.00003	mg/L	0.000222	-0.00003	mg/L	0.000222	743.20%
Tl 190.801†	-4.3	-0.00377	mg/L	0.000475	-0.00377	mg/L	0.000475	12.61%
V 290.880†	124.6	-0.00023	mg/L	0.000511	-0.00023	mg/L	0.000511	221.60%
Zn 206.200†	276.8	0.00121	mg/L	0.000448	0.00121	mg/L	0.000448	37.09%
K 766.490†	586.4	0.0930	mg/L	0.02734	0.0930	mg/L	0.02734	29.38%
Na 589.592†	52466.2	2.59	mg/L	0.062	2.59	mg/L	0.062	2.39%
Sr 407.771†	65158.1	0.0268	mg/L	0.00070	0.0268	mg/L	0.00070	2.62%
Li 670.784†	147.3	-0.00308	mg/L	0.000274	-0.00308	mg/L	0.000274	8.88%

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Sequence No.: 12 **Autosampler Location: 39**
Sample ID: L1207050901 **Date Collected: 7/24/2012 12:29:41 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1207050901

Analyte	Back Pressure	Flow
All	176.0 kPa	0.50 L/min

Mean Data: L1207050901

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2781508.4						22865.55	0.82%
YRADIAL	304178.3						3009.00	0.99%
Ga 417.206	1367677.5						35977.08	2.63%
GaRADIAL	81525.2						121.43	0.15%
Ag 328.068†	-274.1	-0.00085	mg/L	0.000478	-0.00085	mg/L	0.000478	56.49%
Al 396.153†	8123.6	1.28	mg/L	0.029	1.28	mg/L	0.029	2.30%
As 188.979†	2.2	0.00056	mg/L	0.002765	0.00056	mg/L	0.002765	498.05%
Ba 233.527†	11604.9	0.0563	mg/L	0.00155	0.0563	mg/L	0.00155	2.76%
Be 234.861†	1343.3	0.00022	mg/L	0.000100	0.00022	mg/L	0.000100	44.65%

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B 249.677†	361.1	0.00093 mg/L	0.000129	0.00093 mg/L	0.000129	13.95%
Ca 227.546†	398.0	0.922 mg/L	0.0374	0.922 mg/L	0.0374	4.06%
Cd 228.802†	9.8	0.00010 mg/L	0.000225	0.00010 mg/L	0.000225	219.74%
Co 228.616†	195.3	0.00330 mg/L	0.000293	0.00330 mg/L	0.000293	8.89%
Cr 267.716†	156.2	0.00005 mg/L	0.000091	0.00005 mg/L	0.000091	197.05%
Cu 327.393†	290.3	-0.00026 mg/L	0.000280	-0.00026 mg/L	0.000280	107.41%
Fe 239.562†	39782.7	2.46 mg/L	0.025	2.46 mg/L	0.025	1.01%
Mg 279.077†	1298.9	0.351 mg/L	0.0217	0.351 mg/L	0.0217	6.18%
Mn 257.610†	47937.8	0.0501 mg/L	0.00054	0.0501 mg/L	0.00054	1.07%
Mo 202.031†	-1.2	-0.00117 mg/L	0.000184	-0.00117 mg/L	0.000184	15.73%
Ni 231.604†	140.8	-0.00203 mg/L	0.000298	-0.00203 mg/L	0.000298	14.63%
Pb 220.353†	-2.3	-0.00085 mg/L	0.002234	-0.00085 mg/L	0.002234	263.88%
Sb 206.836†	-0.1	-0.00265 mg/L	0.000804	-0.00265 mg/L	0.000804	30.35%
Se 196.026†	-9.5	-0.00010 mg/L	0.001943	-0.00010 mg/L	0.001943	>999.9%
Si 251.611†	577994.1	9.98 mg/L	0.234	9.98 mg/L	0.234	2.34%
Sn 189.927†	-11.6	-0.00127 mg/L	0.000538	-0.00127 mg/L	0.000538	42.28%
Ti 334.940†	13326.7	0.0119 mg/L	0.00051	0.0119 mg/L	0.00051	4.32%
Tl 190.801†	-0.5	-0.00281 mg/L	0.001065	-0.00281 mg/L	0.001065	37.86%
V 290.880†	662.0	0.00136 mg/L	0.000765	0.00136 mg/L	0.000765	56.28%
Zn 206.200†	602.9	0.00523 mg/L	0.000176	0.00523 mg/L	0.000176	3.37%
K 766.490†	5211.0	1.78 mg/L	0.038	1.78 mg/L	0.038	2.14%
Na 589.592†	63256.7	3.13 mg/L	0.009	3.13 mg/L	0.009	0.27%
Sr 407.771†	23989.9	0.00964 mg/L	0.000035	0.00964 mg/L	0.000035	0.37%
Li 670.784†	246.6	-0.00231 mg/L	0.000579	-0.00231 mg/L	0.000579	25.12%

Sequence No.: 13 **Autosampler Location: 6**
Sample ID: CCV **Date Collected: 7/24/2012 12:35:38 PM**
Analyst: **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: CCV

Analyte	Back Pressure	Flow
All	176.0 kPa	0.50 L/min

Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2650603.8						23291.33	0.88%
YRADIAL	287315.0						2884.93	1.00%
Ga 417.206	1282768.7						39572.60	3.08%
GaRADIAL	77568.9						719.61	0.93%
Ag 328.068†	148303.6	0.427	mg/L	0.0115	0.427	mg/L	0.0115	2.69%
QC value within limits for Ag 328.068 Recovery = 106.76%								
Al 396.153†	63584.8	10.0	mg/L	0.03	10.0	mg/L	0.03	0.28%
QC value within limits for Al 396.153 Recovery = 100.17%								
As 188.979†	1845.1	0.418	mg/L	0.0141	0.418	mg/L	0.0141	3.38%
QC value within limits for As 188.979 Recovery = 104.39%								
Ba 233.527†	201913.0	1.01	mg/L	0.004	1.01	mg/L	0.004	0.41%
QC value within limits for Ba 233.527 Recovery = 101.01%								
Be 234.861†	76268.9	0.0528	mg/L	0.00165	0.0528	mg/L	0.00165	3.12%
QC value within limits for Be 234.861 Recovery = 105.59%								
B 249.677†	64635.0	0.523	mg/L	0.0170	0.523	mg/L	0.0170	3.26%
QC value within limits for B 249.677 Recovery = 104.59%								
Ca 227.546†	4793.9	10.7	mg/L	0.37	10.7	mg/L	0.37	3.47%
QC value within limits for Ca 227.546 Recovery = 107.20%								
Cd 228.802†	3564.1	0.0513	mg/L	0.00300	0.0513	mg/L	0.00300	5.85%
QC value within limits for Cd 228.802 Recovery = 102.58%								
Co 228.616†	10660.5	0.200	mg/L	0.0018	0.200	mg/L	0.0018	0.91%
QC value within limits for Co 228.616 Recovery = 99.80%								
Cr 267.716†	74934.8	0.504	mg/L	0.0039	0.504	mg/L	0.0039	0.76%
QC value within limits for Cr 267.716 Recovery = 100.79%								
Cu 327.393†	136585.4	0.528	mg/L	0.0127	0.528	mg/L	0.0127	2.41%
QC value within limits for Cu 327.393 Recovery = 105.63%								
Fe 239.562†	65393.0	4.04	mg/L	0.033	4.04	mg/L	0.033	0.81%
QC value within limits for Fe 239.562 Recovery = 100.88%								
Mg 279.077†	38293.2	10.2	mg/L	0.10	10.2	mg/L	0.10	0.95%
QC value within limits for Mg 279.077 Recovery = 101.96%								
Mn 257.610†	472617.5	0.504	mg/L	0.0031	0.504	mg/L	0.0031	0.62%

Approved: July 25, 2012

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   QC value within limits for Mn 257.610  Recovery = 100.79%
Mo 202.031†            43435.5        1.01 mg/L        0.002        1.01 mg/L         0.002   0.23%
   QC value within limits for Mo 202.031  Recovery = 101.15%
Ni 231.604†            43817.5       0.519 mg/L        0.0042       0.519 mg/L        0.0042   0.81%
   QC value within limits for Ni 231.604  Recovery = 103.86%
Pb 220.353†             8524.9       0.501 mg/L        0.0041       0.501 mg/L        0.0041   0.82%
   QC value within limits for Pb 220.353  Recovery = 100.25%
Sb 206.836†             6896.7        1.27 mg/L        0.052        1.27 mg/L         0.052   4.09%
   QC value within limits for Sb 206.836  Recovery = 105.93%
Se 196.026†             1046.4       0.424 mg/L        0.0213       0.424 mg/L        0.0213   5.01%
   QC value within limits for Se 196.026  Recovery = 106.10%
Si 251.611†           307716.7        5.30 mg/L        0.122        5.30 mg/L         0.122   2.30%
   QC value within limits for Si 251.611  Recovery = 105.93%
Sn 189.927†            15569.9        1.01 mg/L        0.009        1.01 mg/L         0.009   0.88%
   QC value within limits for Sn 189.927  Recovery = 100.56%
Ti 334.940†          1135576.5        1.00 mg/L        0.002        1.00 mg/L         0.002   0.15%
   QC value within limits for Ti 334.940  Recovery = 100.02%
Tl 190.801†             2350.5       0.518 mg/L        0.0067       0.518 mg/L        0.0067   1.29%
   QC value within limits for Tl 190.801  Recovery = 103.63%
V 290.880†            280942.2       0.999 mg/L        0.0068       0.999 mg/L        0.0068   0.68%
   QC value within limits for V 290.880  Recovery = 99.94%
Zn 206.200†            82494.8        1.03 mg/L        0.015        1.03 mg/L         0.015   1.42%
   QC value within limits for Zn 206.200  Recovery = 103.00%
K 766.490†            137296.0        50.1 mg/L         0.50        50.1 mg/L          0.50   1.00%
   QC value within limits for K 766.490  Recovery = 100.12%
Na 589.592†           967312.8        49.1 mg/L         0.42        49.1 mg/L          0.42   0.86%
   QC value within limits for Na 589.592  Recovery = 98.22%
Sr 407.771†          2409319.9        1.01 mg/L        0.008        1.01 mg/L         0.008   0.81%
   QC value within limits for Sr 407.771  Recovery = 100.66%
Li 670.784†           127695.5       0.998 mg/L        0.0102       0.998 mg/L        0.0102   1.02%
   QC value within limits for Li 670.784  Recovery = 99.78%
All analyte(s) passed QC.

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Sequence No.: 14                                    Autosampler Location: 1
Sample ID: CCB                                      Date Collected: 7/24/2012 12:41:37 PM
Analyst:                                            Data Type: Original
Initial Sample Wt:                                  Initial Sample Vol:
Dilution:                                           Sample Prep Vol:

------------------------------------------------------------------------------------------
Nebulizer Parameters: CCB
Analyte                 Back Pressure    Flow
All                     176.0 kPa        0.50 L/min

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Mean Data: CCB
                   Mean Corrected        Calib.                          Sample
Analyte               Intensity     Conc. Units      Std.Dev.     Conc. Units      Std.Dev.   RSD
Y 371.029            2741845.9                                                    32725.55   1.19%
YRADIAL               292398.4                                                     5554.01   1.90%
Ga 417.206           1337632.3                                                    25634.47   1.92%
GaRADIAL               79850.2                                                      995.61   1.25%
Ag 328.068†               60.1    -0.00102 mg/L      0.000239    -0.00102 mg/L      0.000239  23.50%
   QC value within limits for Ag 328.068  Recovery = Not calculated
Al 396.153†               16.0    -0.00846 mg/L      0.001346    -0.00846 mg/L      0.001346  15.91%
   QC value within limits for Al 396.153  Recovery = Not calculated
As 188.979†                6.5     0.00104 mg/L      0.000902     0.00104 mg/L      0.000902  86.38%
   QC value within limits for As 188.979  Recovery = Not calculated
Ba 233.527†               38.3    -0.00154 mg/L      0.000071    -0.00154 mg/L      0.000071   4.60%
   QC value within limits for Ba 233.527  Recovery = Not calculated
Be 234.861†              -89.3    -0.00021 mg/L      0.000018    -0.00021 mg/L      0.000018   8.30%
   QC value within limits for Be 234.861  Recovery = Not calculated
B 249.677†               133.7     0.00015 mg/L      0.000145     0.00015 mg/L      0.000145  95.49%
   QC value within limits for B 249.677  Recovery = Not calculated
Ca 227.546†              -13.3     -0.0156 mg/L       0.01531     -0.0156 mg/L       0.01531  97.95%
   QC value within limits for Ca 227.546  Recovery = Not calculated
Cd 228.802†               -4.3    -0.00012 mg/L      0.000071    -0.00012 mg/L      0.000071  57.73%
   QC value within limits for Cd 228.802  Recovery = Not calculated
Co 228.616†                6.6    -0.00015 mg/L      0.000159    -0.00015 mg/L      0.000159 108.66%
   QC value within limits for Co 228.616  Recovery = Not calculated
Cr 267.716†               22.3    -0.00078 mg/L      0.000078    -0.00078 mg/L      0.000078  10.07%
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   QC value within limits for Cr 267.716  Recovery = Not calculated
Cu 327.393†              54.9    -0.00130 mg/L      0.000499    -0.00130 mg/L      0.000499  38.28%
   QC value within limits for Cu 327.393  Recovery = Not calculated
Fe 239.562†              28.1     0.00112 mg/L      0.000077     0.00112 mg/L      0.000077   6.88%
   QC value within limits for Fe 239.562  Recovery = Not calculated
Mg 279.077†              23.7      0.0134 mg/L       0.00353      0.0134 mg/L       0.00353  26.35%
   QC value within limits for Mg 279.077  Recovery = Not calculated
Mn 257.610†             -23.5    -0.00114 mg/L      0.000014    -0.00114 mg/L      0.000014   1.26%
   QC value within limits for Mn 257.610  Recovery = Not calculated
Mo 202.031†              18.0    -0.00086 mg/L      0.000220    -0.00086 mg/L      0.000220  25.77%
   QC value within limits for Mo 202.031  Recovery = Not calculated
Ni 231.604†              17.6    -0.00350 mg/L      0.000143    -0.00350 mg/L      0.000143   4.07%
   QC value within limits for Ni 231.604  Recovery = Not calculated
Pb 220.353†              -1.6    -0.00080 mg/L      0.000473    -0.00080 mg/L      0.000473  59.07%
   QC value within limits for Pb 220.353  Recovery = Not calculated
Sb 206.836†               5.6    -0.00168 mg/L      0.001082    -0.00168 mg/L      0.001082  64.42%
   QC value within limits for Sb 206.836  Recovery = Not calculated
Se 196.026†              -5.0     0.00128 mg/L      0.004369     0.00128 mg/L      0.004369 342.57%
   QC value within limits for Se 196.026  Recovery = Not calculated
Si 251.611†             215.9    -0.00854 mg/L      0.000476    -0.00854 mg/L      0.000476   5.58%
   QC value within limits for Si 251.611  Recovery = Not calculated
Sn 189.927†              14.5     0.00041 mg/L      0.000824     0.00041 mg/L      0.000824 200.82%
   QC value within limits for Sn 189.927  Recovery = Not calculated
Ti 334.940†             131.5     0.00013 mg/L      0.000191     0.00013 mg/L      0.000191 147.93%
   QC value within limits for Ti 334.940  Recovery = Not calculated
Tl 190.801†              -4.2    -0.00376 mg/L      0.003614    -0.00376 mg/L      0.003614  96.18%
   QC value within limits for Tl 190.801  Recovery = Not calculated
V 290.880†              -287.9    -0.00169 mg/L      0.001223    -0.00169 mg/L      0.001223  72.32%
   QC value within limits for V 290.880  Recovery = Not calculated
Zn 206.200†              98.7    -0.00101 mg/L      0.000109    -0.00101 mg/L      0.000109  10.74%
   QC value within limits for Zn 206.200  Recovery = Not calculated
K 766.490†               85.1     -0.0869 mg/L       0.05347     -0.0869 mg/L       0.05347  61.52%
   QC value within limits for K 766.490  Recovery = Not calculated
Na 589.592†             574.9      0.0357 mg/L       0.00534      0.0357 mg/L       0.00534  14.97%
   QC value within limits for Na 589.592  Recovery = Not calculated
Sr 407.771†             276.8    -0.00025 mg/L      0.000045    -0.00025 mg/L      0.000045  17.56%
   QC value within limits for Sr 407.771  Recovery = Not calculated
Li 670.784†              86.1    -0.00357 mg/L      0.000185    -0.00357 mg/L      0.000185   5.19%
   QC value within limits for Li 670.784  Recovery = Not calculated
All analyte(s) passed QC.
```

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Analysis Begun

Start Time: 7/24/2012 12:49:53 PM **Plasma On Time: 7/24/2012 10:54:30 AM**
Logged In Analyst: peicp2 **Technique: ICP Continuous**
Spectrometer Model: Optima 4300 DV, S/N 077N4011401 **Autosampler Model: Cetac**

Sample Information File: C:\pe\peicp2\Sample Information\TUESDAY1.sif
Batch ID:
Results Data Set: 072412HR
Results Library: C:\pe\peicp2\Results\Results.mdb

==========

Sequence No.: 1 **Autosampler Location: 40**
Sample ID: L1207052201 BOT **Date Collected: 7/24/2012 12:49:55 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1207052201 BOT

Analyte	Back Pressure	Flow
All	176.0 kPa	0.50 L/min

Mean Data: L1207052201 BOT

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2660092.7						27454.76	1.03%
YRADIAL	296092.2						4139.61	1.40%
Ga 417.206	1433533.3						14891.47	1.04%
GaRADIAL	83196.5						1377.32	1.66%
Ag 328.068†	345.3	-0.00021	mg/L	0.000352	-0.00021	mg/L	0.000352	164.80%
Al 396.153†	826.5	0.120	mg/L	0.0021	0.120	mg/L	0.0021	1.74%
As 188.979†	58.2	0.0129	mg/L	0.00173	0.0129	mg/L	0.00173	13.44%
Ba 233.527†	2862.2	0.0126	mg/L	0.00010	0.0126	mg/L	0.00010	0.81%
Be 234.861†	-43.5	-0.00017	mg/L	0.000010	-0.00017	mg/L	0.000010	6.24%
B 249.677†	16372.4	0.132	mg/L	0.0020	0.132	mg/L	0.0020	1.50%
Ca 227.546†	13661.9	29.2	mg/L	0.39	29.2	mg/L	0.39	1.32%
Cd 228.802†	930.3	0.0140	mg/L	0.00026	0.0140	mg/L	0.00026	1.89%
Co 228.616†	4825.1	0.0906	mg/L	0.00105	0.0906	mg/L	0.00105	1.16%
Cr 267.716†	708.6	0.00650	mg/L	0.000143	0.00650	mg/L	0.000143	2.20%
Cu 327.393†	147.6	0.00309	mg/L	0.000394	0.00309	mg/L	0.000394	12.74%
Fe 239.562†	192.4	0.0110	mg/L	0.00085	0.0110	mg/L	0.00085	7.78%
Mg 279.077†	4177.3	1.12	mg/L	0.010	1.12	mg/L	0.010	0.88%
Mn 257.610†	137081.1	0.149	mg/L	0.0023	0.149	mg/L	0.0023	1.53%
Mo 202.031†	75.6	0.00052	mg/L	0.000231	0.00052	mg/L	0.000231	44.39%
Ni 231.604†	203.2	-0.00138	mg/L	0.000176	-0.00138	mg/L	0.000176	12.79%
Pb 220.353†	13306.3	0.781	mg/L	0.0031	0.781	mg/L	0.0031	0.40%
Sb 206.836†	42.8	0.00513	mg/L	0.000974	0.00513	mg/L	0.000974	19.00%
Se 196.026†	20.4	0.0115	mg/L	0.00263	0.0115	mg/L	0.00263	22.89%
Si 251.611†	46764.2	0.796	mg/L	0.0085	0.796	mg/L	0.0085	1.07%
Sn 189.927†	-205.6	-0.0138	mg/L	0.00055	-0.0138	mg/L	0.00055	3.99%
Ti 334.940†	-3974.8	0.00089	mg/L	0.000143	0.00089	mg/L	0.000143	16.01%
Tl 190.801†	-23.9	-0.00827	mg/L	0.000766	-0.00827	mg/L	0.000766	9.27%
V 290.880†	745.8	0.00196	mg/L	0.000361	0.00196	mg/L	0.000361	18.42%
Zn 206.200†	5323055.4	66.3	mg/L	0.40	66.3	mg/L	0.40	0.61%
K 766.490†	2832.3	0.754	mg/L	0.0064	0.754	mg/L	0.0064	0.85%
Na 589.592†	2924476.0	160	mg/L	3.8	160	mg/L	3.8	2.37%
Sr 407.771†	77763.3	0.0315	mg/L	0.00096	0.0315	mg/L	0.00096	3.04%
Li 670.784†	366.3	-0.00137	mg/L	0.000019	-0.00137	mg/L	0.000019	1.42%

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Sequence No.: 2 **Autosampler Location: 41**
Sample ID: PBW AE WG403927-02 **Date Collected: 7/24/2012 12:56:55 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: PBW AE WG403927-02

Approved: July 25, 2012

Kym H. Rhoden

Analyte	Back Pressure	Flow
All	176.0 kPa	0.50 L/min

Mean Data: PBW AE WG403927-02

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	2759625.6						4665.61	0.17%
YRADIAL	297941.4						4882.14	1.64%
Ga 417.206	1377284.8						16695.33	1.21%
GaRADIAL	82156.8						2075.86	2.53%
Ag 328.068†	-112.9	-0.00151	mg/L	0.000462	-0.00151	mg/L	0.000462	30.57%
Al 396.153†	-43.4	-0.0179	mg/L	0.00157	-0.0179	mg/L	0.00157	8.78%
As 188.979†	2.4	0.00012	mg/L	0.001059	0.00012	mg/L	0.001059	889.86%
Ba 233.527†	56.8	-0.00144	mg/L	0.000063	-0.00144	mg/L	0.000063	4.36%
Be 234.861†	-9.5	-0.00016	mg/L	0.000018	-0.00016	mg/L	0.000018	11.79%
B 249.677†	-1.2	-0.00095	mg/L	0.000127	-0.00095	mg/L	0.000127	13.42%
Ca 227.546†	-2.8	0.00681	mg/L	0.022052	0.00681	mg/L	0.022052	323.72%
Cd 228.802†	-3.4	-0.00010	mg/L	0.000143	-0.00010	mg/L	0.000143	138.67%
Co 228.616†	5.0	-0.00018	mg/L	0.000082	-0.00018	mg/L	0.000082	45.40%
Cr 267.716†	2.9	-0.00091	mg/L	0.000057	-0.00091	mg/L	0.000057	6.22%
Cu 327.393†	78.6	-0.00121	mg/L	0.000221	-0.00121	mg/L	0.000221	18.26%
Fe 239.562†	13.1	0.00019	mg/L	0.000407	0.00019	mg/L	0.000407	216.02%
Mg 279.077†	6.9	0.00892	mg/L	0.001597	0.00892	mg/L	0.001597	17.91%
Mn 257.610†	-74.4	-0.00120	mg/L	0.000002	-0.00120	mg/L	0.000002	0.19%
Mo 202.031†	-5.5	-0.00140	mg/L	0.000256	-0.00140	mg/L	0.000256	18.27%
Ni 231.604†	17.9	-0.00350	mg/L	0.000099	-0.00350	mg/L	0.000099	2.82%
Pb 220.353†	-13.4	-0.00150	mg/L	0.000237	-0.00150	mg/L	0.000237	15.78%
Sb 206.836†	0.8	-0.00255	mg/L	0.000569	-0.00255	mg/L	0.000569	22.31%
Se 196.026†	1.4	0.00386	mg/L	0.003007	0.00386	mg/L	0.003007	77.85%
Si 251.611†	346.5	-0.00628	mg/L	0.000333	-0.00628	mg/L	0.000333	5.30%
Sn 189.927†	0.8	-0.00048	mg/L	0.000119	-0.00048	mg/L	0.000119	25.03%
Ti 334.940†	271.6	0.00026	mg/L	0.000120	0.00026	mg/L	0.000120	46.96%
Tl 190.801†	-2.2	-0.00331	mg/L	0.000531	-0.00331	mg/L	0.000531	16.04%
V 290.880†	-173.9	-0.00128	mg/L	0.001030	-0.00128	mg/L	0.001030	80.27%
Zn 206.200†	1141.5	0.0120	mg/L	0.00098	0.0120	mg/L	0.00098	8.16%
K 766.490†	-10.8	-0.122	mg/L	0.0203	-0.122	mg/L	0.0203	16.65%
Na 589.592†	424.5	0.0283	mg/L	0.00246	0.0283	mg/L	0.00246	8.70%
Sr 407.771†	-237.6	-0.00047	mg/L	0.000024	-0.00047	mg/L	0.000024	5.09%
Li 670.784†	61.8	-0.00376	mg/L	0.000228	-0.00376	mg/L	0.000228	6.08%

Sequence No.: 3
Sample ID: LCSW AE WG403927-03
Analyst: KHR
Initial Sample Wt:
Dilution:

Autosampler Location: 42
Date Collected: 7/24/2012 1:03:50 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: LCSW AE WG403927-03

Analyte	Back Pressure	Flow
All	175.0 kPa	0.50 L/min

Mean Data: LCSW AE WG403927-03

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	2724430.7						18653.28	0.68%
YRADIAL	295220.5						7435.99	2.52%
Ga 417.206	1374814.9						23900.62	1.74%
GaRADIAL	79389.3						1824.30	2.30%
Ag 328.068†	71172.1	0.204	mg/L	0.0013	0.204	mg/L	0.0013	0.63%
Al 396.153†	31330.7	4.93	mg/L	0.014	4.93	mg/L	0.014	0.27%
As 188.979†	853.3	0.193	mg/L	0.0034	0.193	mg/L	0.0034	1.78%
Ba 233.527†	98842.3	0.494	mg/L	0.0078	0.494	mg/L	0.0078	1.58%
Be 234.861†	35457.2	0.0245	mg/L	0.00020	0.0245	mg/L	0.00020	0.82%
B 249.677†	121312.5	0.988	mg/L	0.0038	0.988	mg/L	0.0038	0.39%
Ca 227.546†	2246.0	5.03	mg/L	0.113	5.03	mg/L	0.113	2.24%
Cd 228.802†	1691.2	0.0244	mg/L	0.00105	0.0244	mg/L	0.00105	4.30%
Co 228.616†	5291.1	0.0989	mg/L	0.00119	0.0989	mg/L	0.00119	1.20%
Cr 267.716†	36655.3	0.246	mg/L	0.0052	0.246	mg/L	0.0052	2.13%
Cu 327.393†	64665.8	0.249	mg/L	0.0007	0.249	mg/L	0.0007	0.28%

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Fe 239.562†	31700.0	1.96	mg/L	0.013	1.96	mg/L	0.013	0.66%
Mg 279.077†	18886.7	5.03	mg/L	0.051	5.03	mg/L	0.051	1.01%
Mn 257.610†	234079.0	0.249	mg/L	0.0052	0.249	mg/L	0.0052	2.10%
Mo 202.031†	20937.9	0.487	mg/L	0.0075	0.487	mg/L	0.0075	1.54%
Ni 231.604†	20901.8	0.246	mg/L	0.0061	0.246	mg/L	0.0061	2.49%
Pb 220.353†	4234.0	0.249	mg/L	0.0028	0.249	mg/L	0.0028	1.12%
Sb 206.836†	3240.9	0.596	mg/L	0.0150	0.596	mg/L	0.0150	2.52%
Se 196.026†	493.4	0.202	mg/L	0.0045	0.202	mg/L	0.0045	2.23%
Si 251.611†	149188.6	2.56	mg/L	0.003	2.56	mg/L	0.003	0.11%
Sn 189.927†	7786.1	0.503	mg/L	0.0054	0.503	mg/L	0.0054	1.07%
Ti 334.940†	554950.9	0.489	mg/L	0.0027	0.489	mg/L	0.0027	0.56%
Tl 190.801†	1178.1	0.258	mg/L	0.0012	0.258	mg/L	0.0012	0.45%
V 290.880†	138461.3	0.492	mg/L	0.0055	0.492	mg/L	0.0055	1.11%
Zn 206.200†	40582.9	0.506	mg/L	0.0059	0.506	mg/L	0.0059	1.17%
K 766.490†	68464.0	24.8	mg/L	0.29	24.8	mg/L	0.29	1.18%
Na 589.592†	497349.1	24.9	mg/L	0.46	24.9	mg/L	0.46	1.86%
Sr 407.771†	1196053.0	0.500	mg/L	0.0080	0.500	mg/L	0.0080	1.59%
Li 670.784†	64993.8	0.506	mg/L	0.0047	0.506	mg/L	0.0047	0.94%

Sequence No.: 4 **Autosampler Location: 43**
Sample ID: L1207049801 **Date Collected: 7/24/2012 1:09:49 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1207049801

Analyte	Back Pressure	Flow
All	176.0 kPa	0.50 L/min

Mean Data: L1207049801

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2611473.5						18928.78	0.72%
YRADIAL	290911.5						4522.82	1.55%
Ga 417.206	1384497.6						7215.43	0.52%
GaRADIAL	82446.4						1297.10	1.57%
Ag 328.068†	1155.7	0.00209	mg/L	0.000332	0.00209	mg/L	0.000332	15.85%
Al 396.153†	-73.4	-0.0227	mg/L	0.00124	-0.0227	mg/L	0.00124	5.45%
As 188.979†	-5.2	-0.00163	mg/L	0.000632	-0.00163	mg/L	0.000632	38.75%
Ba 233.527†	14070.5	0.0688	mg/L	0.00084	0.0688	mg/L	0.00084	1.22%
Be 234.861†	16.2	-0.00015	mg/L	0.000026	-0.00015	mg/L	0.000026	17.45%
B 249.677†	22093.9	0.179	mg/L	0.0004	0.179	mg/L	0.0004	0.20%
Ca 227.546†	48657.1	104	mg/L	0.4	104	mg/L	0.4	0.39%
Cd 228.802†	3.4	0.00001	mg/L	0.000082	0.00001	mg/L	0.000082	>999.9%
Co 228.616†	-4.3	-0.00034	mg/L	0.000045	-0.00034	mg/L	0.000045	13.24%
Cr 267.716†	480.7	0.00231	mg/L	0.000120	0.00231	mg/L	0.000120	5.21%
Cu 327.393†	928.4	0.00206	mg/L	0.000598	0.00206	mg/L	0.000598	28.99%
Fe 239.562†	745.3	0.0451	mg/L	0.00113	0.0451	mg/L	0.00113	2.51%
Mg 279.077†	45603.6	12.1	mg/L	0.18	12.1	mg/L	0.18	1.48%
Mn 257.610†	16975.4	0.0170	mg/L	0.00029	0.0170	mg/L	0.00029	1.69%
Mo 202.031†	69.0	0.00034	mg/L	0.000044	0.00034	mg/L	0.000044	12.93%
Ni 231.604†	137.5	-0.00207	mg/L	0.000238	-0.00207	mg/L	0.000238	11.50%
Pb 220.353†	39.8	0.00244	mg/L	0.002041	0.00244	mg/L	0.002041	83.78%
Sb 206.836†	5.4	-0.00173	mg/L	0.000065	-0.00173	mg/L	0.000065	3.75%
Se 196.026†	-4.9	0.00134	mg/L	0.004132	0.00134	mg/L	0.004132	307.84%
Si 251.611†	530438.4	9.16	mg/L	0.080	9.16	mg/L	0.080	0.88%
Sn 189.927†	-347.6	-0.0230	mg/L	0.00049	-0.0230	mg/L	0.00049	2.12%
Ti 334.940†	-17070.1	0.00058	mg/L	0.000469	0.00058	mg/L	0.000469	81.35%
Tl 190.801†	-35.2	-0.0106	mg/L	0.00235	-0.0106	mg/L	0.00235	22.11%
V 290.880†	119.6	-0.00056	mg/L	0.001451	-0.00056	mg/L	0.001451	258.61%
Zn 206.200†	2101.3	0.0240	mg/L	0.00045	0.0240	mg/L	0.00045	1.87%
K 766.490†	35102.4	12.6	mg/L	0.19	12.6	mg/L	0.19	1.54%
Na 589.592†	2316233.4	123	mg/L	3.0	123	mg/L	3.0	2.43%
Sr 407.771†	576051.4	0.238	mg/L	0.0067	0.238	mg/L	0.0067	2.83%
Li 670.784†	977.3	0.00343	mg/L	0.000830	0.00343	mg/L	0.000830	24.21%

Sequence No.: 5 **Autosampler Location: 44**
Sample ID: L1207050201 **Date Collected: 7/24/2012 1:16:49 PM**

Approved: July 25, 2012
Kym H. Rhoden

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

Nebulizer Parameters: L1207050201

Analyte	Back Pressure	Flow
All	176.0 kPa	0.50 L/min

Mean Data: L1207050201

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2678255.5						22283.67	0.83%
YRADIAL	291858.1						7114.36	2.44%
Ga 417.206	1437410.5						2613.35	0.18%
GaRADIAL	83084.9						1004.25	1.21%
Ag 328.068†	855.5	0.00127	mg/L	0.000382	0.00127	mg/L	0.000382	30.10%
Al 396.153†	670.7	0.0954	mg/L	0.00190	0.0954	mg/L	0.00190	1.99%
As 188.979†	-5.6	-0.00173	mg/L	0.002560	-0.00173	mg/L	0.002560	148.28%
Ba 233.527†	26409.0	0.131	mg/L	0.0025	0.131	mg/L	0.0025	1.92%
Be 234.861†	90.6	-0.00010	mg/L	0.000019	-0.00010	mg/L	0.000019	18.04%
B 249.677†	6510.0	0.0522	mg/L	0.00039	0.0522	mg/L	0.00039	0.74%
Ca 227.546†	42817.5	91.4	mg/L	0.59	91.4	mg/L	0.59	0.64%
Cd 228.802†	-0.2	-0.00005	mg/L	0.000106	-0.00005	mg/L	0.000106	227.36%
Co 228.616†	13.5	-0.00003	mg/L	0.000251	-0.00003	mg/L	0.000251	784.35%
Cr 267.716†	167.4	0.00020	mg/L	0.000124	0.00020	mg/L	0.000124	63.08%
Cu 327.393†	1474.5	0.00418	mg/L	0.000652	0.00418	mg/L	0.000652	15.62%
Fe 239.562†	1362.7	0.0832	mg/L	0.00091	0.0832	mg/L	0.00091	1.09%
Mg 279.077†	51354.4	13.6	mg/L	0.07	13.6	mg/L	0.07	0.54%
Mn 257.610†	20330.8	0.0206	mg/L	0.00041	0.0206	mg/L	0.00041	2.01%
Mo 202.031†	87.0	0.00076	mg/L	0.000133	0.00076	mg/L	0.000133	17.44%
Ni 231.604†	232.7	-0.00093	mg/L	0.000078	-0.00093	mg/L	0.000078	8.43%
Pb 220.353†	28.4	0.00168	mg/L	0.000340	0.00168	mg/L	0.000340	20.21%
Sb 206.836†	-7.4	-0.00407	mg/L	0.000932	-0.00407	mg/L	0.000932	22.89%
Se 196.026†	-6.4	0.00073	mg/L	0.002759	0.00073	mg/L	0.002759	377.10%
Si 251.611†	415936.2	7.18	mg/L	0.102	7.18	mg/L	0.102	1.42%
Sn 189.927†	-338.6	-0.0224	mg/L	0.00006	-0.0224	mg/L	0.00006	0.28%
Ti 334.940†	-15287.5	0.00028	mg/L	0.000370	0.00028	mg/L	0.000370	134.29%
Tl 190.801†	-41.2	-0.0119	mg/L	0.00174	-0.0119	mg/L	0.00174	14.65%
V 290.880†	82.7	-0.00074	mg/L	0.000626	-0.00074	mg/L	0.000626	84.55%
Zn 206.200†	519.4	0.00424	mg/L	0.000373	0.00424	mg/L	0.000373	8.80%
K 766.490†	16105.9	5.70	mg/L	0.030	5.70	mg/L	0.030	0.52%
Na 589.592†	907889.5	46.0	mg/L	1.02	46.0	mg/L	1.02	2.23%
Sr 407.771†	357135.9	0.147	mg/L	0.0048	0.147	mg/L	0.0048	3.26%
Li 670.784†	801.7	0.00205	mg/L	0.000130	0.00205	mg/L	0.000130	6.32%

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Sequence No.: 6 **Autosampler Location: 45**
Sample ID: L1207052801 0.2 **Date Collected: 7/24/2012 1:23:47 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1207052801 0.2

Analyte	Back Pressure	Flow
All	177.0 kPa	0.50 L/min

Mean Data: L1207052801 0.2

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2725365.1						7737.11	0.28%
YRADIAL	305289.4						4309.92	1.41%
Ga 417.206	1351396.1						25499.40	1.89%
GaRADIAL	81528.2						1553.72	1.91%
Ag 328.068†	-26587.0	-0.00762	mg/L	0.002379	-0.00762	mg/L	0.002379	31.23%
Al 396.153†	786955.6	125	mg/L	2.4	125	mg/L	2.4	1.94%
As 188.979†	5521.3	1.29	mg/L	0.034	1.29	mg/L	0.034	2.64%
Ba 233.527†	1095.6	-0.00510	mg/L	0.000174	-0.00510	mg/L	0.000174	3.41%
Be 234.861†	58446.6	0.00566	mg/L	0.000731	0.00566	mg/L	0.000731	12.92%

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B 249.677†	13235.6	0.0358	mg/L	0.00534	0.0358	mg/L	0.00534	14.93%
Ca 227.546†	41765.9	94.5	mg/L	4.11	94.5	mg/L	4.11	4.35%
Cd 228.802†	1396.9	0.0172	mg/L	0.00317	0.0172	mg/L	0.00317	18.43%
Co 228.616†	43126.2	0.807	mg/L	0.0061	0.807	mg/L	0.0061	0.76%
Cr 267.716†	51134.3	0.339	mg/L	0.0056	0.339	mg/L	0.0056	1.65%
Cu 327.393†	156714.9	0.611	mg/L	0.0206	0.611	mg/L	0.0206	3.37%
Fe 239.562†	2470660.1	153	mg/L	2.3	153	mg/L	2.3	1.52%
Mg 279.077†	66652.7	17.6	mg/L	0.15	17.6	mg/L	0.15	0.87%
Mn 257.610†	3378294.4	3.61	mg/L	0.015	3.61	mg/L	0.015	0.41%
Mo 202.031†	-206.6	0.00216	mg/L	0.000329	0.00216	mg/L	0.000329	15.23%
Ni 231.604†	181769.6	2.17	mg/L	0.018	2.17	mg/L	0.018	0.84%
Pb 220.353†	-143.7	-0.00140	mg/L	0.002829	-0.00140	mg/L	0.002829	201.52%
Sb 206.836†	-25.1	-0.00268	mg/L	0.001546	-0.00268	mg/L	0.001546	57.64%
Se 196.026†	-99.6	-0.00815	mg/L	0.000929	-0.00815	mg/L	0.000929	11.40%
Si 251.611†	919895.1	15.9	mg/L	0.46	15.9	mg/L	0.46	2.88%
Sn 189.927†	-394.5	-0.0260	mg/L	0.00107	-0.0260	mg/L	0.00107	4.12%
Ti 334.940†	-11596.2	0.00308	mg/L	0.000997	0.00308	mg/L	0.000997	32.32%
Tl 190.801†	51.6	0.00726	mg/L	0.000823	0.00726	mg/L	0.000823	11.33%
V 290.880†	14640.8	0.0307	mg/L	0.00348	0.0307	mg/L	0.00348	11.36%
Zn 206.200†	106531.5	1.33	mg/L	0.022	1.33	mg/L	0.022	1.67%
K 766.490†	733.8	0.143	mg/L	0.0511	0.143	mg/L	0.0511	35.74%
Na 589.592†	127212.6	6.29	mg/L	0.026	6.29	mg/L	0.026	0.41%
Sr 407.771†	669284.7	0.277	mg/L	0.0046	0.277	mg/L	0.0046	1.66%
Li 670.784†	4512.0	0.0312	mg/L	0.00047	0.0312	mg/L	0.00047	1.50%

Sequence No.: 7
Sample ID: L1207053402 WG403927-01
Analyst: KHR
Initial Sample Wt:
Dilution:

Autosampler Location: 46
Date Collected: 7/24/2012 1:29:49 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: L1207053402 WG403927-01

Analyte	Back Pressure	Flow
All	177.0 kPa	0.50 L/min

Mean Data: L1207053402 WG403927-01

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2601846.0						11799.66	0.45%
YRADIAL	285731.2						5238.97	1.83%
Ga 417.206	1350505.6						28693.57	2.12%
GaRADIAL	81001.0						1242.95	1.53%
Ag 328.068†	289.0	-0.00041	mg/L	0.000036	-0.00041	mg/L	0.000036	8.94%
Al 396.153†	-62.4	-0.0217	mg/L	0.00069	-0.0217	mg/L	0.00069	3.20%
As 188.979†	17.9	0.00361	mg/L	0.001543	0.00361	mg/L	0.001543	42.77%
Ba 233.527†	23949.7	0.118	mg/L	0.0008	0.118	mg/L	0.0008	0.70%
Be 234.861†	-54.5	-0.00019	mg/L	0.000020	-0.00019	mg/L	0.000020	10.80%
B 249.677†	66173.7	0.539	mg/L	0.0157	0.539	mg/L	0.0157	2.90%
Ca 227.546†	6078.2	13.0	mg/L	0.25	13.0	mg/L	0.25	1.90%
Cd 228.802†	-3.5	-0.00012	mg/L	0.000096	-0.00012	mg/L	0.000096	77.73%
Co 228.616†	2.3	-0.00024	mg/L	0.000220	-0.00024	mg/L	0.000220	89.87%
Cr 267.716†	108.0	-0.00020	mg/L	0.000164	-0.00020	mg/L	0.000164	80.75%
Cu 327.393†	153.2	-0.00092	mg/L	0.000437	-0.00092	mg/L	0.000437	47.33%
Fe 239.562†	237.0	0.0139	mg/L	0.00240	0.0139	mg/L	0.00240	17.23%
Mg 279.077†	15390.7	4.10	mg/L	0.071	4.10	mg/L	0.071	1.74%
Mn 257.610†	1255.5	0.00023	mg/L	0.000164	0.00023	mg/L	0.000164	72.93%
Mo 202.031†	499.3	0.0104	mg/L	0.00016	0.0104	mg/L	0.00016	1.57%
Ni 231.604†	74.8	-0.00282	mg/L	0.000220	-0.00282	mg/L	0.000220	7.81%
Pb 220.353†	18.3	0.00047	mg/L	0.000578	0.00047	mg/L	0.000578	122.49%
Sb 206.836†	3.9	-0.00196	mg/L	0.000874	-0.00196	mg/L	0.000874	44.51%
Se 196.026†	0.9	0.00364	mg/L	0.000630	0.00364	mg/L	0.000630	17.30%
Si 251.611†	197430.0	3.40	mg/L	0.083	3.40	mg/L	0.083	2.43%
Sn 189.927†	-135.8	-0.00930	mg/L	0.000449	-0.00930	mg/L	0.000449	4.83%
Ti 334.940†	-2295.6	-0.00006	mg/L	0.000116	-0.00006	mg/L	0.000116	207.12%
Tl 190.801†	-23.1	-0.00783	mg/L	0.001152	-0.00783	mg/L	0.001152	14.70%
V 290.880†	774.1	0.00198	mg/L	0.000390	0.00198	mg/L	0.000390	19.71%
Zn 206.200†	209.9	0.00038	mg/L	0.000283	0.00038	mg/L	0.000283	74.72%
K 766.490†	4922.6	1.03	mg/L	0.041	1.03	mg/L	0.041	3.92%
Na 589.592†	7829283.4	640	mg/L	33.3	640	mg/L	33.3	5.20%

Approved: July 25, 2012

Kym H. Rhoden

Sr 407.771†	700151.3	0.292	mg/L	0.0116	0.292	mg/L	0.0116	3.96%
Li 670.784†	1340.6	0.00628	mg/L	0.000266	0.00628	mg/L	0.000266	4.24%

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Sequence No.: 8 **Autosampler Location: 47**
Sample ID: L1207053404DU WG403927-04 **Date Collected: 7/24/2012 1:36:52 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1207053404DU WG403927-04

Analyte	Back Pressure	Flow
All	177.0 kPa	0.50 L/min

Mean Data: L1207053404DU WG403927-04

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	2574332.8						17000.05	0.66%
YRADIAL	283333.4						7341.28	2.59%
Ga 417.206	1343076.9						10171.34	0.76%
GaRADIAL	80511.4						583.22	0.72%
Ag 328.068†	57.9	-0.00107	mg/L	0.000617	-0.00107	mg/L	0.000617	57.90%
Al 396.153†	-57.8	-0.0210	mg/L	0.00104	-0.0210	mg/L	0.00104	4.95%
As 188.979†	14.2	0.00276	mg/L	0.002446	0.00276	mg/L	0.002446	88.51%
Ba 233.527†	22095.9	0.109	mg/L	0.0005	0.109	mg/L	0.0005	0.46%
Be 234.861†	-75.3	-0.00020	mg/L	0.000036	-0.00020	mg/L	0.000036	17.64%
B 249.677†	64637.7	0.527	mg/L	0.0048	0.527	mg/L	0.0048	0.91%
Ca 227.546†	5247.2	11.2	mg/L	0.13	11.2	mg/L	0.13	1.20%
Cd 228.802†	-0.9	-0.00008	mg/L	0.000074	-0.00008	mg/L	0.000074	89.97%
Co 228.616†	-8.7	-0.00045	mg/L	0.000103	-0.00045	mg/L	0.000103	22.88%
Cr 267.716†	86.9	-0.00034	mg/L	0.000130	-0.00034	mg/L	0.000130	37.79%
Cu 327.393†	169.3	-0.00086	mg/L	0.000560	-0.00086	mg/L	0.000560	64.97%
Fe 239.562†	238.1	0.0140	mg/L	0.00192	0.0140	mg/L	0.00192	13.68%
Mg 279.077†	12998.4	3.46	mg/L	0.078	3.46	mg/L	0.078	2.27%
Mn 257.610†	1196.3	0.00016	mg/L	0.000086	0.00016	mg/L	0.000086	53.09%
Mo 202.031†	506.9	0.0105	mg/L	0.00039	0.0105	mg/L	0.00039	3.71%
Ni 231.604†	67.2	-0.00291	mg/L	0.000195	-0.00291	mg/L	0.000195	6.72%
Pb 220.353†	2.3	-0.00048	mg/L	0.000554	-0.00048	mg/L	0.000554	114.69%
Sb 206.836†	-3.5	-0.00333	mg/L	0.000557	-0.00333	mg/L	0.000557	16.75%
Se 196.026†	1.0	0.00369	mg/L	0.003701	0.00369	mg/L	0.003701	100.40%
Si 251.611†	189088.4	3.26	mg/L	0.017	3.26	mg/L	0.017	0.52%
Sn 189.927†	-121.0	-0.00834	mg/L	0.000704	-0.00834	mg/L	0.000704	8.44%
Ti 334.940†	-1835.9	0.00008	mg/L	0.000207	0.00008	mg/L	0.000207	251.79%
Tl 190.801†	-16.0	-0.00630	mg/L	0.001561	-0.00630	mg/L	0.001561	24.80%
V 290.880†	749.2	0.00191	mg/L	0.000445	0.00191	mg/L	0.000445	23.34%
Zn 206.200†	208.2	0.00036	mg/L	0.000153	0.00036	mg/L	0.000153	43.09%
K 766.490†	4348.7	0.827	mg/L	0.0528	0.827	mg/L	0.0528	6.38%
Na 589.592†	7825649.2	638	mg/L	27.1	638	mg/L	27.1	4.24%
Sr 407.771†	658639.1	0.275	mg/L	0.0110	0.275	mg/L	0.0110	3.99%
Li 670.784†	1322.2	0.00614	mg/L	0.000243	0.00614	mg/L	0.000243	3.97%

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Sequence No.: 9 **Autosampler Location: 48**
Sample ID: L1207053402PS WG404120-01 **Date Collected: 7/24/2012 1:43:50 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1207053402PS WG404120-01

Analyte	Back Pressure	Flow
All	178.0 kPa	0.50 L/min

Mean Data: L1207053402PS WG404120-01

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	2616777.6						3507.71	0.13%
YRADIAL	293251.5						4471.10	1.52%
Ga 417.206	1311238.3						20831.40	1.59%

Approved: July 25, 2012
Kym H. Rhoden

GaRADIAL	78985.3					488.42	0.62%
Ag 328.068†	73543.3	0.211	mg/L	0.0024	0.211 mg/L	0.0024	1.14%
Al 396.153†	31798.0	5.00	mg/L	0.028	5.00 mg/L	0.028	0.56%
As 188.979†	919.3	0.208	mg/L	0.0033	0.208 mg/L	0.0033	1.59%
Ba 233.527†	122490.0	0.612	mg/L	0.0007	0.612 mg/L	0.0007	0.12%
Be 234.861†	37935.5	0.0262	mg/L	0.00023	0.0262 mg/L	0.00023	0.88%
B 249.677†	190371.4	1.55	mg/L	0.040	1.55 mg/L	0.040	2.60%
Ca 227.546†	8045.2	17.4	mg/L	0.40	17.4 mg/L	0.40	2.27%
Cd 228.802†	1753.6	0.0252	mg/L	0.00094	0.0252 mg/L	0.00094	3.73%
Co 228.616†	5256.8	0.0983	mg/L	0.00022	0.0983 mg/L	0.00022	0.23%
Cr 267.716†	37421.2	0.251	mg/L	0.0032	0.251 mg/L	0.0032	1.28%
Cu 327.393†	68147.7	0.263	mg/L	0.0039	0.263 mg/L	0.0039	1.47%
Fe 239.562†	32172.4	1.98	mg/L	0.019	1.98 mg/L	0.019	0.96%
Mg 279.077†	32235.5	8.58	mg/L	0.083	8.58 mg/L	0.083	0.97%
Mn 257.610†	235795.2	0.251	mg/L	0.0020	0.251 mg/L	0.0020	0.79%
Mo 202.031†	22272.4	0.518	mg/L	0.0019	0.518 mg/L	0.0019	0.38%
Ni 231.604†	21502.5	0.253	mg/L	0.0005	0.253 mg/L	0.0005	0.18%
Pb 220.353†	4145.5	0.244	mg/L	0.0011	0.244 mg/L	0.0011	0.46%
Sb 206.836†	3370.8	0.620	mg/L	0.0157	0.620 mg/L	0.0157	2.54%
Se 196.026†	515.8	0.211	mg/L	0.0056	0.211 mg/L	0.0056	2.66%
Si 251.611†	339611.2	5.85	mg/L	0.061	5.85 mg/L	0.061	1.05%
Sn 189.927†	-148.7	-0.0101	mg/L	0.00049	-0.0101 mg/L	0.00049	4.80%
Ti 334.940†	562237.5	0.497	mg/L	0.0013	0.497 mg/L	0.0013	0.27%
Tl 190.801†	1097.8	0.241	mg/L	0.0044	0.241 mg/L	0.0044	1.83%
V 290.880†	142523.8	0.507	mg/L	0.0034	0.507 mg/L	0.0034	0.68%
Zn 206.200†	42807.0	0.533	mg/L	0.0060	0.533 mg/L	0.0060	1.13%
K 766.490†	72721.6	25.8	mg/L	0.04	25.8 mg/L	0.04	0.14%
Na 589.592†	7640568.4	599	mg/L	19.9	599 mg/L	19.9	3.33%
Sr 407.771†	1778412.2	0.743	mg/L	0.0178	0.743 mg/L	0.0178	2.40%
Li 670.784†	64505.7	0.502	mg/L	0.0035	0.502 mg/L	0.0035	0.70%

Sequence No.: 10 **Autosampler Location: 49**
Sample ID: L1207053402DL WG404120-02 **Date Collected: 7/24/2012 1:49:47 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1207053402DL WG404120-02

Analyte	Back Pressure	Flow
All	177.0 kPa	0.50 L/min

Mean Data: L1207053402DL WG404120-02

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2673002.2						18388.87	0.69%
YRADIAL	287913.8						6430.21	2.23%
Ga 417.206	1355748.8						16973.77	1.25%
GaRADIAL	80457.7						1689.90	2.10%
Ag 328.068†	110.4	-0.00088	mg/L	0.000048	-0.00088	mg/L	0.000048	5.45%
Al 396.153†	-12.4	-0.0131	mg/L	0.00097	-0.0131	mg/L	0.00097	7.42%
As 188.979†	7.9	0.00134	mg/L	0.002070	0.00134	mg/L	0.002070	153.91%
Ba 233.527†	5009.2	0.0234	mg/L	0.00016	0.0234	mg/L	0.00016	0.70%
Be 234.861†	-31.6	-0.00017	mg/L	0.000014	-0.00017	mg/L	0.000014	8.12%
B 249.677†	14403.2	0.117	mg/L	0.0017	0.117	mg/L	0.0017	1.48%
Ca 227.546†	1214.5	2.60	mg/L	0.019	2.60	mg/L	0.019	0.72%
Cd 228.802†	-5.4	-0.00014	mg/L	0.000036	-0.00014	mg/L	0.000036	26.13%
Co 228.616†	8.2	-0.00012	mg/L	0.000142	-0.00012	mg/L	0.000142	117.92%
Cr 267.716†	29.1	-0.00073	mg/L	0.000069	-0.00073	mg/L	0.000069	9.47%
Cu 327.393†	52.5	-0.00131	mg/L	0.000480	-0.00131	mg/L	0.000480	36.53%
Fe 239.562†	32.5	0.00136	mg/L	0.000346	0.00136	mg/L	0.000346	25.33%
Mg 279.077†	3149.6	0.844	mg/L	0.0165	0.844	mg/L	0.0165	1.95%
Mn 257.610†	1230.1	0.00020	mg/L	0.000067	0.00020	mg/L	0.000067	34.09%
Mo 202.031†	108.1	0.00125	mg/L	0.000159	0.00125	mg/L	0.000159	12.74%
Ni 231.604†	27.8	-0.00338	mg/L	0.000210	-0.00338	mg/L	0.000210	6.22%
Pb 220.353†	-2.3	-0.00083	mg/L	0.001129	-0.00083	mg/L	0.001129	136.76%
Sb 206.836†	3.3	-0.00208	mg/L	0.001626	-0.00208	mg/L	0.001626	78.02%
Se 196.026†	0.1	0.00331	mg/L	0.001247	0.00331	mg/L	0.001247	37.64%
Si 251.611†	40544.0	0.689	mg/L	0.0059	0.689	mg/L	0.0059	0.86%
Sn 189.927†	-28.2	-0.00235	mg/L	0.000148	-0.00235	mg/L	0.000148	6.29%

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Ti 334.940†	-292.1	0.00015 mg/L	0.000075	0.00015 mg/L	0.000075	50.35%
Tl 190.801†	-7.0	-0.00435 mg/L	0.001118	-0.00435 mg/L	0.001118	25.70%
V 290.880†	75.9	-0.00042 mg/L	0.000458	-0.00042 mg/L	0.000458	109.95%
Zn 206.200†	275.6	0.00119 mg/L	0.000122	0.00119 mg/L	0.000122	10.25%
K 766.490†	1348.5	0.288 mg/L	0.0047	0.288 mg/L	0.0047	1.64%
Na 589.592†	1633492.5	84.9 mg/L	2.45	84.9 mg/L	2.45	2.88%
Sr 407.771†	141403.4	0.0587 mg/L	0.00248	0.0587 mg/L	0.00248	4.23%
Li 670.784†	396.9	-0.00113 mg/L	0.000223	-0.00113 mg/L	0.000223	19.78%

Sequence No.: 11 **Autosampler Location: 6**
Sample ID: CCV **Date Collected: 7/24/2012 1:56:42 PM**
Analyst: **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: CCV

Analyte	Back Pressure	Flow
All	177.0 kPa	0.50 L/min

Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2669375.9						28698.26	1.08%
YRADIAL	296200.8						4636.40	1.57%
Ga 417.206	1299238.0						19581.42	1.51%
GaRADIAL	78740.9						567.04	0.72%
Ag 328.068†	146852.0	0.423	mg/L	0.0061	0.423	mg/L	0.0061	1.44%
QC value within limits for Ag 328.068 Recovery = 105.72%								
Al 396.153†	63053.2	9.93	mg/L	0.022	9.93	mg/L	0.022	0.22%
QC value within limits for Al 396.153 Recovery = 99.34%								
As 188.979†	1821.2	0.412	mg/L	0.0075	0.412	mg/L	0.0075	1.83%
QC value within limits for As 188.979 Recovery = 103.03%								
Ba 233.527†	201232.1	1.01	mg/L	0.009	1.01	mg/L	0.009	0.91%
QC value within limits for Ba 233.527 Recovery = 100.67%								
Be 234.861†	75803.4	0.0525	mg/L	0.00074	0.0525	mg/L	0.00074	1.42%
QC value within limits for Be 234.861 Recovery = 104.96%								
B 249.677†	64261.9	0.520	mg/L	0.0093	0.520	mg/L	0.0093	1.78%
QC value within limits for B 249.677 Recovery = 103.98%								
Ca 227.546†	4764.9	10.7	mg/L	0.20	10.7	mg/L	0.20	1.84%
QC value within limits for Ca 227.546 Recovery = 106.58%								
Cd 228.802†	3580.4	0.0516	mg/L	0.00160	0.0516	mg/L	0.00160	3.10%
QC value within limits for Cd 228.802 Recovery = 103.12%								
Co 228.616†	10657.3	0.200	mg/L	0.0031	0.200	mg/L	0.0031	1.57%
QC value within limits for Co 228.616 Recovery = 99.77%								
Cr 267.716†	74499.4	0.501	mg/L	0.0014	0.501	mg/L	0.0014	0.28%
QC value within limits for Cr 267.716 Recovery = 100.20%								
Cu 327.393†	134896.8	0.522	mg/L	0.0061	0.522	mg/L	0.0061	1.16%
QC value within limits for Cu 327.393 Recovery = 104.32%								
Fe 239.562†	64494.5	3.98	mg/L	0.005	3.98	mg/L	0.005	0.13%
QC value within limits for Fe 239.562 Recovery = 99.49%								
Mg 279.077†	37766.0	10.1	mg/L	0.09	10.1	mg/L	0.09	0.85%
QC value within limits for Mg 279.077 Recovery = 100.56%								
Mn 257.610†	469912.2	0.501	mg/L	0.0060	0.501	mg/L	0.0060	1.19%
QC value within limits for Mn 257.610 Recovery = 100.22%								
Mo 202.031†	43028.4	1.00	mg/L	0.001	1.00	mg/L	0.001	0.06%
QC value within limits for Mo 202.031 Recovery = 100.20%								
Ni 231.604†	43854.5	0.520	mg/L	0.0069	0.520	mg/L	0.0069	1.32%
QC value within limits for Ni 231.604 Recovery = 103.94%								
Pb 220.353†	8545.0	0.502	mg/L	0.0066	0.502	mg/L	0.0066	1.31%
QC value within limits for Pb 220.353 Recovery = 100.49%								
Sb 206.836†	6817.6	1.26	mg/L	0.023	1.26	mg/L	0.023	1.82%
QC value within limits for Sb 206.836 Recovery = 104.71%								
Se 196.026†	1048.2	0.425	mg/L	0.0102	0.425	mg/L	0.0102	2.40%
QC value within limits for Se 196.026 Recovery = 106.28%								
Si 251.611†	304981.7	5.25	mg/L	0.039	5.25	mg/L	0.039	0.75%
QC value within limits for Si 251.611 Recovery = 104.99%								
Sn 189.927†	15559.6	1.00	mg/L	0.013	1.00	mg/L	0.013	1.27%
QC value within limits for Sn 189.927 Recovery = 100.50%								
Ti 334.940†	1127682.2	0.993	mg/L	0.0058	0.993	mg/L	0.0058	0.58%

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   QC value within limits for Ti 334.940  Recovery = 99.33%
Tl 190.801†            2351.5       0.518 mg/L        0.0073       0.518 mg/L        0.0073   1.41%
   QC value within limits for Tl 190.801  Recovery = 103.65%
V 290.880†           279764.8       0.995 mg/L        0.0055       0.995 mg/L        0.0055   0.55%
   QC value within limits for V 290.880  Recovery = 99.53%
Zn 206.200†           82060.0        1.02 mg/L         0.008        1.02 mg/L         0.008   0.77%
   QC value within limits for Zn 206.200  Recovery = 102.45%
K 766.490†           137014.3        50.0 mg/L          0.12        50.0 mg/L          0.12   0.23%
   QC value within limits for K 766.490  Recovery = 99.91%
Na 589.592†          965676.9        49.0 mg/L          0.56        49.0 mg/L          0.56   1.13%
   QC value within limits for Na 589.592  Recovery = 98.05%
Sr 407.771†          2328785.6       0.973 mg/L        0.0124       0.973 mg/L        0.0124   1.28%
   QC value within limits for Sr 407.771  Recovery = 97.29%
Li 670.784†          127534.4       0.997 mg/L        0.0069       0.997 mg/L        0.0069   0.69%
   QC value within limits for Li 670.784  Recovery = 99.65%
All analyte(s) passed QC.

==========================================================================================================
Sequence No.: 12                                    Autosampler Location: 1
Sample ID: CCB                                      Date Collected: 7/24/2012 2:02:42 PM
Analyst:                                            Data Type: Original
Initial Sample Wt:                                  Initial Sample Vol:
Dilution:                                           Sample Prep Vol:

----------------------------------------------------------------------------------------------------------
Nebulizer Parameters: CCB
Analyte                  Back Pressure    Flow
All                     177.0 kPa         0.50 L/min

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Mean Data: CCB
                    Mean Corrected         Calib.                          Sample
Analyte                Intensity     Conc. Units      Std.Dev.      Conc. Units      Std.Dev.   RSD
Y 371.029             2737889.4                                                     53043.48   1.94%
YRADIAL                290811.1                                                      7118.22   2.45%
Ga 417.206            1332184.3                                                     23397.39   1.76%
GaRADIAL                79261.9                                                      1588.03   2.00%
Ag 328.068†                47.9    -0.00105 mg/L      0.000250    -0.00105 mg/L      0.000250  23.83%
   QC value within limits for Ag 328.068  Recovery = Not calculated
Al 396.153†                 7.6    -0.00980 mg/L      0.001063    -0.00980 mg/L      0.001063  10.84%
   QC value within limits for Al 396.153  Recovery = Not calculated
As 188.979†                 1.3    -0.00016 mg/L      0.001064    -0.00016 mg/L      0.001064 684.16%
   QC value within limits for As 188.979  Recovery = Not calculated
Ba 233.527†                24.0    -0.00161 mg/L      0.000095    -0.00161 mg/L      0.000095   5.91%
   QC value within limits for Ba 233.527  Recovery = Not calculated
Be 234.861†              -114.1    -0.00023 mg/L      0.000024    -0.00023 mg/L      0.000024  10.24%
   QC value within limits for Be 234.861  Recovery = Not calculated
B 249.677†                440.9     0.00266 mg/L      0.000386     0.00266 mg/L      0.000386  14.53%
   QC value within limits for B 249.677  Recovery = Not calculated
Ca 227.546†               -14.4     -0.0180 mg/L       0.01399     -0.0180 mg/L       0.01399  77.71%
   QC value within limits for Ca 227.546  Recovery = Not calculated
Cd 228.802†                -0.3    -0.00006 mg/L      0.000101    -0.00006 mg/L      0.000101 178.16%
   QC value within limits for Cd 228.802  Recovery = Not calculated
Co 228.616†                 3.5    -0.00021 mg/L      0.000301    -0.00021 mg/L      0.000301 145.68%
   QC value within limits for Co 228.616  Recovery = Not calculated
Cr 267.716†                11.3    -0.00085 mg/L      0.000084    -0.00085 mg/L      0.000084   9.91%
   QC value within limits for Cr 267.716  Recovery = Not calculated
Cu 327.393†               142.8    -0.00096 mg/L      0.000687    -0.00096 mg/L      0.000687  71.37%
   QC value within limits for Cu 327.393  Recovery = Not calculated
Fe 239.562†                24.3     0.00088 mg/L      0.000220     0.00088 mg/L      0.000220  25.07%
   QC value within limits for Fe 239.562  Recovery = Not calculated
Mg 279.077†                 9.6     0.00966 mg/L      0.002713     0.00966 mg/L      0.002713  28.09%
   QC value within limits for Mg 279.077  Recovery = Not calculated
Mn 257.610†               -85.0    -0.00121 mg/L      0.000011    -0.00121 mg/L      0.000011   0.92%
   QC value within limits for Mn 257.610  Recovery = Not calculated
Mo 202.031†                14.0    -0.00095 mg/L      0.000047    -0.00095 mg/L      0.000047   4.92%
   QC value within limits for Mo 202.031  Recovery = Not calculated
Ni 231.604†                 5.5    -0.00365 mg/L      0.000296    -0.00365 mg/L      0.000296   8.12%
   QC value within limits for Ni 231.604  Recovery = Not calculated
Pb 220.353†                 4.2    -0.00046 mg/L      0.000633    -0.00046 mg/L      0.000633 137.22%
   QC value within limits for Pb 220.353  Recovery = Not calculated
Sb 206.836†                 6.1    -0.00159 mg/L      0.000815    -0.00159 mg/L      0.000815  51.40%
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   QC value within limits for Sb 206.836  Recovery = Not calculated
Se 196.026†              -6.0     0.00088 mg/L      0.001012     0.00088 mg/L      0.001012 114.91%
   QC value within limits for Se 196.026  Recovery = Not calculated
Si 251.611†             231.4    -0.00827 mg/L      0.000543    -0.00827 mg/L      0.000543   6.56%
   QC value within limits for Si 251.611  Recovery = Not calculated
Sn 189.927†               8.8     0.00004 mg/L      0.000397     0.00004 mg/L      0.000397 972.13%
   QC value within limits for Sn 189.927  Recovery = Not calculated
Ti 334.940†             142.8     0.00014 mg/L      0.000131     0.00014 mg/L      0.000131  94.37%
   QC value within limits for Ti 334.940  Recovery = Not calculated
Tl 190.801†              -6.4    -0.00421 mg/L      0.003093    -0.00421 mg/L      0.003093  73.40%
   QC value within limits for Tl 190.801  Recovery = Not calculated
V 290.880†               45.2    -0.00050 mg/L      0.000991    -0.00050 mg/L      0.000991 197.04%
   QC value within limits for V 290.880  Recovery = Not calculated
Zn 206.200†              56.3    -0.00154 mg/L      0.000143    -0.00154 mg/L      0.000143   9.26%
   QC value within limits for Zn 206.200  Recovery = Not calculated
K 766.490†              -32.0      -0.130 mg/L        0.0317      -0.130 mg/L        0.0317  24.45%
   QC value within limits for K 766.490  Recovery = Not calculated
Na 589.592†             528.8      0.0334 mg/L       0.00908      0.0334 mg/L       0.00908  27.17%
   QC value within limits for Na 589.592  Recovery = Not calculated
Sr 407.771†              85.6    -0.00033 mg/L      0.000018    -0.00033 mg/L      0.000018   5.51%
   QC value within limits for Sr 407.771  Recovery = Not calculated
Li 670.784†             125.4    -0.00326 mg/L      0.000478    -0.00326 mg/L      0.000478  14.67%
   QC value within limits for Li 670.784  Recovery = Not calculated
All analyte(s) passed QC.
User canceled analysis.
```

Approved: July 25, 2012

Kym H. Rhoden

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Analysis Begun

Start Time: 7/24/2012 2:10:53 PM **Plasma On Time: 7/24/2012 10:54:30 AM**
Logged In Analyst: peicp2 **Technique: ICP Continuous**
Spectrometer Model: Optima 4300 DV, S/N 077N4011401 **Autosampler Model: Cetac**

Sample Information File: C:\pe\peicp2\Sample Information\TUESDAY1.sif
Batch ID:
Results Data Set: 072412HR
Results Library: C:\pe\peicp2\Results\Results.mdb

==========

Method Loaded
Method Name: 200.7-6010 PE-ICP2.1 **Method Last Saved: 7/19/2012 2:28:02 PM**
IEC File: CA227_LiBeMOD.iec **SMF File:**
Method Description: STANDARD

==========

Sequence No.: 1 **Autosampler Location: 50**
Sample ID: L1207053406 **Date Collected: 7/24/2012 2:10:55 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1207053406

Analyte	Back Pressure	Flow
All	177.0 kPa	0.50 L/min

Mean Data: L1207053406

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2617463.0						10552.85	0.40%
YRADIAL	287108.0						5301.51	1.85%
Ga 417.206	1363112.5						7802.13	0.57%
GaRADIAL	80672.5						1136.90	1.41%
Ag 328.068†	77.8	-0.00097	mg/L	0.000141	-0.00097	mg/L	0.000141	14.56%
Al 396.153†	124.1	0.00859	mg/L	0.002799	0.00859	mg/L	0.002799	32.58%
As 188.979†	27.4	0.00583	mg/L	0.000651	0.00583	mg/L	0.000651	11.17%
Ba 233.527†	8049.9	0.0386	mg/L	0.00018	0.0386	mg/L	0.00018	0.47%
Be 234.861†	-2.3	-0.00016	mg/L	0.000017	-0.00016	mg/L	0.000017	10.68%
B 249.677†	20827.7	0.169	mg/L	0.0010	0.169	mg/L	0.0010	0.62%
Ca 227.546†	2873.2	6.14	mg/L	0.049	6.14	mg/L	0.049	0.80%
Cd 228.802†	-1.8	-0.00011	mg/L	0.000112	-0.00011	mg/L	0.000112	103.58%
Co 228.616†	14.1	-0.00002	mg/L	0.000192	-0.00002	mg/L	0.000192	>999.9%
Cr 267.716†	72.5	-0.00044	mg/L	0.000094	-0.00044	mg/L	0.000094	21.38%
Cu 327.393†	302.2	-0.00034	mg/L	0.000169	-0.00034	mg/L	0.000169	49.13%
Fe 239.562†	670.6	0.0407	mg/L	0.00026	0.0407	mg/L	0.00026	0.64%
Mg 279.077†	12097.6	3.22	mg/L	0.053	3.22	mg/L	0.053	1.63%
Mn 257.610†	6176.9	0.00548	mg/L	0.000016	0.00548	mg/L	0.000016	0.30%
Mo 202.031†	88.8	0.00080	mg/L	0.000206	0.00080	mg/L	0.000206	25.73%
Ni 231.604†	36.2	-0.00328	mg/L	0.000199	-0.00328	mg/L	0.000199	6.06%
Pb 220.353†	4.1	-0.00042	mg/L	0.000637	-0.00042	mg/L	0.000637	151.25%
Sb 206.836†	5.1	-0.00175	mg/L	0.000264	-0.00175	mg/L	0.000264	15.05%
Se 196.026†	-5.2	0.00121	mg/L	0.004188	0.00121	mg/L	0.004188	345.49%
Si 251.611†	173581.7	2.99	mg/L	0.040	2.99	mg/L	0.040	1.34%
Sn 189.927†	-61.1	-0.00447	mg/L	0.000135	-0.00447	mg/L	0.000135	3.02%
Ti 334.940†	-286.7	0.00069	mg/L	0.000202	0.00069	mg/L	0.000202	29.53%
Tl 190.801†	-12.4	-0.00550	mg/L	0.000131	-0.00550	mg/L	0.000131	2.38%
V 290.880†	962.6	0.00267	mg/L	0.000386	0.00267	mg/L	0.000386	14.45%
Zn 206.200†	558.3	0.00472	mg/L	0.000284	0.00472	mg/L	0.000284	6.03%
K 766.490†	1698.0	0.253	mg/L	0.0102	0.253	mg/L	0.0102	4.04%
Na 589.592†	4256550.1	248	mg/L	5.7	248	mg/L	5.7	2.29%
Sr 407.771†	365236.9	0.152	mg/L	0.0054	0.152	mg/L	0.0054	3.52%
Li 670.784†	857.9	0.00249	mg/L	0.000122	0.00249	mg/L	0.000122	4.88%

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Sequence No.: 2 **Autosampler Location: 51**
Sample ID: L1207053408 **Date Collected: 7/24/2012 2:17:55 PM**

Approved: July 25, 2012
Kym H. Rhoden

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

Nebulizer Parameters: L1207053408

Analyte	Back Pressure	Flow
All	178.0 kPa	0.50 L/min

Mean Data: L1207053408

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2611199.7						44075.60	1.69%
YRADIAL	289644.7						5568.57	1.92%
Ga 417.206	1367251.7						25723.24	1.88%
GaRADIAL	81432.0						2093.55	2.57%
Ag 328.068†	118.6	-0.00086	mg/L	0.000562	-0.00086	mg/L	0.000562	65.43%
Al 396.153†	1.0	-0.0111	mg/L	0.00094	-0.0111	mg/L	0.00094	8.48%
As 188.979†	96.6	0.0217	mg/L	0.00084	0.0217	mg/L	0.00084	3.89%
Ba 233.527†	6451.4	0.0306	mg/L	0.00043	0.0306	mg/L	0.00043	1.39%
Be 234.861†	-18.0	-0.00016	mg/L	0.000034	-0.00016	mg/L	0.000034	21.18%
B 249.677†	38746.7	0.315	mg/L	0.0036	0.315	mg/L	0.0036	1.15%
Ca 227.546†	887.4	1.91	mg/L	0.034	1.91	mg/L	0.034	1.77%
Cd 228.802†	-8.1	-0.00028	mg/L	0.000128	-0.00028	mg/L	0.000128	45.28%
Co 228.616†	-3.1	-0.00034	mg/L	0.000047	-0.00034	mg/L	0.000047	13.97%
Cr 267.716†	66.7	-0.00048	mg/L	0.000174	-0.00048	mg/L	0.000174	36.32%
Cu 327.393†	127.3	-0.00102	mg/L	0.000318	-0.00102	mg/L	0.000318	31.14%
Fe 239.562†	89.4	0.00489	mg/L	0.000203	0.00489	mg/L	0.000203	4.15%
Mg 279.077†	2082.4	0.560	mg/L	0.0094	0.560	mg/L	0.0094	1.68%
Mn 257.610†	570.4	-0.00051	mg/L	0.000007	-0.00051	mg/L	0.000007	1.41%
Mo 202.031†	154.7	0.00233	mg/L	0.000237	0.00233	mg/L	0.000237	10.19%
Ni 231.604†	17.1	-0.00351	mg/L	0.000156	-0.00351	mg/L	0.000156	4.44%
Pb 220.353†	-8.9	-0.00122	mg/L	0.000736	-0.00122	mg/L	0.000736	60.44%
Sb 206.836†	3.8	-0.00199	mg/L	0.001169	-0.00199	mg/L	0.001169	58.87%
Se 196.026†	-4.1	0.00164	mg/L	0.002420	0.00164	mg/L	0.002420	147.33%
Si 251.611†	228147.4	3.93	mg/L	0.070	3.93	mg/L	0.070	1.77%
Sn 189.927†	-23.1	-0.00202	mg/L	0.000394	-0.00202	mg/L	0.000394	19.50%
Ti 334.940†	-204.4	0.00012	mg/L	0.000220	0.00012	mg/L	0.000220	180.55%
Tl 190.801†	-10.3	-0.00505	mg/L	0.002267	-0.00505	mg/L	0.002267	44.88%
V 290.880†	836.6	0.00230	mg/L	0.000724	0.00230	mg/L	0.000724	31.51%
Zn 206.200†	257.3	0.00097	mg/L	0.000283	0.00097	mg/L	0.000283	29.25%
K 766.490†	1229.5	0.0952	mg/L	0.03449	0.0952	mg/L	0.03449	36.25%
Na 589.592†	4073088.1	235	mg/L	5.7	235	mg/L	5.7	2.45%
Sr 407.771†	232687.3	0.0969	mg/L	0.00389	0.0969	mg/L	0.00389	4.02%
Li 670.784†	1010.3	0.00369	mg/L	0.000474	0.00369	mg/L	0.000474	12.85%

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Sequence No.: 3 **Autosampler Location: 52**
Sample ID: L1207053410 **Date Collected: 7/24/2012 2:24:54 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1207053410

Analyte	Back Pressure	Flow
All	177.0 kPa	0.50 L/min

Mean Data: L1207053410

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2625746.9						16256.64	0.62%
YRADIAL	285670.1						2962.45	1.04%
Ga 417.206	1364928.2						6984.19	0.51%
GaRADIAL	80779.3						2248.61	2.78%
Ag 328.068†	-7.6	-0.00125	mg/L	0.000248	-0.00125	mg/L	0.000248	19.83%
Al 396.153†	-17.7	-0.0179	mg/L	0.00119	-0.0179	mg/L	0.00119	6.68%
As 188.979†	22.5	0.00440	mg/L	0.001180	0.00440	mg/L	0.001180	26.82%
Ba 233.527†	15795.0	0.0775	mg/L	0.00162	0.0775	mg/L	0.00162	2.09%
Be 234.861†	-32.6	-0.00015	mg/L	0.000002	-0.00015	mg/L	0.000002	1.50%

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B 249.677†	45244.3	0.369	mg/L	0.0096	0.369	mg/L	0.0096	2.60%
Ca 227.546†	2279.2	4.88	mg/L	0.054	4.88	mg/L	0.054	1.12%
Cd 228.802†	-4.2	-0.00014	mg/L	0.000123	-0.00014	mg/L	0.000123	85.73%
Co 228.616†	-10.7	-0.00039	mg/L	0.000117	-0.00039	mg/L	0.000117	29.69%
Cr 267.716†	71.1	-0.00046	mg/L	0.000123	-0.00046	mg/L	0.000123	26.85%
Cu 327.393†	340.9	-0.00019	mg/L	0.000206	-0.00019	mg/L	0.000206	106.98%
Fe 239.562†	100.2	0.00554	mg/L	0.000591	0.00554	mg/L	0.000591	10.66%
Mg 279.077†	3921.2	1.05	mg/L	0.008	1.05	mg/L	0.008	0.72%
Mn 257.610†	1054.0	0.00002	mg/L	0.000027	0.00002	mg/L	0.000027	141.36%
Mo 202.031†	2519.9	0.0574	mg/L	0.00042	0.0574	mg/L	0.00042	0.73%
Ni 231.604†	19.4	-0.00348	mg/L	0.000176	-0.00348	mg/L	0.000176	5.06%
Pb 220.353†	-2.5	-0.00079	mg/L	0.000918	-0.00079	mg/L	0.000918	116.20%
Sb 206.836†	3.1	-0.00205	mg/L	0.000181	-0.00205	mg/L	0.000181	8.83%
Se 196.026†	4.0	0.00489	mg/L	0.001225	0.00489	mg/L	0.001225	25.04%
Si 251.611†	150481.5	2.59	mg/L	0.051	2.59	mg/L	0.051	1.98%
Sn 189.927†	-52.3	-0.00390	mg/L	0.000531	-0.00390	mg/L	0.000531	13.60%
Ti 334.940†	-684.1	0.00015	mg/L	0.000084	0.00015	mg/L	0.000084	57.48%
Tl 190.801†	-16.6	-0.00642	mg/L	0.001284	-0.00642	mg/L	0.001284	20.00%
V 290.880†	687.6	0.00174	mg/L	0.001327	0.00174	mg/L	0.001327	76.05%
Zn 206.200†	261.8	0.00102	mg/L	0.000059	0.00102	mg/L	0.000059	5.79%
K 766.490†	2343.4	0.393	mg/L	0.0642	0.393	mg/L	0.0642	16.33%
Na 589.592†	5472681.0	342	mg/L	15.7	342	mg/L	15.7	4.60%
Sr 407.771†	597808.6	0.249	mg/L	0.0096	0.249	mg/L	0.0096	3.85%
Li 670.784†	810.2	0.00212	mg/L	0.000407	0.00212	mg/L	0.000407	19.24%

Sequence No.: 4
Sample ID: L1207053412
Analyst: KHR
Initial Sample Wt:
Dilution:

Autosampler Location: 53
Date Collected: 7/24/2012 2:31:53 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: L1207053412

Analyte	Back Pressure	Flow
All	176.0 kPa	0.50 L/min

Mean Data: L1207053412

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2775640.2						16730.96	0.60%
YRADIAL	297892.3						2533.82	0.85%
Ga 417.206	1399182.9						15113.77	1.08%
GaRADIAL	81579.1						2692.74	3.30%
Ag 328.068†	86.2	-0.00094	mg/L	0.000215	-0.00094	mg/L	0.000215	22.89%
Al 396.153†	-58.9	-0.0203	mg/L	0.00058	-0.0203	mg/L	0.00058	2.85%
As 188.979†	-0.8	-0.00061	mg/L	0.002856	-0.00061	mg/L	0.002856	464.78%
Ba 233.527†	24.1	-0.00161	mg/L	0.000123	-0.00161	mg/L	0.000123	7.66%
Be 234.861†	-36.6	-0.00018	mg/L	0.000005	-0.00018	mg/L	0.000005	2.78%
B 249.677†	228.1	0.00092	mg/L	0.000403	0.00092	mg/L	0.000403	43.80%
Ca 227.546†	-16.4	-0.0220	mg/L	0.01565	-0.0220	mg/L	0.01565	71.20%
Cd 228.802†	-4.1	-0.00011	mg/L	0.000035	-0.00011	mg/L	0.000035	32.06%
Co 228.616†	2.8	-0.00022	mg/L	0.000216	-0.00022	mg/L	0.000216	98.33%
Cr 267.716†	70.3	-0.00046	mg/L	0.000123	-0.00046	mg/L	0.000123	27.01%
Cu 327.393†	85.4	-0.00119	mg/L	0.000503	-0.00119	mg/L	0.000503	42.46%
Fe 239.562†	42.2	0.00198	mg/L	0.000478	0.00198	mg/L	0.000478	24.10%
Mg 279.077†	3.3	0.00796	mg/L	0.001952	0.00796	mg/L	0.001952	24.51%
Mn 257.610†	4.6	-0.00111	mg/L	0.000016	-0.00111	mg/L	0.000016	1.45%
Mo 202.031†	-4.7	-0.00139	mg/L	0.000134	-0.00139	mg/L	0.000134	9.64%
Ni 231.604†	29.8	-0.00336	mg/L	0.000140	-0.00336	mg/L	0.000140	4.17%
Pb 220.353†	-4.5	-0.00098	mg/L	0.000629	-0.00098	mg/L	0.000629	64.34%
Sb 206.836†	1.5	-0.00243	mg/L	0.000358	-0.00243	mg/L	0.000358	14.75%
Se 196.026†	0.6	0.00353	mg/L	0.002984	0.00353	mg/L	0.002984	84.55%
Si 251.611†	761.9	0.00090	mg/L	0.000400	0.00090	mg/L	0.000400	44.35%
Sn 189.927†	0.4	-0.00050	mg/L	0.001181	-0.00050	mg/L	0.001181	236.98%
Ti 334.940†	68.5	0.00007	mg/L	0.000121	0.00007	mg/L	0.000121	167.06%
Tl 190.801†	-4.2	-0.00374	mg/L	0.003508	-0.00374	mg/L	0.003508	93.79%
V 290.880†	-186.5	-0.00133	mg/L	0.000770	-0.00133	mg/L	0.000770	57.95%
Zn 206.200†	200.1	0.00025	mg/L	0.000036	0.00025	mg/L	0.000036	14.04%
K 766.490†	-50.0	-0.136	mg/L	0.0117	-0.136	mg/L	0.0117	8.63%
Na 589.592†	1533.2	0.0829	mg/L	0.01081	0.0829	mg/L	0.01081	13.05%

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Sr 407.771†	-395.8	-0.00054 mg/L	0.000005	-0.00054 mg/L	0.000005	0.84%
Li 670.784†	49.4	-0.00385 mg/L	0.000137	-0.00385 mg/L	0.000137	3.54%

Sequence No.: 5 **Autosampler Location: 54**
Sample ID: L1207053414S WG403927-05 **Date Collected: 7/24/2012 2:38:48 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1207053414S WG403927-05

Analyte	Back Pressure	Flow
All	178.0 kPa	0.50 L/min

Mean Data: L1207053414S WG403927-05

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2582753.5						24046.19	0.93%
YRADIAL	291885.2						950.59	0.33%
Ga 417.206	1310781.0						4808.09	0.37%
GaRADIAL	79859.3						730.13	0.91%
Ag 328.068†	74247.0	0.213	mg/L	0.0022	0.213	mg/L	0.0022	1.03%
Al 396.153†	31881.3	5.02	mg/L	0.012	5.02	mg/L	0.012	0.24%
As 188.979†	934.1	0.211	mg/L	0.0033	0.211	mg/L	0.0033	1.57%
Ba 233.527†	123518.6	0.617	mg/L	0.0053	0.617	mg/L	0.0053	0.86%
Be 234.861†	37476.4	0.0259	mg/L	0.00034	0.0259	mg/L	0.00034	1.32%
B 249.677†	195173.3	1.59	mg/L	0.025	1.59	mg/L	0.025	1.57%
Ca 227.546†	7448.7	16.1	mg/L	0.12	16.1	mg/L	0.12	0.71%
Cd 228.802†	1740.7	0.0250	mg/L	0.00063	0.0250	mg/L	0.00063	2.52%
Co 228.616†	5385.8	0.101	mg/L	0.0011	0.101	mg/L	0.0011	1.07%
Cr 267.716†	37609.9	0.252	mg/L	0.0007	0.252	mg/L	0.0007	0.28%
Cu 327.393†	68107.2	0.263	mg/L	0.0040	0.263	mg/L	0.0040	1.53%
Fe 239.562†	31970.7	1.97	mg/L	0.010	1.97	mg/L	0.010	0.48%
Mg 279.077†	30132.7	8.02	mg/L	0.018	8.02	mg/L	0.018	0.22%
Mn 257.610†	241151.5	0.257	mg/L	0.0031	0.257	mg/L	0.0031	1.19%
Mo 202.031†	22470.3	0.523	mg/L	0.0012	0.523	mg/L	0.0012	0.22%
Ni 231.604†	21455.1	0.252	mg/L	0.0016	0.252	mg/L	0.0016	0.63%
Pb 220.353†	4262.0	0.250	mg/L	0.0026	0.250	mg/L	0.0026	1.02%
Sb 206.836†	3365.5	0.619	mg/L	0.0016	0.619	mg/L	0.0016	0.27%
Se 196.026†	519.7	0.212	mg/L	0.0042	0.212	mg/L	0.0042	1.96%
Si 251.611†	349095.7	6.02	mg/L	0.061	6.02	mg/L	0.061	1.02%
Sn 189.927†	7950.6	0.513	mg/L	0.0042	0.513	mg/L	0.0042	0.82%
Ti 334.940†	569738.0	0.503	mg/L	0.0015	0.503	mg/L	0.0015	0.31%
Tl 190.801†	1120.1	0.246	mg/L	0.0022	0.246	mg/L	0.0022	0.89%
V 290.880†	144871.5	0.515	mg/L	0.0010	0.515	mg/L	0.0010	0.19%
Zn 206.200†	43044.3	0.536	mg/L	0.0034	0.536	mg/L	0.0034	0.63%
K 766.490†	73139.7	25.8	mg/L	0.08	25.8	mg/L	0.08	0.32%
Na 589.592†	8643642.4	806	mg/L	0.0	806	mg/L	0.0	0.00%
Sr 407.771†	1856072.5	0.775	mg/L	0.0199	0.775	mg/L	0.0199	2.57%
Li 670.784†	64569.2	0.502	mg/L	0.0010	0.502	mg/L	0.0010	0.20%

Sequence No.: 6 **Autosampler Location: 55**
Sample ID: L1207053416SD WG403927-06 **Date Collected: 7/24/2012 2:44:53 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1207053416SD WG403927-06

Analyte	Back Pressure	Flow
All	179.0 kPa	0.50 L/min

Mean Data: L1207053416SD WG403927-06

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2588420.2						5051.75	0.20%
YRADIAL	295957.0						3467.92	1.17%
Ga 417.206	1312763.4						35580.00	2.71%

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GaRADIAL	79402.0						1267.48	1.60%
Ag 328.068†	72583.2	0.208	mg/L	0.0058	0.208	mg/L	0.0058	2.81%
Al 396.153†	31474.9	4.95	mg/L	0.019	4.95	mg/L	0.019	0.38%
As 188.979†	906.9	0.205	mg/L	0.0056	0.205	mg/L	0.0056	2.72%
Ba 233.527†	120358.5	0.601	mg/L	0.0042	0.601	mg/L	0.0042	0.70%
Be 234.861†	37664.6	0.0260	mg/L	0.00069	0.0260	mg/L	0.00069	2.64%
B 249.677†	192128.4	1.57	mg/L	0.055	1.57	mg/L	0.055	3.48%
Ca 227.546†	6863.3	14.9	mg/L	0.47	14.9	mg/L	0.47	3.14%
Cd 228.802†	1719.9	0.0247	mg/L	0.00140	0.0247	mg/L	0.00140	5.66%
Co 228.616†	5212.0	0.0974	mg/L	0.00023	0.0974	mg/L	0.00023	0.23%
Cr 267.716†	36726.2	0.247	mg/L	0.0029	0.247	mg/L	0.0029	1.19%
Cu 327.393†	66763.3	0.257	mg/L	0.0067	0.257	mg/L	0.0067	2.61%
Fe 239.562†	31607.9	1.95	mg/L	0.009	1.95	mg/L	0.009	0.47%
Mg 279.077†	28769.6	7.66	mg/L	0.082	7.66	mg/L	0.082	1.07%
Mn 257.610†	233715.1	0.249	mg/L	0.0003	0.249	mg/L	0.0003	0.12%
Mo 202.031†	22254.3	0.518	mg/L	0.0018	0.518	mg/L	0.0018	0.35%
Ni 231.604†	21379.8	0.251	mg/L	0.0006	0.251	mg/L	0.0006	0.24%
Pb 220.353†	4101.0	0.241	mg/L	0.0009	0.241	mg/L	0.0009	0.38%
Sb 206.836†	3288.6	0.605	mg/L	0.0181	0.605	mg/L	0.0181	2.99%
Se 196.026†	509.6	0.208	mg/L	0.0071	0.208	mg/L	0.0071	3.42%
Si 251.611†	337204.3	5.81	mg/L	0.159	5.81	mg/L	0.159	2.73%
Sn 189.927†	7724.1	0.499	mg/L	0.0015	0.499	mg/L	0.0015	0.30%
Ti 334.940†	558253.6	0.493	mg/L	0.0002	0.493	mg/L	0.0002	0.05%
Tl 190.801†	1095.2	0.240	mg/L	0.0057	0.240	mg/L	0.0057	2.37%
V 290.880†	141057.7	0.501	mg/L	0.0028	0.501	mg/L	0.0028	0.55%
Zn 206.200†	42206.3	0.526	mg/L	0.0084	0.526	mg/L	0.0084	1.59%
K 766.490†	72212.5	26.2	mg/L	0.14	26.2	mg/L	0.14	0.55%
Na 589.592†	Saturated2							
Sr 407.771†	1769912.5	0.739	mg/L	0.0136	0.739	mg/L	0.0136	1.85%
Li 670.784†	64561.7	0.502	mg/L	0.0029	0.502	mg/L	0.0029	0.58%

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Sequence No.: 7 **Autosampler Location: 56**
Sample ID: L1207058301 **Date Collected: 7/24/2012 2:50:51 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1207058301

Analyte	Back Pressure	Flow
All	178.0 kPa	0.50 L/min

Mean Data: L1207058301

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2607482.0						19064.77	0.73%
YRADIAL	299915.7						5848.04	1.95%
Ga 417.206	1368405.1						33933.57	2.48%
GaRADIAL	81117.4						1799.01	2.22%
Ag 328.068†	684.0	0.00057	mg/L	0.000386	0.00057	mg/L	0.000386	67.49%
Al 396.153†	7059.1	1.11	mg/L	0.005	1.11	mg/L	0.005	0.49%
As 188.979†	58.3	0.0128	mg/L	0.00052	0.0128	mg/L	0.00052	4.04%
Ba 233.527†	33413.6	0.166	mg/L	0.0013	0.166	mg/L	0.0013	0.76%
Be 234.861†	610.6	0.00035	mg/L	0.000057	0.00035	mg/L	0.000057	16.45%
B 249.677†	64531.5	0.526	mg/L	0.0266	0.526	mg/L	0.0266	5.06%
Ca 227.546†	19069.6	40.7	mg/L	1.66	40.7	mg/L	1.66	4.07%
Cd 228.802†	69.7	0.00092	mg/L	0.000131	0.00092	mg/L	0.000131	14.22%
Co 228.616†	109.5	0.00179	mg/L	0.000327	0.00179	mg/L	0.000327	18.21%
Cr 267.716†	1221.0	0.00726	mg/L	0.000157	0.00726	mg/L	0.000157	2.16%
Cu 327.393†	4086.7	0.0143	mg/L	0.00067	0.0143	mg/L	0.00067	4.70%
Fe 239.562†	19332.6	1.19	mg/L	0.008	1.19	mg/L	0.008	0.71%
Mg 279.077†	33780.0	8.98	mg/L	0.049	8.98	mg/L	0.049	0.54%
Mn 257.610†	3047569.3	3.25	mg/L	0.015	3.25	mg/L	0.015	0.47%
Mo 202.031†	2472.7	0.0571	mg/L	0.00054	0.0571	mg/L	0.00054	0.95%
Ni 231.604†	545.9	0.00281	mg/L	0.000301	0.00281	mg/L	0.000301	10.73%
Pb 220.353†	153.5	0.00680	mg/L	0.001187	0.00680	mg/L	0.001187	17.46%
Sb 206.836†	15.6	0.00025	mg/L	0.001095	0.00025	mg/L	0.001095	435.03%
Se 196.026†	2.4	0.00352	mg/L	0.001421	0.00352	mg/L	0.001421	40.34%
Si 251.611†	348438.9	6.01	mg/L	0.141	6.01	mg/L	0.141	2.35%
Sn 189.927†	-206.3	-0.0139	mg/L	0.00058	-0.0139	mg/L	0.00058	4.16%

Approved: July 25, 2012
Kym H. Rhoden

Ti 334.940†	5693.8	0.0111 mg/L	0.00063	0.0111 mg/L	0.00063	5.68%
Tl 190.801†	-23.5	-0.0110 mg/L	0.00165	-0.0110 mg/L	0.00165	14.94%
V 290.880†	2293.9	0.00710 mg/L	0.002046	0.00710 mg/L	0.002046	28.81%
Zn 206.200†	6486.4	0.0786 mg/L	0.00017	0.0786 mg/L	0.00017	0.21%
K 766.490†	188072.0	68.0 mg/L	0.40	68.0 mg/L	0.40	0.59%
Na 589.592†	8260675.7	786 mg/L	34.4	786 mg/L	34.4	4.37%
Sr 407.771†	4078002.0	1.70 mg/L	0.006	1.70 mg/L	0.006	0.36%
Li 670.784†	63092.1	0.491 mg/L	0.0007	0.491 mg/L	0.0007	0.13%

Sequence No.: 8 **Autosampler Location: 57**
Sample ID: L1207059901 **Date Collected: 7/24/2012 2:56:55 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1207059901

Analyte	Back Pressure	Flow
All	179.0 kPa	0.50 L/min

Mean Data: L1207059901

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2467834.2						6127.69	0.25%
YRADIAL	280838.3						1841.05	0.66%
Ga 417.206	1344106.1						20507.00	1.53%
GaRADIAL	81050.8						1722.40	2.13%
Ag 328.068†	2932.5	0.00709	mg/L	0.000934	0.00709	mg/L	0.000934	13.18%
Al 396.153†	215.3	0.0179	mg/L	0.00699	0.0179	mg/L	0.00699	39.04%
As 188.979†	26.1	0.00525	mg/L	0.000874	0.00525	mg/L	0.000874	16.65%
Ba 233.527†	36984.7	0.184	mg/L	0.0009	0.184	mg/L	0.0009	0.51%
Be 234.861†	447.6	0.00008	mg/L	0.000042	0.00008	mg/L	0.000042	53.01%
B 249.677†	191440.1	1.56	mg/L	0.046	1.56	mg/L	0.046	2.92%
Ca 227.546†	153412.9	327	mg/L	9.6	327	mg/L	9.6	2.94%
Cd 228.802†	10.8	0.00008	mg/L	0.000118	0.00008	mg/L	0.000118	146.33%
Co 228.616†	93.2	0.00164	mg/L	0.000188	0.00164	mg/L	0.000188	11.49%
Cr 267.716†	792.0	0.00439	mg/L	0.000094	0.00439	mg/L	0.000094	2.14%
Cu 327.393†	2594.0	0.00849	mg/L	0.001256	0.00849	mg/L	0.001256	14.79%
Fe 239.562†	8041.7	0.492	mg/L	0.0090	0.492	mg/L	0.0090	1.83%
Mg 279.077†	742286.7	197	mg/L	1.8	197	mg/L	1.8	0.94%
Mn 257.610†	11353.2	0.0110	mg/L	0.00012	0.0110	mg/L	0.00012	1.11%
Mo 202.031†	3337.5	0.0765	mg/L	0.00036	0.0765	mg/L	0.00036	0.47%
Ni 231.604†	1441.1	0.0135	mg/L	0.00046	0.0135	mg/L	0.00046	3.42%
Pb 220.353†	-6.9	0.00150	mg/L	0.000676	0.00150	mg/L	0.000676	45.10%
Sb 206.836†	11.7	-0.00043	mg/L	0.001113	-0.00043	mg/L	0.001113	260.54%
Se 196.026†	5.4	0.00555	mg/L	0.002897	0.00555	mg/L	0.002897	52.18%
Si 251.611†	482407.3	8.33	mg/L	0.136	8.33	mg/L	0.136	1.64%
Sn 189.927†	-456.9	-0.0300	mg/L	0.00142	-0.0300	mg/L	0.00142	4.73%
Ti 334.940†	-46931.1	0.00784	mg/L	0.003876	0.00784	mg/L	0.003876	49.44%
Tl 190.801†	-45.8	-0.0131	mg/L	0.00121	-0.0131	mg/L	0.00121	9.21%
V 290.880†	6373.4	0.0168	mg/L	0.00497	0.0168	mg/L	0.00497	29.50%
Zn 206.200†	877.1	0.00872	mg/L	0.000172	0.00872	mg/L	0.000172	1.97%
K 766.490†	143080.2	52.2	mg/L	0.74	52.2	mg/L	0.74	1.43%
Na 589.592†	Saturated2							
Sr 407.771†	4658463.1	1.94	mg/L	0.059	1.94	mg/L	0.059	3.04%
Li 670.784†	12857.5	0.0967	mg/L	0.00082	0.0967	mg/L	0.00082	0.85%

Sequence No.: 9 **Autosampler Location: 6**
Sample ID: CCV **Date Collected: 7/24/2012 3:02:59 PM**
Analyst: **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: CCV

Analyte	Back Pressure	Flow
All	178.0 kPa	0.50 L/min

Approved: July 25, 2012

Kym H. Rhoden

Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2661645.3						5626.69	0.21%
YRADIAL	297516.1						2316.62	0.78%
Ga 417.206	1302612.7						34258.31	2.63%
GaRADIAL	79525.8						517.44	0.65%
Ag 328.068†	147279.2	0.424	mg/L	0.0139	0.424	mg/L	0.0139	3.27%
QC value within limits for Ag 328.068 Recovery = 106.02%								
Al 396.153†	63950.3	10.1	mg/L	0.04	10.1	mg/L	0.04	0.38%
QC value within limits for Al 396.153 Recovery = 100.75%								
As 188.979†	1829.3	0.414	mg/L	0.0124	0.414	mg/L	0.0124	2.99%
QC value within limits for As 188.979 Recovery = 103.48%								
Ba 233.527†	202161.5	1.01	mg/L	0.001	1.01	mg/L	0.001	0.11%
QC value within limits for Ba 233.527 Recovery = 101.14%								
Be 234.861†	75774.4	0.0525	mg/L	0.00179	0.0525	mg/L	0.00179	3.42%
QC value within limits for Be 234.861 Recovery = 104.93%								
B 249.677†	65296.2	0.528	mg/L	0.0219	0.528	mg/L	0.0219	4.14%
QC value within limits for B 249.677 Recovery = 105.67%								
Ca 227.546†	4797.5	10.7	mg/L	0.31	10.7	mg/L	0.31	2.85%
QC value within limits for Ca 227.546 Recovery = 107.28%								
Cd 228.802†	3554.2	0.0512	mg/L	0.00233	0.0512	mg/L	0.00233	4.56%
QC value within limits for Cd 228.802 Recovery = 102.34%								
Co 228.616†	10720.0	0.201	mg/L	0.0019	0.201	mg/L	0.0019	0.94%
QC value within limits for Co 228.616 Recovery = 100.36%								
Cr 267.716†	75337.2	0.507	mg/L	0.0044	0.507	mg/L	0.0044	0.87%
QC value within limits for Cr 267.716 Recovery = 101.33%								
Cu 327.393†	135721.4	0.525	mg/L	0.0174	0.525	mg/L	0.0174	3.31%
QC value within limits for Cu 327.393 Recovery = 104.96%								
Fe 239.562†	64455.9	3.98	mg/L	0.008	3.98	mg/L	0.008	0.21%
QC value within limits for Fe 239.562 Recovery = 99.43%								
Mg 279.077†	37946.8	10.1	mg/L	0.02	10.1	mg/L	0.02	0.20%
QC value within limits for Mg 279.077 Recovery = 101.04%								
Mn 257.610†	473695.1	0.505	mg/L	0.0026	0.505	mg/L	0.0026	0.51%
QC value within limits for Mn 257.610 Recovery = 101.02%								
Mo 202.031†	43469.3	1.01	mg/L	0.002	1.01	mg/L	0.002	0.23%
QC value within limits for Mo 202.031 Recovery = 101.23%								
Ni 231.604†	43995.7	0.521	mg/L	0.0043	0.521	mg/L	0.0043	0.83%
QC value within limits for Ni 231.604 Recovery = 104.28%								
Pb 220.353†	8602.9	0.506	mg/L	0.0041	0.506	mg/L	0.0041	0.81%
QC value within limits for Pb 220.353 Recovery = 101.17%								
Sb 206.836†	6852.8	1.26	mg/L	0.041	1.26	mg/L	0.041	3.28%
QC value within limits for Sb 206.836 Recovery = 105.25%								
Se 196.026†	1046.6	0.425	mg/L	0.0155	0.425	mg/L	0.0155	3.65%
QC value within limits for Se 196.026 Recovery = 106.13%								
Si 251.611†	306947.5	5.28	mg/L	0.127	5.28	mg/L	0.127	2.40%
QC value within limits for Si 251.611 Recovery = 105.67%								
Sn 189.927†	15707.7	1.01	mg/L	0.008	1.01	mg/L	0.008	0.76%
QC value within limits for Sn 189.927 Recovery = 101.45%								
Ti 334.940†	1136119.8	1.00	mg/L	0.002	1.00	mg/L	0.002	0.23%
QC value within limits for Ti 334.940 Recovery = 100.07%								
Tl 190.801†	2360.2	0.520	mg/L	0.0046	0.520	mg/L	0.0046	0.88%
QC value within limits for Tl 190.801 Recovery = 104.04%								
V 290.880†	281196.0	1.00	mg/L	0.011	1.00	mg/L	0.011	1.13%
QC value within limits for V 290.880 Recovery = 100.04%								
Zn 206.200†	82380.9	1.03	mg/L	0.009	1.03	mg/L	0.009	0.88%
QC value within limits for Zn 206.200 Recovery = 102.86%								
K 766.490†	137633.4	50.2	mg/L	0.33	50.2	mg/L	0.33	0.65%
QC value within limits for K 766.490 Recovery = 100.36%								
Na 589.592†	976530.4	49.6	mg/L	0.74	49.6	mg/L	0.74	1.50%
QC value within limits for Na 589.592 Recovery = 99.19%								
Sr 407.771†	2398791.5	1.00	mg/L	0.021	1.00	mg/L	0.021	2.05%
QC value within limits for Sr 407.771 Recovery = 100.22%								
Li 670.784†	128340.6	1.00	mg/L	0.004	1.00	mg/L	0.004	0.37%
QC value within limits for Li 670.784 Recovery = 100.29%								

All analyte(s) passed QC.

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Sequence No.: 10 **Autosampler Location: 1**
Sample ID: CCB **Date Collected: 7/24/2012 3:08:58 PM**
Analyst: **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**

Approved: July 25, 2012
Kym H. Rhoden

Dilution: Sample Prep Vol:

Nebulizer Parameters: CCB

Analyte	Back Pressure	Flow
All	178.0 kPa	0.50 L/min

Mean Data: CCB

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2755838.1						14328.25	0.52%
YRADIAL	297031.9						3810.87	1.28%
Ga 417.206	1373848.3						31749.16	2.31%
GaRADIAL	81334.8						2103.47	2.59%
Ag 328.068†	91.0	-0.00093	mg/L	0.000288	-0.00093	mg/L	0.000288	30.97%
QC value within limits for Ag 328.068 Recovery = Not calculated								
Al 396.153†	14.7	-0.00865	mg/L	0.001438	-0.00865	mg/L	0.001438	16.63%
QC value within limits for Al 396.153 Recovery = Not calculated								
As 188.979†	-3.6	-0.00126	mg/L	0.001375	-0.00126	mg/L	0.001375	109.38%
QC value within limits for As 188.979 Recovery = Not calculated								
Ba 233.527†	12.4	-0.00167	mg/L	0.000037	-0.00167	mg/L	0.000037	2.25%
QC value within limits for Ba 233.527 Recovery = Not calculated								
Be 234.861†	-51.7	-0.00019	mg/L	0.000012	-0.00019	mg/L	0.000012	6.61%
QC value within limits for Be 234.861 Recovery = Not calculated								
B 249.677†	617.5	0.00410	mg/L	0.000445	0.00410	mg/L	0.000445	10.84%
QC value within limits for B 249.677 Recovery = Not calculated								
Ca 227.546†	-2.2	0.00808	mg/L	0.018637	0.00808	mg/L	0.018637	230.51%
QC value within limits for Ca 227.546 Recovery = Not calculated								
Cd 228.802†	-4.1	-0.00011	mg/L	0.000077	-0.00011	mg/L	0.000077	71.42%
QC value within limits for Cd 228.802 Recovery = Not calculated								
Co 228.616†	-2.1	-0.00031	mg/L	0.000064	-0.00031	mg/L	0.000064	20.52%
QC value within limits for Co 228.616 Recovery = Not calculated								
Cr 267.716†	12.2	-0.00085	mg/L	0.000042	-0.00085	mg/L	0.000042	4.96%
QC value within limits for Cr 267.716 Recovery = Not calculated								
Cu 327.393†	108.5	-0.00110	mg/L	0.000200	-0.00110	mg/L	0.000200	18.23%
QC value within limits for Cu 327.393 Recovery = Not calculated								
Fe 239.562†	10.8	0.00005	mg/L	0.000079	0.00005	mg/L	0.000079	168.17%
QC value within limits for Fe 239.562 Recovery = Not calculated								
Mg 279.077†	14.5	0.0110	mg/L	0.00160	0.0110	mg/L	0.00160	14.58%
QC value within limits for Mg 279.077 Recovery = Not calculated								
Mn 257.610†	-72.6	-0.00120	mg/L	0.000012	-0.00120	mg/L	0.000012	1.04%
QC value within limits for Mn 257.610 Recovery = Not calculated								
Mo 202.031†	5.2	-0.00115	mg/L	0.000266	-0.00115	mg/L	0.000266	23.07%
QC value within limits for Mo 202.031 Recovery = Not calculated								
Ni 231.604†	8.6	-0.00361	mg/L	0.000111	-0.00361	mg/L	0.000111	3.09%
QC value within limits for Ni 231.604 Recovery = Not calculated								
Pb 220.353†	-9.6	-0.00127	mg/L	0.000984	-0.00127	mg/L	0.000984	77.41%
QC value within limits for Pb 220.353 Recovery = Not calculated								
Sb 206.836†	4.1	-0.00195	mg/L	0.000536	-0.00195	mg/L	0.000536	27.43%
QC value within limits for Sb 206.836 Recovery = Not calculated								
Se 196.026†	-4.9	0.00132	mg/L	0.001680	0.00132	mg/L	0.001680	127.60%
QC value within limits for Se 196.026 Recovery = Not calculated								
Si 251.611†	294.1	-0.00719	mg/L	0.000742	-0.00719	mg/L	0.000742	10.33%
QC value within limits for Si 251.611 Recovery = Not calculated								
Sn 189.927†	18.3	0.00066	mg/L	0.000154	0.00066	mg/L	0.000154	23.45%
QC value within limits for Sn 189.927 Recovery = Not calculated								
Ti 334.940†	-72.2	-0.00005	mg/L	0.000171	-0.00005	mg/L	0.000171	367.57%
QC value within limits for Ti 334.940 Recovery = Not calculated								
Tl 190.801†	-8.1	-0.00460	mg/L	0.001233	-0.00460	mg/L	0.001233	26.81%
QC value within limits for Tl 190.801 Recovery = Not calculated								
V 290.880†	-334.1	-0.00185	mg/L	0.000920	-0.00185	mg/L	0.000920	49.60%
QC value within limits for V 290.880 Recovery = Not calculated								
Zn 206.200†	106.2	-0.00092	mg/L	0.000037	-0.00092	mg/L	0.000037	4.04%
QC value within limits for Zn 206.200 Recovery = Not calculated								
K 766.490†	109.2	-0.0782	mg/L	0.02906	-0.0782	mg/L	0.02906	37.19%
QC value within limits for K 766.490 Recovery = Not calculated								
Na 589.592†	1005.0	0.0569	mg/L	0.00733	0.0569	mg/L	0.00733	12.90%
QC value within limits for Na 589.592 Recovery = Not calculated								
Sr 407.771†	189.4	-0.00029	mg/L	0.000071	-0.00029	mg/L	0.000071	24.24%
QC value within limits for Sr 407.771 Recovery = Not calculated								
Li 670.784†	105.0	-0.00342	mg/L	0.001032	-0.00342	mg/L	0.001032	30.21%

Approved: July 25, 2012

Kym H. Rhoden

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

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Sequence No.: 11 **Autosampler Location: 58**
Sample ID: PBW 93 WG404090-02 **Date Collected: 7/24/2012 3:15:51 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: PBW 93 WG404090-02

Analyte	Back Pressure	Flow
All	178.0 kPa	0.50 L/min

Mean Data: PBW 93 WG404090-02

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2772988.4						31318.86	1.13%
YRADIAL	300649.6						7078.66	2.35%
Ga 417.206	1446206.2						33745.26	2.33%
GaRADIAL	82702.1						1525.53	1.84%
Ag 328.068†	-33.7	-0.00128	mg/L	0.000296	-0.00128	mg/L	0.000296	23.09%
Al 396.153†	508.0	0.0697	mg/L	0.00175	0.0697	mg/L	0.00175	2.52%
As 188.979†	3.5	0.00036	mg/L	0.001163	0.00036	mg/L	0.001163	320.81%
Ba 233.527†	29.1	-0.00158	mg/L	0.000022	-0.00158	mg/L	0.000022	1.41%
Be 234.861†	42.7	-0.00012	mg/L	0.000018	-0.00012	mg/L	0.000018	14.66%
B 249.677†	571.3	0.00373	mg/L	0.000220	0.00373	mg/L	0.000220	5.90%
Ca 227.546†	45.5	0.110	mg/L	0.0058	0.110	mg/L	0.0058	5.28%
Cd 228.802†	-7.1	-0.00016	mg/L	0.000110	-0.00016	mg/L	0.000110	68.16%
Co 228.616†	-10.1	-0.00046	mg/L	0.000138	-0.00046	mg/L	0.000138	29.89%
Cr 267.716†	35.9	-0.00069	mg/L	0.000019	-0.00069	mg/L	0.000019	2.81%
Cu 327.393†	155.2	-0.00091	mg/L	0.000201	-0.00091	mg/L	0.000201	21.96%
Fe 239.562†	93.8	0.00517	mg/L	0.000426	0.00517	mg/L	0.000426	8.25%
Mg 279.077†	21.4	0.0128	mg/L	0.00289	0.0128	mg/L	0.00289	22.65%
Mn 257.610†	2.9	-0.00111	mg/L	0.000019	-0.00111	mg/L	0.000019	1.72%
Mo 202.031†	2.4	-0.00122	mg/L	0.000111	-0.00122	mg/L	0.000111	9.13%
Ni 231.604†	9.2	-0.00360	mg/L	0.000235	-0.00360	mg/L	0.000235	6.52%
Pb 220.353†	-2.4	-0.00084	mg/L	0.000389	-0.00084	mg/L	0.000389	46.39%
Sb 206.836†	4.4	-0.00190	mg/L	0.000440	-0.00190	mg/L	0.000440	23.12%
Se 196.026†	-9.0	-0.00031	mg/L	0.001806	-0.00031	mg/L	0.001806	585.34%
Si 251.611†	656.7	-0.00092	mg/L	0.001178	-0.00092	mg/L	0.001178	128.14%
Sn 189.927†	12.3	0.00027	mg/L	0.000538	0.00027	mg/L	0.000538	199.98%
Ti 334.940†	149.8	0.00016	mg/L	0.000050	0.00016	mg/L	0.000050	30.19%
Tl 190.801†	-6.3	-0.00419	mg/L	0.000864	-0.00419	mg/L	0.000864	20.60%
V 290.880†	-216.7	-0.00144	mg/L	0.000372	-0.00144	mg/L	0.000372	25.87%
Zn 206.200†	229.1	0.00061	mg/L	0.000032	0.00061	mg/L	0.000032	5.14%
K 766.490†	52.2	-0.0989	mg/L	0.01748	-0.0989	mg/L	0.01748	17.67%
Na 589.592†	685.9	0.0412	mg/L	0.00910	0.0412	mg/L	0.00910	22.11%
Sr 407.771†	1911.4	0.00043	mg/L	0.000026	0.00043	mg/L	0.000026	6.15%
Li 670.784†	-11.2	-0.00433	mg/L	0.000149	-0.00433	mg/L	0.000149	3.45%

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Sequence No.: 12 **Autosampler Location: 59**
Sample ID: LCSW 93 WG404090-03 **Date Collected: 7/24/2012 3:22:48 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: LCSW 93 WG404090-03

Analyte	Back Pressure	Flow
All	178.0 kPa	0.50 L/min

Mean Data: LCSW 93 WG404090-03

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2690506.9						7762.60	0.29%
YRADIAL	294644.4						4829.22	1.64%
Ga 417.206	1361757.1						44918.41	3.30%

Approved: July 25, 2012
Kym H. Rhoden

GaRADIAL	80091.8					1045.21	1.31%
Ag 328.068†	71762.9	0.206	mg/L	0.0085	0.206 mg/L	0.0085	4.15%
Al 396.153†	31750.5	5.00	mg/L	0.033	5.00 mg/L	0.033	0.66%
As 188.979†	864.6	0.195	mg/L	0.0063	0.195 mg/L	0.0063	3.22%
Ba 233.527†	100004.3	0.499	mg/L	0.0008	0.499 mg/L	0.0008	0.15%
Be 234.861†	35766.7	0.0247	mg/L	0.00102	0.0247 mg/L	0.00102	4.13%
B 249.677†	123027.5	1.00	mg/L	0.043	1.00 mg/L	0.043	4.24%
Ca 227.546†	2290.2	5.13	mg/L	0.174	5.13 mg/L	0.174	3.39%
Cd 228.802†	1690.3	0.0243	mg/L	0.00139	0.0243 mg/L	0.00139	5.73%
Co 228.616†	5328.8	0.0996	mg/L	0.00051	0.0996 mg/L	0.00051	0.52%
Cr 267.716†	36988.7	0.248	mg/L	0.0011	0.248 mg/L	0.0011	0.46%
Cu 327.393†	65537.5	0.253	mg/L	0.0104	0.253 mg/L	0.0104	4.12%
Fe 239.562†	31501.2	1.94	mg/L	0.005	1.94 mg/L	0.005	0.28%
Mg 279.077†	19043.4	5.07	mg/L	0.037	5.07 mg/L	0.037	0.74%
Mn 257.610†	236500.1	0.252	mg/L	0.0013	0.252 mg/L	0.0013	0.52%
Mo 202.031†	21299.4	0.495	mg/L	0.0009	0.495 mg/L	0.0009	0.18%
Ni 231.604†	21044.0	0.247	mg/L	0.0007	0.247 mg/L	0.0007	0.30%
Pb 220.353†	4264.5	0.250	mg/L	0.0016	0.250 mg/L	0.0016	0.63%
Sb 206.836†	3256.9	0.599	mg/L	0.0229	0.599 mg/L	0.0229	3.83%
Se 196.026†	509.1	0.208	mg/L	0.0075	0.208 mg/L	0.0075	3.59%
Si 251.611†	150873.9	2.59	mg/L	0.083	2.59 mg/L	0.083	3.19%
Sn 189.927†	7663.6	0.495	mg/L	0.0036	0.495 mg/L	0.0036	0.72%
Ti 334.940†	559087.3	0.492	mg/L	0.0025	0.492 mg/L	0.0025	0.50%
Tl 190.801†	1177.3	0.258	mg/L	0.0014	0.258 mg/L	0.0014	0.53%
V 290.880†	139404.5	0.496	mg/L	0.0027	0.496 mg/L	0.0027	0.54%
Zn 206.200†	40704.7	0.507	mg/L	0.0010	0.507 mg/L	0.0010	0.19%
K 766.490†	68538.5	24.9	mg/L	0.23	24.9 mg/L	0.23	0.93%
Na 589.592†	500814.1	25.0	mg/L	0.24	25.0 mg/L	0.24	0.96%
Sr 407.771†	1224923.4	0.512	mg/L	0.0087	0.512 mg/L	0.0087	1.70%
Li 670.784†	65277.2	0.508	mg/L	0.0021	0.508 mg/L	0.0021	0.41%

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Sequence No.: 13 **Autosampler Location: 60**
Sample ID: L1207063601 WG404090-01 **Date Collected: 7/24/2012 3:28:46 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1207063601 WG404090-01

Analyte	Back Pressure	Flow
All	183.0 kPa	0.50 L/min

Mean Data: L1207063601 WG404090-01

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2487165.4						8440.45	0.34%
YRADIAL	280402.0						1733.44	0.62%
Ga 417.206	1405050.9						23366.88	1.66%
GaRADIAL	83742.9						2597.92	3.10%
Ag 328.068†	5570.9	0.0145	mg/L	0.00082	0.0145	mg/L	0.00082	5.64%
Al 396.153†	68.6	-0.00017	mg/L	0.003794	-0.00017	mg/L	0.003794	>999.9%
As 188.979†	19.2	0.00395	mg/L	0.003863	0.00395	mg/L	0.003863	97.89%
Ba 233.527†	2867.5	0.0126	mg/L	0.00014	0.0126	mg/L	0.00014	1.08%
Be 234.861†	76.4	-0.00007	mg/L	0.000032	-0.00007	mg/L	0.000032	42.96%
B 249.677†	11559.0	0.0934	mg/L	0.00186	0.0934	mg/L	0.00186	1.99%
Ca 227.546†	285257.2	609	mg/L	7.7	609	mg/L	7.7	1.27%
Cd 228.802†	-3.2	-0.00012	mg/L	0.000038	-0.00012	mg/L	0.000038	31.94%
Co 228.616†	45.0	0.00078	mg/L	0.000266	0.00078	mg/L	0.000266	34.25%
Cr 267.716†	399.4	0.00176	mg/L	0.000217	0.00176	mg/L	0.000217	12.32%
Cu 327.393†	-1554.3	-0.00763	mg/L	0.000279	-0.00763	mg/L	0.000279	3.65%
Fe 239.562†	76.8	0.00320	mg/L	0.000422	0.00320	mg/L	0.000422	13.16%
Mg 279.077†	171182.9	45.5	mg/L	0.28	45.5	mg/L	0.28	0.61%
Mn 257.610†	207277.6	0.220	mg/L	0.0010	0.220	mg/L	0.0010	0.47%
Mo 202.031†	56.9	0.00010	mg/L	0.000521	0.00010	mg/L	0.000521	533.12%
Ni 231.604†	138.3	-0.00207	mg/L	0.000096	-0.00207	mg/L	0.000096	4.65%
Pb 220.353†	-46.5	0.00130	mg/L	0.001709	0.00130	mg/L	0.001709	131.18%
Sb 206.836†	-7.8	-0.00417	mg/L	0.000542	-0.00417	mg/L	0.000542	13.00%
Se 196.026†	-4.1	0.00156	mg/L	0.002978	0.00156	mg/L	0.002978	190.97%
Si 251.611†	26064.2	0.438	mg/L	0.0073	0.438	mg/L	0.0073	1.66%
Sn 189.927†	-536.7	-0.0352	mg/L	0.00148	-0.0352	mg/L	0.00148	4.20%

Approved: July 25, 2012

Kym H. Rhoden

Ti 334.940†	-104825.7	-0.00088	mg/L	0.002256	-0.00088	mg/L	0.002256 256.08%
Tl 190.801†	97.3	0.0168	mg/L	0.00160	0.0168	mg/L	0.00160 9.55%
V 290.880†	-280.7	-0.00285	mg/L	0.002801	-0.00285	mg/L	0.002801 98.33%
Zn 206.200†	186.9	0.00011	mg/L	0.000115	0.00011	mg/L	0.000115 109.22%
K 766.490†	5733.0	1.94	mg/L	0.024	1.94	mg/L	0.024 1.25%
Na 589.592†	641443.6	32.2	mg/L	1.08	32.2	mg/L	1.08 3.36%
Sr 407.771†	2230065.7	0.918	mg/L	0.0309	0.918	mg/L	0.0309 3.36%
Li 670.784†	10436.1	0.0777	mg/L	0.00354	0.0777	mg/L	0.00354 4.56%

Sequence No.: 14 **Autosampler Location: 61**
Sample ID: L1207063601DU WG404090-04 **Date Collected: 7/24/2012 3:35:44 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1207063601DU WG404090-04

Analyte	Back Pressure	Flow
All	188.0 kPa	0.50 L/min

Mean Data: L1207063601DU WG404090-04

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2481922.4						17718.41	0.71%
YRADIAL	277172.4						1482.31	0.53%
Ga 417.206	1390452.3						29062.47	2.09%
GaRADIAL	83055.0						3092.48	3.72%
Ag 328.068†	5682.5	0.0149	mg/L	0.00048	0.0149	mg/L	0.00048	3.21%
Al 396.153†	56.3	-0.00212	mg/L	0.002951	-0.00212	mg/L	0.002951	139.42%
As 188.979†	31.4	0.00676	mg/L	0.000961	0.00676	mg/L	0.000961	14.22%
Ba 233.527†	2891.6	0.0128	mg/L	0.00012	0.0128	mg/L	0.00012	0.96%
Be 234.861†	65.3	-0.00008	mg/L	0.000042	-0.00008	mg/L	0.000042	51.73%
B 249.677†	11755.7	0.0951	mg/L	0.00324	0.0951	mg/L	0.00324	3.41%
Ca 227.546†	295389.0	630	mg/L	19.0	630	mg/L	19.0	3.02%
Cd 228.802†	0.6	-0.00008	mg/L	0.000120	-0.00008	mg/L	0.000120	159.54%
Co 228.616†	40.2	0.00069	mg/L	0.000256	0.00069	mg/L	0.000256	37.15%
Cr 267.716†	420.6	0.00190	mg/L	0.000083	0.00190	mg/L	0.000083	4.38%
Cu 327.393†	-1564.7	-0.00768	mg/L	0.001065	-0.00768	mg/L	0.001065	13.88%
Fe 239.562†	57.2	0.00199	mg/L	0.000499	0.00199	mg/L	0.000499	25.11%
Mg 279.077†	173559.2	46.1	mg/L	0.12	46.1	mg/L	0.12	0.26%
Mn 257.610†	211733.8	0.225	mg/L	0.0026	0.225	mg/L	0.0026	1.18%
Mo 202.031†	50.5	-0.00005	mg/L	0.000298	-0.00005	mg/L	0.000298	593.73%
Ni 231.604†	132.3	-0.00214	mg/L	0.000145	-0.00214	mg/L	0.000145	6.76%
Pb 220.353†	-49.5	0.00130	mg/L	0.000904	0.00130	mg/L	0.000904	69.52%
Sb 206.836†	-6.5	-0.00393	mg/L	0.001340	-0.00393	mg/L	0.001340	34.13%
Se 196.026†	2.7	0.00427	mg/L	0.001356	0.00427	mg/L	0.001356	31.78%
Si 251.611†	26829.2	0.452	mg/L	0.0146	0.452	mg/L	0.0146	3.23%
Sn 189.927†	-541.0	-0.0355	mg/L	0.00033	-0.0355	mg/L	0.00033	0.93%
Ti 334.940†	-106939.7	0.00050	mg/L	0.000839	0.00050	mg/L	0.000839	166.98%
Tl 190.801†	98.1	0.0169	mg/L	0.00392	0.0169	mg/L	0.00392	23.14%
V 290.880†	-310.9	-0.00297	mg/L	0.000602	-0.00297	mg/L	0.000602	20.25%
Zn 206.200†	221.0	0.00053	mg/L	0.000089	0.00053	mg/L	0.000089	16.67%
K 766.490†	5796.0	1.96	mg/L	0.025	1.96	mg/L	0.025	1.29%
Na 589.592†	656005.7	33.0	mg/L	0.98	33.0	mg/L	0.98	2.97%
Sr 407.771†	2282358.2	0.940	mg/L	0.0231	0.940	mg/L	0.0231	2.46%
Li 670.784†	10529.6	0.0784	mg/L	0.00171	0.0784	mg/L	0.00171	2.18%

Sequence No.: 15 **Autosampler Location: 62**
Sample ID: L1207063601MS WG404090-05 **Date Collected: 7/24/2012 3:42:42 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1207063601MS WG404090-05

Analyte	Back Pressure	Flow
All	189.0 kPa	0.50 L/min

Approved: July 25, 2012

Kym H. Rhoden

Mean Data: L1207063601MS WG404090-05

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2502491.6						17676.36	0.71%
YRADIAL	280580.4						4789.79	1.71%
Ga 417.206	1367517.5						20467.65	1.50%
GaRADIAL	81153.6						481.47	0.59%
Ag 328.068†	72600.3	0.208	mg/L	0.0041	0.208	mg/L	0.0041	1.95%
Al 396.153†	30918.3	4.87	mg/L	0.019	4.87	mg/L	0.019	0.38%
As 188.979†	872.6	0.197	mg/L	0.0052	0.197	mg/L	0.0052	2.63%
Ba 233.527†	100243.9	0.501	mg/L	0.0043	0.501	mg/L	0.0043	0.85%
Be 234.861†	34208.1	0.0236	mg/L	0.00050	0.0236	mg/L	0.00050	2.12%
B 249.677†	130012.0	1.06	mg/L	0.024	1.06	mg/L	0.024	2.23%
Ca 227.546†	304005.4	649	mg/L	15.6	649	mg/L	15.6	2.40%
Cd 228.802†	1556.0	0.0223	mg/L	0.00090	0.0223	mg/L	0.00090	4.05%
Co 228.616†	5067.6	0.0949	mg/L	0.00120	0.0949	mg/L	0.00120	1.27%
Cr 267.716†	36298.9	0.244	mg/L	0.0018	0.244	mg/L	0.0018	0.73%
Cu 327.393†	61699.8	0.238	mg/L	0.0054	0.238	mg/L	0.0054	2.26%
Fe 239.562†	30779.6	1.90	mg/L	0.018	1.90	mg/L	0.018	0.95%
Mg 279.077†	190312.8	50.6	mg/L	0.61	50.6	mg/L	0.61	1.20%
Mn 257.610†	434352.2	0.463	mg/L	0.0045	0.463	mg/L	0.0045	0.96%
Mo 202.031†	21212.4	0.493	mg/L	0.0033	0.493	mg/L	0.0033	0.67%
Ni 231.604†	20612.7	0.242	mg/L	0.0026	0.242	mg/L	0.0026	1.08%
Pb 220.353†	3943.7	0.237	mg/L	0.0024	0.237	mg/L	0.0024	0.99%
Sb 206.836†	3074.3	0.565	mg/L	0.0119	0.565	mg/L	0.0119	2.10%
Se 196.026†	493.1	0.202	mg/L	0.0085	0.202	mg/L	0.0085	4.23%
Si 251.611†	172544.7	2.97	mg/L	0.027	2.97	mg/L	0.027	0.90%
Sn 189.927†	6992.3	0.451	mg/L	0.0067	0.451	mg/L	0.0067	1.47%
Ti 334.940†	462688.4	0.504	mg/L	0.0074	0.504	mg/L	0.0074	1.46%
Tl 190.801†	1194.1	0.260	mg/L	0.0023	0.260	mg/L	0.0023	0.89%
V 290.880†	140214.1	0.497	mg/L	0.0068	0.497	mg/L	0.0068	1.37%
Zn 206.200†	37749.6	0.470	mg/L	0.0014	0.470	mg/L	0.0014	0.30%
K 766.490†	73883.3	26.8	mg/L	0.23	26.8	mg/L	0.23	0.86%
Na 589.592†	1151842.2	58.8	mg/L	0.02	58.8	mg/L	0.02	0.03%
Sr 407.771†	3475933.8	1.44	mg/L	0.067	1.44	mg/L	0.067	4.66%
Li 670.784†	75637.3	0.589	mg/L	0.0046	0.589	mg/L	0.0046	0.78%

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Sequence No.: 16 **Autosampler Location: 63**
Sample ID: L1207064801 **Date Collected: 7/24/2012 3:48:44 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1207064801

Analyte	Back Pressure	Flow
All	186.0 kPa	0.50 L/min

Mean Data: L1207064801

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2643452.6						17588.36	0.67%
YRADIAL	291008.7						1017.90	0.35%
Ga 417.206	1378918.7						16650.87	1.21%
GaRADIAL	80962.7						108.59	0.13%
Ag 328.068†	411.0	0.00012	mg/L	0.000468	0.00012	mg/L	0.000468	393.32%
Al 396.153†	5767.1	0.903	mg/L	0.0093	0.903	mg/L	0.0093	1.03%
As 188.979†	21.8	0.00450	mg/L	0.001147	0.00450	mg/L	0.001147	25.47%
Ba 233.527†	11165.3	0.0542	mg/L	0.00020	0.0542	mg/L	0.00020	0.37%
Be 234.861†	853.0	0.00039	mg/L	0.000047	0.00039	mg/L	0.000047	12.14%
B 249.677†	53275.2	0.434	mg/L	0.0120	0.434	mg/L	0.0120	2.77%
Ca 227.546†	15644.1	33.4	mg/L	0.62	33.4	mg/L	0.62	1.86%
Cd 228.802†	8.2	0.00005	mg/L	0.000174	0.00005	mg/L	0.000174	377.30%
Co 228.616†	33.3	0.00035	mg/L	0.000097	0.00035	mg/L	0.000097	27.44%
Cr 267.716†	454.4	0.00212	mg/L	0.000095	0.00212	mg/L	0.000095	4.51%
Cu 327.393†	868.7	0.00181	mg/L	0.000307	0.00181	mg/L	0.000307	16.93%
Fe 239.562†	9452.1	0.583	mg/L	0.0053	0.583	mg/L	0.0053	0.91%
Mg 279.077†	28791.4	7.66	mg/L	0.003	7.66	mg/L	0.003	0.03%
Mn 257.610†	632812.2	0.674	mg/L	0.0040	0.674	mg/L	0.0040	0.60%
Mo 202.031†	1034.5	0.0230	mg/L	0.00023	0.0230	mg/L	0.00023	1.00%

Approved: July 25, 2012
Kym H. Rhoden

Ni 231.604†	216.3	-0.00113	mg/L	0.000697	-0.00113	mg/L	0.000697 61.80%
Pb 220.353†	12.7	0.00002	mg/L	0.000291	0.00002	mg/L	0.000291 >999.9%
Sb 206.836†	13.4	-0.00018	mg/L	0.001037	-0.00018	mg/L	0.001037 571.26%
Se 196.026†	-1.3	0.00270	mg/L	0.001399	0.00270	mg/L	0.001399 51.74%
Si 251.611†	204353.8	3.52	mg/L	0.033	3.52	mg/L	0.033 0.93%
Sn 189.927†	-217.7	-0.0146	mg/L	0.00027	-0.0146	mg/L	0.00027 1.84%
Ti 334.940†	5545.2	0.00990	mg/L	0.001545	0.00990	mg/L	0.001545 15.60%
Tl 190.801†	-11.5	-0.00591	mg/L	0.001991	-0.00591	mg/L	0.001991 33.70%
V 290.880†	1274.6	0.00360	mg/L	0.001143	0.00360	mg/L	0.001143 31.78%
Zn 206.200†	620.0	0.00550	mg/L	0.000135	0.00550	mg/L	0.000135 2.45%
K 766.490†	40625.3	14.6	mg/L	0.18	14.6	mg/L	0.18 1.22%
Na 589.592†	2574691.1	139	mg/L	0.7	139	mg/L	0.7 0.51%
Sr 407.771†	714215.4	0.297	mg/L	0.0001	0.297	mg/L	0.0001 0.05%
Li 670.784†	55613.5	0.432	mg/L	0.0030	0.432	mg/L	0.0030 0.70%

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Sequence No.: 17 **Autosampler Location: 64**
Sample ID: L1207065901 0.5 **Date Collected: 7/24/2012 3:54:43 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1207065901 0.5

Analyte	Back Pressure	Flow
All	187.0 kPa	0.50 L/min

Mean Data: L1207065901 0.5

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2061696.4						11211.00	0.54%
YRADIAL	256356.1						1869.05	0.73%
Ga 417.206	1166538.5						5411.64	0.46%
GaRADIAL	72547.7						2033.38	2.80%
Ag 328.068†	-247.6	-0.00159	mg/L	0.000517	-0.00159	mg/L	0.000517	32.46%
Al 396.153†	10707.2	1.69	mg/L	0.027	1.69	mg/L	0.027	1.58%
As 188.979†	207.5	0.0471	mg/L	0.00234	0.0471	mg/L	0.00234	4.98%
Ba 233.527†	284.2	-0.00033	mg/L	0.000065	-0.00033	mg/L	0.000065	19.64%
Be 234.861†	237.2	-0.00011	mg/L	0.000066	-0.00011	mg/L	0.000066	57.80%
B 249.677†	15132893.7	124	mg/L	2.0	124	mg/L	2.0	1.61%
Ca 227.546†	18.5	0.518	mg/L	0.0111	0.518	mg/L	0.0111	2.15%
Cd 228.802†	9.3	-0.00013	mg/L	0.000098	-0.00013	mg/L	0.000098	74.36%
Co 228.616†	-8.4	-0.00048	mg/L	0.000219	-0.00048	mg/L	0.000219	45.57%
Cr 267.716†	6332.9	0.0417	mg/L	0.00046	0.0417	mg/L	0.00046	1.10%
Cu 327.393†	4298.1	0.0151	mg/L	0.00017	0.0151	mg/L	0.00017	1.10%
Fe 239.562†	10130.2	0.625	mg/L	0.0080	0.625	mg/L	0.0080	1.29%
Mg 279.077†	458.1	0.129	mg/L	0.0030	0.129	mg/L	0.0030	2.34%
Mn 257.610†	14249.3	0.0141	mg/L	0.00022	0.0141	mg/L	0.00022	1.57%
Mo 202.031†	813.9	0.0177	mg/L	0.00033	0.0177	mg/L	0.00033	1.86%
Ni 231.604†	45527.8	0.540	mg/L	0.0038	0.540	mg/L	0.0038	0.70%
Pb 220.353†	7.5	0.00007	mg/L	0.001086	0.00007	mg/L	0.001086	>999.9%
Sb 206.836†	55.2	0.00763	mg/L	0.000235	0.00763	mg/L	0.000235	3.07%
Se 196.026†	2.7	0.00473	mg/L	0.004578	0.00473	mg/L	0.004578	96.87%
Si 251.611†	394398.1	6.81	mg/L	0.034	6.81	mg/L	0.034	0.49%
Sn 189.927†	6.1	-0.00013	mg/L	0.001849	-0.00013	mg/L	0.001849	>999.9%
Ti 334.940†	2489.3	0.00220	mg/L	0.000196	0.00220	mg/L	0.000196	8.90%
Tl 190.801†	-85.3	-0.0211	mg/L	0.00030	-0.0211	mg/L	0.00030	1.42%
V 290.880†	2851.7	0.00940	mg/L	0.001077	0.00940	mg/L	0.001077	11.46%
Zn 206.200†	10710.2	0.132	mg/L	0.0014	0.132	mg/L	0.0014	1.08%
K 766.490†	7133.4	2.48	mg/L	0.169	2.48	mg/L	0.169	6.80%
Na 589.592†	Saturated3							
Sr 407.771†	11901.2	0.00460	mg/L	0.000098	0.00460	mg/L	0.000098	2.12%
Li 670.784†	807.3	0.00209	mg/L	0.000414	0.00209	mg/L	0.000414	19.78%

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Sequence No.: 18 **Autosampler Location: 65**
Sample ID: L1207066201 **Date Collected: 7/24/2012 4:01:44 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Approved: July 25, 2012
Kym H. Rhoden

Nebulizer Parameters: L1207066201

Analyte	Back Pressure	Flow
All	186.0 kPa	0.50 L/min

Mean Data: L1207066201

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2771447.2						40613.43	1.47%
YRADIAL	310882.1						6374.77	2.05%
Ga 417.206	1496687.7						30654.51	2.05%
GaRADIAL	84407.7						1252.97	1.48%
Ag 328.068†	412.5	0.00013	mg/L	0.000513	0.00013	mg/L	0.000513	388.40%
Al 396.153†	637.8	0.0897	mg/L	0.01484	0.0897	mg/L	0.01484	16.55%
As 188.979†	-3.4	-0.00121	mg/L	0.000870	-0.00121	mg/L	0.000870	72.16%
Ba 233.527†	2929.5	0.0129	mg/L	0.00027	0.0129	mg/L	0.00027	2.07%
Be 234.861†	350.7	0.00003	mg/L	0.000040	0.00003	mg/L	0.000040	156.09%
B 249.677†	76809.3	0.626	mg/L	0.0471	0.626	mg/L	0.0471	7.52%
Ca 227.546†	12334.7	26.3	mg/L	0.74	26.3	mg/L	0.74	2.79%
Cd 228.802†	68.9	0.00097	mg/L	0.000132	0.00097	mg/L	0.000132	13.57%
Co 228.616†	12.6	-0.00003	mg/L	0.000228	-0.00003	mg/L	0.000228	854.71%
Cr 267.716†	217.9	0.00053	mg/L	0.000077	0.00053	mg/L	0.000077	14.61%
Cu 327.393†	20210.3	0.0767	mg/L	0.00048	0.0767	mg/L	0.00048	0.62%
Fe 239.562†	5218.0	0.321	mg/L	0.0092	0.321	mg/L	0.0092	2.86%
Mg 279.077†	6754.5	1.80	mg/L	0.071	1.80	mg/L	0.071	3.96%
Mn 257.610†	10004.2	0.00957	mg/L	0.000231	0.00957	mg/L	0.000231	2.41%
Mo 202.031†	410.6	0.00831	mg/L	0.000096	0.00831	mg/L	0.000096	1.16%
Ni 231.604†	216.8	-0.00112	mg/L	0.000248	-0.00112	mg/L	0.000248	22.10%
Pb 220.353†	18.6	0.00051	mg/L	0.000656	0.00051	mg/L	0.000656	129.56%
Sb 206.836†	-1.2	-0.00291	mg/L	0.000351	-0.00291	mg/L	0.000351	12.05%
Se 196.026†	-7.0	0.00055	mg/L	0.002723	0.00055	mg/L	0.002723	494.81%
Si 251.611†	512891.9	8.86	mg/L	0.112	8.86	mg/L	0.112	1.27%
Sn 189.927†	-183.8	-0.0124	mg/L	0.00010	-0.0124	mg/L	0.00010	0.80%
Ti 334.940†	-2147.0	0.00208	mg/L	0.000371	0.00208	mg/L	0.000371	17.85%
Tl 190.801†	-7.7	-0.00453	mg/L	0.000970	-0.00453	mg/L	0.000970	21.45%
V 290.880†	543.7	0.00118	mg/L	0.000592	0.00118	mg/L	0.000592	50.02%
Zn 206.200†	5205.0	0.0626	mg/L	0.00110	0.0626	mg/L	0.00110	1.76%
K 766.490†	17283.8	6.16	mg/L	0.302	6.16	mg/L	0.302	4.91%
Na 589.592†	346932.6	17.3	mg/L	0.08	17.3	mg/L	0.08	0.44%
Sr 407.771†	76056.5	0.0308	mg/L	0.00017	0.0308	mg/L	0.00017	0.56%
Li 670.784†	383.9	-0.00123	mg/L	0.000411	-0.00123	mg/L	0.000411	33.48%

Sequence No.: 19 **Autosampler Location: 66**
Sample ID: L1207066201PS WG404284-01 **Date Collected: 7/24/2012 4:07:42 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1207066201PS WG404284-01

Analyte	Back Pressure	Flow
All	185.0 kPa	0.50 L/min

Mean Data: L1207066201PS WG404284-01

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2742730.9						35747.36	1.30%
YRADIAL	315553.6						3272.92	1.04%
Ga 417.206	1439784.7						6718.06	0.47%
GaRADIAL	83840.9						933.53	1.11%
Ag 328.068†	69176.4	0.199	mg/L	0.0031	0.199	mg/L	0.0031	1.58%
Al 396.153†	32196.0	5.07	mg/L	0.007	5.07	mg/L	0.007	0.14%
As 188.979†	820.3	0.185	mg/L	0.0011	0.185	mg/L	0.0011	0.60%
Ba 233.527†	101715.3	0.508	mg/L	0.0097	0.508	mg/L	0.0097	1.91%
Be 234.861†	34843.8	0.0240	mg/L	0.00030	0.0240	mg/L	0.00030	1.26%
B 249.677†	171443.2	1.40	mg/L	0.034	1.40	mg/L	0.034	2.42%
Ca 227.546†	13421.8	28.9	mg/L	0.61	28.9	mg/L	0.61	2.10%
Cd 228.802†	1663.1	0.0240	mg/L	0.00048	0.0240	mg/L	0.00048	2.02%
Co 228.616†	5249.0	0.0982	mg/L	0.00201	0.0982	mg/L	0.00201	2.05%

Approved: July 25, 2012

Kym H. Rhoden

Cr 267.716†	36920.1	0.248	mg/L	0.0026	0.248	mg/L	0.0026	1.04%
Cu 327.393†	82157.1	0.317	mg/L	0.0078	0.317	mg/L	0.0078	2.46%
Fe 239.562†	34934.3	2.16	mg/L	0.013	2.16	mg/L	0.013	0.59%
Mg 279.077†	24267.3	6.46	mg/L	0.057	6.46	mg/L	0.057	0.89%
Mn 257.610†	244018.4	0.260	mg/L	0.0049	0.260	mg/L	0.0049	1.89%
Mo 202.031†	21564.3	0.502	mg/L	0.0073	0.502	mg/L	0.0073	1.46%
Ni 231.604†	20830.0	0.245	mg/L	0.0035	0.245	mg/L	0.0035	1.43%
Pb 220.353†	4203.5	0.247	mg/L	0.0045	0.247	mg/L	0.0045	1.82%
Sb 206.836†	3147.3	0.579	mg/L	0.0041	0.579	mg/L	0.0041	0.71%
Se 196.026†	474.8	0.194	mg/L	0.0027	0.194	mg/L	0.0027	1.39%
Si 251.611†	667136.6	11.5	mg/L	0.04	11.5	mg/L	0.04	0.32%
Sn 189.927†	-190.2	-0.0128	mg/L	0.00071	-0.0128	mg/L	0.00071	5.55%
Ti 334.940†	550870.5	0.489	mg/L	0.0012	0.489	mg/L	0.0012	0.24%
Tl 190.801†	1143.5	0.251	mg/L	0.0002	0.251	mg/L	0.0002	0.07%
V 290.880†	140213.5	0.498	mg/L	0.0050	0.498	mg/L	0.0050	1.00%
Zn 206.200†	44008.0	0.548	mg/L	0.0096	0.548	mg/L	0.0096	1.75%
K 766.490†	83996.9	30.5	mg/L	0.28	30.5	mg/L	0.28	0.93%
Na 589.592†	798095.0	40.3	mg/L	0.55	40.3	mg/L	0.55	1.35%
Sr 407.771†	1257654.3	0.525	mg/L	0.0057	0.525	mg/L	0.0057	1.08%
Li 670.784†	65797.1	0.512	mg/L	0.0012	0.512	mg/L	0.0012	0.24%

Sequence No.: 20 **Autosampler Location: 67**
Sample ID: L1207066201DL WG404284-02 **Date Collected: 7/24/2012 4:13:42 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1207066201DL WG404284-02

Analyte	Back Pressure	Flow
All	185.0 kPa	0.50 L/min

Mean Data: L1207066201DL WG404284-02

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2793242.5						30438.01	1.09%
YRADIAL	307785.4						9855.32	3.20%
Ga 417.206	1479578.0						23789.97	1.61%
GaRADIAL	84929.1						1615.53	1.90%
Ag 328.068†	95.2	-0.00089	mg/L	0.000172	-0.00089	mg/L	0.000172	19.33%
Al 396.153†	136.2	0.0105	mg/L	0.00111	0.0105	mg/L	0.00111	10.56%
As 188.979†	2.1	0.00005	mg/L	0.001267	0.00005	mg/L	0.001267	>999.9%
Ba 233.527†	590.3	0.00123	mg/L	0.000043	0.00123	mg/L	0.000043	3.53%
Be 234.861†	107.5	-0.00009	mg/L	0.000010	-0.00009	mg/L	0.000010	11.46%
B 249.677†	30459.0	0.248	mg/L	0.0125	0.248	mg/L	0.0125	5.06%
Ca 227.546†	2409.4	5.16	mg/L	0.097	5.16	mg/L	0.097	1.89%
Cd 228.802†	4.8	0.00002	mg/L	0.000183	0.00002	mg/L	0.000183	>999.9%
Co 228.616†	7.6	-0.00013	mg/L	0.000177	-0.00013	mg/L	0.000177	138.76%
Cr 267.716†	58.2	-0.00054	mg/L	0.000147	-0.00054	mg/L	0.000147	27.23%
Cu 327.393†	4091.2	0.0143	mg/L	0.00008	0.0143	mg/L	0.00008	0.53%
Fe 239.562†	1045.9	0.0639	mg/L	0.00153	0.0639	mg/L	0.00153	2.39%
Mg 279.077†	1370.6	0.371	mg/L	0.0115	0.371	mg/L	0.0115	3.09%
Mn 257.610†	2196.2	0.00123	mg/L	0.000023	0.00123	mg/L	0.000023	1.91%
Mo 202.031†	87.6	0.00077	mg/L	0.000086	0.00077	mg/L	0.000086	11.17%
Ni 231.604†	43.3	-0.00319	mg/L	0.000185	-0.00319	mg/L	0.000185	5.81%
Pb 220.353†	23.4	0.00069	mg/L	0.000566	0.00069	mg/L	0.000566	82.21%
Sb 206.836†	2.6	-0.00222	mg/L	0.001021	-0.00222	mg/L	0.001021	45.91%
Se 196.026†	-4.8	0.00136	mg/L	0.004467	0.00136	mg/L	0.004467	327.49%
Si 251.611†	109277.8	1.88	mg/L	0.021	1.88	mg/L	0.021	1.11%
Sn 189.927†	-62.3	-0.00455	mg/L	0.000218	-0.00455	mg/L	0.000218	4.80%
Ti 334.940†	-400.7	0.00044	mg/L	0.000075	0.00044	mg/L	0.000075	17.21%
Tl 190.801†	-6.0	-0.00413	mg/L	0.000447	-0.00413	mg/L	0.000447	10.81%
V 290.880†	28.0	-0.00058	mg/L	0.001169	-0.00058	mg/L	0.001169	200.71%
Zn 206.200†	1186.1	0.0125	mg/L	0.00024	0.0125	mg/L	0.00024	1.90%
K 766.490†	3987.9	1.33	mg/L	0.023	1.33	mg/L	0.023	1.73%
Na 589.592†	70123.6	3.47	mg/L	0.077	3.47	mg/L	0.077	2.23%
Sr 407.771†	15652.7	0.00606	mg/L	0.000186	0.00606	mg/L	0.000186	3.07%
Li 670.784†	268.2	-0.00214	mg/L	0.000094	-0.00214	mg/L	0.000094	4.40%

Approved: July 25, 2012

Kim H. Rhoden

Sequence No.: 21
Sample ID: CCV
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 6
Date Collected: 7/24/2012 4:20:37 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: CCV

Analyte	Back Pressure	Flow
All	185.0 kPa	0.50 L/min

Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2703192.3						12149.57	0.45%
YRADIAL	305436.2						3440.83	1.13%
Ga 417.206	1345387.1						19201.65	1.43%
GaRADIAL	81431.2						907.10	1.11%
Ag 328.068†	144001.1	0.415	mg/L	0.0078	0.415	mg/L	0.0078	1.87%
QC value within limits for Ag 328.068 Recovery = 103.67%								
Al 396.153†	63676.0	10.0	mg/L	0.04	10.0	mg/L	0.04	0.42%
QC value within limits for Al 396.153 Recovery = 100.32%								
As 188.979†	1786.9	0.404	mg/L	0.0063	0.404	mg/L	0.0063	1.55%
QC value within limits for As 188.979 Recovery = 101.05%								
Ba 233.527†	201441.9	1.01	mg/L	0.004	1.01	mg/L	0.004	0.37%
QC value within limits for Ba 233.527 Recovery = 100.78%								
Be 234.861†	74477.2	0.0516	mg/L	0.00123	0.0516	mg/L	0.00123	2.38%
QC value within limits for Be 234.861 Recovery = 103.14%								
B 249.677†	85552.4	0.694	mg/L	0.0214	0.694	mg/L	0.0214	3.08%
QC value greater than the upper limit for B 249.677 Recovery = 138.77%								
Ca 227.546†	4704.7	10.5	mg/L	0.23	10.5	mg/L	0.23	2.14%
QC value within limits for Ca 227.546 Recovery = 105.28%								
Cd 228.802†	3455.0	0.0497	mg/L	0.00184	0.0497	mg/L	0.00184	3.70%
QC value within limits for Cd 228.802 Recovery = 99.48%								
Co 228.616†	10667.2	0.200	mg/L	0.0014	0.200	mg/L	0.0014	0.69%
QC value within limits for Co 228.616 Recovery = 99.86%								
Cr 267.716†	74536.7	0.501	mg/L	0.0035	0.501	mg/L	0.0035	0.69%
QC value within limits for Cr 267.716 Recovery = 100.25%								
Cu 327.393†	133129.6	0.515	mg/L	0.0080	0.515	mg/L	0.0080	1.55%
QC value within limits for Cu 327.393 Recovery = 102.96%								
Fe 239.562†	63304.8	3.91	mg/L	0.012	3.91	mg/L	0.012	0.30%
QC value within limits for Fe 239.562 Recovery = 97.66%								
Mg 279.077†	37588.9	10.0	mg/L	0.05	10.0	mg/L	0.05	0.52%
QC value within limits for Mg 279.077 Recovery = 100.09%								
Mn 257.610†	471786.8	0.503	mg/L	0.0021	0.503	mg/L	0.0021	0.42%
QC value within limits for Mn 257.610 Recovery = 100.62%								
Mo 202.031†	43169.9	1.01	mg/L	0.005	1.01	mg/L	0.005	0.52%
QC value within limits for Mo 202.031 Recovery = 100.53%								
Ni 231.604†	43869.1	0.520	mg/L	0.0034	0.520	mg/L	0.0034	0.66%
QC value within limits for Ni 231.604 Recovery = 103.98%								
Pb 220.353†	8546.6	0.503	mg/L	0.0016	0.503	mg/L	0.0016	0.31%
QC value within limits for Pb 220.353 Recovery = 100.51%								
Sb 206.836†	6665.2	1.23	mg/L	0.028	1.23	mg/L	0.028	2.32%
QC value within limits for Sb 206.836 Recovery = 102.37%								
Se 196.026†	1015.4	0.412	mg/L	0.0086	0.412	mg/L	0.0086	2.09%
QC value within limits for Se 196.026 Recovery = 102.99%								
Si 251.611†	300911.5	5.18	mg/L	0.070	5.18	mg/L	0.070	1.34%
QC value within limits for Si 251.611 Recovery = 103.58%								
Sn 189.927†	15631.2	1.01	mg/L	0.004	1.01	mg/L	0.004	0.41%
QC value within limits for Sn 189.927 Recovery = 100.96%								
Ti 334.940†	1132070.8	0.997	mg/L	0.0029	0.997	mg/L	0.0029	0.29%
QC value within limits for Ti 334.940 Recovery = 99.71%								
Tl 190.801†	2345.1	0.517	mg/L	0.0033	0.517	mg/L	0.0033	0.63%
QC value within limits for Tl 190.801 Recovery = 103.38%								
V 290.880†	279917.5	0.996	mg/L	0.0065	0.996	mg/L	0.0065	0.65%
QC value within limits for V 290.880 Recovery = 99.58%								
Zn 206.200†	81538.9	1.02	mg/L	0.007	1.02	mg/L	0.007	0.64%
QC value within limits for Zn 206.200 Recovery = 101.80%								
K 766.490†	138177.4	50.4	mg/L	0.35	50.4	mg/L	0.35	0.69%
QC value within limits for K 766.490 Recovery = 100.76%								
Na 589.592†	970921.4	49.3	mg/L	0.38	49.3	mg/L	0.38	0.77%

Approved: July 25, 2012

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   QC value within limits for Na 589.592  Recovery = 98.60%
Sr 407.771†          2383768.2       0.996 mg/L        0.0123       0.996 mg/L        0.0123   1.23%
   QC value within limits for Sr 407.771  Recovery = 99.59%
Li 670.784†           128229.4        1.00 mg/L         0.005        1.00 mg/L         0.005   0.48%
   QC value within limits for Li 670.784  Recovery = 100.20%
QC Failed.  Continue with analysis.
```

Sequence No.: 22 **Autosampler Location: 1**
Sample ID: CCB **Date Collected: 7/24/2012 4:26:37 PM**
Analyst: **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: CCB

Analyte	Back Pressure	Flow
All	186.0 kPa	0.50 L/min

Mean Data: CCB

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2760099.9						15830.82	0.57%
YRADIAL	301301.5						6522.99	2.16%
Ga 417.206	1394522.1						9130.51	0.65%
GaRADIAL	82542.2						1943.30	2.35%
Ag 328.068†	3.2	-0.00118	mg/L	0.000443	-0.00118	mg/L	0.000443	37.50%
QC value within limits for Ag 328.068 Recovery = Not calculated								
Al 396.153†	11.7	-0.00914	mg/L	0.001240	-0.00914	mg/L	0.001240	13.57%
QC value within limits for Al 396.153 Recovery = Not calculated								
As 188.979†	6.1	0.00096	mg/L	0.001236	0.00096	mg/L	0.001236	128.43%
QC value within limits for As 188.979 Recovery = Not calculated								
Ba 233.527†	16.8	-0.00164	mg/L	0.000083	-0.00164	mg/L	0.000083	5.04%
QC value within limits for Ba 233.527 Recovery = Not calculated								
Be 234.861†	-15.2	-0.00016	mg/L	0.000010	-0.00016	mg/L	0.000010	6.28%
QC value within limits for Be 234.861 Recovery = Not calculated								
B 249.677†	13594.5	0.110	mg/L	0.0035	0.110	mg/L	0.0035	3.14%
QC value greater than the upper limit for B 249.677 Recovery = Not calculated								
Ca 227.546†	4.6	0.0226	mg/L	0.01706	0.0226	mg/L	0.01706	75.31%
QC value within limits for Ca 227.546 Recovery = Not calculated								
Cd 228.802†	-5.4	-0.00014	mg/L	0.000024	-0.00014	mg/L	0.000024	17.50%
QC value within limits for Cd 228.802 Recovery = Not calculated								
Co 228.616†	-4.0	-0.00035	mg/L	0.000087	-0.00035	mg/L	0.000087	25.13%
QC value within limits for Co 228.616 Recovery = Not calculated								
Cr 267.716†	9.1	-0.00087	mg/L	0.000057	-0.00087	mg/L	0.000057	6.62%
QC value within limits for Cr 267.716 Recovery = Not calculated								
Cu 327.393†	-52.2	-0.00172	mg/L	0.000432	-0.00172	mg/L	0.000432	25.18%
QC value within limits for Cu 327.393 Recovery = Not calculated								
Fe 239.562†	4.1	-0.00037	mg/L	0.000777	-0.00037	mg/L	0.000777	212.15%
QC value within limits for Fe 239.562 Recovery = Not calculated								
Mg 279.077†	21.8	0.0129	mg/L	0.00287	0.0129	mg/L	0.00287	22.22%
QC value within limits for Mg 279.077 Recovery = Not calculated								
Mn 257.610†	-42.7	-0.00116	mg/L	0.000012	-0.00116	mg/L	0.000012	1.03%
QC value within limits for Mn 257.610 Recovery = Not calculated								
Mo 202.031†	12.1	-0.00099	mg/L	0.000085	-0.00099	mg/L	0.000085	8.57%
QC value within limits for Mo 202.031 Recovery = Not calculated								
Ni 231.604†	18.3	-0.00349	mg/L	0.000212	-0.00349	mg/L	0.000212	6.06%
QC value within limits for Ni 231.604 Recovery = Not calculated								
Pb 220.353†	2.5	-0.00056	mg/L	0.000804	-0.00056	mg/L	0.000804	142.36%
QC value within limits for Pb 220.353 Recovery = Not calculated								
Sb 206.836†	3.3	-0.00209	mg/L	0.000726	-0.00209	mg/L	0.000726	34.71%
QC value within limits for Sb 206.836 Recovery = Not calculated								
Se 196.026†	-13.6	-0.00216	mg/L	0.002354	-0.00216	mg/L	0.002354	109.20%
QC value within limits for Se 196.026 Recovery = Not calculated								
Si 251.611†	417.2	-0.00506	mg/L	0.000602	-0.00506	mg/L	0.000602	11.89%
QC value within limits for Si 251.611 Recovery = Not calculated								
Sn 189.927†	5.7	-0.00016	mg/L	0.000256	-0.00016	mg/L	0.000256	161.07%
QC value within limits for Sn 189.927 Recovery = Not calculated								
Ti 334.940†	74.8	0.00009	mg/L	0.000056	0.00009	mg/L	0.000056	65.40%
QC value within limits for Ti 334.940 Recovery = Not calculated								
Tl 190.801†	-4.5	-0.00381	mg/L	0.000651	-0.00381	mg/L	0.000651	17.11%

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QC value within limits for Tl 190.801 Recovery = Not calculated

V 290.880†	-334.7	-0.00186 mg/L	0.000468	-0.00186 mg/L	0.000468	25.23%

QC value within limits for V 290.880 Recovery = Not calculated

Zn 206.200†	117.2	-0.00078 mg/L	0.000057	-0.00078 mg/L	0.000057	7.23%

QC value within limits for Zn 206.200 Recovery = Not calculated

K 766.490†	37.0	-0.104 mg/L	0.0155	-0.104 mg/L	0.0155	14.79%

QC value within limits for K 766.490 Recovery = Not calculated

Na 589.592†	1734.3	0.0928 mg/L	0.01126	0.0928 mg/L	0.01126	12.14%

QC value within limits for Na 589.592 Recovery = Not calculated

Sr 407.771†	254.5	-0.00026 mg/L	0.000044	-0.00026 mg/L	0.000044	16.70%

QC value within limits for Sr 407.771 Recovery = Not calculated

Li 670.784†	150.3	-0.00306 mg/L	0.000428	-0.00306 mg/L	0.000428	13.98%

QC value within limits for Li 670.784 Recovery = Not calculated

QC Failed. Continue with analysis.

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Sequence No.: 23 **Autosampler Location: 68**
Sample ID: L1207066301 **Date Collected: 7/24/2012 4:33:30 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1207066301

Analyte	Back Pressure	Flow
All	185.0 kPa	0.50 L/min

Mean Data: L1207066301

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2753852.4						32448.70	1.18%
YRADIAL	307633.2						8782.46	2.85%
Ga 417.206	1445712.8						52478.88	3.63%
GaRADIAL	83191.9						1251.58	1.50%
Ag 328.068†	300.9	-0.00007	mg/L	0.000026	-0.00007	mg/L	0.000026	34.60%
Al 396.153†	858.4	0.125	mg/L	0.0107	0.125	mg/L	0.0107	8.57%
As 188.979†	-7.6	-0.00209	mg/L	0.000632	-0.00209	mg/L	0.000632	30.25%
Ba 233.527†	8654.7	0.0416	mg/L	0.00050	0.0416	mg/L	0.00050	1.20%
Be 234.861†	513.1	0.00008	mg/L	0.000168	0.00008	mg/L	0.000168	203.74%
B 249.677†	651090.2	5.32	mg/L	0.129	5.32	mg/L	0.129	2.43%
Ca 227.546†	11675.7	24.9	mg/L	1.07	24.9	mg/L	1.07	4.28%
Cd 228.802†	7.0	0.00006	mg/L	0.000129	0.00006	mg/L	0.000129	200.21%
Co 228.616†	51.2	0.00067	mg/L	0.000391	0.00067	mg/L	0.000391	58.16%
Cr 267.716†	326.6	0.00126	mg/L	0.000093	0.00126	mg/L	0.000093	7.37%
Cu 327.393†	17479.2	0.0661	mg/L	0.00219	0.0661	mg/L	0.00219	3.31%
Fe 239.562†	9086.6	0.560	mg/L	0.0135	0.560	mg/L	0.0135	2.41%
Mg 279.077†	6474.8	1.73	mg/L	0.028	1.73	mg/L	0.028	1.62%
Mn 257.610†	14010.5	0.0139	mg/L	0.00010	0.0139	mg/L	0.00010	0.73%
Mo 202.031†	187.2	0.00312	mg/L	0.000245	0.00312	mg/L	0.000245	7.85%
Ni 231.604†	187.4	-0.00147	mg/L	0.000310	-0.00147	mg/L	0.000310	21.03%
Pb 220.353†	21.8	0.00067	mg/L	0.001542	0.00067	mg/L	0.001542	229.09%
Sb 206.836†	-1.5	-0.00298	mg/L	0.000653	-0.00298	mg/L	0.000653	21.89%
Se 196.026†	3.6	0.00482	mg/L	0.000575	0.00482	mg/L	0.000575	11.93%
Si 251.611†	348175.8	6.01	mg/L	0.176	6.01	mg/L	0.176	2.93%
Sn 189.927†	-155.7	-0.0106	mg/L	0.00095	-0.0106	mg/L	0.00095	9.00%
Ti 334.940†	-1047.9	0.00283	mg/L	0.000270	0.00283	mg/L	0.000270	9.53%
Tl 190.801†	-23.5	-0.00791	mg/L	0.001071	-0.00791	mg/L	0.001071	13.53%
V 290.880†	955.0	0.00262	mg/L	0.002146	0.00262	mg/L	0.002146	81.93%
Zn 206.200†	12402.7	0.152	mg/L	0.0020	0.152	mg/L	0.0020	1.31%
K 766.490†	43500.3	15.7	mg/L	0.12	15.7	mg/L	0.12	0.76%
Na 589.592†	995675.7	50.6	mg/L	1.58	50.6	mg/L	1.58	3.13%
Sr 407.771†	77272.0	0.0314	mg/L	0.00026	0.0314	mg/L	0.00026	0.83%
Li 670.784†	327.5	-0.00167	mg/L	0.000316	-0.00167	mg/L	0.000316	18.93%

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Sequence No.: 24 **Autosampler Location: 69**
Sample ID: L1207066901 **Date Collected: 7/24/2012 4:39:30 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Approved: July 25, 2012

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Nebulizer Parameters: L1207066901

Analyte	Back Pressure	Flow
All	185.0 kPa	0.50 L/min

Mean Data: L1207066901

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2818399.2						23314.26	0.83%
YRADIAL	312722.0						551.84	0.18%
Ga 417.206	1445567.7						22620.07	1.56%
GaRADIAL	83919.3						27.54	0.03%
Ag 328.068†	-351.3	-0.00070	mg/L	0.000499	-0.00070	mg/L	0.000499	70.95%
Al 396.153†	66536.0	10.6	mg/L	0.01	10.6	mg/L	0.01	0.09%
As 188.979†	3.9	0.00050	mg/L	0.001455	0.00050	mg/L	0.001455	289.80%
Ba 233.527†	2018.9	0.00820	mg/L	0.000130	0.00820	mg/L	0.000130	1.58%
Be 234.861†	1627.1	0.00024	mg/L	0.000069	0.00024	mg/L	0.000069	28.68%
B 249.677†	9891.3	0.0784	mg/L	0.00511	0.0784	mg/L	0.00511	6.52%
Ca 227.546†	242.0	0.612	mg/L	0.0325	0.612	mg/L	0.0325	5.32%
Cd 228.802†	7.5	0.00005	mg/L	0.000130	0.00005	mg/L	0.000130	244.47%
Co 228.616†	31.1	0.00022	mg/L	0.000265	0.00022	mg/L	0.000265	119.23%
Cr 267.716†	1323.4	0.00796	mg/L	0.000183	0.00796	mg/L	0.000183	2.30%
Cu 327.393†	362.5	0.00005	mg/L	0.000112	0.00005	mg/L	0.000112	227.32%
Fe 239.562†	52242.7	3.22	mg/L	0.021	3.22	mg/L	0.021	0.65%
Mg 279.077†	1205.9	0.326	mg/L	0.0162	0.326	mg/L	0.0162	4.97%
Mn 257.610†	11716.3	0.0114	mg/L	0.00015	0.0114	mg/L	0.00015	1.27%
Mo 202.031†	48.7	0.00002	mg/L	0.000255	0.00002	mg/L	0.000255	>999.9%
Ni 231.604†	391.4	0.00096	mg/L	0.000347	0.00096	mg/L	0.000347	36.13%
Pb 220.353†	-48.1	-0.00187	mg/L	0.001366	-0.00187	mg/L	0.001366	73.05%
Sb 206.836†	-7.1	-0.00396	mg/L	0.000586	-0.00396	mg/L	0.000586	14.80%
Se 196.026†	-4.7	0.00228	mg/L	0.002632	0.00228	mg/L	0.002632	115.62%
Si 251.611†	150504.7	2.59	mg/L	0.018	2.59	mg/L	0.018	0.68%
Sn 189.927†	-1.9	-0.00065	mg/L	0.000807	-0.00065	mg/L	0.000807	125.01%
Ti 334.940†	3535.6	0.00320	mg/L	0.000137	0.00320	mg/L	0.000137	4.28%
Tl 190.801†	7.5	-0.00090	mg/L	0.002503	-0.00090	mg/L	0.002503	276.61%
V 290.880†	1363.3	0.00376	mg/L	0.000571	0.00376	mg/L	0.000571	15.18%
Zn 206.200†	497.2	0.00396	mg/L	0.000062	0.00396	mg/L	0.000062	1.57%
K 766.490†	1022.7	0.249	mg/L	0.0198	0.249	mg/L	0.0198	7.98%
Na 589.592†	120266.5	5.95	mg/L	0.007	5.95	mg/L	0.007	0.13%
Sr 407.771†	13307.8	0.00518	mg/L	0.000045	0.00518	mg/L	0.000045	0.86%
Li 670.784†	319.9	-0.00173	mg/L	0.000974	-0.00173	mg/L	0.000974	56.31%

Sequence No.: 25 **Autosampler Location: 70**
Sample ID: L1207067101 **Date Collected: 7/24/2012 4:45:30 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1207067101

Analyte	Back Pressure	Flow
All	185.0 kPa	0.50 L/min

Mean Data: L1207067101

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2752566.4						2659.71	0.10%
YRADIAL	299518.6						1790.09	0.60%
Ga 417.206	1497585.5						19759.16	1.32%
GaRADIAL	84631.7						2884.93	3.41%
Ag 328.068†	197.0	-0.00060	mg/L	0.000377	-0.00060	mg/L	0.000377	63.41%
Al 396.153†	279.4	0.0334	mg/L	0.00126	0.0334	mg/L	0.00126	3.77%
As 188.979†	1.9	0.00004	mg/L	0.001474	0.00004	mg/L	0.001474	>999.9%
Ba 233.527†	2636.0	0.0115	mg/L	0.00004	0.0115	mg/L	0.00004	0.38%
Be 234.861†	110.3	-0.00009	mg/L	0.000020	-0.00009	mg/L	0.000020	22.08%
B 249.677†	6177.6	0.0493	mg/L	0.00289	0.0493	mg/L	0.00289	5.86%
Ca 227.546†	2454.6	5.29	mg/L	0.081	5.29	mg/L	0.081	1.54%
Cd 228.802†	-0.4	-0.00002	mg/L	0.000059	-0.00002	mg/L	0.000059	329.88%
Co 228.616†	566.5	0.0104	mg/L	0.00023	0.0104	mg/L	0.00023	2.19%

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Cr 267.716†	8131.5	0.0538	mg/L	0.00010	0.0538	mg/L	0.00010	0.19%
Cu 327.393†	7275.6	0.0266	mg/L	0.00031	0.0266	mg/L	0.00031	1.15%
Fe 239.562†	1313.0	0.0804	mg/L	0.00117	0.0804	mg/L	0.00117	1.45%
Mg 279.077†	6549.7	1.75	mg/L	0.017	1.75	mg/L	0.017	0.95%
Mn 257.610†	1915.8	0.00096	mg/L	0.000012	0.00096	mg/L	0.000012	1.30%
Mo 202.031†	7.1	-0.00110	mg/L	0.000032	-0.00110	mg/L	0.000032	2.93%
Ni 231.604†	4490.7	0.0499	mg/L	0.00007	0.0499	mg/L	0.00007	0.14%
Pb 220.353†	23.1	0.00066	mg/L	0.000325	0.00066	mg/L	0.000325	48.92%
Sb 206.836†	-2.7	-0.00364	mg/L	0.000782	-0.00364	mg/L	0.000782	21.48%
Se 196.026†	-6.2	0.00082	mg/L	0.004030	0.00082	mg/L	0.004030	490.58%
Si 251.611†	213476.8	3.68	mg/L	0.057	3.68	mg/L	0.057	1.56%
Sn 189.927†	-13.9	-0.00142	mg/L	0.000341	-0.00142	mg/L	0.000341	23.97%
Ti 334.940†	-135.2	0.00067	mg/L	0.000128	0.00067	mg/L	0.000128	19.19%
Tl 190.801†	-10.2	-0.00506	mg/L	0.001067	-0.00506	mg/L	0.001067	21.08%
V 290.880†	-29.5	-0.00083	mg/L	0.000887	-0.00083	mg/L	0.000887	107.51%
Zn 206.200†	33073.0	0.410	mg/L	0.0029	0.410	mg/L	0.0029	0.71%
K 766.490†	6143.3	2.10	mg/L	0.029	2.10	mg/L	0.029	1.40%
Na 589.592†	330029.4	16.4	mg/L	0.38	16.4	mg/L	0.38	2.34%
Sr 407.771†	73437.8	0.0302	mg/L	0.00124	0.0302	mg/L	0.00124	4.10%
Li 670.784†	326.3	-0.00168	mg/L	0.000197	-0.00168	mg/L	0.000197	11.72%

Sequence No.: 26
Sample ID: L1207067103
Analyst: KHR
Initial Sample Wt:
Dilution:

Autosampler Location: 71
Date Collected: 7/24/2012 4:52:27 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: L1207067103

Analyte	Back Pressure	Flow
All	185.0 kPa	0.50 L/min

Mean Data: L1207067103

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2711577.7						7559.40	0.28%
YRADIAL	299234.5						1258.52	0.42%
Ga 417.206	1405363.5						35484.17	2.52%
GaRADIAL	83079.9						860.22	1.04%
Ag 328.068†	537.5	0.00053	mg/L	0.000433	0.00053	mg/L	0.000433	82.19%
Al 396.153†	294.2	0.0356	mg/L	0.00436	0.0356	mg/L	0.00436	12.27%
As 188.979†	10.4	0.00226	mg/L	0.001236	0.00226	mg/L	0.001236	54.74%
Ba 233.527†	2218.9	0.00938	mg/L	0.000132	0.00938	mg/L	0.000132	1.41%
Be 234.861†	304.4	-0.00001	mg/L	0.000092	-0.00001	mg/L	0.000092	664.42%
B 249.677†	19517.9	0.157	mg/L	0.0069	0.157	mg/L	0.0069	4.41%
Ca 227.546†	2356.3	5.32	mg/L	0.149	5.32	mg/L	0.149	2.80%
Cd 228.802†	8.6	0.00042	mg/L	0.000092	0.00042	mg/L	0.000092	22.19%
Co 228.616†	4951.8	0.0930	mg/L	0.00046	0.0930	mg/L	0.00046	0.49%
Cr 267.716†	74967.0	0.504	mg/L	0.0024	0.504	mg/L	0.0024	0.47%
Cu 327.393†	32924.9	0.126	mg/L	0.0042	0.126	mg/L	0.0042	3.34%
Fe 239.562†	6515.4	0.401	mg/L	0.0060	0.401	mg/L	0.0060	1.49%
Mg 279.077†	4389.3	1.17	mg/L	0.016	1.17	mg/L	0.016	1.34%
Mn 257.610†	6410.9	0.00595	mg/L	0.000020	0.00595	mg/L	0.000020	0.33%
Mo 202.031†	139.0	0.00199	mg/L	0.000007	0.00199	mg/L	0.000007	0.34%
Ni 231.604†	28405.3	0.335	mg/L	0.0010	0.335	mg/L	0.0010	0.29%
Pb 220.353†	10.0	-0.00024	mg/L	0.001043	-0.00024	mg/L	0.001043	428.08%
Sb 206.836†	25.3	-0.00209	mg/L	0.000373	-0.00209	mg/L	0.000373	17.79%
Se 196.026†	-5.9	0.00115	mg/L	0.002589	0.00115	mg/L	0.002589	224.19%
Si 251.611†	246848.8	4.26	mg/L	0.077	4.26	mg/L	0.077	1.82%
Sn 189.927†	13.7	0.00036	mg/L	0.000833	0.00036	mg/L	0.000833	230.40%
Ti 334.940†	-385.8	0.00028	mg/L	0.000097	0.00028	mg/L	0.000097	34.21%
Tl 190.801†	-4.0	-0.00380	mg/L	0.002568	-0.00380	mg/L	0.002568	67.55%
V 290.880†	779.6	0.00203	mg/L	0.001107	0.00203	mg/L	0.001107	54.55%
Zn 206.200†	236593.2	2.95	mg/L	0.018	2.95	mg/L	0.018	0.60%
K 766.490†	5578.4	1.82	mg/L	0.025	1.82	mg/L	0.025	1.36%
Na 589.592†	1782720.1	93.1	mg/L	0.48	93.1	mg/L	0.48	0.52%
Sr 407.771†	68179.5	0.0280	mg/L	0.00031	0.0280	mg/L	0.00031	1.11%
Li 670.784†	230.2	-0.00243	mg/L	0.000754	-0.00243	mg/L	0.000754	30.97%

Approved: July 25, 2012

Kym H. Rhoden

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

Autosampler Location: 6
Date Collected: 7/24/2012 4:58:26 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: CCV

Analyte	Back Pressure	Flow
All	185.0 kPa	0.50 L/min

Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2682295.7						30374.07	1.13%
YRADIAL	301227.8						1221.29	0.41%
Ga 417.206	1337916.0						22811.52	1.71%
GaRADIAL	80635.0						320.72	0.40%
Ag 328.068†	144611.9	0.416	mg/L	0.0099	0.416	mg/L	0.0099	2.39%
QC value within limits for Ag 328.068 Recovery = 104.10%								
Al 396.153†	63685.8	10.0	mg/L	0.01	10.0	mg/L	0.01	0.09%
QC value within limits for Al 396.153 Recovery = 100.34%								
As 188.979†	1786.4	0.404	mg/L	0.0063	0.404	mg/L	0.0063	1.56%
QC value within limits for As 188.979 Recovery = 101.02%								
Ba 233.527†	202413.3	1.01	mg/L	0.001	1.01	mg/L	0.001	0.13%
QC value within limits for Ba 233.527 Recovery = 101.26%								
Be 234.861†	74459.5	0.0516	mg/L	0.00132	0.0516	mg/L	0.00132	2.57%
QC value within limits for Be 234.861 Recovery = 103.14%								
B 249.677†	65544.9	0.530	mg/L	0.0100	0.530	mg/L	0.0100	1.89%
QC value within limits for B 249.677 Recovery = 106.09%								
Ca 227.546†	4722.0	10.6	mg/L	0.17	10.6	mg/L	0.17	1.64%
QC value within limits for Ca 227.546 Recovery = 105.65%								
Cd 228.802†	3492.4	0.0503	mg/L	0.00166	0.0503	mg/L	0.00166	3.30%
QC value within limits for Cd 228.802 Recovery = 100.60%								
Co 228.616†	10711.7	0.201	mg/L	0.0032	0.201	mg/L	0.0032	1.58%
QC value within limits for Co 228.616 Recovery = 100.28%								
Cr 267.716†	75222.2	0.506	mg/L	0.0024	0.506	mg/L	0.0024	0.47%
QC value within limits for Cr 267.716 Recovery = 101.18%								
Cu 327.393†	133665.6	0.517	mg/L	0.0108	0.517	mg/L	0.0108	2.08%
QC value within limits for Cu 327.393 Recovery = 103.37%								
Fe 239.562†	62565.1	3.86	mg/L	0.015	3.86	mg/L	0.015	0.38%
QC value within limits for Fe 239.562 Recovery = 96.51%								
Mg 279.077†	37129.1	9.89	mg/L	0.023	9.89	mg/L	0.023	0.23%
QC value within limits for Mg 279.077 Recovery = 98.87%								
Mn 257.610†	473949.6	0.505	mg/L	0.0029	0.505	mg/L	0.0029	0.57%
QC value within limits for Mn 257.610 Recovery = 101.08%								
Mo 202.031†	43338.7	1.01	mg/L	0.009	1.01	mg/L	0.009	0.86%
QC value within limits for Mo 202.031 Recovery = 100.93%								
Ni 231.604†	44008.5	0.522	mg/L	0.0067	0.522	mg/L	0.0067	1.29%
QC value within limits for Ni 231.604 Recovery = 104.31%								
Pb 220.353†	8575.2	0.504	mg/L	0.0065	0.504	mg/L	0.0065	1.28%
QC value within limits for Pb 220.353 Recovery = 100.85%								
Sb 206.836†	6711.1	1.24	mg/L	0.025	1.24	mg/L	0.025	1.98%
QC value within limits for Sb 206.836 Recovery = 103.07%								
Se 196.026†	1030.5	0.418	mg/L	0.0089	0.418	mg/L	0.0089	2.12%
QC value within limits for Se 196.026 Recovery = 104.51%								
Si 251.611†	301184.8	5.18	mg/L	0.102	5.18	mg/L	0.102	1.96%
QC value within limits for Si 251.611 Recovery = 103.67%								
Sn 189.927†	15702.0	1.01	mg/L	0.012	1.01	mg/L	0.012	1.21%
QC value within limits for Sn 189.927 Recovery = 101.42%								
Ti 334.940†	1137368.4	1.00	mg/L	0.004	1.00	mg/L	0.004	0.38%
QC value within limits for Ti 334.940 Recovery = 100.18%								
Tl 190.801†	2368.2	0.522	mg/L	0.0052	0.522	mg/L	0.0052	1.00%
QC value within limits for Tl 190.801 Recovery = 104.39%								
V 290.880†	281010.7	1.000	mg/L	0.0065	1.000	mg/L	0.0065	0.65%
QC value within limits for V 290.880 Recovery = 99.97%								
Zn 206.200†	81775.2	1.02	mg/L	0.006	1.02	mg/L	0.006	0.57%
QC value within limits for Zn 206.200 Recovery = 102.10%								
K 766.490†	137242.6	50.0	mg/L	0.55	50.0	mg/L	0.55	1.09%
QC value within limits for K 766.490 Recovery = 100.08%								
Na 589.592†	975494.0	49.5	mg/L	0.83	49.5	mg/L	0.83	1.67%

Approved: July 25, 2012

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   QC value within limits for Na 589.592  Recovery = 99.08%
Sr 407.771†          2396764.5        1.00 mg/L         0.017        1.00 mg/L         0.017   1.69%
   QC value within limits for Sr 407.771  Recovery = 100.13%
Li 670.784†           129078.4        1.01 mg/L         0.012        1.01 mg/L         0.012   1.24%
   QC value within limits for Li 670.784  Recovery = 100.86%
All analyte(s) passed QC.
```

Sequence No.: 28 **Autosampler Location: 1**
Sample ID: CCB **Date Collected: 7/24/2012 5:04:25 PM**
Analyst: **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: CCB

Analyte	Back Pressure	Flow
All	185.0 kPa	0.50 L/min

Mean Data: CCB

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2801228.7						22343.26	0.80%
YRADIAL	298506.4						3245.69	1.09%
Ga 417.206	1414431.9						10788.73	0.76%
GaRADIAL	81656.1						1769.02	2.17%
Ag 328.068†	53.8	-0.00104	mg/L	0.000254	-0.00104	mg/L	0.000254	24.54%
QC value within limits for Ag 328.068 Recovery = Not calculated								
Al 396.153†	14.1	-0.00876	mg/L	0.000190	-0.00876	mg/L	0.000190	2.17%
QC value within limits for Al 396.153 Recovery = Not calculated								
As 188.979†	1.8	-0.00003	mg/L	0.000296	-0.00003	mg/L	0.000296	>999.9%
QC value within limits for As 188.979 Recovery = Not calculated								
Ba 233.527†	34.8	-0.00155	mg/L	0.000111	-0.00155	mg/L	0.000111	7.15%
QC value within limits for Ba 233.527 Recovery = Not calculated								
Be 234.861†	19.6	-0.00014	mg/L	0.000023	-0.00014	mg/L	0.000023	16.97%
QC value within limits for Be 234.861 Recovery = Not calculated								
B 249.677†	1982.0	0.0152	mg/L	0.00063	0.0152	mg/L	0.00063	4.11%
QC value within limits for B 249.677 Recovery = Not calculated								
Ca 227.546†	-2.1	0.00821	mg/L	0.024093	0.00821	mg/L	0.024093	293.40%
QC value within limits for Ca 227.546 Recovery = Not calculated								
Cd 228.802†	-8.3	-0.00018	mg/L	0.000174	-0.00018	mg/L	0.000174	98.58%
QC value within limits for Cd 228.802 Recovery = Not calculated								
Co 228.616†	-2.6	-0.00032	mg/L	0.000071	-0.00032	mg/L	0.000071	22.13%
QC value within limits for Co 228.616 Recovery = Not calculated								
Cr 267.716†	1.8	-0.00092	mg/L	0.000126	-0.00092	mg/L	0.000126	13.78%
QC value within limits for Cr 267.716 Recovery = Not calculated								
Cu 327.393†	-7.1	-0.00154	mg/L	0.000525	-0.00154	mg/L	0.000525	34.01%
QC value within limits for Cu 327.393 Recovery = Not calculated								
Fe 239.562†	12.1	0.00012	mg/L	0.000310	0.00012	mg/L	0.000310	249.29%
QC value within limits for Fe 239.562 Recovery = Not calculated								
Mg 279.077†	12.0	0.0103	mg/L	0.00128	0.0103	mg/L	0.00128	12.46%
QC value within limits for Mg 279.077 Recovery = Not calculated								
Mn 257.610†	-55.2	-0.00118	mg/L	0.000015	-0.00118	mg/L	0.000015	1.28%
QC value within limits for Mn 257.610 Recovery = Not calculated								
Mo 202.031†	16.8	-0.00088	mg/L	0.000206	-0.00088	mg/L	0.000206	23.29%
QC value within limits for Mo 202.031 Recovery = Not calculated								
Ni 231.604†	10.5	-0.00359	mg/L	0.000045	-0.00359	mg/L	0.000045	1.25%
QC value within limits for Ni 231.604 Recovery = Not calculated								
Pb 220.353†	-0.2	-0.00072	mg/L	0.000556	-0.00072	mg/L	0.000556	76.88%
QC value within limits for Pb 220.353 Recovery = Not calculated								
Sb 206.836†	4.1	-0.00194	mg/L	0.000964	-0.00194	mg/L	0.000964	49.64%
QC value within limits for Sb 206.836 Recovery = Not calculated								
Se 196.026†	-10.5	-0.00090	mg/L	0.004429	-0.00090	mg/L	0.004429	490.56%
QC value within limits for Se 196.026 Recovery = Not calculated								
Si 251.611†	334.8	-0.00649	mg/L	0.000538	-0.00649	mg/L	0.000538	8.30%
QC value within limits for Si 251.611 Recovery = Not calculated								
Sn 189.927†	15.0	0.00044	mg/L	0.000248	0.00044	mg/L	0.000248	56.20%
QC value within limits for Sn 189.927 Recovery = Not calculated								
Ti 334.940†	125.5	0.00013	mg/L	0.000196	0.00013	mg/L	0.000196	153.62%
QC value within limits for Ti 334.940 Recovery = Not calculated								
Tl 190.801†	-3.9	-0.00369	mg/L	0.000866	-0.00369	mg/L	0.000866	23.45%

Approved: July 25, 2012

QC value within limits for Tl 190.801 Recovery = Not calculated

V 290.880†	-217.3	-0.00144 mg/L	0.000440	-0.00144 mg/L	0.000440	30.58%

QC value within limits for V 290.880 Recovery = Not calculated

Zn 206.200†	119.8	-0.00075 mg/L	0.000082	-0.00075 mg/L	0.000082	10.91%

QC value within limits for Zn 206.200 Recovery = Not calculated

K 766.490†	125.6	-0.0722 mg/L	0.02288	-0.0722 mg/L	0.02288	31.69%

QC value within limits for K 766.490 Recovery = Not calculated

Na 589.592†	1270.5	0.0699 mg/L	0.00224	0.0699 mg/L	0.00224	3.20%

QC value within limits for Na 589.592 Recovery = Not calculated

Sr 407.771†	333.6	-0.00023 mg/L	0.000012	-0.00023 mg/L	0.000012	5.06%

QC value within limits for Sr 407.771 Recovery = Not calculated

Li 670.784†	139.9	-0.00314 mg/L	0.000551	-0.00314 mg/L	0.000551	17.52%

QC value within limits for Li 670.784 Recovery = Not calculated

All analyte(s) passed QC.

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Sequence No.: 29 **Autosampler Location: 72**
Sample ID: PBW 3B WG403933-02 **Date Collected: 7/24/2012 5:11:18 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: PBW 3B WG403933-02

Analyte	Back Pressure	Flow
All	185.0 kPa	0.50 L/min

Mean Data: PBW 3B WG403933-02

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2837955.2						17621.02	0.62%
YRADIAL	305723.2						7245.11	2.37%
Ga 417.206	1488592.0						25708.22	1.73%
GaRADIAL	84841.1						2170.99	2.56%
Ag 328.068†	102.6	-0.00089	mg/L	0.000241	-0.00089	mg/L	0.000241	26.95%
Al 396.153†	-57.7	-0.0201	mg/L	0.00227	-0.0201	mg/L	0.00227	11.25%
As 188.979†	-1.1	-0.00068	mg/L	0.000555	-0.00068	mg/L	0.000555	81.17%
Ba 233.527†	47.1	-0.00149	mg/L	0.000114	-0.00149	mg/L	0.000114	7.61%
Be 234.861†	135.2	-0.00006	mg/L	0.000016	-0.00006	mg/L	0.000016	29.65%
B 249.677†	1088.8	0.00795	mg/L	0.000266	0.00795	mg/L	0.000266	3.35%
Ca 227.546†	-25.1	-0.0409	mg/L	0.00708	-0.0409	mg/L	0.00708	17.32%
Cd 228.802†	-7.4	-0.00016	mg/L	0.000126	-0.00016	mg/L	0.000126	78.96%
Co 228.616†	1.3	-0.00025	mg/L	0.000057	-0.00025	mg/L	0.000057	22.85%
Cr 267.716†	18.0	-0.00081	mg/L	0.000060	-0.00081	mg/L	0.000060	7.46%
Cu 327.393†	132.5	-0.00100	mg/L	0.000477	-0.00100	mg/L	0.000477	47.54%
Fe 239.562†	17.1	0.00044	mg/L	0.000692	0.00044	mg/L	0.000692	158.92%
Mg 279.077†	-0.6	0.00693	mg/L	0.005697	0.00693	mg/L	0.005697	82.22%
Mn 257.610†	-88.4	-0.00121	mg/L	0.000012	-0.00121	mg/L	0.000012	1.02%
Mo 202.031†	3.2	-0.00120	mg/L	0.000226	-0.00120	mg/L	0.000226	18.84%
Ni 231.604†	16.6	-0.00351	mg/L	0.000095	-0.00351	mg/L	0.000095	2.71%
Pb 220.353†	5.7	-0.00038	mg/L	0.000716	-0.00038	mg/L	0.000716	188.22%
Sb 206.836†	9.9	-0.00088	mg/L	0.001712	-0.00088	mg/L	0.001712	195.01%
Se 196.026†	-4.9	0.00133	mg/L	0.000232	0.00133	mg/L	0.000232	17.35%
Si 251.611†	458.9	-0.00434	mg/L	0.000503	-0.00434	mg/L	0.000503	11.59%
Sn 189.927†	7.9	-0.00002	mg/L	0.000769	-0.00002	mg/L	0.000769	>999.9%
Ti 334.940†	111.9	0.00011	mg/L	0.000039	0.00011	mg/L	0.000039	36.47%
Tl 190.801†	-2.4	-0.00337	mg/L	0.001029	-0.00337	mg/L	0.001029	30.55%
V 290.880†	-68.0	-0.00091	mg/L	0.001048	-0.00091	mg/L	0.001048	115.71%
Zn 206.200†	186.7	0.00009	mg/L	0.000178	0.00009	mg/L	0.000178	209.01%
K 766.490†	45.7	-0.101	mg/L	0.0163	-0.101	mg/L	0.0163	16.13%
Na 589.592†	867.3	0.0501	mg/L	0.01097	0.0501	mg/L	0.01097	21.89%
Sr 407.771†	-264.4	-0.00048	mg/L	0.000171	-0.00048	mg/L	0.000171	35.62%
Li 670.784†	67.5	-0.00371	mg/L	0.000510	-0.00371	mg/L	0.000510	13.75%

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Sequence No.: 30 **Autosampler Location: 73**
Sample ID: LCSW 3B WG403933-03 **Date Collected: 7/24/2012 5:18:13 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Approved: July 25, 2012

Kym H. Rhoden

Nebulizer Parameters: LCSW 3B WG403933-03

Analyte	Back Pressure	Flow
All	185.0 kPa	0.50 L/min

Mean Data: LCSW 3B WG403933-03

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2790830.8						9277.10	0.33%
YRADIAL	308864.6						5512.74	1.78%
Ga 417.206	1449409.9						36304.33	2.50%
GaRADIAL	83585.9						1483.37	1.77%
Ag 328.068†	69390.1	0.199	mg/L	0.0053	0.199	mg/L	0.0053	2.67%
Al 396.153†	31024.4	4.88	mg/L	0.039	4.88	mg/L	0.039	0.80%
As 188.979†	816.6	0.184	mg/L	0.0060	0.184	mg/L	0.0060	3.27%
Ba 233.527†	98238.8	0.491	mg/L	0.0043	0.491	mg/L	0.0043	0.88%
Be 234.861†	34474.3	0.0238	mg/L	0.00060	0.0238	mg/L	0.00060	2.52%
B 249.677†	118203.8	0.963	mg/L	0.0264	0.963	mg/L	0.0264	2.74%
Ca 227.546†	2171.0	4.87	mg/L	0.128	4.87	mg/L	0.128	2.63%
Cd 228.802†	1610.2	0.0232	mg/L	0.00098	0.0232	mg/L	0.00098	4.24%
Co 228.616†	5190.3	0.0970	mg/L	0.00047	0.0970	mg/L	0.00047	0.49%
Cr 267.716†	36306.4	0.244	mg/L	0.0013	0.244	mg/L	0.0013	0.54%
Cu 327.393†	63702.3	0.246	mg/L	0.0065	0.246	mg/L	0.0065	2.65%
Fe 239.562†	30104.1	1.86	mg/L	0.004	1.86	mg/L	0.004	0.23%
Mg 279.077†	18143.3	4.83	mg/L	0.022	4.83	mg/L	0.022	0.46%
Mn 257.610†	232295.2	0.247	mg/L	0.0024	0.247	mg/L	0.0024	0.98%
Mo 202.031†	20810.7	0.484	mg/L	0.0008	0.484	mg/L	0.0008	0.16%
Ni 231.604†	20689.3	0.243	mg/L	0.0015	0.243	mg/L	0.0015	0.62%
Pb 220.353†	4159.7	0.244	mg/L	0.0008	0.244	mg/L	0.0008	0.31%
Sb 206.836†	3115.1	0.573	mg/L	0.0180	0.573	mg/L	0.0180	3.14%
Se 196.026†	474.1	0.194	mg/L	0.0079	0.194	mg/L	0.0079	4.07%
Si 251.611†	145831.4	2.50	mg/L	0.042	2.50	mg/L	0.042	1.67%
Sn 189.927†	7714.1	0.498	mg/L	0.0011	0.498	mg/L	0.0011	0.23%
Ti 334.940†	545148.5	0.480	mg/L	0.0028	0.480	mg/L	0.0028	0.58%
Tl 190.801†	1167.4	0.256	mg/L	0.0051	0.256	mg/L	0.0051	1.99%
V 290.880†	137592.0	0.489	mg/L	0.0026	0.489	mg/L	0.0026	0.52%
Zn 206.200†	39650.9	0.494	mg/L	0.0018	0.494	mg/L	0.0018	0.35%
K 766.490†	66843.5	24.3	mg/L	0.19	24.3	mg/L	0.19	0.80%
Na 589.592†	491250.3	24.6	mg/L	0.48	24.6	mg/L	0.48	1.94%
Sr 407.771†	1197924.1	0.500	mg/L	0.0091	0.500	mg/L	0.0091	1.81%
Li 670.784†	64389.8	0.501	mg/L	0.0046	0.501	mg/L	0.0046	0.92%

Sequence No.: 31
Sample ID: L1207054901
Analyst: KHR
Initial Sample Wt:
Dilution:

Autosampler Location: 74
Date Collected: 7/24/2012 5:24:11 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: L1207054901

Analyte	Back Pressure	Flow
All	185.0 kPa	0.50 L/min

Mean Data: L1207054901

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2641264.8						30674.44	1.16%
YRADIAL	292443.1						937.20	0.32%
Ga 417.206	1394396.3						18349.69	1.32%
GaRADIAL	81422.3						972.76	1.19%
Ag 328.068†	24.8	-0.00006	mg/L	0.000495	-0.00006	mg/L	0.000495	765.92%
Al 396.153†	351.3	0.0450	mg/L	0.01582	0.0450	mg/L	0.01582	35.12%
As 188.979†	-6.1	-0.00124	mg/L	0.001559	-0.00124	mg/L	0.001559	125.88%
Ba 233.527†	179024.4	0.895	mg/L	0.0215	0.895	mg/L	0.0215	2.40%
Be 234.861†	1012.9	-0.00002	mg/L	0.000037	-0.00002	mg/L	0.000037	194.39%
B 249.677†	76438.5	0.622	mg/L	0.0096	0.622	mg/L	0.0096	1.55%
Ca 227.546†	14116.8	30.2	mg/L	0.46	30.2	mg/L	0.46	1.53%
Cd 228.802†	0.9	-0.00004	mg/L	0.000213	-0.00004	mg/L	0.000213	583.38%
Co 228.616†	-35.1	-0.00129	mg/L	0.000160	-0.00129	mg/L	0.000160	12.37%

Approved: July 25, 2012

Kim H. Rhoden

Cr 267.716†	92.7	-0.00039	mg/L	0.000075	-0.00039	mg/L	0.000075	19.09%
Cu 327.393†	2777.5	0.00934	mg/L	0.000295	0.00934	mg/L	0.000295	3.16%
Fe 239.562†	40647.1	2.51	mg/L	0.056	2.51	mg/L	0.056	2.21%
Mg 279.077†	34890.4	9.27	mg/L	0.204	9.27	mg/L	0.204	2.20%
Mn 257.610†	47640.6	0.0498	mg/L	0.00125	0.0498	mg/L	0.00125	2.51%
Mo 202.031†	40.3	-0.00020	mg/L	0.000030	-0.00020	mg/L	0.000030	15.22%
Ni 231.604†	166.8	-0.00172	mg/L	0.000355	-0.00172	mg/L	0.000355	20.64%
Pb 220.353†	16.8	0.00027	mg/L	0.001368	0.00027	mg/L	0.001368	508.87%
Sb 206.836†	1.3	-0.00238	mg/L	0.002132	-0.00238	mg/L	0.002132	89.70%
Se 196.026†	-8.2	0.00037	mg/L	0.001718	0.00037	mg/L	0.001718	458.84%
Si 251.611†	272855.9	4.71	mg/L	0.080	4.71	mg/L	0.080	1.69%
Sn 189.927†	-221.4	-0.0148	mg/L	0.00087	-0.0148	mg/L	0.00087	5.88%
Ti 334.940†	-3130.6	0.00178	mg/L	0.000724	0.00178	mg/L	0.000724	40.64%
Tl 190.801†	-16.7	-0.00652	mg/L	0.002999	-0.00652	mg/L	0.002999	46.01%
V 290.880†	1297.0	0.00335	mg/L	0.000606	0.00335	mg/L	0.000606	18.09%
Zn 206.200†	2005.6	0.0227	mg/L	0.00023	0.0227	mg/L	0.00023	1.00%
K 766.490†	13343.1	4.38	mg/L	0.080	4.38	mg/L	0.080	1.84%
Na 589.592†	5733748.2	365	mg/L	6.3	365	mg/L	6.3	1.72%
Sr 407.771†	1246181.0	0.520	mg/L	0.0032	0.520	mg/L	0.0032	0.61%
Li 670.784†	5284.2	0.0372	mg/L	0.00130	0.0372	mg/L	0.00130	3.49%

Sequence No.: 32 **Autosampler Location: 75**
Sample ID: L1207055001 **Date Collected: 7/24/2012 5:30:13 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1207055001

Analyte	Back Pressure	Flow
All	185.0 kPa	0.50 L/min

Mean Data: L1207055001

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2726978.9						8413.45	0.31%
YRADIAL	301055.3						3383.30	1.12%
Ga 417.206	1457249.4						22035.17	1.51%
GaRADIAL	84091.4						428.08	0.51%
Ag 328.068†	554.4	0.00080	mg/L	0.000444	0.00080	mg/L	0.000444	55.31%
Al 396.153†	-103.6	-0.0278	mg/L	0.00391	-0.0278	mg/L	0.00391	14.09%
As 188.979†	117.5	0.0267	mg/L	0.00110	0.0267	mg/L	0.00110	4.13%
Ba 233.527†	56906.6	0.283	mg/L	0.0036	0.283	mg/L	0.0036	1.27%
Be 234.861†	731.2	0.00012	mg/L	0.000084	0.00012	mg/L	0.000084	72.32%
B 249.677†	15190.5	0.123	mg/L	0.0065	0.123	mg/L	0.0065	5.33%
Ca 227.546†	24418.1	52.1	mg/L	2.39	52.1	mg/L	2.39	4.58%
Cd 228.802†	13.3	0.00001	mg/L	0.000048	0.00001	mg/L	0.000048	491.64%
Co 228.616†	-1.7	-0.00040	mg/L	0.000310	-0.00040	mg/L	0.000310	77.30%
Cr 267.716†	129.5	-0.00010	mg/L	0.000134	-0.00010	mg/L	0.000134	139.71%
Cu 327.393†	157.0	-0.00087	mg/L	0.000764	-0.00087	mg/L	0.000764	88.27%
Fe 239.562†	17457.1	1.08	mg/L	0.005	1.08	mg/L	0.005	0.47%
Mg 279.077†	80148.0	21.3	mg/L	0.10	21.3	mg/L	0.10	0.49%
Mn 257.610†	26282.4	0.0269	mg/L	0.00030	0.0269	mg/L	0.00030	1.10%
Mo 202.031†	277.3	0.00525	mg/L	0.000427	0.00525	mg/L	0.000427	8.15%
Ni 231.604†	72.9	-0.00284	mg/L	0.000625	-0.00284	mg/L	0.000625	22.01%
Pb 220.353†	17.3	0.00061	mg/L	0.001320	0.00061	mg/L	0.001320	214.93%
Sb 206.836†	-4.7	-0.00350	mg/L	0.001269	-0.00350	mg/L	0.001269	36.22%
Se 196.026†	-5.1	0.00140	mg/L	0.004807	0.00140	mg/L	0.004807	343.57%
Si 251.611†	469417.1	8.10	mg/L	0.231	8.10	mg/L	0.231	2.85%
Sn 189.927†	-264.2	-0.0176	mg/L	0.00075	-0.0176	mg/L	0.00075	4.25%
Ti 334.940†	-8144.6	0.00067	mg/L	0.000504	0.00067	mg/L	0.000504	75.26%
Tl 190.801†	-20.8	-0.00744	mg/L	0.002605	-0.00744	mg/L	0.002605	35.02%
V 290.880†	697.0	0.00111	mg/L	0.001753	0.00111	mg/L	0.001753	158.41%
Zn 206.200†	371.2	0.00237	mg/L	0.000040	0.00237	mg/L	0.000040	1.68%
K 766.490†	7505.6	2.59	mg/L	0.039	2.59	mg/L	0.039	1.49%
Na 589.592†	487098.7	24.3	mg/L	0.08	24.3	mg/L	0.08	0.33%
Sr 407.771†	1112380.0	0.463	mg/L	0.0013	0.463	mg/L	0.0013	0.28%
Li 670.784†	3184.4	0.0207	mg/L	0.00068	0.0207	mg/L	0.00068	3.26%

Approved: July 25, 2012

Sequence No.: 33 **Autosampler Location: 76**
Sample ID: L1207055002 **Date Collected: 7/24/2012 5:36:11 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1207055002

Analyte	Back Pressure	Flow
All	185.0 kPa	0.50 L/min

Mean Data: L1207055002

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2689498.5						15948.12	0.59%
YRADIAL	295008.7						6066.96	2.06%
Ga 417.206	1498688.6						2469.07	0.16%
GaRADIAL	85108.5						722.06	0.85%
Ag 328.068†	1149.8	0.00209	mg/L	0.000543	0.00209	mg/L	0.000543	25.98%
Al 396.153†	-19.0	-0.0141	mg/L	0.00182	-0.0141	mg/L	0.00182	12.92%
As 188.979†	-2.5	-0.00101	mg/L	0.002702	-0.00101	mg/L	0.002702	268.84%
Ba 233.527†	11216.6	0.0545	mg/L	0.00027	0.0545	mg/L	0.00027	0.50%
Be 234.861†	195.8	-0.00003	mg/L	0.000008	-0.00003	mg/L	0.000008	26.81%
B 249.677†	4785.5	0.0381	mg/L	0.00095	0.0381	mg/L	0.00095	2.49%
Ca 227.546†	48991.4	105	mg/L	1.4	105	mg/L	1.4	1.30%
Cd 228.802†	-7.1	-0.00015	mg/L	0.000064	-0.00015	mg/L	0.000064	41.46%
Co 228.616†	4.4	-0.00017	mg/L	0.000128	-0.00017	mg/L	0.000128	75.01%
Cr 267.716†	134.0	-0.00003	mg/L	0.000128	-0.00003	mg/L	0.000128	428.37%
Cu 327.393†	434.7	0.00015	mg/L	0.000444	0.00015	mg/L	0.000444	289.50%
Fe 239.562†	1396.5	0.0852	mg/L	0.00048	0.0852	mg/L	0.00048	0.56%
Mg 279.077†	74045.1	19.7	mg/L	0.15	19.7	mg/L	0.15	0.76%
Mn 257.610†	11237.5	0.0109	mg/L	0.00021	0.0109	mg/L	0.00021	1.97%
Mo 202.031†	84.5	0.00070	mg/L	0.000146	0.00070	mg/L	0.000146	20.80%
Ni 231.604†	58.3	-0.00301	mg/L	0.000354	-0.00301	mg/L	0.000354	11.76%
Pb 220.353†	25.6	0.00161	mg/L	0.001400	0.00161	mg/L	0.001400	86.71%
Sb 206.836†	1.6	-0.00240	mg/L	0.000659	-0.00240	mg/L	0.000659	27.40%
Se 196.026†	-4.5	0.00149	mg/L	0.001166	0.00149	mg/L	0.001166	78.07%
Si 251.611†	352488.2	6.08	mg/L	0.075	6.08	mg/L	0.075	1.23%
Sn 189.927†	-356.7	-0.0236	mg/L	0.00013	-0.0236	mg/L	0.00013	0.57%
Ti 334.940†	-17894.6	-0.00004	mg/L	0.000547	-0.00004	mg/L	0.000547	>999.9%
Tl 190.801†	-37.6	-0.0111	mg/L	0.00071	-0.0111	mg/L	0.00071	6.35%
V 290.880†	-108.3	-0.00157	mg/L	0.000628	-0.00157	mg/L	0.000628	39.85%
Zn 206.200†	1343.8	0.0145	mg/L	0.00017	0.0145	mg/L	0.00017	1.16%
K 766.490†	7202.4	2.44	mg/L	0.067	2.44	mg/L	0.067	2.76%
Na 589.592†	1279984.9	65.7	mg/L	0.91	65.7	mg/L	0.91	1.38%
Sr 407.771†	609817.1	0.252	mg/L	0.0066	0.252	mg/L	0.0066	2.60%
Li 670.784†	894.3	0.00278	mg/L	0.000129	0.00278	mg/L	0.000129	4.64%

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Sequence No.: 34 **Autosampler Location: 77**
Sample ID: L1207055101 **Date Collected: 7/24/2012 5:43:07 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1207055101

Analyte	Back Pressure	Flow
All	185.0 kPa	0.50 L/min

Mean Data: L1207055101

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2700775.5						35076.16	1.30%
YRADIAL	300458.2						6038.00	2.01%
Ga 417.206	1458119.9						58699.66	4.03%
GaRADIAL	83389.7						594.47	0.71%
Ag 328.068†	604.3	0.00075	mg/L	0.000067	0.00075	mg/L	0.000067	8.86%
Al 396.153†	122.4	0.00807	mg/L	0.006663	0.00807	mg/L	0.006663	82.52%
As 188.979†	150.0	0.0341	mg/L	0.00180	0.0341	mg/L	0.00180	5.29%

Approved: July 25, 2012

Kym H. Rhoden

Ba 233.527†	24032.0	0.119	mg/L	0.0017	0.119	mg/L	0.0017	1.42%
Be 234.861†	527.9	0.00006	mg/L	0.000068	0.00006	mg/L	0.000068	115.46%
B 249.677†	13817.9	0.112	mg/L	0.0046	0.112	mg/L	0.0046	4.13%
Ca 227.546†	24003.6	51.2	mg/L	2.04	51.2	mg/L	2.04	3.98%
Cd 228.802†	16.8	0.00003	mg/L	0.000278	0.00003	mg/L	0.000278	>999.9%
Co 228.616†	9.1	-0.00013	mg/L	0.000120	-0.00013	mg/L	0.000120	90.11%
Cr 267.716†	138.9	-0.00002	mg/L	0.000056	-0.00002	mg/L	0.000056	313.39%
Cu 327.393†	715.4	0.00128	mg/L	0.000941	0.00128	mg/L	0.000941	73.65%
Fe 239.562†	11535.0	0.711	mg/L	0.0081	0.711	mg/L	0.0081	1.14%
Mg 279.077†	81258.2	21.6	mg/L	0.23	21.6	mg/L	0.23	1.05%
Mn 257.610†	16334.2	0.0163	mg/L	0.00017	0.0163	mg/L	0.00017	1.07%
Mo 202.031†	283.1	0.00536	mg/L	0.000085	0.00536	mg/L	0.000085	1.58%
Ni 231.604†	56.2	-0.00304	mg/L	0.000282	-0.00304	mg/L	0.000282	9.27%
Pb 220.353†	10.0	0.00022	mg/L	0.001151	0.00022	mg/L	0.001151	528.23%
Sb 206.836†	-13.3	-0.00511	mg/L	0.000392	-0.00511	mg/L	0.000392	7.68%
Se 196.026†	0.0	0.00341	mg/L	0.001383	0.00341	mg/L	0.001383	40.58%
Si 251.611†	463517.8	8.00	mg/L	0.241	8.00	mg/L	0.241	3.01%
Sn 189.927†	-276.0	-0.0184	mg/L	0.00029	-0.0184	mg/L	0.00029	1.59%
Ti 334.940†	-7585.5	0.00103	mg/L	0.000598	0.00103	mg/L	0.000598	58.10%
Tl 190.801†	-12.2	-0.00556	mg/L	0.002945	-0.00556	mg/L	0.002945	52.98%
V 290.880†	1283.1	0.00324	mg/L	0.002654	0.00324	mg/L	0.002654	81.90%
Zn 206.200†	512.9	0.00414	mg/L	0.000112	0.00414	mg/L	0.000112	2.70%
K 766.490†	7999.6	2.77	mg/L	0.009	2.77	mg/L	0.009	0.34%
Na 589.592†	430816.1	21.5	mg/L	0.26	21.5	mg/L	0.26	1.21%
Sr 407.771†	1506220.7	0.628	mg/L	0.0056	0.628	mg/L	0.0056	0.88%
Li 670.784†	3159.6	0.0206	mg/L	0.00028	0.0206	mg/L	0.00028	1.38%

Sequence No.: 35
Sample ID: L1207055201
Analyst: KHR
Initial Sample Wt:
Dilution:

Autosampler Location: 78
Date Collected: 7/24/2012 5:49:06 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: L1207055201

Analyte	Back Pressure	Flow
All	185.0 kPa	0.50 L/min

Mean Data: L1207055201

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2663348.8						25557.27	0.96%
YRADIAL	298765.0						4390.86	1.47%
Ga 417.206	1420033.9						26457.71	1.86%
GaRADIAL	82725.8						1867.65	2.26%
Ag 328.068†	639.3	0.00099	mg/L	0.000016	0.00099	mg/L	0.000016	1.66%
Al 396.153†	-151.9	-0.0356	mg/L	0.00514	-0.0356	mg/L	0.00514	14.45%
As 188.979†	150.4	0.0342	mg/L	0.00077	0.0342	mg/L	0.00077	2.25%
Ba 233.527†	25013.7	0.124	mg/L	0.0016	0.124	mg/L	0.0016	1.25%
Be 234.861†	615.3	0.00005	mg/L	0.000022	0.00005	mg/L	0.000022	44.94%
B 249.677†	20087.9	0.163	mg/L	0.0059	0.163	mg/L	0.0059	3.61%
Ca 227.546†	26646.3	56.9	mg/L	1.79	56.9	mg/L	1.79	3.14%
Cd 228.802†	3.1	-0.00018	mg/L	0.000233	-0.00018	mg/L	0.000233	129.35%
Co 228.616†	-1.0	-0.00033	mg/L	0.000174	-0.00033	mg/L	0.000174	53.25%
Cr 267.716†	158.0	0.00010	mg/L	0.000139	0.00010	mg/L	0.000139	141.59%
Cu 327.393†	120.0	-0.00101	mg/L	0.000441	-0.00101	mg/L	0.000441	43.58%
Fe 239.562†	16640.8	1.03	mg/L	0.012	1.03	mg/L	0.012	1.20%
Mg 279.077†	96950.6	25.8	mg/L	0.09	25.8	mg/L	0.09	0.36%
Mn 257.610†	25946.4	0.0266	mg/L	0.00025	0.0266	mg/L	0.00025	0.95%
Mo 202.031†	369.2	0.00739	mg/L	0.000101	0.00739	mg/L	0.000101	1.37%
Ni 231.604†	73.2	-0.00284	mg/L	0.000384	-0.00284	mg/L	0.000384	13.55%
Pb 220.353†	2.5	-0.00021	mg/L	0.001519	-0.00021	mg/L	0.001519	722.31%
Sb 206.836†	-4.1	-0.00339	mg/L	0.001036	-0.00339	mg/L	0.001036	30.55%
Se 196.026†	-2.4	0.00248	mg/L	0.001107	0.00248	mg/L	0.001107	44.72%
Si 251.611†	495015.3	8.55	mg/L	0.195	8.55	mg/L	0.195	2.28%
Sn 189.927†	-300.8	-0.0200	mg/L	0.00035	-0.0200	mg/L	0.00035	1.76%
Ti 334.940†	-8853.7	0.00076	mg/L	0.000620	0.00076	mg/L	0.000620	81.71%
Tl 190.801†	-15.1	-0.00622	mg/L	0.001181	-0.00622	mg/L	0.001181	18.99%
V 290.880†	1097.2	0.00243	mg/L	0.002457	0.00243	mg/L	0.002457	101.19%
Zn 206.200†	706.0	0.00654	mg/L	0.000042	0.00654	mg/L	0.000042	0.65%

Approved: July 25, 2012

K 766.490†	9274.6	3.23	mg/L	0.066	3.23	mg/L	0.066	2.06%
Na 589.592†	598422.6	30.0	mg/L	0.45	30.0	mg/L	0.45	1.50%
Sr 407.771†	1518866.2	0.633	mg/L	0.0075	0.633	mg/L	0.0075	1.18%
Li 670.784†	4132.2	0.0282	mg/L	0.00060	0.0282	mg/L	0.00060	2.11%

Sequence No.: 36 **Autosampler Location: 79**
Sample ID: L1207055301 **Date Collected: 7/24/2012 5:55:05 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1207055301

Analyte	Back Pressure	Flow
All	185.0 kPa	0.50 L/min

Mean Data: L1207055301

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2705547.1						35148.41	1.30%
YRADIAL	298652.9						3553.28	1.19%
Ga 417.206	1459915.5						31685.55	2.17%
GaRADIAL	83269.9						1430.48	1.72%
Ag 328.068†	1174.8	0.00220	mg/L	0.000599	0.00220	mg/L	0.000599	27.24%
Al 396.153†	-56.6	-0.0201	mg/L	0.00977	-0.0201	mg/L	0.00977	48.66%
As 188.979†	-3.6	-0.00123	mg/L	0.001813	-0.00123	mg/L	0.001813	147.75%
Ba 233.527†	14297.5	0.0699	mg/L	0.00127	0.0699	mg/L	0.00127	1.82%
Be 234.861†	227.2	-0.00001	mg/L	0.000042	-0.00001	mg/L	0.000042	837.71%
B 249.677†	11791.2	0.0953	mg/L	0.00386	0.0953	mg/L	0.00386	4.05%
Ca 227.546†	43154.5	92.1	mg/L	3.56	92.1	mg/L	3.56	3.86%
Cd 228.802†	14.9	0.00018	mg/L	0.000190	0.00018	mg/L	0.000190	108.60%
Co 228.616†	25.1	0.00020	mg/L	0.000141	0.00020	mg/L	0.000141	69.54%
Cr 267.716†	143.1	0.00003	mg/L	0.000118	0.00003	mg/L	0.000118	367.89%
Cu 327.393†	2857.7	0.00953	mg/L	0.000631	0.00953	mg/L	0.000631	6.62%
Fe 239.562†	3215.7	0.197	mg/L	0.0031	0.197	mg/L	0.0031	1.56%
Mg 279.077†	85584.8	22.7	mg/L	0.17	22.7	mg/L	0.17	0.75%
Mn 257.610†	291358.6	0.310	mg/L	0.0051	0.310	mg/L	0.0051	1.66%
Mo 202.031†	77.3	0.00060	mg/L	0.000087	0.00060	mg/L	0.000087	14.47%
Ni 231.604†	90.4	-0.00263	mg/L	0.000320	-0.00263	mg/L	0.000320	12.17%
Pb 220.353†	11.0	0.00046	mg/L	0.000603	0.00046	mg/L	0.000603	131.87%
Sb 206.836†	-11.5	-0.00483	mg/L	0.000102	-0.00483	mg/L	0.000102	2.12%
Se 196.026†	-7.8	0.00010	mg/L	0.000272	0.00010	mg/L	0.000272	282.75%
Si 251.611†	399738.0	6.90	mg/L	0.188	6.90	mg/L	0.188	2.72%
Sn 189.927†	-328.6	-0.0218	mg/L	0.00093	-0.0218	mg/L	0.00093	4.29%
Ti 334.940†	-14278.8	0.00127	mg/L	0.000761	0.00127	mg/L	0.000761	59.89%
Tl 190.801†	-23.0	-0.00826	mg/L	0.002550	-0.00826	mg/L	0.002550	30.89%
V 290.880†	1181.1	0.00293	mg/L	0.001838	0.00293	mg/L	0.001838	62.82%
Zn 206.200†	4578.6	0.0548	mg/L	0.00069	0.0548	mg/L	0.00069	1.27%
K 766.490†	4670.0	1.57	mg/L	0.032	1.57	mg/L	0.032	2.02%
Na 589.592†	311720.4	15.5	mg/L	0.06	15.5	mg/L	0.06	0.40%
Sr 407.771†	416657.0	0.172	mg/L	0.0019	0.172	mg/L	0.0019	1.08%
Li 670.784†	1818.3	0.0100	mg/L	0.00080	0.0100	mg/L	0.00080	7.95%

Sequence No.: 37 **Autosampler Location: 80**
Sample ID: L1207055301PS WG404241-01 **Date Collected: 7/24/2012 6:01:05 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1207055301PS WG404241-01

Analyte	Back Pressure	Flow
All	185.0 kPa	0.50 L/min

Mean Data: L1207055301PS WG404241-01

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2667850.1						1413.64	0.05%

Approved: July 25, 2012

Kym H. Rhoden

YRADIAL	304634.9						9875.56	3.24%
Ga 417.206	1429731.3						29406.18	2.06%
GaRADIAL	82355.1						2658.15	3.23%
Ag 328.068†	70330.3	0.202	mg/L	0.0052	0.202	mg/L	0.0052	2.57%
Al 396.153†	32166.0	5.06	mg/L	0.007	5.06	mg/L	0.007	0.14%
As 188.979†	839.0	0.189	mg/L	0.0060	0.189	mg/L	0.0060	3.16%
Ba 233.527†	113503.6	0.567	mg/L	0.0016	0.567	mg/L	0.0016	0.29%
Be 234.861†	36522.7	0.0252	mg/L	0.00068	0.0252	mg/L	0.00068	2.70%
B 249.677†	132312.0	1.08	mg/L	0.030	1.08	mg/L	0.030	2.78%
Ca 227.546†	41906.1	89.7	mg/L	2.97	89.7	mg/L	2.97	3.31%
Cd 228.802†	1608.9	0.0231	mg/L	0.00095	0.0231	mg/L	0.00095	4.10%
Co 228.616†	5159.8	0.0965	mg/L	0.00024	0.0965	mg/L	0.00024	0.25%
Cr 267.716†	37537.6	0.252	mg/L	0.0009	0.252	mg/L	0.0009	0.36%
Cu 327.393†	65481.8	0.252	mg/L	0.0061	0.252	mg/L	0.0061	2.42%
Fe 239.562†	33224.9	2.05	mg/L	0.018	2.05	mg/L	0.018	0.87%
Mg 279.077†	91898.6	24.4	mg/L	0.28	24.4	mg/L	0.28	1.15%
Mn 257.610†	496798.4	0.530	mg/L	0.0040	0.530	mg/L	0.0040	0.75%
Mo 202.031†	22109.8	0.514	mg/L	0.0004	0.514	mg/L	0.0004	0.08%
Ni 231.604†	20950.8	0.246	mg/L	0.0003	0.246	mg/L	0.0003	0.13%
Pb 220.353†	4237.9	0.249	mg/L	0.0020	0.249	mg/L	0.0020	0.82%
Sb 206.836†	3208.6	0.590	mg/L	0.0148	0.590	mg/L	0.0148	2.51%
Se 196.026†	486.4	0.199	mg/L	0.0088	0.199	mg/L	0.0088	4.40%
Si 251.611†	504822.7	8.71	mg/L	0.130	8.71	mg/L	0.130	1.50%
Sn 189.927†	-321.9	-0.0213	mg/L	0.00006	-0.0213	mg/L	0.00006	0.29%
Ti 334.940†	558672.3	0.505	mg/L	0.0008	0.505	mg/L	0.0008	0.16%
Tl 190.801†	1140.5	0.250	mg/L	0.0043	0.250	mg/L	0.0043	1.70%
V 290.880†	143476.9	0.510	mg/L	0.0041	0.510	mg/L	0.0041	0.81%
Zn 206.200†	43524.3	0.542	mg/L	0.0022	0.542	mg/L	0.0022	0.41%
K 766.490†	73331.8	26.6	mg/L	0.19	26.6	mg/L	0.19	0.72%
Na 589.592†	783483.1	39.5	mg/L	1.69	39.5	mg/L	1.69	4.26%
Sr 407.771†	1575911.0	0.656	mg/L	0.0270	0.656	mg/L	0.0270	4.12%
Li 670.784†	67943.9	0.529	mg/L	0.0013	0.529	mg/L	0.0013	0.25%

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Sequence No.: 38 **Autosampler Location: 81**
Sample ID: L1207055301DL WG404241-02 **Date Collected: 7/24/2012 6:07:03 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1207055301DL WG404241-02

Analyte	Back Pressure	Flow
All	186.0 kPa	0.50 L/min

Mean Data: L1207055301DL WG404241-02

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2726365.1						23279.89	0.85%
YRADIAL	302460.8						5707.03	1.89%
Ga 417.206	1478684.4						11495.33	0.78%
GaRADIAL	84093.5						3220.38	3.83%
Ag 328.068†	231.1	-0.00052	mg/L	0.000482	-0.00052	mg/L	0.000482	92.17%
Al 396.153†	-9.1	-0.0125	mg/L	0.00011	-0.0125	mg/L	0.00011	0.91%
As 188.979†	-1.0	-0.00067	mg/L	0.000813	-0.00067	mg/L	0.000813	120.88%
Ba 233.527†	2970.1	0.0132	mg/L	0.00006	0.0132	mg/L	0.00006	0.42%
Be 234.861†	123.7	-0.00007	mg/L	0.000024	-0.00007	mg/L	0.000024	36.51%
B 249.677†	2923.7	0.0229	mg/L	0.00024	0.0229	mg/L	0.00024	1.06%
Ca 227.546†	8370.4	17.9	mg/L	0.18	17.9	mg/L	0.18	1.03%
Cd 228.802†	-3.4	-0.00010	mg/L	0.000063	-0.00010	mg/L	0.000063	62.33%
Co 228.616†	-0.7	-0.00028	mg/L	0.000100	-0.00028	mg/L	0.000100	35.15%
Cr 267.716†	55.2	-0.00056	mg/L	0.000075	-0.00056	mg/L	0.000075	13.36%
Cu 327.393†	672.1	0.00108	mg/L	0.000684	0.00108	mg/L	0.000684	63.10%
Fe 239.562†	645.0	0.0391	mg/L	0.00070	0.0391	mg/L	0.00070	1.78%
Mg 279.077†	16994.0	4.52	mg/L	0.097	4.52	mg/L	0.097	2.15%
Mn 257.610†	61150.9	0.0642	mg/L	0.00090	0.0642	mg/L	0.00090	1.40%
Mo 202.031†	31.6	-0.00052	mg/L	0.000130	-0.00052	mg/L	0.000130	24.82%
Ni 231.604†	17.5	-0.00350	mg/L	0.000199	-0.00350	mg/L	0.000199	5.68%
Pb 220.353†	16.6	0.00036	mg/L	0.001838	0.00036	mg/L	0.001838	508.52%
Sb 206.836†	0.7	-0.00257	mg/L	0.000906	-0.00257	mg/L	0.000906	35.25%
Se 196.026†	-11.8	-0.00147	mg/L	0.001625	-0.00147	mg/L	0.001625	110.35%

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Si 251.611†	78266.3	1.34	mg/L	0.021	1.34	mg/L	0.021	1.55%
Sn 189.927†	-170.4	-0.0115	mg/L	0.00071	-0.0115	mg/L	0.00071	6.18%
Ti 334.940†	-3301.6	-0.00021	mg/L	0.000060	-0.00021	mg/L	0.000060	29.13%
Tl 190.801†	-12.6	-0.00565	mg/L	0.001614	-0.00565	mg/L	0.001614	28.56%
V 290.880†	65.8	-0.00055	mg/L	0.000468	-0.00055	mg/L	0.000468	84.67%
Zn 206.200†	1132.3	0.0119	mg/L	0.00012	0.0119	mg/L	0.00012	1.04%
K 766.490†	1319.5	0.359	mg/L	0.0126	0.359	mg/L	0.0126	3.52%
Na 589.592†	62754.5	3.10	mg/L	0.071	3.10	mg/L	0.071	2.29%
Sr 407.771†	84428.4	0.0345	mg/L	0.00129	0.0345	mg/L	0.00129	3.73%
Li 670.784†	513.1	-0.00021	mg/L	0.000244	-0.00021	mg/L	0.000244	113.79%

Sequence No.: 39
Sample ID: CCV
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 6
Date Collected: 7/24/2012 6:14:00 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: CCV

Analyte	Back Pressure	Flow
All	185.0 kPa	0.50 L/min

Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2683348.7						23936.97	0.89%
YRADIAL	303193.5						3377.68	1.11%
Ga 417.206	1373723.3						41781.95	3.04%
GaRADIAL	81645.8						1544.53	1.89%
Ag 328.068†	140950.8	0.406	mg/L	0.0110	0.406	mg/L	0.0110	2.70%
QC value within limits for Ag 328.068 Recovery = 101.47%								
Al 396.153†	63751.7	10.0	mg/L	0.03	10.0	mg/L	0.03	0.26%
QC value within limits for Al 396.153 Recovery = 100.45%								
As 188.979†	1729.6	0.391	mg/L	0.0115	0.391	mg/L	0.0115	2.93%
QC value within limits for As 188.979 Recovery = 97.78%								
Ba 233.527†	200152.4	1.00	mg/L	0.003	1.00	mg/L	0.003	0.32%
QC value within limits for Ba 233.527 Recovery = 100.13%								
Be 234.861†	72229.9	0.0500	mg/L	0.00177	0.0500	mg/L	0.00177	3.55%
QC value within limits for Be 234.861 Recovery = 100.01%								
B 249.677†	62107.1	0.502	mg/L	0.0142	0.502	mg/L	0.0142	2.83%
QC value within limits for B 249.677 Recovery = 100.49%								
Ca 227.546†	4636.0	10.4	mg/L	0.34	10.4	mg/L	0.34	3.32%
QC value within limits for Ca 227.546 Recovery = 103.76%								
Cd 228.802†	3384.5	0.0488	mg/L	0.00235	0.0488	mg/L	0.00235	4.82%
QC value within limits for Cd 228.802 Recovery = 97.51%								
Co 228.616†	10570.0	0.198	mg/L	0.0027	0.198	mg/L	0.0027	1.35%
QC value within limits for Co 228.616 Recovery = 98.94%								
Cr 267.716†	74217.3	0.499	mg/L	0.0041	0.499	mg/L	0.0041	0.82%
QC value within limits for Cr 267.716 Recovery = 99.82%								
Cu 327.393†	130996.3	0.507	mg/L	0.0139	0.507	mg/L	0.0139	2.74%
QC value within limits for Cu 327.393 Recovery = 101.31%								
Fe 239.562†	62246.4	3.84	mg/L	0.013	3.84	mg/L	0.013	0.33%
QC value within limits for Fe 239.562 Recovery = 96.02%								
Mg 279.077†	36821.5	9.80	mg/L	0.026	9.80	mg/L	0.026	0.27%
QC value within limits for Mg 279.077 Recovery = 98.05%								
Mn 257.610†	469545.8	0.501	mg/L	0.0017	0.501	mg/L	0.0017	0.33%
QC value within limits for Mn 257.610 Recovery = 100.14%								
Mo 202.031†	42713.1	0.995	mg/L	0.0056	0.995	mg/L	0.0056	0.56%
QC value within limits for Mo 202.031 Recovery = 99.47%								
Ni 231.604†	43420.4	0.515	mg/L	0.0060	0.515	mg/L	0.0060	1.17%
QC value within limits for Ni 231.604 Recovery = 102.91%								
Pb 220.353†	8476.5	0.498	mg/L	0.0042	0.498	mg/L	0.0042	0.84%
QC value within limits for Pb 220.353 Recovery = 99.69%								
Sb 206.836†	6491.9	1.20	mg/L	0.045	1.20	mg/L	0.045	3.75%
QC value within limits for Sb 206.836 Recovery = 99.69%								
Se 196.026†	988.2	0.401	mg/L	0.0201	0.401	mg/L	0.0201	5.00%
QC value within limits for Se 196.026 Recovery = 100.26%								
Si 251.611†	292498.2	5.03	mg/L	0.120	5.03	mg/L	0.120	2.39%
QC value within limits for Si 251.611 Recovery = 100.67%								
Sn 189.927†	15434.4	0.997	mg/L	0.0115	0.997	mg/L	0.0115	1.16%

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   QC value within limits for Sn 189.927  Recovery = 99.69%
Ti 334.940†          1134378.5       0.999 mg/L        0.0033       0.999 mg/L        0.0033   0.33%
   QC value within limits for Ti 334.940  Recovery = 99.91%
Tl 190.801†             2347.1       0.517 mg/L        0.0113       0.517 mg/L        0.0113   2.19%
   QC value within limits for Tl 190.801  Recovery = 103.48%
V 290.880†            280379.3       0.997 mg/L        0.0109       0.997 mg/L        0.0109   1.09%
   QC value within limits for V 290.880  Recovery = 99.75%
Zn 206.200†            80039.7       0.999 mg/L        0.0137       0.999 mg/L        0.0137   1.37%
   QC value within limits for Zn 206.200  Recovery = 99.93%
K 766.490†            137693.0        50.2 mg/L          0.31        50.2 mg/L          0.31   0.63%
   QC value within limits for K 766.490  Recovery = 100.41%
Na 589.592†           980047.9        49.8 mg/L          1.59        49.8 mg/L          1.59   3.20%
   QC value within limits for Na 589.592  Recovery = 99.56%
Sr 407.771†          2418840.6        1.01 mg/L         0.017        1.01 mg/L         0.017   1.66%
   QC value within limits for Sr 407.771  Recovery = 101.06%
Li 670.784†           130209.2        1.02 mg/L         0.002        1.02 mg/L         0.002   0.16%
   QC value within limits for Li 670.784  Recovery = 101.75%
All analyte(s) passed QC.

==========================================================================================
Sequence No.: 40                                    Autosampler Location: 1
Sample ID: CCB                                      Date Collected: 7/24/2012 6:19:59 PM
Analyst:                                            Data Type: Original
Initial Sample Wt:                                  Initial Sample Vol:
Dilution:                                           Sample Prep Vol:

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Nebulizer Parameters: CCB
Analyte                 Back Pressure    Flow
All                    185.0 kPa         0.50 L/min

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Mean Data: CCB
                  Mean Corrected          Calib.                          Sample
Analyte              Intensity      Conc. Units      Std.Dev.      Conc. Units      Std.Dev.   RSD
Y 371.029            2798790.7                                                     41186.36   1.47%
YRADIAL               300639.6                                                      3950.07   1.31%
Ga 417.206           1438104.1                                                     33685.25   2.34%
GaRADIAL               82368.8                                                      2619.71   3.18%
Ag 328.068†               95.3    -0.00092 mg/L      0.000144    -0.00092 mg/L      0.000144  15.71%
   QC value within limits for Ag 328.068  Recovery = Not calculated
Al 396.153†               27.8    -0.00658 mg/L      0.001424    -0.00658 mg/L      0.001424  21.63%
   QC value within limits for Al 396.153  Recovery = Not calculated
As 188.979†               -1.8    -0.00085 mg/L      0.000420    -0.00085 mg/L      0.000420  49.27%
   QC value within limits for As 188.979  Recovery = Not calculated
Ba 233.527†               35.2    -0.00155 mg/L      0.000110    -0.00155 mg/L      0.000110   7.09%
   QC value within limits for Ba 233.527  Recovery = Not calculated
Be 234.861†               42.2    -0.00012 mg/L      0.000010    -0.00012 mg/L      0.000010   8.70%
   QC value within limits for Be 234.861  Recovery = Not calculated
B 249.677†               532.8     0.00341 mg/L      0.000293     0.00341 mg/L      0.000293   8.59%
   QC value within limits for B 249.677  Recovery = Not calculated
Ca 227.546†               -7.1    -0.00252 mg/L      0.005074    -0.00252 mg/L      0.005074 200.99%
   QC value within limits for Ca 227.546  Recovery = Not calculated
Cd 228.802†               -3.7    -0.00010 mg/L      0.000080    -0.00010 mg/L      0.000080  77.31%
   QC value within limits for Cd 228.802  Recovery = Not calculated
Co 228.616†               -5.0    -0.00037 mg/L      0.000201    -0.00037 mg/L      0.000201  54.94%
   QC value within limits for Co 228.616  Recovery = Not calculated
Cr 267.716†               15.5    -0.00082 mg/L      0.000087    -0.00082 mg/L      0.000087  10.56%
   QC value within limits for Cr 267.716  Recovery = Not calculated
Cu 327.393†              172.8    -0.00085 mg/L      0.000029    -0.00085 mg/L      0.000029   3.47%
   QC value within limits for Cu 327.393  Recovery = Not calculated
Fe 239.562†               16.4     0.00039 mg/L      0.000329     0.00039 mg/L      0.000329  83.89%
   QC value within limits for Fe 239.562  Recovery = Not calculated
Mg 279.077†                6.3     0.00878 mg/L      0.003960     0.00878 mg/L      0.003960  45.11%
   QC value within limits for Mg 279.077  Recovery = Not calculated
Mn 257.610†              -38.4    -0.00116 mg/L      0.000019    -0.00116 mg/L      0.000019   1.66%
   QC value within limits for Mn 257.610  Recovery = Not calculated
Mo 202.031†               10.4    -0.00103 mg/L      0.000142    -0.00103 mg/L      0.000142  13.71%
   QC value within limits for Mo 202.031  Recovery = Not calculated
Ni 231.604†                9.2    -0.00360 mg/L      0.000144    -0.00360 mg/L      0.000144   4.01%
   QC value within limits for Ni 231.604  Recovery = Not calculated
Pb 220.353†                4.7    -0.00043 mg/L      0.000548    -0.00043 mg/L      0.000548 126.85%
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QC value within limits for Pb 220.353 Recovery = Not calculated
Sb 206.836† 4.0 -0.00196 mg/L 0.000977 -0.00196 mg/L 0.000977 49.88%
QC value within limits for Sb 206.836 Recovery = Not calculated
Se 196.026† -6.3 0.00078 mg/L 0.001368 0.00078 mg/L 0.001368 174.93%
QC value within limits for Se 196.026 Recovery = Not calculated
Si 251.611† 214.4 -0.00857 mg/L 0.000385 -0.00857 mg/L 0.000385 4.50%
QC value within limits for Si 251.611 Recovery = Not calculated
Sn 189.927† 6.1 -0.00013 mg/L 0.000250 -0.00013 mg/L 0.000250 191.70%
QC value within limits for Sn 189.927 Recovery = Not calculated
Ti 334.940† 131.6 0.00013 mg/L 0.000078 0.00013 mg/L 0.000078 59.22%
QC value within limits for Ti 334.940 Recovery = Not calculated
Tl 190.801† 5.0 -0.00177 mg/L 0.001615 -0.00177 mg/L 0.001615 91.23%
QC value within limits for Tl 190.801 Recovery = Not calculated
V 290.880† -114.6 -0.00107 mg/L 0.001263 -0.00107 mg/L 0.001263 117.84%
QC value within limits for V 290.880 Recovery = Not calculated
Zn 206.200† 117.9 -0.00077 mg/L 0.000116 -0.00077 mg/L 0.000116 15.04%
QC value within limits for Zn 206.200 Recovery = Not calculated
K 766.490† 141.1 -0.0665 mg/L 0.01405 -0.0665 mg/L 0.01405 21.11%
QC value within limits for K 766.490 Recovery = Not calculated
Na 589.592† 787.7 0.0462 mg/L 0.00547 0.0462 mg/L 0.00547 11.85%
QC value within limits for Na 589.592 Recovery = Not calculated
Sr 407.771† 415.3 -0.00020 mg/L 0.000039 -0.00020 mg/L 0.000039 19.73%
QC value within limits for Sr 407.771 Recovery = Not calculated
Li 670.784† 179.6 -0.00283 mg/L 0.000535 -0.00283 mg/L 0.000535 18.89%
QC value within limits for Li 670.784 Recovery = Not calculated
All analyte(s) passed QC.

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Sequence No.: 41 **Autosampler Location: 82**
Sample ID: L1207055401 **Date Collected: 7/24/2012 6:26:53 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1207055401

Analyte	Back Pressure	Flow
All	186.0 kPa	0.50 L/min

Mean Data: L1207055401

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2711909.1						13609.72	0.50%
YRADIAL	301304.9						3197.14	1.06%
Ga 417.206	1526753.4						24819.74	1.63%
GaRADIAL	85229.6						3433.53	4.03%
Ag 328.068†	-22.4	-0.00122	mg/L	0.000122	-0.00122	mg/L	0.000122	10.06%
Al 396.153†	-47.7	-0.0187	mg/L	0.00071	-0.0187	mg/L	0.00071	3.79%
As 188.979†	102.2	0.0230	mg/L	0.00176	0.0230	mg/L	0.00176	7.65%
Ba 233.527†	102.6	-0.00122	mg/L	0.000056	-0.00122	mg/L	0.000056	4.60%
Be 234.861†	189.5	-0.00003	mg/L	0.000019	-0.00003	mg/L	0.000019	59.02%
B 249.677†	3177.0	0.0250	mg/L	0.00004	0.0250	mg/L	0.00004	0.17%
Ca 227.546†	48.6	0.118	mg/L	0.0170	0.118	mg/L	0.0170	14.47%
Cd 228.802†	-4.6	-0.00024	mg/L	0.000115	-0.00024	mg/L	0.000115	48.74%
Co 228.616†	-6.9	-0.00040	mg/L	0.000117	-0.00040	mg/L	0.000117	29.27%
Cr 267.716†	30.3	-0.00072	mg/L	0.000029	-0.00072	mg/L	0.000029	4.06%
Cu 327.393†	2804.3	0.00934	mg/L	0.000465	0.00934	mg/L	0.000465	4.98%
Fe 239.562†	1130.3	0.0692	mg/L	0.00237	0.0692	mg/L	0.00237	3.42%
Mg 279.077†	93.0	0.0318	mg/L	0.00274	0.0318	mg/L	0.00274	8.61%
Mn 257.610†	591.6	-0.00048	mg/L	0.000046	-0.00048	mg/L	0.000046	9.46%
Mo 202.031†	70.1	0.00036	mg/L	0.000099	0.00036	mg/L	0.000099	27.30%
Ni 231.604†	0.2	-0.00371	mg/L	0.000056	-0.00371	mg/L	0.000056	1.52%
Pb 220.353†	41.7	0.00172	mg/L	0.000294	0.00172	mg/L	0.000294	17.08%
Sb 206.836†	1.8	-0.00235	mg/L	0.000333	-0.00235	mg/L	0.000333	14.13%
Se 196.026†	-8.7	-0.00017	mg/L	0.000753	-0.00017	mg/L	0.000753	437.32%
Si 251.611†	430611.8	7.43	mg/L	0.058	7.43	mg/L	0.058	0.78%
Sn 189.927†	5.5	-0.00017	mg/L	0.000164	-0.00017	mg/L	0.000164	98.09%
Ti 334.940†	61.0	0.00009	mg/L	0.000085	0.00009	mg/L	0.000085	97.60%
Tl 190.801†	-2.4	-0.00336	mg/L	0.001874	-0.00336	mg/L	0.001874	55.69%
V 290.880†	649.1	0.00163	mg/L	0.000386	0.00163	mg/L	0.000386	23.59%
Zn 206.200†	6167.1	0.0746	mg/L	0.00032	0.0746	mg/L	0.00032	0.42%

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K 766.490†	1337.5	0.244	mg/L	0.0051	0.244	mg/L	0.0051	2.10%
Na 589.592†	2336853.0	125	mg/L	7.6	125	mg/L	7.6	6.13%
Sr 407.771†	813.8	-0.00003	mg/L	0.000030	-0.00003	mg/L	0.000030	91.96%
Li 670.784†	496.3	-0.00035	mg/L	0.000095	-0.00035	mg/L	0.000095	27.41%

Sequence No.: 42 **Autosampler Location: 83**
Sample ID: L1207055501 **Date Collected: 7/24/2012 6:33:53 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1207055501

Analyte	Back Pressure	Flow
All	185.0 kPa	0.50 L/min

Mean Data: L1207055501

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2672268.4						21247.32	0.80%
YRADIAL	302084.3						2644.57	0.88%
Ga 417.206	1463377.5						4277.54	0.29%
GaRADIAL	82726.8						635.02	0.77%
Ag 328.068†	580.1	0.00124	mg/L	0.000370	0.00124	mg/L	0.000370	29.76%
Al 396.153†	-75.0	-0.0228	mg/L	0.00857	-0.0228	mg/L	0.00857	37.58%
As 188.979†	12.8	0.00290	mg/L	0.002837	0.00290	mg/L	0.002837	97.84%
Ba 233.527†	51078.9	0.254	mg/L	0.0014	0.254	mg/L	0.0014	0.56%
Be 234.861†	863.6	0.00006	mg/L	0.000065	0.00006	mg/L	0.000065	105.03%
B 249.677†	2720.9	0.0205	mg/L	0.00028	0.0205	mg/L	0.00028	1.34%
Ca 227.546†	37247.1	79.5	mg/L	0.81	79.5	mg/L	0.81	1.02%
Cd 228.802†	-2.9	-0.00011	mg/L	0.000014	-0.00011	mg/L	0.000014	12.30%
Co 228.616†	1.8	-0.00034	mg/L	0.000250	-0.00034	mg/L	0.000250	73.07%
Cr 267.716†	118.2	-0.00020	mg/L	0.000091	-0.00020	mg/L	0.000091	46.75%
Cu 327.393†	691.7	0.00124	mg/L	0.000388	0.00124	mg/L	0.000388	31.39%
Fe 239.562†	28624.4	1.77	mg/L	0.032	1.77	mg/L	0.032	1.82%
Mg 279.077†	65847.9	17.5	mg/L	0.25	17.5	mg/L	0.25	1.43%
Mn 257.610†	161141.1	0.171	mg/L	0.0019	0.171	mg/L	0.0019	1.09%
Mo 202.031†	75.7	0.00061	mg/L	0.000142	0.00061	mg/L	0.000142	23.19%
Ni 231.604†	39.8	-0.00323	mg/L	0.000390	-0.00323	mg/L	0.000390	12.06%
Pb 220.353†	14.8	0.00053	mg/L	0.000897	0.00053	mg/L	0.000897	167.86%
Sb 206.836†	-9.1	-0.00433	mg/L	0.000810	-0.00433	mg/L	0.000810	18.71%
Se 196.026†	-6.5	0.00090	mg/L	0.002099	0.00090	mg/L	0.002099	233.34%
Si 251.611†	347619.8	6.00	mg/L	0.016	6.00	mg/L	0.016	0.27%
Sn 189.927†	-310.5	-0.0206	mg/L	0.00085	-0.0206	mg/L	0.00085	4.14%
Ti 334.940†	-12620.4	0.00084	mg/L	0.000851	0.00084	mg/L	0.000851	101.40%
Tl 190.801†	-23.3	-0.00815	mg/L	0.001412	-0.00815	mg/L	0.001412	17.32%
V 290.880†	856.9	0.00169	mg/L	0.002077	0.00169	mg/L	0.002077	122.85%
Zn 206.200†	2638.4	0.0306	mg/L	0.00018	0.0306	mg/L	0.00018	0.59%
K 766.490†	3129.7	1.02	mg/L	0.009	1.02	mg/L	0.009	0.87%
Na 589.592†	96760.6	4.78	mg/L	0.059	4.78	mg/L	0.059	1.24%
Sr 407.771†	335350.3	0.138	mg/L	0.0005	0.138	mg/L	0.0005	0.39%
Li 670.784†	1339.0	0.00627	mg/L	0.000741	0.00627	mg/L	0.000741	11.82%

Sequence No.: 43 **Autosampler Location: 84**
Sample ID: L1207055601 **Date Collected: 7/24/2012 6:39:51 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1207055601

Analyte	Back Pressure	Flow
All	185.0 kPa	0.50 L/min

Mean Data: L1207055601

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2705242.2						24529.83	0.91%

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YRADIAL	301658.1							4279.00	1.42%
Ga 417.206	1487114.8							54837.12	3.69%
GaRADIAL	83326.0							1450.85	1.74%
Ag 328.068†	488.4	0.00117	mg/L	0.000230	0.00117	mg/L	0.000230		19.68%
Al 396.153†	-154.6	-0.0354	mg/L	0.00484	-0.0354	mg/L	0.00484		13.67%
As 188.979†	16.2	0.00379	mg/L	0.001073	0.00379	mg/L	0.001073		28.31%
Ba 233.527†	56395.0	0.281	mg/L	0.0024	0.281	mg/L	0.0024		0.87%
Be 234.861†	889.9	-0.00001	mg/L	0.000106	-0.00001	mg/L	0.000106		758.87%
B 249.677†	2799.4	0.0210	mg/L	0.00099	0.0210	mg/L	0.00099		4.71%
Ca 227.546†	36177.0	77.3	mg/L	2.79	77.3	mg/L	2.79		3.61%
Cd 228.802†	0.6	-0.00006	mg/L	0.000229	-0.00006	mg/L	0.000229		354.41%
Co 228.616†	-8.5	-0.00056	mg/L	0.000266	-0.00056	mg/L	0.000266		47.67%
Cr 267.716†	111.7	-0.00025	mg/L	0.000061	-0.00025	mg/L	0.000061		23.91%
Cu 327.393†	-34.6	-0.00155	mg/L	0.000226	-0.00155	mg/L	0.000226		14.57%
Fe 239.562†	35359.8	2.18	mg/L	0.044	2.18	mg/L	0.044		2.02%
Mg 279.077†	64629.9	17.2	mg/L	0.36	17.2	mg/L	0.36		2.10%
Mn 257.610†	189676.1	0.201	mg/L	0.0015	0.201	mg/L	0.0015		0.73%
Mo 202.031†	64.4	0.00038	mg/L	0.000209	0.00038	mg/L	0.000209		55.37%
Ni 231.604†	59.6	-0.00300	mg/L	0.000338	-0.00300	mg/L	0.000338		11.26%
Pb 220.353†	32.1	0.00148	mg/L	0.000415	0.00148	mg/L	0.000415		28.11%
Sb 206.836†	-13.1	-0.00504	mg/L	0.000717	-0.00504	mg/L	0.000717		14.23%
Se 196.026†	-8.0	0.00035	mg/L	0.003702	0.00035	mg/L	0.003702		>999.9%
Si 251.611†	358641.1	6.19	mg/L	0.188	6.19	mg/L	0.188		3.04%
Sn 189.927†	-310.8	-0.0206	mg/L	0.00034	-0.0206	mg/L	0.00034		1.67%
Ti 334.940†	-12362.9	0.00072	mg/L	0.000837	0.00072	mg/L	0.000837		115.83%
Tl 190.801†	-15.5	-0.00651	mg/L	0.001431	-0.00651	mg/L	0.001431		21.99%
V 290.880†	1093.1	0.00249	mg/L	0.002673	0.00249	mg/L	0.002673		107.56%
Zn 206.200†	581.8	0.00497	mg/L	0.000091	0.00497	mg/L	0.000091		1.83%
K 766.490†	3736.7	1.24	mg/L	0.062	1.24	mg/L	0.062		5.05%
Na 589.592†	114017.3	5.64	mg/L	0.044	5.64	mg/L	0.044		0.79%
Sr 407.771†	340148.2	0.140	mg/L	0.0012	0.140	mg/L	0.0012		0.84%
Li 670.784†	1202.7	0.00520	mg/L	0.000259	0.00520	mg/L	0.000259		4.98%

Sequence No.: 44
Sample ID: L1207055701
Analyst: KHR
Initial Sample Wt:
Dilution:

Autosampler Location: 85
Date Collected: 7/24/2012 6:45:49 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: L1207055701

Analyte	Back Pressure	Flow
All	185.0 kPa	0.50 L/min

Mean Data: L1207055701

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2714016.8						18163.59	0.67%
YRADIAL	300077.2						5910.21	1.97%
Ga 417.206	1480118.0						19020.46	1.29%
GaRADIAL	83169.3						572.92	0.69%
Ag 328.068†	647.5	0.00085	mg/L	0.000317	0.00085	mg/L	0.000317	37.46%
Al 396.153†	-74.9	-0.0231	mg/L	0.00930	-0.0231	mg/L	0.00930	40.31%
As 188.979†	116.6	0.0264	mg/L	0.00103	0.0264	mg/L	0.00103	3.91%
Ba 233.527†	86932.0	0.434	mg/L	0.0036	0.434	mg/L	0.0036	0.83%
Be 234.861†	478.5	0.00006	mg/L	0.000065	0.00006	mg/L	0.000065	109.89%
B 249.677†	6031.6	0.0481	mg/L	0.00182	0.0481	mg/L	0.00182	3.79%
Ca 227.546†	21126.7	45.1	mg/L	1.07	45.1	mg/L	1.07	2.36%
Cd 228.802†	14.2	0.00002	mg/L	0.000198	0.00002	mg/L	0.000198	819.36%
Co 228.616†	-17.0	-0.00073	mg/L	0.000156	-0.00073	mg/L	0.000156	21.25%
Cr 267.716†	98.0	-0.00029	mg/L	0.000085	-0.00029	mg/L	0.000085	29.59%
Cu 327.393†	1862.8	0.00571	mg/L	0.000665	0.00571	mg/L	0.000665	11.65%
Fe 239.562†	8976.9	0.553	mg/L	0.0084	0.553	mg/L	0.0084	1.52%
Mg 279.077†	59012.2	15.7	mg/L	0.24	15.7	mg/L	0.24	1.53%
Mn 257.610†	16004.6	0.0160	mg/L	0.00019	0.0160	mg/L	0.00019	1.17%
Mo 202.031†	166.6	0.00264	mg/L	0.000139	0.00264	mg/L	0.000139	5.28%
Ni 231.604†	256.5	-0.00065	mg/L	0.000334	-0.00065	mg/L	0.000334	51.70%
Pb 220.353†	30.2	0.00136	mg/L	0.001023	0.00136	mg/L	0.001023	75.17%
Sb 206.836†	3.3	-0.00206	mg/L	0.000703	-0.00206	mg/L	0.000703	34.12%
Se 196.026†	-8.7	-0.00014	mg/L	0.001340	-0.00014	mg/L	0.001340	980.92%

Approved: July 25, 2012

Si 251.611†	427251.5	7.37	mg/L	0.081	7.37	mg/L	0.081	1.11%
Sn 189.927†	-265.4	-0.0177	mg/L	0.00032	-0.0177	mg/L	0.00032	1.83%
Ti 334.940†	-7271.9	0.00038	mg/L	0.000548	0.00038	mg/L	0.000548	142.79%
Tl 190.801†	-25.7	-0.00847	mg/L	0.000584	-0.00847	mg/L	0.000584	6.89%
V 290.880†	588.5	0.00093	mg/L	0.002035	0.00093	mg/L	0.002035	218.93%
Zn 206.200†	333.6	0.00191	mg/L	0.000094	0.00191	mg/L	0.000094	4.92%
K 766.490†	5659.5	1.93	mg/L	0.033	1.93	mg/L	0.033	1.72%
Na 589.592†	281951.0	14.0	mg/L	0.22	14.0	mg/L	0.22	1.55%
Sr 407.771†	910314.2	0.379	mg/L	0.0041	0.379	mg/L	0.0041	1.08%
Li 670.784†	1785.9	0.00977	mg/L	0.000372	0.00977	mg/L	0.000372	3.81%

Sequence No.: 45 **Autosampler Location: 86**
Sample ID: L1207055801 **Date Collected: 7/24/2012 6:51:47 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1207055801

Analyte	Back Pressure	Flow
All	185.0 kPa	0.50 L/min

Mean Data: L1207055801

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	2687713.5						5581.86	0.21%
YRADIAL	294381.4						2783.57	0.95%
Ga 417.206	1457577.8						21573.56	1.48%
GaRADIAL	81799.5						651.08	0.80%
Ag 328.068†	464.4	0.00026	mg/L	0.000166	0.00026	mg/L	0.000166	64.23%
Al 396.153†	1160.6	0.173	mg/L	0.0100	0.173	mg/L	0.0100	5.79%
As 188.979†	51.2	0.0114	mg/L	0.00156	0.0114	mg/L	0.00156	13.69%
Ba 233.527†	11961.2	0.0582	mg/L	0.00034	0.0582	mg/L	0.00034	0.59%
Be 234.861†	468.6	0.00005	mg/L	0.000107	0.00005	mg/L	0.000107	217.17%
B 249.677†	35870.6	0.292	mg/L	0.0077	0.292	mg/L	0.0077	2.64%
Ca 227.546†	22215.5	47.4	mg/L	1.06	47.4	mg/L	1.06	2.24%
Cd 228.802†	7.2	0.00000	mg/L	0.000011	0.00000	mg/L	0.000011	301.41%
Co 228.616†	23.7	0.00017	mg/L	0.000266	0.00017	mg/L	0.000266	154.59%
Cr 267.716†	159.0	0.00012	mg/L	0.000134	0.00012	mg/L	0.000134	109.73%
Cu 327.393†	1835.2	0.00560	mg/L	0.000645	0.00560	mg/L	0.000645	11.51%
Fe 239.562†	9596.1	0.591	mg/L	0.0105	0.591	mg/L	0.0105	1.78%
Mg 279.077†	97424.6	25.9	mg/L	0.35	25.9	mg/L	0.35	1.37%
Mn 257.610†	34465.6	0.0357	mg/L	0.00037	0.0357	mg/L	0.00037	1.04%
Mo 202.031†	547.1	0.0115	mg/L	0.00011	0.0115	mg/L	0.00011	0.95%
Ni 231.604†	83.7	-0.00271	mg/L	0.000369	-0.00271	mg/L	0.000369	13.61%
Pb 220.353†	5.0	-0.00008	mg/L	0.001870	-0.00008	mg/L	0.001870	>999.9%
Sb 206.836†	-6.2	-0.00380	mg/L	0.000704	-0.00380	mg/L	0.000704	18.51%
Se 196.026†	-5.3	0.00126	mg/L	0.003944	0.00126	mg/L	0.003944	312.67%
Si 251.611†	397053.5	6.85	mg/L	0.090	6.85	mg/L	0.090	1.32%
Sn 189.927†	-270.2	-0.0180	mg/L	0.00017	-0.0180	mg/L	0.00017	0.93%
Ti 334.940†	-5538.1	0.00226	mg/L	0.000596	0.00226	mg/L	0.000596	26.42%
Tl 190.801†	-20.0	-0.00723	mg/L	0.003489	-0.00723	mg/L	0.003489	48.28%
V 290.880†	1281.3	0.00314	mg/L	0.002365	0.00314	mg/L	0.002365	75.22%
Zn 206.200†	365.0	0.00230	mg/L	0.000117	0.00230	mg/L	0.000117	5.09%
K 766.490†	12056.0	4.19	mg/L	0.049	4.19	mg/L	0.049	1.17%
Na 589.592†	1612464.9	83.7	mg/L	1.30	83.7	mg/L	1.30	1.55%
Sr 407.771†	1905362.9	0.795	mg/L	0.0019	0.795	mg/L	0.0019	0.24%
Li 670.784†	5448.1	0.0385	mg/L	0.00079	0.0385	mg/L	0.00079	2.05%

Sequence No.: 46 **Autosampler Location: 87**
Sample ID: L1207055901 **Date Collected: 7/24/2012 6:57:46 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1207055901

Analyte	Back Pressure	Flow
All	185.0 kPa	0.50 L/min

Approved: July 25, 2012

Kym H. Rhoden

Mean Data: L1207055901

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	2716911.2						24711.35	0.91%
YRADIAL	302902.8						1697.61	0.56%
Ga 417.206	1498943.2						28485.31	1.90%
GaRADIAL	85586.3						2208.61	2.58%
Ag 328.068†	50.6	-0.00105	mg/L	0.000490	-0.00105	mg/L	0.000490	46.86%
Al 396.153†	-33.0	-0.0163	mg/L	0.00127	-0.0163	mg/L	0.00127	7.76%
As 188.979†	63.2	0.0141	mg/L	0.00128	0.0141	mg/L	0.00128	9.07%
Ba 233.527†	128.5	-0.00109	mg/L	0.000085	-0.00109	mg/L	0.000085	7.80%
Be 234.861†	150.6	-0.00005	mg/L	0.000011	-0.00005	mg/L	0.000011	20.79%
B 249.677†	7687.1	0.0618	mg/L	0.00259	0.0618	mg/L	0.00259	4.20%
Ca 227.546†	56.3	0.134	mg/L	0.0172	0.134	mg/L	0.0172	12.82%
Cd 228.802†	-6.0	-0.00021	mg/L	0.000045	-0.00021	mg/L	0.000045	21.40%
Co 228.616†	2.6	-0.00022	mg/L	0.000029	-0.00022	mg/L	0.000029	12.88%
Cr 267.716†	41.2	-0.00065	mg/L	0.000071	-0.00065	mg/L	0.000071	10.87%
Cu 327.393†	94793.1	0.365	mg/L	0.0126	0.365	mg/L	0.0126	3.46%
Fe 239.562†	772.3	0.0470	mg/L	0.00089	0.0470	mg/L	0.00089	1.88%
Mg 279.077†	81.7	0.0288	mg/L	0.00386	0.0288	mg/L	0.00386	13.41%
Mn 257.610†	7185.6	0.00656	mg/L	0.000077	0.00656	mg/L	0.000077	1.17%
Mo 202.031†	65.0	0.00024	mg/L	0.000124	0.00024	mg/L	0.000124	50.53%
Ni 231.604†	16.2	-0.00352	mg/L	0.000087	-0.00352	mg/L	0.000087	2.47%
Pb 220.353†	165.5	0.00864	mg/L	0.000369	0.00864	mg/L	0.000369	4.28%
Sb 206.836†	0.9	-0.00252	mg/L	0.001149	-0.00252	mg/L	0.001149	45.65%
Se 196.026†	-11.2	-0.00118	mg/L	0.001806	-0.00118	mg/L	0.001806	153.05%
Si 251.611†	366553.0	6.33	mg/L	0.166	6.33	mg/L	0.166	2.63%
Sn 189.927†	22.4	0.00092	mg/L	0.000373	0.00092	mg/L	0.000373	40.43%
Ti 334.940†	175.1	0.00019	mg/L	0.000028	0.00019	mg/L	0.000028	14.56%
Tl 190.801†	-0.0	-0.00285	mg/L	0.000968	-0.00285	mg/L	0.000968	33.93%
V 290.880†	440.3	0.00090	mg/L	0.000767	0.00090	mg/L	0.000767	85.64%
Zn 206.200†	1745.1	0.0196	mg/L	0.00012	0.0196	mg/L	0.00012	0.61%
K 766.490†	18838.8	6.63	mg/L	0.068	6.63	mg/L	0.068	1.03%
Na 589.592†	2238430.0	119	mg/L	3.1	119	mg/L	3.1	2.64%
Sr 407.771†	1354.4	0.00019	mg/L	0.000041	0.00019	mg/L	0.000041	21.42%
Li 670.784†	198.9	-0.00268	mg/L	0.000137	-0.00268	mg/L	0.000137	5.10%

Sequence No.: 47
Sample ID: L1207056001
Analyst: KHR
Initial Sample Wt:
Dilution:

Autosampler Location: 88
Date Collected: 7/24/2012 7:04:45 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: L1207056001

Analyte	Back Pressure	Flow
All	185.0 kPa	0.50 L/min

Mean Data: L1207056001

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	2722271.1						21774.64	0.80%
YRADIAL	296682.5						5405.29	1.82%
Ga 417.206	1529974.3						11897.73	0.78%
GaRADIAL	85218.8						2689.55	3.16%
Ag 328.068†	576.9	0.00048	mg/L	0.000358	0.00048	mg/L	0.000358	75.26%
Al 396.153†	209.3	0.0222	mg/L	0.00204	0.0222	mg/L	0.00204	9.19%
As 188.979†	-3.1	-0.00113	mg/L	0.001328	-0.00113	mg/L	0.001328	117.24%
Ba 233.527†	4159.6	0.0191	mg/L	0.00003	0.0191	mg/L	0.00003	0.15%
Be 234.861†	170.7	-0.00005	mg/L	0.000007	-0.00005	mg/L	0.000007	13.33%
B 249.677†	3000.9	0.0235	mg/L	0.00103	0.0235	mg/L	0.00103	4.36%
Ca 227.546†	27019.4	57.7	mg/L	1.22	57.7	mg/L	1.22	2.12%
Cd 228.802†	-6.6	-0.00015	mg/L	0.000089	-0.00015	mg/L	0.000089	60.99%
Co 228.616†	-5.2	-0.00036	mg/L	0.000153	-0.00036	mg/L	0.000153	42.60%
Cr 267.716†	150.9	0.00009	mg/L	0.000108	0.00009	mg/L	0.000108	116.62%
Cu 327.393†	2774.7	0.00922	mg/L	0.000515	0.00922	mg/L	0.000515	5.59%
Fe 239.562†	1323.3	0.0808	mg/L	0.00245	0.0808	mg/L	0.00245	3.04%
Mg 279.077†	46865.7	12.5	mg/L	0.10	12.5	mg/L	0.10	0.80%

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Mn 257.610†	1140.9	0.00011	mg/L	0.000013	0.00011	mg/L	0.000013	11.67%
Mo 202.031†	33.6	-0.00049	mg/L	0.000117	-0.00049	mg/L	0.000117	23.88%
Ni 231.604†	36.6	-0.00327	mg/L	0.000246	-0.00327	mg/L	0.000246	7.52%
Pb 220.353†	60.5	0.00329	mg/L	0.000961	0.00329	mg/L	0.000961	29.21%
Sb 206.836†	4.3	-0.00192	mg/L	0.000693	-0.00192	mg/L	0.000693	36.02%
Se 196.026†	-6.4	0.00075	mg/L	0.003119	0.00075	mg/L	0.003119	414.19%
Si 251.611†	336583.8	5.81	mg/L	0.103	5.81	mg/L	0.103	1.78%
Sn 189.927†	-300.6	-0.0200	mg/L	0.00023	-0.0200	mg/L	0.00023	1.13%
Ti 334.940†	-9272.7	0.00051	mg/L	0.000509	0.00051	mg/L	0.000509	99.78%
Tl 190.801†	-26.2	-0.00858	mg/L	0.002409	-0.00858	mg/L	0.002409	28.08%
V 290.880†	92.9	-0.00067	mg/L	0.000409	-0.00067	mg/L	0.000409	61.18%
Zn 206.200†	15577.8	0.192	mg/L	0.0007	0.192	mg/L	0.0007	0.37%
K 766.490†	12067.6	4.26	mg/L	0.037	4.26	mg/L	0.037	0.87%
Na 589.592†	385163.8	19.2	mg/L	0.42	19.2	mg/L	0.42	2.17%
Sr 407.771†	308308.2	0.127	mg/L	0.0036	0.127	mg/L	0.0036	2.85%
Li 670.784†	732.6	0.00151	mg/L	0.000159	0.00151	mg/L	0.000159	10.57%

Sequence No.: 48 **Autosampler Location: 89**
Sample ID: L1207056101 **Date Collected: 7/24/2012 7:11:40 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1207056101

Analyte	Back Pressure	Flow
All	185.0 kPa	0.50 L/min

Mean Data: L1207056101

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2707687.7						24855.53	0.92%
YRADIAL	300557.6						4752.39	1.58%
Ga 417.206	1463881.8						12530.74	0.86%
GaRADIAL	81028.5						1333.32	1.65%
Ag 328.068†	-4480.1	-0.00169	mg/L	0.000310	-0.00169	mg/L	0.000310	18.32%
Al 396.153†	2.2	-0.00775	mg/L	0.002364	-0.00775	mg/L	0.002364	30.51%
As 188.979†	341.7	0.0843	mg/L	0.00168	0.0843	mg/L	0.00168	1.99%
Ba 233.527†	44771.1	0.221	mg/L	0.0026	0.221	mg/L	0.0026	1.19%
Be 234.861†	9365.4	0.00016	mg/L	0.000327	0.00016	mg/L	0.000327	198.49%
B 249.677†	50740.6	0.402	mg/L	0.0050	0.402	mg/L	0.0050	1.25%
Ca 227.546†	1909.9	4.73	mg/L	0.137	4.73	mg/L	0.137	2.90%
Cd 228.802†	19.8	-0.00018	mg/L	0.000237	-0.00018	mg/L	0.000237	133.23%
Co 228.616†	40.4	-0.00028	mg/L	0.000162	-0.00028	mg/L	0.000162	57.10%
Cr 267.716†	-86.4	-0.00249	mg/L	0.000106	-0.00249	mg/L	0.000106	4.26%
Cu 327.393†	3884.2	0.0148	mg/L	0.00029	0.0148	mg/L	0.00029	1.97%
Fe 239.562†	435221.8	26.9	mg/L	0.17	26.9	mg/L	0.17	0.63%
Mg 279.077†	15571.2	4.13	mg/L	0.075	4.13	mg/L	0.075	1.81%
Mn 257.610†	94129.8	0.0994	mg/L	0.00117	0.0994	mg/L	0.00117	1.18%
Mo 202.031†	190.3	0.00450	mg/L	0.000217	0.00450	mg/L	0.000217	4.82%
Ni 231.604†	249.3	-0.00074	mg/L	0.000407	-0.00074	mg/L	0.000407	55.32%
Pb 220.353†	52.8	0.00002	mg/L	0.000893	0.00002	mg/L	0.000893	>999.9%
Sb 206.836†	-7.2	-0.00298	mg/L	0.000465	-0.00298	mg/L	0.000465	15.59%
Se 196.026†	-31.6	-0.00517	mg/L	0.001892	-0.00517	mg/L	0.001892	36.63%
Si 251.611†	72507.6	1.24	mg/L	0.016	1.24	mg/L	0.016	1.30%
Sn 189.927†	-53.7	-0.00399	mg/L	0.000261	-0.00399	mg/L	0.000261	6.54%
Ti 334.940†	-329.8	0.00034	mg/L	0.000122	0.00034	mg/L	0.000122	35.86%
Tl 190.801†	1.1	-0.00269	mg/L	0.001870	-0.00269	mg/L	0.001870	69.55%
V 290.880†	1567.8	0.00124	mg/L	0.001206	0.00124	mg/L	0.001206	96.87%
Zn 206.200†	2709.1	0.0310	mg/L	0.00045	0.0310	mg/L	0.00045	1.47%
K 766.490†	59191.0	21.4	mg/L	0.14	21.4	mg/L	0.14	0.65%
Na 589.592†	2238642.4	119	mg/L	2.0	119	mg/L	2.0	1.65%
Sr 407.771†	405566.8	0.169	mg/L	0.0007	0.169	mg/L	0.0007	0.41%
Li 670.784†	2650.8	0.0166	mg/L	0.00077	0.0166	mg/L	0.00077	4.67%

Sequence No.: 49 **Autosampler Location: 90**
Sample ID: L1207056102 **Date Collected: 7/24/2012 7:17:40 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**

Approved: July 25, 2012
Kym H. Rhoden

Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1207056102

Analyte	Back Pressure	Flow
All	185.0 kPa	0.50 L/min

Mean Data: L1207056102

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2741847.2						19937.12	0.73%
YRADIAL	305237.7						6897.93	2.26%
Ga 417.206	1440063.5						57304.78	3.98%
GaRADIAL	81094.4						639.37	0.79%
Ag 328.068†	-1970.8	-0.00090	mg/L	0.000693	-0.00090	mg/L	0.000693	77.30%
Al 396.153†	-89.3	-0.0237	mg/L	0.01096	-0.0237	mg/L	0.01096	46.18%
As 188.979†	20.4	0.00737	mg/L	0.000654	0.00737	mg/L	0.000654	8.87%
Ba 233.527†	24907.2	0.122	mg/L	0.0013	0.122	mg/L	0.0013	1.02%
Be 234.861†	5071.5	0.00039	mg/L	0.000087	0.00039	mg/L	0.000087	22.52%
B 249.677†	6481.6	0.0464	mg/L	0.00266	0.0464	mg/L	0.00266	5.73%
Ca 227.546†	2968.1	6.66	mg/L	0.351	6.66	mg/L	0.351	5.27%
Cd 228.802†	4.9	-0.00001	mg/L	0.000076	-0.00001	mg/L	0.000076	547.17%
Co 228.616†	51.1	0.00031	mg/L	0.000243	0.00031	mg/L	0.000243	78.06%
Cr 267.716†	50.1	-0.00107	mg/L	0.000040	-0.00107	mg/L	0.000040	3.71%
Cu 327.393†	1903.4	0.00648	mg/L	0.000092	0.00648	mg/L	0.000092	1.42%
Fe 239.562†	211081.0	13.0	mg/L	0.13	13.0	mg/L	0.13	1.00%
Mg 279.077†	24145.3	6.41	mg/L	0.200	6.41	mg/L	0.200	3.12%
Mn 257.610†	156534.4	0.166	mg/L	0.0011	0.166	mg/L	0.0011	0.68%
Mo 202.031†	71.4	0.00106	mg/L	0.000153	0.00106	mg/L	0.000153	14.36%
Ni 231.604†	171.3	-0.00167	mg/L	0.000344	-0.00167	mg/L	0.000344	20.63%
Pb 220.353†	15.0	-0.00102	mg/L	0.000583	-0.00102	mg/L	0.000583	57.39%
Sb 206.836†	-6.8	-0.00348	mg/L	0.001141	-0.00348	mg/L	0.001141	32.76%
Se 196.026†	-11.4	0.00073	mg/L	0.002210	0.00073	mg/L	0.002210	301.93%
Si 251.611†	33285.8	0.563	mg/L	0.0238	0.563	mg/L	0.0238	4.23%
Sn 189.927†	-76.3	-0.00546	mg/L	0.000469	-0.00546	mg/L	0.000469	8.59%
Ti 334.940†	-796.6	0.00027	mg/L	0.000160	0.00027	mg/L	0.000160	59.86%
Tl 190.801†	-3.4	-0.00374	mg/L	0.001508	-0.00374	mg/L	0.001508	40.36%
V 290.880†	792.8	0.00027	mg/L	0.000997	0.00027	mg/L	0.000997	371.01%
Zn 206.200†	3235.4	0.0378	mg/L	0.00055	0.0378	mg/L	0.00055	1.46%
K 766.490†	9954.2	3.49	mg/L	0.026	3.49	mg/L	0.026	0.75%
Na 589.592†	282060.2	14.0	mg/L	0.30	14.0	mg/L	0.30	2.11%
Sr 407.771†	508090.4	0.212	mg/L	0.0030	0.212	mg/L	0.0030	1.43%
Li 670.784†	1360.2	0.00643	mg/L	0.000229	0.00643	mg/L	0.000229	3.56%

Sequence No.: 50 **Autosampler Location: 6**
Sample ID: CCV **Date Collected: 7/24/2012 7:23:39 PM**
Analyst: **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: CCV

Analyte	Back Pressure	Flow
All	185.0 kPa	0.50 L/min

Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2649714.4						11192.09	0.42%
YRADIAL	296981.0						3681.21	1.24%
Ga 417.206	1355420.6						35677.14	2.63%
GaRADIAL	80447.4						684.27	0.85%
Ag 328.068†	141840.9	0.408	mg/L	0.0096	0.408	mg/L	0.0096	2.35%
QC value within limits for Ag 328.068 Recovery = 102.11%								
Al 396.153†	63406.8	9.99	mg/L	0.023	9.99	mg/L	0.023	0.23%
QC value within limits for Al 396.153 Recovery = 99.89%								
As 188.979†	1746.2	0.395	mg/L	0.0111	0.395	mg/L	0.0111	2.82%
QC value within limits for As 188.979 Recovery = 98.71%								
Ba 233.527†	201485.3	1.01	mg/L	0.008	1.01	mg/L	0.008	0.80%

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   QC value within limits for Ba 233.527  Recovery = 100.80%
Be 234.861†            72734.1      0.0504 mg/L       0.00107      0.0504 mg/L       0.00107   2.12%
   QC value within limits for Be 234.861  Recovery = 100.73%
B 249.677†             61731.6       0.499 mg/L        0.0120       0.499 mg/L        0.0120   2.40%
   QC value within limits for B 249.677  Recovery = 99.88%
Ca 227.546†             4686.6        10.5 mg/L          0.30        10.5 mg/L          0.30   2.90%
   QC value within limits for Ca 227.546  Recovery = 104.87%
Cd 228.802†             3405.8      0.0491 mg/L       0.00217      0.0491 mg/L       0.00217   4.43%
   QC value within limits for Cd 228.802  Recovery = 98.12%
Co 228.616†            10666.9       0.200 mg/L        0.0004       0.200 mg/L        0.0004   0.18%
   QC value within limits for Co 228.616  Recovery = 99.85%
Cr 267.716†            74561.5       0.501 mg/L        0.0035       0.501 mg/L        0.0035   0.69%
   QC value within limits for Cr 267.716  Recovery = 100.29%
Cu 327.393†           131672.3       0.509 mg/L        0.0124       0.509 mg/L        0.0124   2.43%
   QC value within limits for Cu 327.393  Recovery = 101.83%
Fe 239.562†            62329.8        3.85 mg/L         0.009        3.85 mg/L         0.009   0.23%
   QC value within limits for Fe 239.562  Recovery = 96.15%
Mg 279.077†            36758.4        9.79 mg/L         0.045        9.79 mg/L         0.045   0.46%
   QC value within limits for Mg 279.077  Recovery = 97.88%
Mn 257.610†           473043.8       0.504 mg/L        0.0044       0.504 mg/L        0.0044   0.87%
   QC value within limits for Mn 257.610  Recovery = 100.88%
Mo 202.031†            43259.3        1.01 mg/L         0.007        1.01 mg/L         0.007   0.65%
   QC value within limits for Mo 202.031  Recovery = 100.74%
Ni 231.604†            43808.5       0.519 mg/L        0.0003       0.519 mg/L        0.0003   0.07%
   QC value within limits for Ni 231.604  Recovery = 103.83%
Pb 220.353†             8563.1       0.504 mg/L        0.0010       0.504 mg/L        0.0010   0.21%
   QC value within limits for Pb 220.353  Recovery = 100.71%
Sb 206.836†             6585.4        1.21 mg/L         0.040        1.21 mg/L         0.040   3.32%
   QC value within limits for Sb 206.836  Recovery = 101.14%
Se 196.026†             1006.2       0.408 mg/L        0.0129       0.408 mg/L        0.0129   3.17%
   QC value within limits for Se 196.026  Recovery = 102.06%
Si 251.611†           295278.7        5.08 mg/L         0.070        5.08 mg/L         0.070   1.37%
   QC value within limits for Si 251.611  Recovery = 101.63%
Sn 189.927†            15605.3        1.01 mg/L         0.002        1.01 mg/L         0.002   0.24%
   QC value within limits for Sn 189.927  Recovery = 100.79%
Ti 334.940†          1139110.0        1.00 mg/L         0.005        1.00 mg/L         0.005   0.48%
   QC value within limits for Ti 334.940  Recovery = 100.33%
Tl 190.801†             2368.3       0.522 mg/L        0.0064       0.522 mg/L        0.0064   1.22%
   QC value within limits for Tl 190.801  Recovery = 104.40%
V 290.880†            280546.2       0.998 mg/L        0.0040       0.998 mg/L        0.0040   0.40%
   QC value within limits for V 290.880  Recovery = 99.81%
Zn 206.200†            80922.7        1.01 mg/L         0.002        1.01 mg/L         0.002   0.24%
   QC value within limits for Zn 206.200  Recovery = 101.03%
K 766.490†            137993.7        50.3 mg/L          0.14        50.3 mg/L          0.14   0.29%
   QC value within limits for K 766.490  Recovery = 100.63%
Na 589.592†           977049.5        49.6 mg/L          0.89        49.6 mg/L          0.89   1.80%
   QC value within limits for Na 589.592  Recovery = 99.25%
Sr 407.771†          2399851.8        1.00 mg/L         0.025        1.00 mg/L         0.025   2.47%
   QC value within limits for Sr 407.771  Recovery = 100.26%
Li 670.784†           130970.6        1.02 mg/L         0.004        1.02 mg/L         0.004   0.35%
   QC value within limits for Li 670.784  Recovery = 102.35%
All analyte(s) passed QC.

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Sequence No.: 51                                    Autosampler Location: 1
Sample ID: CCB                                      Date Collected: 7/24/2012 7:29:39 PM
Analyst:                                            Data Type: Original
Initial Sample Wt:                                  Initial Sample Vol:
Dilution:                                           Sample Prep Vol:

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Nebulizer Parameters: CCB
Analyte                 Back Pressure    Flow
All                     185.0 kPa        0.50 L/min

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Mean Data: CCB
                   Mean Corrected        Calib.                          Sample
Analyte               Intensity     Conc. Units     Std.Dev.     Conc. Units     Std.Dev.   RSD
Y 371.029            2750266.0                                                  21597.87   0.79%
YRADIAL               300612.3                                                   5770.74   1.92%
Ga 417.206           1421934.9                                                  17455.81   1.23%
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Approved: July 25, 2012

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GaRADIAL              82620.1                                                    1692.70   2.05%
Ag 328.068†              -5.1    -0.00120 mg/L      0.000239    -0.00120 mg/L      0.000239  19.92%
   QC value within limits for Ag 328.068  Recovery = Not calculated
Al 396.153†              20.6    -0.00774 mg/L      0.001827    -0.00774 mg/L      0.001827  23.60%
   QC value within limits for Al 396.153  Recovery = Not calculated
As 188.979†               5.6     0.00085 mg/L      0.001371     0.00085 mg/L      0.001371 162.07%
   QC value within limits for As 188.979  Recovery = Not calculated
Ba 233.527†              44.8    -0.00150 mg/L      0.000063    -0.00150 mg/L      0.000063   4.22%
   QC value within limits for Ba 233.527  Recovery = Not calculated
Be 234.861†              23.8    -0.00013 mg/L      0.000021    -0.00013 mg/L      0.000021  15.74%
   QC value within limits for Be 234.861  Recovery = Not calculated
B 249.677†              344.2     0.00187 mg/L      0.000116     0.00187 mg/L      0.000116   6.17%
   QC value within limits for B 249.677  Recovery = Not calculated
Ca 227.546†              -4.0     0.00418 mg/L      0.014021     0.00418 mg/L      0.014021 335.62%
   QC value within limits for Ca 227.546  Recovery = Not calculated
Cd 228.802†              -2.7    -0.00010 mg/L      0.000107    -0.00010 mg/L      0.000107 109.89%
   QC value within limits for Cd 228.802  Recovery = Not calculated
Co 228.616†              -1.7    -0.00030 mg/L      0.000156    -0.00030 mg/L      0.000156  51.35%
   QC value within limits for Co 228.616  Recovery = Not calculated
Cr 267.716†              27.4    -0.00074 mg/L      0.000058    -0.00074 mg/L      0.000058   7.78%
   QC value within limits for Cr 267.716  Recovery = Not calculated
Cu 327.393†             238.3    -0.00059 mg/L      0.000418    -0.00059 mg/L      0.000418  70.46%
   QC value within limits for Cu 327.393  Recovery = Not calculated
Fe 239.562†              18.8     0.00054 mg/L      0.000550     0.00054 mg/L      0.000550 101.68%
   QC value within limits for Fe 239.562  Recovery = Not calculated
Mg 279.077†               8.8     0.00946 mg/L      0.004841     0.00946 mg/L      0.004841  51.20%
   QC value within limits for Mg 279.077  Recovery = Not calculated
Mn 257.610†             -34.1    -0.00115 mg/L      0.000023    -0.00115 mg/L      0.000023   2.00%
   QC value within limits for Mn 257.610  Recovery = Not calculated
Mo 202.031†              16.1    -0.00090 mg/L      0.000099    -0.00090 mg/L      0.000099  10.98%
   QC value within limits for Mo 202.031  Recovery = Not calculated
Ni 231.604†               9.4    -0.00360 mg/L      0.000341    -0.00360 mg/L      0.000341   9.49%
   QC value within limits for Ni 231.604  Recovery = Not calculated
Pb 220.353†              -9.2    -0.00125 mg/L      0.000216    -0.00125 mg/L      0.000216  17.29%
   QC value within limits for Pb 220.353  Recovery = Not calculated
Sb 206.836†              -0.2    -0.00274 mg/L      0.001096    -0.00274 mg/L      0.001096  39.97%
   QC value within limits for Sb 206.836  Recovery = Not calculated
Se 196.026†              -9.5    -0.00053 mg/L      0.004078    -0.00053 mg/L      0.004078 773.59%
   QC value within limits for Se 196.026  Recovery = Not calculated
Si 251.611†             232.7    -0.00825 mg/L      0.000549    -0.00825 mg/L      0.000549   6.65%
   QC value within limits for Si 251.611  Recovery = Not calculated
Sn 189.927†              12.3     0.00027 mg/L      0.000277     0.00027 mg/L      0.000277 103.44%
   QC value within limits for Sn 189.927  Recovery = Not calculated
Ti 334.940†             130.3     0.00013 mg/L      0.000061     0.00013 mg/L      0.000061  46.65%
   QC value within limits for Ti 334.940  Recovery = Not calculated
Tl 190.801†               1.1    -0.00259 mg/L      0.001280    -0.00259 mg/L      0.001280  49.38%
   QC value within limits for Tl 190.801  Recovery = Not calculated
V 290.880†               91.8    -0.00034 mg/L      0.000255    -0.00034 mg/L      0.000255  75.55%
   QC value within limits for V 290.880  Recovery = Not calculated
Zn 206.200†             108.6    -0.00089 mg/L      0.000029    -0.00089 mg/L      0.000029   3.32%
   QC value within limits for Zn 206.200  Recovery = Not calculated
K 766.490†               96.9     -0.0826 mg/L       0.06642     -0.0826 mg/L       0.06642  80.37%
   QC value within limits for K 766.490  Recovery = Not calculated
Na 589.592†             932.1      0.0533 mg/L       0.00646      0.0533 mg/L       0.00646  12.13%
   QC value within limits for Na 589.592  Recovery = Not calculated
Sr 407.771†             491.5    -0.00017 mg/L      0.000011    -0.00017 mg/L      0.000011   6.48%
   QC value within limits for Sr 407.771  Recovery = Not calculated
Li 670.784†             120.5    -0.00329 mg/L      0.001002    -0.00329 mg/L      0.001002  30.41%
   QC value within limits for Li 670.784  Recovery = Not calculated
All analyte(s) passed QC.

==========================================================================================
Sequence No.: 52                                  Autosampler Location: 91
Sample ID: L1207056201                            Date Collected: 7/24/2012 7:36:32 PM
Analyst: KHR                                      Data Type: Original
Initial Sample Wt:                                Initial Sample Vol:
Dilution:                                         Sample Prep Vol:

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Nebulizer Parameters: L1207056201
Analyte                 Back Pressure    Flow
All                     185.0 kPa        0.50 L/min
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Approved: July 25, 2012

Kym H. Rhoden

Mean Data: L1207056201

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	2692806.9						26889.02	1.00%
YRADIAL	294237.4						3721.59	1.26%
Ga 417.206	1485184.8						31766.84	2.14%
GaRADIAL	82246.3						1102.67	1.34%
Ag 328.068†	826.1	0.00145	mg/L	0.000237	0.00145	mg/L	0.000237	16.34%
Al 396.153†	-116.9	-0.0297	mg/L	0.00055	-0.0297	mg/L	0.00055	1.83%
As 188.979†	57.6	0.0129	mg/L	0.00158	0.0129	mg/L	0.00158	12.23%
Ba 233.527†	36308.5	0.180	mg/L	0.0009	0.180	mg/L	0.0009	0.52%
Be 234.861†	484.5	0.00003	mg/L	0.000055	0.00003	mg/L	0.000055	214.00%
B 249.677†	4416.2	0.0348	mg/L	0.00204	0.0348	mg/L	0.00204	5.86%
Ca 227.546†	36163.4	77.2	mg/L	2.40	77.2	mg/L	2.40	3.10%
Cd 228.802†	5.7	-0.00003	mg/L	0.000223	-0.00003	mg/L	0.000223	650.42%
Co 228.616†	2.7	-0.00027	mg/L	0.000172	-0.00027	mg/L	0.000172	63.64%
Cr 267.716†	133.0	-0.00006	mg/L	0.000050	-0.00006	mg/L	0.000050	86.11%
Cu 327.393†	5862.6	0.0212	mg/L	0.00064	0.0212	mg/L	0.00064	3.04%
Fe 239.562†	11898.2	0.733	mg/L	0.0043	0.733	mg/L	0.0043	0.59%
Mg 279.077†	86899.9	23.1	mg/L	0.20	23.1	mg/L	0.20	0.86%
Mn 257.610†	55266.8	0.0579	mg/L	0.00053	0.0579	mg/L	0.00053	0.92%
Mo 202.031†	162.1	0.00255	mg/L	0.000333	0.00255	mg/L	0.000333	13.03%
Ni 231.604†	111.2	-0.00238	mg/L	0.000144	-0.00238	mg/L	0.000144	6.05%
Pb 220.353†	20.6	0.00100	mg/L	0.000743	0.00100	mg/L	0.000743	74.65%
Sb 206.836†	-6.5	-0.00387	mg/L	0.000852	-0.00387	mg/L	0.000852	22.01%
Se 196.026†	0.2	0.00346	mg/L	0.004252	0.00346	mg/L	0.004252	122.73%
Si 251.611†	441845.9	7.63	mg/L	0.166	7.63	mg/L	0.166	2.18%
Sn 189.927†	-310.6	-0.0206	mg/L	0.00083	-0.0206	mg/L	0.00083	4.04%
Ti 334.940†	-12474.6	0.00062	mg/L	0.000922	0.00062	mg/L	0.000922	148.69%
Tl 190.801†	-28.0	-0.00906	mg/L	0.001356	-0.00906	mg/L	0.001356	14.96%
V 290.880†	1159.5	0.00276	mg/L	0.001876	0.00276	mg/L	0.001876	67.94%
Zn 206.200†	295.6	0.00144	mg/L	0.000068	0.00144	mg/L	0.000068	4.72%
K 766.490†	5687.6	1.94	mg/L	0.025	1.94	mg/L	0.025	1.28%
Na 589.592†	272653.2	13.5	mg/L	0.20	13.5	mg/L	0.20	1.48%
Sr 407.771†	766543.5	0.318	mg/L	0.0034	0.318	mg/L	0.0034	1.07%
Li 670.784†	2395.3	0.0146	mg/L	0.00102	0.0146	mg/L	0.00102	6.99%

Sequence No.: 53 **Autosampler Location: 92**
Sample ID: L1207056301 **Date Collected: 7/24/2012 7:42:31 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1207056301

Analyte	Back Pressure	Flow
All	185.0 kPa	0.50 L/min

Mean Data: L1207056301

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	2715350.1						17260.49	0.64%
YRADIAL	293868.9						2312.54	0.79%
Ga 417.206	1493174.0						31845.35	2.13%
GaRADIAL	83756.2						733.86	0.88%
Ag 328.068†	497.2	0.00043	mg/L	0.000416	0.00043	mg/L	0.000416	96.26%
Al 396.153†	-121.4	-0.0306	mg/L	0.00222	-0.0306	mg/L	0.00222	7.28%
As 188.979†	152.5	0.0346	mg/L	0.00090	0.0346	mg/L	0.00090	2.60%
Ba 233.527†	47761.9	0.238	mg/L	0.0026	0.238	mg/L	0.0026	1.08%
Be 234.861†	602.0	0.00013	mg/L	0.000048	0.00013	mg/L	0.000048	35.76%
B 249.677†	9217.7	0.0741	mg/L	0.00386	0.0741	mg/L	0.00386	5.21%
Ca 227.546†	24132.2	51.5	mg/L	1.89	51.5	mg/L	1.89	3.67%
Cd 228.802†	5.3	-0.00015	mg/L	0.000140	-0.00015	mg/L	0.000140	94.26%
Co 228.616†	-1.6	-0.00037	mg/L	0.000120	-0.00037	mg/L	0.000120	32.22%
Cr 267.716†	134.6	-0.00004	mg/L	0.000109	-0.00004	mg/L	0.000109	254.22%
Cu 327.393†	772.3	0.00149	mg/L	0.000229	0.00149	mg/L	0.000229	15.36%
Fe 239.562†	9895.9	0.610	mg/L	0.0032	0.610	mg/L	0.0032	0.52%
Mg 279.077†	65727.5	17.5	mg/L	0.12	17.5	mg/L	0.12	0.71%

Approved: July 25, 2012
Kym H. Rhoden

Mn 257.610†	19267.2	0.0195	mg/L	0.00011	0.0195	mg/L	0.00011	0.54%
Mo 202.031†	219.3	0.00387	mg/L	0.000166	0.00387	mg/L	0.000166	4.28%
Ni 231.604†	69.3	-0.00288	mg/L	0.000238	-0.00288	mg/L	0.000238	8.26%
Pb 220.353†	12.3	0.00035	mg/L	0.000955	0.00035	mg/L	0.000955	269.64%
Sb 206.836†	0.0	-0.00265	mg/L	0.001402	-0.00265	mg/L	0.001402	52.90%
Se 196.026†	-7.9	0.00020	mg/L	0.000343	0.00020	mg/L	0.000343	169.31%
Si 251.611†	436490.6	7.53	mg/L	0.201	7.53	mg/L	0.201	2.67%
Sn 189.927†	-282.6	-0.0188	mg/L	0.00052	-0.0188	mg/L	0.00052	2.77%
Ti 334.940†	-8513.5	0.00025	mg/L	0.000681	0.00025	mg/L	0.000681	268.54%
Tl 190.801†	-14.0	-0.00596	mg/L	0.001648	-0.00596	mg/L	0.001648	27.67%
V 290.880†	941.3	0.00214	mg/L	0.002463	0.00214	mg/L	0.002463	115.14%
Zn 206.200†	1886.2	0.0212	mg/L	0.00027	0.0212	mg/L	0.00027	1.27%
K 766.490†	6184.0	2.12	mg/L	0.024	2.12	mg/L	0.024	1.15%
Na 589.592†	320661.9	15.9	mg/L	0.12	15.9	mg/L	0.12	0.73%
Sr 407.771†	1058886.2	0.441	mg/L	0.0096	0.441	mg/L	0.0096	2.17%
Li 670.784†	2316.5	0.0139	mg/L	0.00037	0.0139	mg/L	0.00037	2.66%

Sequence No.: 54 **Autosampler Location: 93**
Sample ID: L1207056401 **Date Collected: 7/24/2012 7:48:31 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1207056401

Analyte	Back Pressure	Flow
All	185.0 kPa	0.50 L/min

Mean Data: L1207056401

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2691497.0						29769.41	1.11%
YRADIAL	305106.3						2757.69	0.90%
Ga 417.206	1464476.1						31519.35	2.15%
GaRADIAL	84731.6						594.64	0.70%
Ag 328.068†	446.6	0.00045	mg/L	0.000321	0.00045	mg/L	0.000321	70.90%
Al 396.153†	-93.4	-0.0260	mg/L	0.00372	-0.0260	mg/L	0.00372	14.32%
As 188.979†	109.1	0.0248	mg/L	0.00051	0.0248	mg/L	0.00051	2.07%
Ba 233.527†	27841.7	0.138	mg/L	0.0013	0.138	mg/L	0.0013	0.96%
Be 234.861†	644.1	0.00008	mg/L	0.000012	0.00008	mg/L	0.000012	13.71%
B 249.677†	7379.0	0.0589	mg/L	0.00203	0.0589	mg/L	0.00203	3.45%
Ca 227.546†	24484.7	52.3	mg/L	1.33	52.3	mg/L	1.33	2.54%
Cd 228.802†	9.5	-0.00004	mg/L	0.000134	-0.00004	mg/L	0.000134	358.89%
Co 228.616†	0.6	-0.00031	mg/L	0.000072	-0.00031	mg/L	0.000072	23.28%
Cr 267.716†	212.2	0.00047	mg/L	0.000026	0.00047	mg/L	0.000026	5.57%
Cu 327.393†	1339.2	0.00370	mg/L	0.000060	0.00370	mg/L	0.000060	1.62%
Fe 239.562†	15368.9	0.948	mg/L	0.0275	0.948	mg/L	0.0275	2.90%
Mg 279.077†	61749.3	16.4	mg/L	0.33	16.4	mg/L	0.33	2.03%
Mn 257.610†	27294.1	0.0280	mg/L	0.00052	0.0280	mg/L	0.00052	1.86%
Mo 202.031†	167.2	0.00267	mg/L	0.000125	0.00267	mg/L	0.000125	4.69%
Ni 231.604†	89.3	-0.00264	mg/L	0.000234	-0.00264	mg/L	0.000234	8.86%
Pb 220.353†	-1.4	-0.00048	mg/L	0.001053	-0.00048	mg/L	0.001053	220.50%
Sb 206.836†	-2.2	-0.00306	mg/L	0.001122	-0.00306	mg/L	0.001122	36.70%
Se 196.026†	-7.4	0.00045	mg/L	0.002230	0.00045	mg/L	0.002230	500.85%
Si 251.611†	444596.7	7.67	mg/L	0.093	7.67	mg/L	0.093	1.21%
Sn 189.927†	-279.2	-0.0186	mg/L	0.00075	-0.0186	mg/L	0.00075	4.06%
Ti 334.940†	-8213.4	0.00063	mg/L	0.000758	0.00063	mg/L	0.000758	120.38%
Tl 190.801†	-19.6	-0.00717	mg/L	0.002681	-0.00717	mg/L	0.002681	37.39%
V 290.880†	1059.1	0.00255	mg/L	0.001897	0.00255	mg/L	0.001897	74.48%
Zn 206.200†	451.0	0.00337	mg/L	0.000211	0.00337	mg/L	0.000211	6.26%
K 766.490†	5982.8	2.04	mg/L	0.056	2.04	mg/L	0.056	2.75%
Na 589.592†	406011.7	20.2	mg/L	0.04	20.2	mg/L	0.04	0.21%
Sr 407.771†	926278.4	0.386	mg/L	0.0022	0.386	mg/L	0.0022	0.57%
Li 670.784†	1952.5	0.0111	mg/L	0.00009	0.0111	mg/L	0.00009	0.85%

Sequence No.: 55 **Autosampler Location: 94**
Sample ID: L1207056501 **Date Collected: 7/24/2012 7:54:31 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**

Approved: July 25, 2012
Kym H. Rhoden

Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1207056501

Analyte	Back Pressure	Flow
All	184.0 kPa	0.50 L/min

Mean Data: L1207056501

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	2645478.3						7103.32	0.27%
YRADIAL	293959.6						3828.34	1.30%
Ga 417.206	1461496.0						32259.03	2.21%
GaRADIAL	81904.2						1976.30	2.41%
Ag 328.068†	-256.8	0.00057	mg/L	0.000803	0.00057	mg/L	0.000803	140.92%
Al 396.153†	-103.8	-0.0271	mg/L	0.00405	-0.0271	mg/L	0.00405	14.95%
As 188.979†	98.9	0.0235	mg/L	0.00065	0.0235	mg/L	0.00065	2.78%
Ba 233.527†	46393.9	0.230	mg/L	0.0022	0.230	mg/L	0.0022	0.94%
Be 234.861†	2026.7	-0.00002	mg/L	0.000090	-0.00002	mg/L	0.000090	438.91%
B 249.677†	6737.7	0.0517	mg/L	0.00118	0.0517	mg/L	0.00118	2.29%
Ca 227.546†	20225.5	43.3	mg/L	1.64	43.3	mg/L	1.64	3.79%
Cd 228.802†	4.0	-0.00011	mg/L	0.000177	-0.00011	mg/L	0.000177	159.28%
Co 228.616†	7.0	-0.00034	mg/L	0.000188	-0.00034	mg/L	0.000188	54.66%
Cr 267.716†	136.8	-0.00021	mg/L	0.000135	-0.00021	mg/L	0.000135	64.64%
Cu 327.393†	10236.1	0.0383	mg/L	0.00075	0.0383	mg/L	0.00075	1.95%
Fe 239.562†	90099.7	5.56	mg/L	0.144	5.56	mg/L	0.144	2.58%
Mg 279.077†	54840.3	14.6	mg/L	0.35	14.6	mg/L	0.35	2.38%
Mn 257.610†	33742.8	0.0349	mg/L	0.00034	0.0349	mg/L	0.00034	0.96%
Mo 202.031†	164.5	0.00284	mg/L	0.000215	0.00284	mg/L	0.000215	7.56%
Ni 231.604†	121.6	-0.00226	mg/L	0.000489	-0.00226	mg/L	0.000489	21.64%
Pb 220.353†	183.5	0.00987	mg/L	0.001052	0.00987	mg/L	0.001052	10.66%
Sb 206.836†	-5.5	-0.00350	mg/L	0.000062	-0.00350	mg/L	0.000062	1.78%
Se 196.026†	-6.1	0.00169	mg/L	0.001633	0.00169	mg/L	0.001633	96.51%
Si 251.611†	373369.7	6.44	mg/L	0.150	6.44	mg/L	0.150	2.33%
Sn 189.927†	-241.6	-0.0161	mg/L	0.00041	-0.0161	mg/L	0.00041	2.55%
Ti 334.940†	-7125.5	0.00022	mg/L	0.000471	0.00022	mg/L	0.000471	210.46%
Tl 190.801†	-11.6	-0.00544	mg/L	0.002507	-0.00544	mg/L	0.002507	46.09%
V 290.880†	1502.5	0.00356	mg/L	0.001864	0.00356	mg/L	0.001864	52.30%
Zn 206.200†	1053.7	0.0108	mg/L	0.00017	0.0108	mg/L	0.00017	1.56%
K 766.490†	6049.9	2.07	mg/L	0.041	2.07	mg/L	0.041	2.00%
Na 589.592†	384419.9	19.2	mg/L	0.77	19.2	mg/L	0.77	4.02%
Sr 407.771†	825093.4	0.344	mg/L	0.0025	0.344	mg/L	0.0025	0.74%
Li 670.784†	2018.1	0.0116	mg/L	0.00054	0.0116	mg/L	0.00054	4.66%

Sequence No.: 56 **Autosampler Location: 95**
Sample ID: L1207056601 WG403933-01 **Date Collected: 7/24/2012 8:00:31 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1207056601 WG403933-01

Analyte	Back Pressure	Flow
All	185.0 kPa	0.50 L/min

Mean Data: L1207056601 WG403933-01

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	2678909.1						54575.40	2.04%
YRADIAL	296101.5						3657.09	1.24%
Ga 417.206	1470017.0						38996.22	2.65%
GaRADIAL	81332.7						1187.29	1.46%
Ag 328.068†	563.1	0.00079	mg/L	0.000371	0.00079	mg/L	0.000371	47.07%
Al 396.153†	-69.8	-0.0222	mg/L	0.00815	-0.0222	mg/L	0.00815	36.67%
As 188.979†	108.4	0.0246	mg/L	0.00151	0.0246	mg/L	0.00151	6.15%
Ba 233.527†	37011.9	0.184	mg/L	0.0037	0.184	mg/L	0.0037	1.99%
Be 234.861†	620.7	0.00006	mg/L	0.000051	0.00006	mg/L	0.000051	82.60%
B 249.677†	7166.9	0.0572	mg/L	0.00285	0.0572	mg/L	0.00285	4.98%
Ca 227.546†	25483.2	54.4	mg/L	1.89	54.4	mg/L	1.89	3.47%

Approved: July 25, 2012

Kym H. Rhoden

Cd 228.802†	9.2	-0.00004	mg/L	0.000104	-0.00004	mg/L	0.000104	251.84%
Co 228.616†	-4.0	-0.00041	mg/L	0.000360	-0.00041	mg/L	0.000360	87.58%
Cr 267.716†	112.1	-0.00021	mg/L	0.000194	-0.00021	mg/L	0.000194	93.50%
Cu 327.393†	153.2	-0.00088	mg/L	0.000898	-0.00088	mg/L	0.000898	101.71%
Fe 239.562†	15835.8	0.977	mg/L	0.0044	0.977	mg/L	0.0044	0.45%
Mg 279.077†	67735.0	18.0	mg/L	0.03	18.0	mg/L	0.03	0.15%
Mn 257.610†	29109.9	0.0300	mg/L	0.00070	0.0300	mg/L	0.00070	2.34%
Mo 202.031†	169.2	0.00272	mg/L	0.000168	0.00272	mg/L	0.000168	6.17%
Ni 231.604†	60.1	-0.00299	mg/L	0.000573	-0.00299	mg/L	0.000573	19.15%
Pb 220.353†	16.8	0.00061	mg/L	0.000833	0.00061	mg/L	0.000833	137.45%
Sb 206.836†	-6.1	-0.00377	mg/L	0.000938	-0.00377	mg/L	0.000938	24.89%
Se 196.026†	-3.1	0.00220	mg/L	0.001417	0.00220	mg/L	0.001417	64.34%
Si 251.611†	458372.3	7.91	mg/L	0.237	7.91	mg/L	0.237	2.99%
Sn 189.927†	-285.3	-0.0190	mg/L	0.00049	-0.0190	mg/L	0.00049	2.61%
Ti 334.940†	-8717.0	0.00051	mg/L	0.000519	0.00051	mg/L	0.000519	102.36%
Tl 190.801†	-16.6	-0.00653	mg/L	0.001639	-0.00653	mg/L	0.001639	25.11%
V 290.880†	1042.9	0.00244	mg/L	0.002291	0.00244	mg/L	0.002291	93.79%
Zn 206.200†	572.8	0.00488	mg/L	0.000175	0.00488	mg/L	0.000175	3.59%
K 766.490†	6547.3	2.24	mg/L	0.009	2.24	mg/L	0.009	0.39%
Na 589.592†	438272.4	21.9	mg/L	0.21	21.9	mg/L	0.21	0.98%
Sr 407.771†	1077005.7	0.449	mg/L	0.0050	0.449	mg/L	0.0050	1.12%
Li 670.784†	2097.5	0.0122	mg/L	0.00104	0.0122	mg/L	0.00104	8.53%

Sequence No.: 57
Sample ID: L1207056601S WG403933-04
Analyst: KHR
Initial Sample Wt:
Dilution:

Autosampler Location: 96
Date Collected: 7/24/2012 8:06:29 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: L1207056601S WG403933-04

Analyte	Back Pressure	Flow
All	185.0 kPa	0.50 L/min

Mean Data: L1207056601S WG403933-04

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	2644089.9						28789.19	1.09%
YRADIAL	299664.9						3040.56	1.01%
Ga 417.206	1441819.9						48515.84	3.36%
GaRADIAL	82547.6						293.85	0.36%
Ag 328.068†	66485.4	0.191	mg/L	0.0052	0.191	mg/L	0.0052	2.70%
Al 396.153†	30491.6	4.80	mg/L	0.014	4.80	mg/L	0.014	0.30%
As 188.979†	904.7	0.205	mg/L	0.0058	0.205	mg/L	0.0058	2.85%
Ba 233.527†	132315.4	0.661	mg/L	0.0010	0.661	mg/L	0.0010	0.15%
Be 234.861†	34511.5	0.0236	mg/L	0.00071	0.0236	mg/L	0.00071	2.99%
B 249.677†	121686.6	0.991	mg/L	0.0272	0.991	mg/L	0.0272	2.74%
Ca 227.546†	27571.8	59.1	mg/L	2.42	59.1	mg/L	2.42	4.10%
Cd 228.802†	1539.6	0.0220	mg/L	0.00132	0.0220	mg/L	0.00132	5.99%
Co 228.616†	4996.0	0.0933	mg/L	0.00085	0.0933	mg/L	0.00085	0.91%
Cr 267.716†	36175.1	0.243	mg/L	0.0023	0.243	mg/L	0.0023	0.94%
Cu 327.393†	60479.8	0.233	mg/L	0.0052	0.233	mg/L	0.0052	2.21%
Fe 239.562†	44816.6	2.77	mg/L	0.005	2.77	mg/L	0.005	0.20%
Mg 279.077†	81787.1	21.7	mg/L	0.14	21.7	mg/L	0.14	0.64%
Mn 257.610†	255699.8	0.272	mg/L	0.0014	0.272	mg/L	0.0014	0.51%
Mo 202.031†	21380.3	0.497	mg/L	0.0062	0.497	mg/L	0.0062	1.24%
Ni 231.604†	20325.3	0.239	mg/L	0.0019	0.239	mg/L	0.0019	0.78%
Pb 220.353†	4090.4	0.241	mg/L	0.0018	0.241	mg/L	0.0018	0.75%
Sb 206.836†	3012.2	0.554	mg/L	0.0220	0.554	mg/L	0.0220	3.97%
Se 196.026†	459.9	0.189	mg/L	0.0057	0.189	mg/L	0.0057	3.04%
Si 251.611†	571902.5	9.87	mg/L	0.173	9.87	mg/L	0.173	1.75%
Sn 189.927†	7429.4	0.480	mg/L	0.0051	0.480	mg/L	0.0051	1.06%
Ti 334.940†	541424.2	0.485	mg/L	0.0005	0.485	mg/L	0.0005	0.11%
Tl 190.801†	1106.2	0.242	mg/L	0.0049	0.242	mg/L	0.0049	2.03%
V 290.880†	138049.0	0.490	mg/L	0.0061	0.490	mg/L	0.0061	1.25%
Zn 206.200†	38358.4	0.478	mg/L	0.0082	0.478	mg/L	0.0082	1.72%
K 766.490†	72308.4	26.2	mg/L	0.16	26.2	mg/L	0.16	0.62%
Na 589.592†	893556.6	45.3	mg/L	0.69	45.3	mg/L	0.69	1.52%
Sr 407.771†	2191002.7	0.914	mg/L	0.0231	0.914	mg/L	0.0231	2.52%
Li 670.784†	66222.8	0.515	mg/L	0.0015	0.515	mg/L	0.0015	0.30%

Approved: July 25, 2012

Kym H. Rhoden

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Sequence No.: 58 **Autosampler Location: 97**
Sample ID: L1207056601SD WG403933-05 **Date Collected: 7/24/2012 8:12:28 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1207056601SD WG403933-05

Analyte	Back Pressure	Flow
All	185.0 kPa	0.50 L/min

Mean Data: L1207056601SD WG403933-05

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2659905.1						4499.60	0.17%
YRADIAL	297407.6						3825.84	1.29%
Ga 417.206	1448152.6						8662.29	0.60%
GaRADIAL	81914.5						1190.66	1.45%
Ag 328.068†	67335.2	0.194	mg/L	0.0012	0.194	mg/L	0.0012	0.61%
Al 396.153†	31116.0	4.90	mg/L	0.003	4.90	mg/L	0.003	0.07%
As 188.979†	925.7	0.210	mg/L	0.0007	0.210	mg/L	0.0007	0.34%
Ba 233.527†	133759.9	0.669	mg/L	0.0051	0.669	mg/L	0.0051	0.76%
Be 234.861†	34472.6	0.0236	mg/L	0.00018	0.0236	mg/L	0.00018	0.75%
B 249.677†	123675.7	1.01	mg/L	0.009	1.01	mg/L	0.009	0.92%
Ca 227.546†	27188.2	58.3	mg/L	0.96	58.3	mg/L	0.96	1.66%
Cd 228.802†	1553.5	0.0222	mg/L	0.00051	0.0222	mg/L	0.00051	2.30%
Co 228.616†	5068.0	0.0947	mg/L	0.00109	0.0947	mg/L	0.00109	1.15%
Cr 267.716†	36586.2	0.246	mg/L	0.0014	0.246	mg/L	0.0014	0.56%
Cu 327.393†	61427.3	0.237	mg/L	0.0017	0.237	mg/L	0.0017	0.72%
Fe 239.562†	45618.9	2.81	mg/L	0.009	2.81	mg/L	0.009	0.32%
Mg 279.077†	83134.0	22.1	mg/L	0.10	22.1	mg/L	0.10	0.44%
Mn 257.610†	261015.1	0.278	mg/L	0.0030	0.278	mg/L	0.0030	1.08%
Mo 202.031†	21290.0	0.495	mg/L	0.0031	0.495	mg/L	0.0031	0.62%
Ni 231.604†	20026.7	0.235	mg/L	0.0005	0.235	mg/L	0.0005	0.20%
Pb 220.353†	4157.3	0.244	mg/L	0.0019	0.244	mg/L	0.0019	0.78%
Sb 206.836†	3052.9	0.561	mg/L	0.0037	0.561	mg/L	0.0037	0.67%
Se 196.026†	461.6	0.189	mg/L	0.0020	0.189	mg/L	0.0020	1.04%
Si 251.611†	581018.8	10.0	mg/L	0.07	10.0	mg/L	0.07	0.73%
Sn 189.927†	7581.4	0.489	mg/L	0.0024	0.489	mg/L	0.0024	0.50%
Ti 334.940†	548249.5	0.491	mg/L	0.0015	0.491	mg/L	0.0015	0.30%
Tl 190.801†	1138.8	0.250	mg/L	0.0023	0.250	mg/L	0.0023	0.94%
V 290.880†	140452.0	0.499	mg/L	0.0027	0.499	mg/L	0.0027	0.55%
Zn 206.200†	38601.3	0.481	mg/L	0.0013	0.481	mg/L	0.0013	0.27%
K 766.490†	74407.4	27.0	mg/L	0.15	27.0	mg/L	0.15	0.54%
Na 589.592†	918366.0	46.6	mg/L	1.41	46.6	mg/L	1.41	3.02%
Sr 407.771†	2249125.1	0.939	mg/L	0.0196	0.939	mg/L	0.0196	2.09%
Li 670.784†	67797.5	0.528	mg/L	0.0055	0.528	mg/L	0.0055	1.04%

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Sequence No.: 59 **Autosampler Location: 6**
Sample ID: CCV **Date Collected: 7/24/2012 8:18:27 PM**
Analyst: **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: CCV

Analyte	Back Pressure	Flow
All	185.0 kPa	0.50 L/min

Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2655369.6						21523.65	0.81%
YRADIAL	292418.6						2930.41	1.00%
Ga 417.206	1377027.6						20147.42	1.46%
GaRADIAL	79521.3						156.79	0.20%
Ag 328.068†	139424.5	0.402	mg/L	0.0109	0.402	mg/L	0.0109	2.72%

Approved: July 25, 2012
Kym H. Rhoden

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   QC value within limits for Ag 328.068  Recovery = 100.38%
Al 396.153†          63213.8       9.96 mg/L        0.047       9.96 mg/L        0.047   0.47%
   QC value within limits for Al 396.153  Recovery = 99.60%
As 188.979†           1702.9      0.385 mg/L       0.0048      0.385 mg/L       0.0048   1.25%
   QC value within limits for As 188.979  Recovery = 96.25%
Ba 233.527†         198786.8      0.994 mg/L       0.0068      0.994 mg/L       0.0068   0.68%
   QC value within limits for Ba 233.527  Recovery = 99.45%
Be 234.861†          71094.1     0.0492 mg/L      0.00133     0.0492 mg/L      0.00133   2.70%
   QC value within limits for Be 234.861  Recovery = 98.42%
B 249.677†           61499.7      0.498 mg/L       0.0148      0.498 mg/L       0.0148   2.98%
   QC value within limits for B 249.677  Recovery = 99.50%
Ca 227.546†           4597.7       10.3 mg/L         0.21       10.3 mg/L         0.21   2.00%
   QC value within limits for Ca 227.546  Recovery = 102.94%
Cd 228.802†           3336.6     0.0481 mg/L      0.00153     0.0481 mg/L      0.00153   3.18%
   QC value within limits for Cd 228.802  Recovery = 96.16%
Co 228.616†          10563.4      0.198 mg/L       0.0031      0.198 mg/L       0.0031   1.57%
   QC value within limits for Co 228.616  Recovery = 98.88%
Cr 267.716†          73884.5      0.497 mg/L       0.0020      0.497 mg/L       0.0020   0.41%
   QC value within limits for Cr 267.716  Recovery = 99.37%
Cu 327.393†         130420.7      0.504 mg/L       0.0134      0.504 mg/L       0.0134   2.66%
   QC value within limits for Cu 327.393  Recovery = 100.86%
Fe 239.562†          62054.3       3.83 mg/L        0.014       3.83 mg/L        0.014   0.36%
   QC value within limits for Fe 239.562  Recovery = 95.73%
Mg 279.077†          36486.8       9.72 mg/L        0.041       9.72 mg/L        0.041   0.42%
   QC value within limits for Mg 279.077  Recovery = 97.16%
Mn 257.610†         466984.8      0.498 mg/L       0.0044      0.498 mg/L       0.0044   0.88%
   QC value within limits for Mn 257.610  Recovery = 99.59%
Mo 202.031†          42649.2      0.993 mg/L       0.0035      0.993 mg/L       0.0035   0.36%
   QC value within limits for Mo 202.031  Recovery = 99.32%
Ni 231.604†          43418.5      0.515 mg/L       0.0072      0.515 mg/L       0.0072   1.40%
   QC value within limits for Ni 231.604  Recovery = 102.90%
Pb 220.353†           8470.2      0.498 mg/L       0.0058      0.498 mg/L       0.0058   1.17%
   QC value within limits for Pb 220.353  Recovery = 99.61%
Sb 206.836†           6390.0       1.18 mg/L        0.025       1.18 mg/L        0.025   2.14%
   QC value within limits for Sb 206.836  Recovery = 98.13%
Se 196.026†            975.3      0.396 mg/L       0.0108      0.396 mg/L       0.0108   2.72%
   QC value within limits for Se 196.026  Recovery = 98.96%
Si 251.611†         288009.7       4.96 mg/L        0.079       4.96 mg/L        0.079   1.59%
   QC value within limits for Si 251.611  Recovery = 99.12%
Sn 189.927†          15378.5      0.993 mg/L       0.0131      0.993 mg/L       0.0131   1.32%
   QC value within limits for Sn 189.927  Recovery = 99.33%
Ti 334.940†        1126447.3      0.992 mg/L       0.0036      0.992 mg/L       0.0036   0.37%
   QC value within limits for Ti 334.940  Recovery = 99.21%
Tl 190.801†           2341.2      0.516 mg/L       0.0019      0.516 mg/L       0.0019   0.37%
   QC value within limits for Tl 190.801  Recovery = 103.20%
V 290.880†           278362.9      0.990 mg/L       0.0049      0.990 mg/L       0.0049   0.50%
   QC value within limits for V 290.880  Recovery = 99.03%
Zn 206.200†          79057.6      0.987 mg/L       0.0050      0.987 mg/L       0.0050   0.51%
   QC value within limits for Zn 206.200  Recovery = 98.71%
K 766.490†           137947.5       50.3 mg/L         0.32       50.3 mg/L         0.32   0.63%
   QC value within limits for K 766.490  Recovery = 100.59%
Na 589.592†          998491.1       50.7 mg/L         0.13       50.7 mg/L         0.13   0.25%
   QC value within limits for Na 589.592  Recovery = 101.50%
Sr 407.771†         2454007.5       1.03 mg/L        0.021       1.03 mg/L        0.021   2.00%
   QC value within limits for Sr 407.771  Recovery = 102.53%
Li 670.784†          130789.4       1.02 mg/L        0.005       1.02 mg/L        0.005   0.50%
   QC value within limits for Li 670.784  Recovery = 102.21%
All analyte(s) passed QC.

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Sequence No.: 60                                    Autosampler Location: 1
Sample ID: CCB                                      Date Collected: 7/24/2012 8:24:27 PM
Analyst:                                            Data Type: Original
Initial Sample Wt:                                  Initial Sample Vol:
Dilution:                                           Sample Prep Vol:

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Nebulizer Parameters: CCB
Analyte                 Back Pressure    Flow
All                     185.0 kPa        0.50 L/min

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Approved: July 25, 2012

Kym H. Rhoden

Mean Data: CCB

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2729208.5						8425.96	0.31%
YRADIAL	293848.5						6407.41	2.18%
Ga 417.206	1433737.3						13745.36	0.96%
GaRADIAL	80867.2						1242.67	1.54%
Ag 328.068†	37.9	-0.00108	mg/L	0.000212	-0.00108	mg/L	0.000212	19.68%
QC value within limits for Ag 328.068 Recovery = Not calculated								
Al 396.153†	28.1	-0.00655	mg/L	0.002054	-0.00655	mg/L	0.002054	31.35%
QC value within limits for Al 396.153 Recovery = Not calculated								
As 188.979†	8.2	0.00144	mg/L	0.000657	0.00144	mg/L	0.000657	45.72%
QC value within limits for As 188.979 Recovery = Not calculated								
Ba 233.527†	50.8	-0.00147	mg/L	0.000016	-0.00147	mg/L	0.000016	1.10%
QC value within limits for Ba 233.527 Recovery = Not calculated								
Be 234.861†	75.7	-0.00010	mg/L	0.000009	-0.00010	mg/L	0.000009	9.74%
QC value within limits for Be 234.861 Recovery = Not calculated								
B 249.677†	503.9	0.00318	mg/L	0.000230	0.00318	mg/L	0.000230	7.24%
QC value within limits for B 249.677 Recovery = Not calculated								
Ca 227.546†	4.2	0.0219	mg/L	0.02426	0.0219	mg/L	0.02426	110.83%
QC value within limits for Ca 227.546 Recovery = Not calculated								
Cd 228.802†	-2.5	-0.00010	mg/L	0.000047	-0.00010	mg/L	0.000047	47.86%
QC value within limits for Cd 228.802 Recovery = Not calculated								
Co 228.616†	-4.1	-0.00035	mg/L	0.000076	-0.00035	mg/L	0.000076	21.75%
QC value within limits for Co 228.616 Recovery = Not calculated								
Cr 267.716†	24.7	-0.00076	mg/L	0.000056	-0.00076	mg/L	0.000056	7.30%
QC value within limits for Cr 267.716 Recovery = Not calculated								
Cu 327.393†	14.3	-0.00146	mg/L	0.000239	-0.00146	mg/L	0.000239	16.40%
QC value within limits for Cu 327.393 Recovery = Not calculated								
Fe 239.562†	22.0	0.00074	mg/L	0.000424	0.00074	mg/L	0.000424	57.53%
QC value within limits for Fe 239.562 Recovery = Not calculated								
Mg 279.077†	25.7	0.0139	mg/L	0.00105	0.0139	mg/L	0.00105	7.53%
QC value within limits for Mg 279.077 Recovery = Not calculated								
Mn 257.610†	-13.7	-0.00113	mg/L	0.000007	-0.00113	mg/L	0.000007	0.65%
QC value within limits for Mn 257.610 Recovery = Not calculated								
Mo 202.031†	19.6	-0.00082	mg/L	0.000067	-0.00082	mg/L	0.000067	8.16%
QC value within limits for Mo 202.031 Recovery = Not calculated								
Ni 231.604†	25.0	-0.00341	mg/L	0.000122	-0.00341	mg/L	0.000122	3.57%
QC value within limits for Ni 231.604 Recovery = Not calculated								
Pb 220.353†	5.6	-0.00038	mg/L	0.000636	-0.00038	mg/L	0.000636	168.85%
QC value within limits for Pb 220.353 Recovery = Not calculated								
Sb 206.836†	4.1	-0.00195	mg/L	0.000316	-0.00195	mg/L	0.000316	16.24%
QC value within limits for Sb 206.836 Recovery = Not calculated								
Se 196.026†	-4.4	0.00152	mg/L	0.001676	0.00152	mg/L	0.001676	110.51%
QC value within limits for Se 196.026 Recovery = Not calculated								
Si 251.611†	211.8	-0.00862	mg/L	0.000490	-0.00862	mg/L	0.000490	5.68%
QC value within limits for Si 251.611 Recovery = Not calculated								
Sn 189.927†	9.9	0.00012	mg/L	0.000251	0.00012	mg/L	0.000251	213.72%
QC value within limits for Sn 189.927 Recovery = Not calculated								
Ti 334.940†	266.5	0.00025	mg/L	0.000065	0.00025	mg/L	0.000065	25.83%
QC value within limits for Ti 334.940 Recovery = Not calculated								
Tl 190.801†	0.7	-0.00269	mg/L	0.001976	-0.00269	mg/L	0.001976	73.57%
QC value within limits for Tl 190.801 Recovery = Not calculated								
V 290.880†	214.2	0.00010	mg/L	0.000926	0.00010	mg/L	0.000926	934.47%
QC value within limits for V 290.880 Recovery = Not calculated								
Zn 206.200†	122.0	-0.00072	mg/L	0.000105	-0.00072	mg/L	0.000105	14.58%
QC value within limits for Zn 206.200 Recovery = Not calculated								
K 766.490†	53.0	-0.0986	mg/L	0.05835	-0.0986	mg/L	0.05835	59.17%
QC value within limits for K 766.490 Recovery = Not calculated								
Na 589.592†	903.2	0.0519	mg/L	0.00381	0.0519	mg/L	0.00381	7.35%
QC value within limits for Na 589.592 Recovery = Not calculated								
Sr 407.771†	569.8	-0.00013	mg/L	0.000054	-0.00013	mg/L	0.000054	40.49%
QC value within limits for Sr 407.771 Recovery = Not calculated								
Li 670.784†	230.3	-0.00243	mg/L	0.000819	-0.00243	mg/L	0.000819	33.64%
QC value within limits for Li 670.784 Recovery = Not calculated								

All analyte(s) passed QC.

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Sequence No.: 61 **Autosampler Location: 98**
Sample ID: PBW 4B WG404274-02 **Date Collected: 7/24/2012 8:31:20 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**

Approved: July 25, 2012

Kym H. Rhoden

Dilution: **Sample Prep Vol:**

Nebulizer Parameters: PBW 4B WG404274-02

Analyte	Back Pressure	Flow
All	185.0 kPa	0.50 L/min

Mean Data: PBW 4B WG404274-02

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	2739722.4						2860.78	0.10%
YRADIAL	302899.0						6869.73	2.27%
Ga 417.206	1404215.5						21750.34	1.55%
GaRADIAL	83209.3						1559.30	1.87%
Ag 328.068†	-126.5	-0.00155	mg/L	0.000345	-0.00155	mg/L	0.000345	22.29%
Al 396.153†	-48.2	-0.0187	mg/L	0.00094	-0.0187	mg/L	0.00094	5.05%
As 188.979†	-10.3	-0.00281	mg/L	0.001225	-0.00281	mg/L	0.001225	43.61%
Ba 233.527†	0.5	-0.00173	mg/L	0.000034	-0.00173	mg/L	0.000034	1.97%
Be 234.861†	-293.9	-0.00036	mg/L	0.000029	-0.00036	mg/L	0.000029	8.18%
B 249.677†	177.7	0.00051	mg/L	0.000113	0.00051	mg/L	0.000113	22.19%
Ca 227.546†	68.5	0.159	mg/L	0.0129	0.159	mg/L	0.0129	8.12%
Cd 228.802†	-0.7	-0.00005	mg/L	0.000162	-0.00005	mg/L	0.000162	323.57%
Co 228.616†	-11.6	-0.00049	mg/L	0.000043	-0.00049	mg/L	0.000043	8.87%
Cr 267.716†	46.4	-0.00062	mg/L	0.000066	-0.00062	mg/L	0.000066	10.64%
Cu 327.393†	129.5	-0.00101	mg/L	0.000442	-0.00101	mg/L	0.000442	43.62%
Fe 239.562†	33.4	0.00144	mg/L	0.000673	0.00144	mg/L	0.000673	46.80%
Mg 279.077†	359.9	0.103	mg/L	0.0024	0.103	mg/L	0.0024	2.29%
Mn 257.610†	306.1	-0.00079	mg/L	0.000014	-0.00079	mg/L	0.000014	1.78%
Mo 202.031†	22.3	-0.00075	mg/L	0.000207	-0.00075	mg/L	0.000207	27.42%
Ni 231.604†	-14.0	-0.00388	mg/L	0.000043	-0.00388	mg/L	0.000043	1.12%
Pb 220.353†	6.3	-0.00034	mg/L	0.000326	-0.00034	mg/L	0.000326	95.61%
Sb 206.836†	3.6	-0.00204	mg/L	0.001279	-0.00204	mg/L	0.001279	62.80%
Se 196.026†	4.4	0.00503	mg/L	0.000435	0.00503	mg/L	0.000435	8.63%
Si 251.611†	53.8	-0.0113	mg/L	0.00021	-0.0113	mg/L	0.00021	1.86%
Sn 189.927†	4.6	-0.00023	mg/L	0.000260	-0.00023	mg/L	0.000260	114.17%
Ti 334.940†	43.3	0.00008	mg/L	0.000162	0.00008	mg/L	0.000162	208.93%
Tl 190.801†	-29.2	-0.00914	mg/L	0.000521	-0.00914	mg/L	0.000521	5.70%
V 290.880†	377.1	0.00068	mg/L	0.000806	0.00068	mg/L	0.000806	118.84%
Zn 206.200†	215.2	0.00044	mg/L	0.000158	0.00044	mg/L	0.000158	35.91%
K 766.490†	162.8	-0.0587	mg/L	0.04305	-0.0587	mg/L	0.04305	73.38%
Na 589.592†	1439.1	0.0782	mg/L	0.00674	0.0782	mg/L	0.00674	8.62%
Sr 407.771†	2670.0	0.00074	mg/L	0.000048	0.00074	mg/L	0.000048	6.50%
Li 670.784†	68.2	-0.00371	mg/L	0.000146	-0.00371	mg/L	0.000146	3.93%

Sequence No.: 62 **Autosampler Location: 99**
Sample ID: LCSW 4B WG404274-03 **Date Collected: 7/24/2012 8:38:15 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: LCSW 4B WG404274-03

Analyte	Back Pressure	Flow
All	185.0 kPa	0.50 L/min

Mean Data: LCSW 4B WG404274-03

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	2685784.3						5441.79	0.20%
YRADIAL	298882.8						3549.44	1.19%
Ga 417.206	1364439.0						42068.38	3.08%
GaRADIAL	79898.9						584.36	0.73%
Ag 328.068†	68074.9	0.195	mg/L	0.0047	0.195	mg/L	0.0047	2.41%
Al 396.153†	30259.3	4.76	mg/L	0.018	4.76	mg/L	0.018	0.37%
As 188.979†	779.0	0.176	mg/L	0.0061	0.176	mg/L	0.0061	3.46%
Ba 233.527†	95926.8	0.479	mg/L	0.0079	0.479	mg/L	0.0079	1.64%
Be 234.861†	32663.4	0.0225	mg/L	0.00054	0.0225	mg/L	0.00054	2.39%
B 249.677†	111465.9	0.908	mg/L	0.0256	0.908	mg/L	0.0256	2.82%
Ca 227.546†	2091.6	4.69	mg/L	0.149	4.69	mg/L	0.149	3.19%

Approved: July 25, 2012

Kym H. Rhoden

Cd 228.802†	1555.9	0.0224	mg/L	0.00121	0.0224	mg/L	0.00121	5.42%
Co 228.616†	5035.1	0.0941	mg/L	0.00076	0.0941	mg/L	0.00076	0.80%
Cr 267.716†	35953.6	0.241	mg/L	0.0036	0.241	mg/L	0.0036	1.48%
Cu 327.393†	64241.8	0.248	mg/L	0.0054	0.248	mg/L	0.0054	2.16%
Fe 239.562†	29130.0	1.80	mg/L	0.015	1.80	mg/L	0.015	0.81%
Mg 279.077†	17361.7	4.63	mg/L	0.050	4.63	mg/L	0.050	1.08%
Mn 257.610†	227709.1	0.242	mg/L	0.0047	0.242	mg/L	0.0047	1.93%
Mo 202.031†	20579.3	0.479	mg/L	0.0075	0.479	mg/L	0.0075	1.58%
Ni 231.604†	19830.0	0.233	mg/L	0.0043	0.233	mg/L	0.0043	1.85%
Pb 220.353†	3950.2	0.232	mg/L	0.0026	0.232	mg/L	0.0026	1.11%
Sb 206.836†	3050.2	0.561	mg/L	0.0195	0.561	mg/L	0.0195	3.48%
Se 196.026†	447.4	0.183	mg/L	0.0086	0.183	mg/L	0.0086	4.68%
Si 251.611†	141962.2	2.44	mg/L	0.050	2.44	mg/L	0.050	2.04%
Sn 189.927†	-51.4	-0.00385	mg/L	0.000127	-0.00385	mg/L	0.000127	3.31%
Ti 334.940†	540498.8	0.476	mg/L	0.0022	0.476	mg/L	0.0022	0.47%
Tl 190.801†	1086.7	0.238	mg/L	0.0045	0.238	mg/L	0.0045	1.88%
V 290.880†	136727.3	0.486	mg/L	0.0084	0.486	mg/L	0.0084	1.72%
Zn 206.200†	36855.1	0.459	mg/L	0.0050	0.459	mg/L	0.0050	1.09%
K 766.490†	65327.0	23.7	mg/L	0.16	23.7	mg/L	0.16	0.66%
Na 589.592†	478803.6	23.9	mg/L	0.37	23.9	mg/L	0.37	1.55%
Sr 407.771†	1143610.8	0.478	mg/L	0.0136	0.478	mg/L	0.0136	2.85%
Li 670.784†	64046.5	0.498	mg/L	0.0004	0.498	mg/L	0.0004	0.07%

Sequence No.: 63
Sample ID: FBLK1 WG404216-01
Analyst: KHR
Initial Sample Wt:
Dilution:

Autosampler Location: 100
Date Collected: 7/24/2012 8:44:14 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: FBLK1 WG404216-01

Analyte	Back Pressure	Flow
All	185.0 kPa	0.50 L/min

Mean Data: FBLK1 WG404216-01

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2644676.1						31313.90	1.18%
YRADIAL	296558.9						7675.98	2.59%
Ga 417.206	1393402.6						17074.84	1.23%
GaRADIAL	81243.7						1292.91	1.59%
Ag 328.068†	-161.3	-0.00128	mg/L	0.000244	-0.00128	mg/L	0.000244	18.98%
Al 396.153†	1997.4	0.306	mg/L	0.0066	0.306	mg/L	0.0066	2.17%
As 188.979†	-6.4	-0.00175	mg/L	0.001517	-0.00175	mg/L	0.001517	86.92%
Ba 233.527†	645.3	0.00146	mg/L	0.000028	0.00146	mg/L	0.000028	1.94%
Be 234.861†	126.6	-0.00024	mg/L	0.000103	-0.00024	mg/L	0.000103	42.65%
B 249.677†	555.5	0.00326	mg/L	0.000274	0.00326	mg/L	0.000274	8.43%
Ca 227.546†	65.3	0.171	mg/L	0.0025	0.171	mg/L	0.0025	1.46%
Cd 228.802†	3.1	0.00000	mg/L	0.000091	0.00000	mg/L	0.000091	>999.9%
Co 228.616†	12.2	-0.00006	mg/L	0.000097	-0.00006	mg/L	0.000097	152.36%
Cr 267.716†	154.3	0.00009	mg/L	0.000084	0.00009	mg/L	0.000084	97.41%
Cu 327.393†	344.8	-0.00014	mg/L	0.000340	-0.00014	mg/L	0.000340	239.89%
Fe 239.562†	12690.0	0.783	mg/L	0.0116	0.783	mg/L	0.0116	1.48%
Mg 279.077†	390.6	0.110	mg/L	0.0018	0.110	mg/L	0.0018	1.62%
Mn 257.610†	12816.3	0.0126	mg/L	0.00028	0.0126	mg/L	0.00028	2.23%
Mo 202.031†	43.1	-0.00023	mg/L	0.000105	-0.00023	mg/L	0.000105	46.22%
Ni 231.604†	31.6	-0.00333	mg/L	0.000077	-0.00333	mg/L	0.000077	2.31%
Pb 220.353†	13.8	0.00008	mg/L	0.000287	0.00008	mg/L	0.000287	338.65%
Sb 206.836†	6.2	-0.00154	mg/L	0.000787	-0.00154	mg/L	0.000787	51.24%
Se 196.026†	14.9	0.00941	mg/L	0.001774	0.00941	mg/L	0.001774	18.85%
Si 251.611†	4419.9	0.0641	mg/L	0.00121	0.0641	mg/L	0.00121	1.89%
Sn 189.927†	9.1	0.00006	mg/L	0.000209	0.00006	mg/L	0.000209	340.56%
Ti 334.940†	975.6	0.00090	mg/L	0.000053	0.00090	mg/L	0.000053	5.90%
Tl 190.801†	-30.1	-0.00931	mg/L	0.001024	-0.00931	mg/L	0.001024	11.00%
V 290.880†	968.2	0.00268	mg/L	0.001460	0.00268	mg/L	0.001460	54.46%
Zn 206.200†	535.9	0.00443	mg/L	0.000184	0.00443	mg/L	0.000184	4.16%
K 766.490†	711.3	0.00413	mg/L	0.003332	0.00413	mg/L	0.003332	80.65%
Na 589.592†	2546548.2	137	mg/L	1.9	137	mg/L	1.9	1.36%
Sr 407.771†	2206.3	0.00055	mg/L	0.000035	0.00055	mg/L	0.000035	6.47%
Li 670.784†	154.8	-0.00303	mg/L	0.000125	-0.00303	mg/L	0.000125	4.13%

Approved: July 25, 2012

Kim H. Rhoden

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Sequence No.: 64 **Autosampler Location: 101**
Sample ID: L1207019914 **Date Collected: 7/24/2012 8:51:13 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1207019914

Analyte	Back Pressure	Flow
All	185.0 kPa	0.50 L/min

Mean Data: L1207019914

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2641951.5						6548.34	0.25%
YRADIAL	294569.1						2828.80	0.96%
Ga 417.206	1354557.5						21746.92	1.61%
GaRADIAL	79489.0						917.44	1.15%
Ag 328.068†	-82.8	-0.00088	mg/L	0.000400	-0.00088	mg/L	0.000400	45.21%
Al 396.153†	106.6	0.00602	mg/L	0.007574	0.00602	mg/L	0.007574	125.91%
As 188.979†	-12.1	-0.00295	mg/L	0.000378	-0.00295	mg/L	0.000378	12.83%
Ba 233.527†	398.4	0.00020	mg/L	0.000147	0.00020	mg/L	0.000147	74.07%
Be 234.861†	336.6	-0.00018	mg/L	0.000036	-0.00018	mg/L	0.000036	19.71%
B 249.677†	19325.5	0.156	mg/L	0.0043	0.156	mg/L	0.0043	2.78%
Ca 227.546†	498.0	1.10	mg/L	0.039	1.10	mg/L	0.039	3.55%
Cd 228.802†	11.8	0.00014	mg/L	0.000091	0.00014	mg/L	0.000091	66.21%
Co 228.616†	17.8	0.00003	mg/L	0.000047	0.00003	mg/L	0.000047	139.04%
Cr 267.716†	109.1	-0.00023	mg/L	0.000042	-0.00023	mg/L	0.000042	18.17%
Cu 327.393†	93.2	-0.00110	mg/L	0.000253	-0.00110	mg/L	0.000253	23.06%
Fe 239.562†	18702.2	1.15	mg/L	0.024	1.15	mg/L	0.024	2.06%
Mg 279.077†	1200.0	0.325	mg/L	0.0066	0.325	mg/L	0.0066	2.03%
Mn 257.610†	4470.1	0.00366	mg/L	0.000020	0.00366	mg/L	0.000020	0.55%
Mo 202.031†	47.1	-0.00012	mg/L	0.000472	-0.00012	mg/L	0.000472	402.05%
Ni 231.604†	122.6	-0.00225	mg/L	0.000452	-0.00225	mg/L	0.000452	20.14%
Pb 220.353†	-39.1	-0.00309	mg/L	0.000998	-0.00309	mg/L	0.000998	32.27%
Sb 206.836†	3.5	-0.00203	mg/L	0.000646	-0.00203	mg/L	0.000646	31.90%
Se 196.026†	3.5	0.00489	mg/L	0.003750	0.00489	mg/L	0.003750	76.65%
Si 251.611†	6109.2	0.0933	mg/L	0.00479	0.0933	mg/L	0.00479	5.13%
Sn 189.927†	-9.4	-0.00113	mg/L	0.000424	-0.00113	mg/L	0.000424	37.42%
Ti 334.940†	313.0	0.00045	mg/L	0.000083	0.00045	mg/L	0.000083	18.35%
Tl 190.801†	-21.7	-0.00750	mg/L	0.003053	-0.00750	mg/L	0.003053	40.68%
V 290.880†	1492.4	0.00449	mg/L	0.000997	0.00449	mg/L	0.000997	22.19%
Zn 206.200†	1080.5	0.0112	mg/L	0.00008	0.0112	mg/L	0.00008	0.67%
K 766.490†	1139.2	0.137	mg/L	0.0155	0.137	mg/L	0.0155	11.30%
Na 589.592†	2931462.5	160	mg/L	1.4	160	mg/L	1.4	0.85%
Sr 407.771†	3394.8	0.00102	mg/L	0.000040	0.00102	mg/L	0.000040	3.86%
Li 670.784†	108.6	-0.00339	mg/L	0.000533	-0.00339	mg/L	0.000533	15.72%

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Sequence No.: 65 **Autosampler Location: 102**
Sample ID: L1207019915 **Date Collected: 7/24/2012 8:57:12 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1207019915

Analyte	Back Pressure	Flow
All	185.0 kPa	0.50 L/min

Mean Data: L1207019915

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2675982.4						14302.00	0.53%
YRADIAL	288062.4						3339.50	1.16%
Ga 417.206	1410738.4						10891.19	0.77%
GaRADIAL	79090.6						2205.99	2.79%
Ag 328.068†	-124.1	-0.00132	mg/L	0.000155	-0.00132	mg/L	0.000155	11.74%

Approved: July 25, 2012

Kym H. Rhoden

Al 396.153†	136.0	0.0106	mg/L	0.00233	0.0106	mg/L	0.00233	21.95%
As 188.979†	-11.0	-0.00285	mg/L	0.001651	-0.00285	mg/L	0.001651	57.90%
Ba 233.527†	279.3	-0.00036	mg/L	0.000146	-0.00036	mg/L	0.000146	40.93%
Be 234.861†	-23.6	-0.00027	mg/L	0.000068	-0.00027	mg/L	0.000068	24.71%
B 249.677†	14851.5	0.120	mg/L	0.0022	0.120	mg/L	0.0022	1.82%
Ca 227.546†	438.5	0.974	mg/L	0.0098	0.974	mg/L	0.0098	1.00%
Cd 228.802†	8.3	0.00009	mg/L	0.000014	0.00009	mg/L	0.000014	15.92%
Co 228.616†	4.4	-0.00021	mg/L	0.000158	-0.00021	mg/L	0.000158	76.67%
Cr 267.716†	133.3	-0.00005	mg/L	0.000033	-0.00005	mg/L	0.000033	71.52%
Cu 327.393†	1246.3	0.00333	mg/L	0.000342	0.00333	mg/L	0.000342	10.29%
Fe 239.562†	7568.5	0.467	mg/L	0.0025	0.467	mg/L	0.0025	0.54%
Mg 279.077†	987.1	0.269	mg/L	0.0020	0.269	mg/L	0.0020	0.74%
Mn 257.610†	2040.5	0.00106	mg/L	0.000020	0.00106	mg/L	0.000020	1.87%
Mo 202.031†	38.6	-0.00035	mg/L	0.000343	-0.00035	mg/L	0.000343	97.66%
Ni 231.604†	1462.5	0.0138	mg/L	0.00029	0.0138	mg/L	0.00029	2.12%
Pb 220.353†	1678.6	0.0978	mg/L	0.00022	0.0978	mg/L	0.00022	0.22%
Sb 206.836†	6.3	-0.00151	mg/L	0.001425	-0.00151	mg/L	0.001425	94.47%
Se 196.026†	5.2	0.00545	mg/L	0.000883	0.00545	mg/L	0.000883	16.19%
Si 251.611†	8000.2	0.126	mg/L	0.0029	0.126	mg/L	0.0029	2.28%
Sn 189.927†	-3.4	-0.00074	mg/L	0.000084	-0.00074	mg/L	0.000084	11.25%
Ti 334.940†	2686.0	0.00252	mg/L	0.000159	0.00252	mg/L	0.000159	6.30%
Tl 190.801†	-25.2	-0.00824	mg/L	0.001955	-0.00824	mg/L	0.001955	23.74%
V 290.880†	676.3	0.00168	mg/L	0.001457	0.00168	mg/L	0.001457	86.80%
Zn 206.200†	976.4	0.00993	mg/L	0.000130	0.00993	mg/L	0.000130	1.31%
K 766.490†	2208.8	0.528	mg/L	0.0100	0.528	mg/L	0.0100	1.89%
Na 589.592†	2900031.7	158	mg/L	7.1	158	mg/L	7.1	4.50%
Sr 407.771†	3447.4	0.00105	mg/L	0.000060	0.00105	mg/L	0.000060	5.67%
Li 670.784†	247.2	-0.00230	mg/L	0.000254	-0.00230	mg/L	0.000254	11.03%

Sequence No.: 66
Sample ID: L1207019916
Analyst: KHR
Initial Sample Wt:
Dilution:

Autosampler Location: 103
Date Collected: 7/24/2012 9:04:11 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: L1207019916

Analyte	Back Pressure	Flow
All	185.0 kPa	0.50 L/min

Mean Data: L1207019916

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2670581.0						15706.91	0.59%
YRADIAL	297305.4						451.92	0.15%
Ga 417.206	1472492.7						18193.95	1.24%
GaRADIAL	81634.0						2679.24	3.28%
Ag 328.068†	-51.5	-0.00130	mg/L	0.000425	-0.00130	mg/L	0.000425	32.56%
Al 396.153†	49.7	-0.00314	mg/L	0.001763	-0.00314	mg/L	0.001763	56.18%
As 188.979†	-12.1	-0.00320	mg/L	0.000960	-0.00320	mg/L	0.000960	30.02%
Ba 233.527†	335.6	-0.00005	mg/L	0.000105	-0.00005	mg/L	0.000105	208.97%
Be 234.861†	-249.5	-0.00031	mg/L	0.000002	-0.00031	mg/L	0.000002	0.77%
B 249.677†	17272.3	0.140	mg/L	0.0029	0.140	mg/L	0.0029	2.09%
Ca 227.546†	-815.5	0.890	mg/L	0.0063	0.890	mg/L	0.0063	0.71%
Cd 228.802†	14.0	0.00030	mg/L	0.000049	0.00030	mg/L	0.000049	16.35%
Co 228.616†	34.6	-0.00002	mg/L	0.000185	-0.00002	mg/L	0.000185	833.54%
Cr 267.716†	4318.4	0.0281	mg/L	0.00017	0.0281	mg/L	0.00017	0.61%
Cu 327.393†	158.5	-0.00136	mg/L	0.000099	-0.00136	mg/L	0.000099	7.29%
Fe 239.562†	878.7	0.0536	mg/L	0.00163	0.0536	mg/L	0.00163	3.05%
Mg 279.077†	1015.8	0.277	mg/L	0.0022	0.277	mg/L	0.0022	0.80%
Mn 257.610†	3283.7	0.00240	mg/L	0.000038	0.00240	mg/L	0.000038	1.57%
Mo 202.031†	32.9	-0.00050	mg/L	0.000120	-0.00050	mg/L	0.000120	23.89%
Ni 231.604†	263630.2	3.15	mg/L	0.039	3.15	mg/L	0.039	1.23%
Pb 220.353†	8.0	0.00034	mg/L	0.000980	0.00034	mg/L	0.000980	288.73%
Sb 206.836†	-6.7	-0.00183	mg/L	0.000657	-0.00183	mg/L	0.000657	35.84%
Se 196.026†	-2.1	0.00366	mg/L	0.003810	0.00366	mg/L	0.003810	104.13%
Si 251.611†	7304.0	0.114	mg/L	0.0028	0.114	mg/L	0.0028	2.50%
Sn 189.927†	-9.0	-0.00110	mg/L	0.001221	-0.00110	mg/L	0.001221	110.57%
Ti 334.940†	421.1	0.00012	mg/L	0.000198	0.00012	mg/L	0.000198	167.00%
Tl 190.801†	-18.7	-0.00687	mg/L	0.001309	-0.00687	mg/L	0.001309	19.06%

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V 290.880†	907.5	0.00256 mg/L	0.001330	0.00256 mg/L	0.001330	52.02%
Zn 206.200†	10814.2	0.133 mg/L	0.0013	0.133 mg/L	0.0013	1.00%
K 766.490†	2003.3	0.459 mg/L	0.0130	0.459 mg/L	0.0130	2.84%
Na 589.592†	2802272.3	152 mg/L	5.5	152 mg/L	5.5	3.63%
Sr 407.771†	2570.4	0.00074 mg/L	0.000022	0.00074 mg/L	0.000022	2.92%
Li 670.784†	935.8	0.00310 mg/L	0.000402	0.00310 mg/L	0.000402	12.95%

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Sequence No.: 67 **Autosampler Location: 104**
Sample ID: L1207019917 **Date Collected: 7/24/2012 9:11:10 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1207019917

Analyte	Back Pressure	Flow
All	185.0 kPa	0.50 L/min

Mean Data: L1207019917

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2672570.8						18394.42	0.69%
YRADIAL	294118.2						5999.18	2.04%
Ga 417.206	1425952.1						16606.78	1.16%
GaRADIAL	80420.4						1050.34	1.31%
Ag 328.068†	-41.5	-0.00137	mg/L	0.000139	-0.00137	mg/L	0.000139	10.14%
Al 396.153†	4.6	-0.0103	mg/L	0.00112	-0.0103	mg/L	0.00112	10.86%
As 188.979†	-7.0	-0.00206	mg/L	0.001135	-0.00206	mg/L	0.001135	55.11%
Ba 233.527†	222.8	-0.00061	mg/L	0.000071	-0.00061	mg/L	0.000071	11.60%
Be 234.861†	-344.0	-0.00033	mg/L	0.000024	-0.00033	mg/L	0.000024	7.36%
B 249.677†	12213.2	0.0988	mg/L	0.00135	0.0988	mg/L	0.00135	1.37%
Ca 227.546†	95.1	0.600	mg/L	0.0187	0.600	mg/L	0.0187	3.13%
Cd 228.802†	6.0	0.00007	mg/L	0.000039	0.00007	mg/L	0.000039	58.98%
Co 228.616†	30.0	0.00023	mg/L	0.000260	0.00023	mg/L	0.000260	111.69%
Cr 267.716†	105.6	0.00060	mg/L	0.000023	0.00060	mg/L	0.000023	3.82%
Cu 327.393†	1527.6	0.00557	mg/L	0.000387	0.00557	mg/L	0.000387	6.95%
Fe 239.562†	216.2	0.0127	mg/L	0.00069	0.0127	mg/L	0.00069	5.42%
Mg 279.077†	684.7	0.189	mg/L	0.0059	0.189	mg/L	0.0059	3.12%
Mn 257.610†	526020.8	0.562	mg/L	0.0023	0.562	mg/L	0.0023	0.42%
Mo 202.031†	45.6	-0.00009	mg/L	0.000332	-0.00009	mg/L	0.000332	353.07%
Ni 231.604†	38673.2	0.458	mg/L	0.0052	0.458	mg/L	0.0052	1.14%
Pb 220.353†	201.7	0.0109	mg/L	0.00035	0.0109	mg/L	0.00035	3.24%
Sb 206.836†	5.3	-0.00138	mg/L	0.001213	-0.00138	mg/L	0.001213	87.72%
Se 196.026†	-1.1	0.00284	mg/L	0.000049	0.00284	mg/L	0.000049	1.72%
Si 251.611†	6075.5	0.0928	mg/L	0.00525	0.0928	mg/L	0.00525	5.66%
Sn 189.927†	-10.9	-0.00123	mg/L	0.000606	-0.00123	mg/L	0.000606	49.31%
Ti 334.940†	571.0	0.00055	mg/L	0.000046	0.00055	mg/L	0.000046	8.34%
Tl 190.801†	-21.6	-0.00805	mg/L	0.001709	-0.00805	mg/L	0.001709	21.22%
V 290.880†	693.1	0.00180	mg/L	0.000403	0.00180	mg/L	0.000403	22.41%
Zn 206.200†	1633253.1	20.3	mg/L	0.05	20.3	mg/L	0.05	0.24%
K 766.490†	1203.5	0.171	mg/L	0.0113	0.171	mg/L	0.0113	6.59%
Na 589.592†	2759424.3	150	mg/L	3.2	150	mg/L	3.2	2.12%
Sr 407.771†	1444.2	0.00023	mg/L	0.000040	0.00023	mg/L	0.000040	17.41%
Li 670.784†	384.7	-0.00122	mg/L	0.000137	-0.00122	mg/L	0.000137	11.25%

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Sequence No.: 68 **Autosampler Location: 105**
Sample ID: L1207019918 **Date Collected: 7/24/2012 9:18:10 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1207019918

Analyte	Back Pressure	Flow
All	185.0 kPa	0.50 L/min

Mean Data: L1207019918

Mean Corrected	Calib.	Sample

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Analyte	Intensity	Conc.	Units	Std.Dev.	Conc.	Units	Std.Dev.	RSD
Y 371.029	2671041.8						16609.08	0.62%
YRADIAL	289999.4						4952.08	1.71%
Ga 417.206	1382805.2						31820.73	2.30%
GaRADIAL	78317.3						950.12	1.21%
Ag 328.068†	-185.9	-0.00108	mg/L	0.000730	-0.00108	mg/L	0.000730	67.41%
Al 396.153†	52.2	-0.00258	mg/L	0.000641	-0.00258	mg/L	0.000641	24.84%
As 188.979†	-10.1	-0.00239	mg/L	0.000453	-0.00239	mg/L	0.000453	18.96%
Ba 233.527†	2633.6	0.0114	mg/L	0.00023	0.0114	mg/L	0.00023	2.02%
Be 234.861†	356.5	-0.00026	mg/L	0.000097	-0.00026	mg/L	0.000097	36.73%
B 249.677†	19118.8	0.155	mg/L	0.0039	0.155	mg/L	0.0039	2.51%
Ca 227.546†	778.9	1.73	mg/L	0.034	1.73	mg/L	0.034	1.98%
Cd 228.802†	18.0	0.00023	mg/L	0.000054	0.00023	mg/L	0.000054	23.92%
Co 228.616†	25.8	0.00017	mg/L	0.000362	0.00017	mg/L	0.000362	217.09%
Cr 267.716†	112.3	-0.00010	mg/L	0.000067	-0.00010	mg/L	0.000067	65.03%
Cu 327.393†	336331.3	1.30	mg/L	0.028	1.30	mg/L	0.028	2.14%
Fe 239.562†	25443.3	1.57	mg/L	0.007	1.57	mg/L	0.007	0.43%
Mg 279.077†	1312.9	0.355	mg/L	0.0087	0.355	mg/L	0.0087	2.44%
Mn 257.610†	10378.3	0.0101	mg/L	0.00009	0.0101	mg/L	0.00009	0.88%
Mo 202.031†	52.3	0.00003	mg/L	0.000187	0.00003	mg/L	0.000187	716.05%
Ni 231.604†	1666.1	0.0162	mg/L	0.00058	0.0162	mg/L	0.00058	3.56%
Pb 220.353†	-1.1	-0.00220	mg/L	0.000807	-0.00220	mg/L	0.000807	36.72%
Sb 206.836†	1.6	-0.00235	mg/L	0.000452	-0.00235	mg/L	0.000452	19.24%
Se 196.026†	3.1	0.00478	mg/L	0.001610	0.00478	mg/L	0.001610	33.67%
Si 251.611†	5005.8	0.0743	mg/L	0.00361	0.0743	mg/L	0.00361	4.86%
Sn 189.927†	7.9	-0.00001	mg/L	0.000864	-0.00001	mg/L	0.000864	>999.9%
Ti 334.940†	673.1	0.00086	mg/L	0.000119	0.00086	mg/L	0.000119	13.84%
Tl 190.801†	-17.9	-0.00669	mg/L	0.000663	-0.00669	mg/L	0.000663	9.90%
V 290.880†	1300.8	0.00376	mg/L	0.001464	0.00376	mg/L	0.001464	38.99%
Zn 206.200†	249519.0	3.11	mg/L	0.026	3.11	mg/L	0.026	0.84%
K 766.490†	1408.8	0.243	mg/L	0.0396	0.243	mg/L	0.0396	16.30%
Na 589.592†	2803498.7	152	mg/L	1.8	152	mg/L	1.8	1.21%
Sr 407.771†	7792.8	0.00285	mg/L	0.000032	0.00285	mg/L	0.000032	1.13%
Li 670.784†	85.2	-0.00357	mg/L	0.000246	-0.00357	mg/L	0.000246	6.88%

Sequence No.: 69 **Autosampler Location: 106**
Sample ID: L1207019918PS WG404320-01 **Date Collected: 7/24/2012 9:24:11 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1207019918PS WG404320-01

Analyte	Back Pressure	Flow
All	185.0 kPa	0.50 L/min

Mean Data: L1207019918PS WG404320-01

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2622730.3						18434.72	0.70%
YRADIAL	292983.6						1374.63	0.47%
Ga 417.206	1361660.8						14692.90	1.08%
GaRADIAL	77701.7						199.89	0.26%
Ag 328.068†	70216.9	0.202	mg/L	0.0034	0.202	mg/L	0.0034	1.70%
Al 396.153†	32043.0	5.04	mg/L	0.018	5.04	mg/L	0.018	0.35%
As 188.979†	817.3	0.185	mg/L	0.0010	0.185	mg/L	0.0010	0.54%
Ba 233.527†	102911.0	0.514	mg/L	0.0052	0.514	mg/L	0.0052	1.02%
Be 234.861†	34712.8	0.0236	mg/L	0.00040	0.0236	mg/L	0.00040	1.67%
B 249.677†	133808.5	1.09	mg/L	0.027	1.09	mg/L	0.027	2.49%
Ca 227.546†	3012.0	6.71	mg/L	0.089	6.71	mg/L	0.089	1.33%
Cd 228.802†	1636.0	0.0236	mg/L	0.00082	0.0236	mg/L	0.00082	3.50%
Co 228.616†	5231.4	0.0978	mg/L	0.00115	0.0978	mg/L	0.00115	1.18%
Cr 267.716†	37369.0	0.251	mg/L	0.0012	0.251	mg/L	0.0012	0.47%
Cu 327.393†	373775.3	1.44	mg/L	0.030	1.44	mg/L	0.030	2.06%
Fe 239.562†	52569.2	3.24	mg/L	0.008	3.24	mg/L	0.008	0.24%
Mg 279.077†	19197.7	5.11	mg/L	0.058	5.11	mg/L	0.058	1.14%
Mn 257.610†	246559.0	0.263	mg/L	0.0037	0.263	mg/L	0.0037	1.39%
Mo 202.031†	21335.4	0.496	mg/L	0.0052	0.496	mg/L	0.0052	1.04%
Ni 231.604†	22221.1	0.262	mg/L	0.0019	0.262	mg/L	0.0019	0.74%
Pb 220.353†	4123.9	0.241	mg/L	0.0027	0.241	mg/L	0.0027	1.10%

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Sb 206.836†	3149.9	0.579	mg/L	0.0098	0.579	mg/L	0.0098	1.70%
Se 196.026†	478.9	0.196	mg/L	0.0044	0.196	mg/L	0.0044	2.22%
Si 251.611†	152638.0	2.62	mg/L	0.031	2.62	mg/L	0.031	1.20%
Sn 189.927†	-46.0	-0.00350	mg/L	0.000411	-0.00350	mg/L	0.000411	11.77%
Ti 334.940†	564619.3	0.498	mg/L	0.0033	0.498	mg/L	0.0033	0.67%
Tl 190.801†	1090.3	0.239	mg/L	0.0033	0.239	mg/L	0.0033	1.38%
V 290.880†	144661.5	0.514	mg/L	0.0033	0.514	mg/L	0.0033	0.65%
Zn 206.200†	263071.3	3.28	mg/L	0.024	3.28	mg/L	0.024	0.73%
K 766.490†	70365.5	25.4	mg/L	0.21	25.4	mg/L	0.21	0.83%
Na 589.592†	3042733.0	167	mg/L	2.4	167	mg/L	2.4	1.44%
Sr 407.771†	1232375.9	0.515	mg/L	0.0106	0.515	mg/L	0.0106	2.07%
Li 670.784†	66872.2	0.521	mg/L	0.0019	0.521	mg/L	0.0019	0.36%

Sequence No.: 70 **Autosampler Location: 107**
Sample ID: L1207019918DL WG404320-02 **Date Collected: 7/24/2012 9:30:12 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1207019918DL WG404320-02

Analyte	Back Pressure	Flow
All	185.0 kPa	0.50 L/min

Mean Data: L1207019918DL WG404320-02

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2660376.6						42839.79	1.61%
YRADIAL	287616.7						2760.09	0.96%
Ga 417.206	1428879.4						37086.99	2.60%
GaRADIAL	79548.7						2204.39	2.77%
Ag 328.068†	-60.6	-0.00123	mg/L	0.000332	-0.00123	mg/L	0.000332	27.05%
Al 396.153†	33.7	-0.00563	mg/L	0.001090	-0.00563	mg/L	0.001090	19.36%
As 188.979†	0.5	-0.00025	mg/L	0.000446	-0.00025	mg/L	0.000446	177.86%
Ba 233.527†	548.1	0.00100	mg/L	0.000156	0.00100	mg/L	0.000156	15.67%
Be 234.861†	97.4	-0.00016	mg/L	0.000023	-0.00016	mg/L	0.000023	14.94%
B 249.677†	4276.1	0.0338	mg/L	0.00010	0.0338	mg/L	0.00010	0.30%
Ca 227.546†	140.1	0.323	mg/L	0.0237	0.323	mg/L	0.0237	7.32%
Cd 228.802†	0.9	-0.00004	mg/L	0.000100	-0.00004	mg/L	0.000100	256.94%
Co 228.616†	2.9	-0.00023	mg/L	0.000175	-0.00023	mg/L	0.000175	77.32%
Cr 267.716†	45.2	-0.00061	mg/L	0.000018	-0.00061	mg/L	0.000018	2.87%
Cu 327.393†	64006.1	0.246	mg/L	0.0106	0.246	mg/L	0.0106	4.31%
Fe 239.562†	5307.7	0.327	mg/L	0.0096	0.327	mg/L	0.0096	2.94%
Mg 279.077†	294.5	0.0852	mg/L	0.00361	0.0852	mg/L	0.00361	4.24%
Mn 257.610†	4926.6	0.00418	mg/L	0.000120	0.00418	mg/L	0.000120	2.88%
Mo 202.031†	20.3	-0.00078	mg/L	0.000287	-0.00078	mg/L	0.000287	36.68%
Ni 231.604†	353.5	0.00051	mg/L	0.000442	0.00051	mg/L	0.000442	86.61%
Pb 220.353†	15.4	-0.00008	mg/L	0.000617	-0.00008	mg/L	0.000617	763.66%
Sb 206.836†	1.6	-0.00240	mg/L	0.000726	-0.00240	mg/L	0.000726	30.19%
Se 196.026†	-7.5	0.00035	mg/L	0.002176	0.00035	mg/L	0.002176	628.06%
Si 251.611†	1045.6	0.00580	mg/L	0.000700	0.00580	mg/L	0.000700	12.07%
Sn 189.927†	2.9	-0.00033	mg/L	0.000478	-0.00033	mg/L	0.000478	142.80%
Ti 334.940†	427.0	0.00044	mg/L	0.000226	0.00044	mg/L	0.000226	51.56%
Tl 190.801†	-3.2	-0.00354	mg/L	0.001333	-0.00354	mg/L	0.001333	37.69%
V 290.880†	442.4	0.00087	mg/L	0.000503	0.00087	mg/L	0.000503	58.02%
Zn 206.200†	49436.8	0.614	mg/L	0.0208	0.614	mg/L	0.0208	3.39%
K 766.490†	684.2	0.102	mg/L	0.0037	0.102	mg/L	0.0037	3.67%
Na 589.592†	592621.2	29.7	mg/L	1.27	29.7	mg/L	1.27	4.28%
Sr 407.771†	1764.1	0.00036	mg/L	0.000017	0.00036	mg/L	0.000017	4.61%
Li 670.784†	161.5	-0.00297	mg/L	0.000118	-0.00297	mg/L	0.000118	3.98%

Sequence No.: 71 **Autosampler Location: 6**
Sample ID: CCV **Date Collected: 7/24/2012 9:37:07 PM**
Analyst: **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: CCV

Approved: July 25, 2012
Kym H. Rhoden

Analyte	Back Pressure	Flow
All	185.0 kPa	0.50 L/min

Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2645499.2						23461.78	0.89%
YRADIAL	286005.9						12736.53	4.45%
Ga 417.206	1387520.2						24695.90	1.78%
GaRADIAL	77556.0						3046.04	3.93%
Ag 328.068†	137588.1	0.396	mg/L	0.0054	0.396	mg/L	0.0054	1.37%
QC value within limits for Ag 328.068 Recovery = 99.07%								
Al 396.153†	64159.0	10.1	mg/L	0.09	10.1	mg/L	0.09	0.86%
QC value within limits for Al 396.153 Recovery = 101.11%								
As 188.979†	1661.5	0.376	mg/L	0.0068	0.376	mg/L	0.0068	1.82%
QC value within limits for As 188.979 Recovery = 93.89%								
Ba 233.527†	198195.2	0.991	mg/L	0.0078	0.991	mg/L	0.0078	0.78%
QC value within limits for Ba 233.527 Recovery = 99.15%								
Be 234.861†	70080.1	0.0485	mg/L	0.00083	0.0485	mg/L	0.00083	1.71%
QC value within limits for Be 234.861 Recovery = 96.96%								
B 249.677†	60112.3	0.486	mg/L	0.0087	0.486	mg/L	0.0087	1.79%
QC value within limits for B 249.677 Recovery = 97.24%								
Ca 227.546†	4545.2	10.2	mg/L	0.20	10.2	mg/L	0.20	2.00%
QC value within limits for Ca 227.546 Recovery = 101.78%								
Cd 228.802†	3268.6	0.0471	mg/L	0.00184	0.0471	mg/L	0.00184	3.91%
QC value within limits for Cd 228.802 Recovery = 94.22%								
Co 228.616†	10429.7	0.195	mg/L	0.0012	0.195	mg/L	0.0012	0.62%
QC value within limits for Co 228.616 Recovery = 97.61%								
Cr 267.716†	73475.8	0.494	mg/L	0.0049	0.494	mg/L	0.0049	0.99%
QC value within limits for Cr 267.716 Recovery = 98.82%								
Cu 327.393†	129495.7	0.501	mg/L	0.0071	0.501	mg/L	0.0071	1.42%
QC value within limits for Cu 327.393 Recovery = 100.14%								
Fe 239.562†	63136.5	3.90	mg/L	0.039	3.90	mg/L	0.039	1.00%
QC value within limits for Fe 239.562 Recovery = 97.40%								
Mg 279.077†	36855.9	9.81	mg/L	0.133	9.81	mg/L	0.133	1.35%
QC value within limits for Mg 279.077 Recovery = 98.14%								
Mn 257.610†	466083.2	0.497	mg/L	0.0018	0.497	mg/L	0.0018	0.36%
QC value within limits for Mn 257.610 Recovery = 99.40%								
Mo 202.031†	42120.6	0.981	mg/L	0.0022	0.981	mg/L	0.0022	0.22%
QC value within limits for Mo 202.031 Recovery = 98.09%								
Ni 231.604†	42803.6	0.507	mg/L	0.0042	0.507	mg/L	0.0042	0.83%
QC value within limits for Ni 231.604 Recovery = 101.44%								
Pb 220.353†	8300.4	0.488	mg/L	0.0046	0.488	mg/L	0.0046	0.94%
QC value within limits for Pb 220.353 Recovery = 97.62%								
Sb 206.836†	6260.9	1.15	mg/L	0.029	1.15	mg/L	0.029	2.55%
QC value within limits for Sb 206.836 Recovery = 96.14%								
Se 196.026†	951.5	0.386	mg/L	0.0097	0.386	mg/L	0.0097	2.51%
QC value within limits for Se 196.026 Recovery = 96.58%								
Si 251.611†	286132.0	4.92	mg/L	0.061	4.92	mg/L	0.061	1.24%
QC value within limits for Si 251.611 Recovery = 98.48%								
Sn 189.927†	15044.9	0.972	mg/L	0.0105	0.972	mg/L	0.0105	1.08%
QC value within limits for Sn 189.927 Recovery = 97.17%								
Ti 334.940†	1131366.4	0.996	mg/L	0.0064	0.996	mg/L	0.0064	0.64%
QC value within limits for Ti 334.940 Recovery = 99.65%								
Tl 190.801†	2303.7	0.508	mg/L	0.0098	0.508	mg/L	0.0098	1.94%
QC value within limits for Tl 190.801 Recovery = 101.60%								
V 290.880†	279004.0	0.993	mg/L	0.0123	0.993	mg/L	0.0123	1.24%
QC value within limits for V 290.880 Recovery = 99.26%								
Zn 206.200†	77616.6	0.969	mg/L	0.0097	0.969	mg/L	0.0097	1.00%
QC value within limits for Zn 206.200 Recovery = 96.91%								
K 766.490†	140002.2	51.1	mg/L	0.22	51.1	mg/L	0.22	0.43%
QC value within limits for K 766.490 Recovery = 102.10%								
Na 589.592†	1006540.0	51.2	mg/L	0.55	51.2	mg/L	0.55	1.08%
QC value within limits for Na 589.592 Recovery = 102.34%								
Sr 407.771†	2452652.2	1.02	mg/L	0.008	1.02	mg/L	0.008	0.73%
QC value within limits for Sr 407.771 Recovery = 102.47%								
Li 670.784†	133983.9	1.05	mg/L	0.006	1.05	mg/L	0.006	0.53%
QC value within limits for Li 670.784 Recovery = 104.71%								

All analyte(s) passed QC.

Approved: July 25, 2012

Kym H. Rhoden

Sequence No.: 72
Sample ID: CCB
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 1
Date Collected: 7/24/2012 9:43:07 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: CCB

Analyte	Back Pressure	Flow
All	185.0 kPa	0.50 L/min

Mean Data: CCB

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2664267.8						5971.54	0.22%
YRADIAL	292459.1						6262.63	2.14%
Ga 417.206	1422439.8						28834.18	2.03%
GaRADIAL	80003.6						3241.93	4.05%
Ag 328.068†	171.2	-0.00069	mg/L	0.000407	-0.00069	mg/L	0.000407	58.75%
QC value within limits for Ag 328.068 Recovery = Not calculated								
Al 396.153†	31.5	-0.00600	mg/L	0.003456	-0.00600	mg/L	0.003456	57.62%
QC value within limits for Al 396.153 Recovery = Not calculated								
As 188.979†	-5.8	-0.00177	mg/L	0.001167	-0.00177	mg/L	0.001167	65.95%
QC value within limits for As 188.979 Recovery = Not calculated								
Ba 233.527†	61.7	-0.00142	mg/L	0.000098	-0.00142	mg/L	0.000098	6.94%
QC value within limits for Ba 233.527 Recovery = Not calculated								
Be 234.861†	49.2	-0.00012	mg/L	0.000016	-0.00012	mg/L	0.000016	13.45%
QC value within limits for Be 234.861 Recovery = Not calculated								
B 249.677†	553.6	0.00358	mg/L	0.000326	0.00358	mg/L	0.000326	9.11%
QC value within limits for B 249.677 Recovery = Not calculated								
Ca 227.546†	-12.9	-0.0148	mg/L	0.00567	-0.0148	mg/L	0.00567	38.32%
QC value within limits for Ca 227.546 Recovery = Not calculated								
Cd 228.802†	0.7	-0.00003	mg/L	0.000123	-0.00003	mg/L	0.000123	363.74%
QC value within limits for Cd 228.802 Recovery = Not calculated								
Co 228.616†	7.4	-0.00013	mg/L	0.000070	-0.00013	mg/L	0.000070	52.69%
QC value within limits for Co 228.616 Recovery = Not calculated								
Cr 267.716†	25.7	-0.00075	mg/L	0.000043	-0.00075	mg/L	0.000043	5.72%
QC value within limits for Cr 267.716 Recovery = Not calculated								
Cu 327.393†	88.9	-0.00117	mg/L	0.000339	-0.00117	mg/L	0.000339	28.93%
QC value within limits for Cu 327.393 Recovery = Not calculated								
Fe 239.562†	28.6	0.00114	mg/L	0.000215	0.00114	mg/L	0.000215	18.82%
QC value within limits for Fe 239.562 Recovery = Not calculated								
Mg 279.077†	18.9	0.0121	mg/L	0.00333	0.0121	mg/L	0.00333	27.46%
QC value within limits for Mg 279.077 Recovery = Not calculated								
Mn 257.610†	37.2	-0.00108	mg/L	0.000010	-0.00108	mg/L	0.000010	0.92%
QC value within limits for Mn 257.610 Recovery = Not calculated								
Mo 202.031†	14.2	-0.00094	mg/L	0.000310	-0.00094	mg/L	0.000310	32.91%
QC value within limits for Mo 202.031 Recovery = Not calculated								
Ni 231.604†	20.7	-0.00346	mg/L	0.000142	-0.00346	mg/L	0.000142	4.11%
QC value within limits for Ni 231.604 Recovery = Not calculated								
Pb 220.353†	-7.7	-0.00116	mg/L	0.001200	-0.00116	mg/L	0.001200	103.24%
QC value within limits for Pb 220.353 Recovery = Not calculated								
Sb 206.836†	0.8	-0.00255	mg/L	0.000681	-0.00255	mg/L	0.000681	26.69%
QC value within limits for Sb 206.836 Recovery = Not calculated								
Se 196.026†	-4.2	0.00160	mg/L	0.002657	0.00160	mg/L	0.002657	166.02%
QC value within limits for Se 196.026 Recovery = Not calculated								
Si 251.611†	221.3	-0.00845	mg/L	0.000528	-0.00845	mg/L	0.000528	6.25%
QC value within limits for Si 251.611 Recovery = Not calculated								
Sn 189.927†	13.8	0.00037	mg/L	0.000159	0.00037	mg/L	0.000159	43.06%
QC value within limits for Sn 189.927 Recovery = Not calculated								
Ti 334.940†	379.9	0.00035	mg/L	0.000128	0.00035	mg/L	0.000128	36.71%
QC value within limits for Ti 334.940 Recovery = Not calculated								
Tl 190.801†	-7.4	-0.00443	mg/L	0.002224	-0.00443	mg/L	0.002224	50.18%
QC value within limits for Tl 190.801 Recovery = Not calculated								
V 290.880†	648.0	0.00165	mg/L	0.000807	0.00165	mg/L	0.000807	49.05%
QC value within limits for V 290.880 Recovery = Not calculated								
Zn 206.200†	130.0	-0.00062	mg/L	0.000053	-0.00062	mg/L	0.000053	8.54%
QC value within limits for Zn 206.200 Recovery = Not calculated								
K 766.490†	3.6	-0.117	mg/L	0.0304	-0.117	mg/L	0.0304	26.03%
QC value within limits for K 766.490 Recovery = Not calculated								
Na 589.592†	1166.0	0.0648	mg/L	0.01042	0.0648	mg/L	0.01042	16.08%

Approved: July 25, 2012

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QC value within limits for Na 589.592 Recovery = Not calculated

Sr 407.771†	805.8	-0.00003	mg/L	0.000047	-0.00003	mg/L	0.000047	138.81%

QC value within limits for Sr 407.771 Recovery = Not calculated

Li 670.784†	110.0	-0.00338	mg/L	0.001172	-0.00338	mg/L	0.001172	34.72%

QC value within limits for Li 670.784 Recovery = Not calculated

All analyte(s) passed QC.

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Sequence No.: 73 **Autosampler Location: 108**
Sample ID: L1207062301 **Date Collected: 7/24/2012 9:50:00 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1207062301

Analyte	Back Pressure	Flow
All	185.0 kPa	0.50 L/min

Mean Data: L1207062301

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2657262.9						17220.39	0.65%
YRADIAL	289284.8						5652.54	1.95%
Ga 417.206	1405575.2						22693.45	1.61%
GaRADIAL	79459.8						3079.22	3.88%
Ag 328.068†	-277.9	-0.00141	mg/L	0.000104	-0.00141	mg/L	0.000104	7.37%
Al 396.153†	683.8	0.0976	mg/L	0.00431	0.0976	mg/L	0.00431	4.42%
As 188.979†	-11.5	-0.00280	mg/L	0.001695	-0.00280	mg/L	0.001695	60.49%
Ba 233.527†	1638.5	0.00641	mg/L	0.000061	0.00641	mg/L	0.000061	0.96%
Be 234.861†	220.7	-0.00028	mg/L	0.000061	-0.00028	mg/L	0.000061	21.66%
B 249.677†	14893.8	0.120	mg/L	0.0024	0.120	mg/L	0.0024	1.97%
Ca 227.546†	1395.1	3.02	mg/L	0.036	3.02	mg/L	0.036	1.18%
Cd 228.802†	10.7	0.00012	mg/L	0.000155	0.00012	mg/L	0.000155	128.38%
Co 228.616†	26.7	0.00020	mg/L	0.000282	0.00020	mg/L	0.000282	143.27%
Cr 267.716†	262.8	0.00081	mg/L	0.000074	0.00081	mg/L	0.000074	9.16%
Cu 327.393†	2253.3	0.00728	mg/L	0.000334	0.00728	mg/L	0.000334	4.59%
Fe 239.562†	20316.4	1.25	mg/L	0.029	1.25	mg/L	0.029	2.27%
Mg 279.077†	1474.5	0.398	mg/L	0.0031	0.398	mg/L	0.0031	0.78%
Mn 257.610†	28400.1	0.0292	mg/L	0.00009	0.0292	mg/L	0.00009	0.31%
Mo 202.031†	100.3	0.00113	mg/L	0.000270	0.00113	mg/L	0.000270	23.87%
Ni 231.604†	203.1	-0.00128	mg/L	0.000165	-0.00128	mg/L	0.000165	12.87%
Pb 220.353†	16.2	0.00015	mg/L	0.001088	0.00015	mg/L	0.001088	705.77%
Sb 206.836†	8.2	-0.00115	mg/L	0.000798	-0.00115	mg/L	0.000798	69.40%
Se 196.026†	0.9	0.00383	mg/L	0.000652	0.00383	mg/L	0.000652	17.05%
Si 251.611†	14392.8	0.237	mg/L	0.0099	0.237	mg/L	0.0099	4.18%
Sn 189.927†	-40.2	-0.00313	mg/L	0.000490	-0.00313	mg/L	0.000490	15.69%
Ti 334.940†	1460.4	0.00175	mg/L	0.000084	0.00175	mg/L	0.000084	4.79%
Tl 190.801†	-30.0	-0.00931	mg/L	0.000156	-0.00931	mg/L	0.000156	1.67%
V 290.880†	979.7	0.00265	mg/L	0.000544	0.00265	mg/L	0.000544	20.51%
Zn 206.200†	21287.9	0.263	mg/L	0.0013	0.263	mg/L	0.0013	0.51%
K 766.490†	962.0	0.0864	mg/L	0.00352	0.0864	mg/L	0.00352	4.07%
Na 589.592†	2697856.2	146	mg/L	5.6	146	mg/L	5.6	3.84%
Sr 407.771†	31810.4	0.0129	mg/L	0.00049	0.0129	mg/L	0.00049	3.81%
Li 670.784†	112.4	-0.00336	mg/L	0.000083	-0.00336	mg/L	0.000083	2.47%

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Sequence No.: 74 **Autosampler Location: 109**
Sample ID: L1207062302 **Date Collected: 7/24/2012 9:56:59 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1207062302

Analyte	Back Pressure	Flow
All	184.0 kPa	0.50 L/min

Mean Data: L1207062302

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

Approved: July 25, 2012

Kym H. Rhoden

Analyte	Intensity	Conc.	Units	Std.Dev.	Conc.	Units	Std.Dev.	RSD
Y 371.029	2667390.9						16862.13	0.63%
YRADIAL	293846.8						4327.16	1.47%
Ga 417.206	1376204.7						41301.87	3.00%
GaRADIAL	79246.0						1274.51	1.61%
Ag 328.068†	-28.2	-0.00086	mg/L	0.000408	-0.00086	mg/L	0.000408	47.30%
Al 396.153†	162.2	0.0147	mg/L	0.01282	0.0147	mg/L	0.01282	87.21%
As 188.979†	-10.9	-0.00275	mg/L	0.001304	-0.00275	mg/L	0.001304	47.44%
Ba 233.527†	1541.4	0.00594	mg/L	0.000202	0.00594	mg/L	0.000202	3.41%
Be 234.861†	217.2	-0.00020	mg/L	0.000096	-0.00020	mg/L	0.000096	48.29%
B 249.677†	16866.8	0.136	mg/L	0.0062	0.136	mg/L	0.0062	4.53%
Ca 227.546†	1594.8	3.44	mg/L	0.104	3.44	mg/L	0.104	3.02%
Cd 228.802†	16.0	0.00020	mg/L	0.000038	0.00020	mg/L	0.000038	18.83%
Co 228.616†	40.4	0.00047	mg/L	0.000226	0.00047	mg/L	0.000226	48.53%
Cr 267.716†	192.9	0.00036	mg/L	0.000074	0.00036	mg/L	0.000074	20.61%
Cu 327.393†	2378.7	0.00776	mg/L	0.000477	0.00776	mg/L	0.000477	6.15%
Fe 239.562†	14127.4	0.871	mg/L	0.0121	0.871	mg/L	0.0121	1.39%
Mg 279.077†	1653.1	0.446	mg/L	0.0038	0.446	mg/L	0.0038	0.85%
Mn 257.610†	16494.8	0.0165	mg/L	0.00022	0.0165	mg/L	0.00022	1.34%
Mo 202.031†	120.4	0.00158	mg/L	0.000367	0.00158	mg/L	0.000367	23.22%
Ni 231.604†	291.8	-0.00023	mg/L	0.000440	-0.00023	mg/L	0.000440	194.66%
Pb 220.353†	-26.8	-0.00234	mg/L	0.001177	-0.00234	mg/L	0.001177	50.22%
Sb 206.836†	-3.2	-0.00327	mg/L	0.000963	-0.00327	mg/L	0.000963	29.43%
Se 196.026†	4.2	0.00512	mg/L	0.001720	0.00512	mg/L	0.001720	33.62%
Si 251.611†	13958.3	0.229	mg/L	0.0064	0.229	mg/L	0.0064	2.78%
Sn 189.927†	-38.3	-0.00300	mg/L	0.000424	-0.00300	mg/L	0.000424	14.11%
Ti 334.940†	944.1	0.00136	mg/L	0.000128	0.00136	mg/L	0.000128	9.44%
Tl 190.801†	-18.4	-0.00681	mg/L	0.003405	-0.00681	mg/L	0.003405	50.03%
V 290.880†	1323.2	0.00393	mg/L	0.000877	0.00393	mg/L	0.000877	22.34%
Zn 206.200†	39549.6	0.490	mg/L	0.0042	0.490	mg/L	0.0042	0.85%
K 766.490†	980.4	0.0850	mg/L	0.02887	0.0850	mg/L	0.02887	33.97%
Na 589.592†	2831732.5	154	mg/L	0.6	154	mg/L	0.6	0.36%
Sr 407.771†	34379.4	0.0139	mg/L	0.00009	0.0139	mg/L	0.00009	0.66%
Li 670.784†	131.9	-0.00321	mg/L	0.000602	-0.00321	mg/L	0.000602	18.77%

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Sequence No.: 75 **Autosampler Location: 110**
Sample ID: L1207062601 **Date Collected: 7/24/2012 10:02:59 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1207062601

Analyte	Back Pressure	Flow
All	185.0 kPa	0.50 L/min

Mean Data: L1207062601

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2619945.6						11245.22	0.43%
YRADIAL	282060.8						6677.55	2.37%
Ga 417.206	1407667.3						16223.31	1.15%
GaRADIAL	79376.9						1309.75	1.65%
Ag 328.068†	493.0	0.00010	mg/L	0.000165	0.00010	mg/L	0.000165	160.81%
Al 396.153†	113.5	0.00622	mg/L	0.000672	0.00622	mg/L	0.000672	10.80%
As 188.979†	-9.8	-0.00276	mg/L	0.001276	-0.00276	mg/L	0.001276	46.24%
Ba 233.527†	3530.7	0.0160	mg/L	0.00006	0.0160	mg/L	0.00006	0.40%
Be 234.861†	-149.7	-0.00025	mg/L	0.000034	-0.00025	mg/L	0.000034	13.44%
B 249.677†	159445.2	1.30	mg/L	0.019	1.30	mg/L	0.019	1.49%
Ca 227.546†	23751.8	50.7	mg/L	0.75	50.7	mg/L	0.75	1.48%
Cd 228.802†	39.7	0.00055	mg/L	0.000021	0.00055	mg/L	0.000021	3.79%
Co 228.616†	27.7	0.00028	mg/L	0.000163	0.00028	mg/L	0.000163	58.27%
Cr 267.716†	470.0	0.00224	mg/L	0.000016	0.00224	mg/L	0.000016	0.72%
Cu 327.393†	-92.0	-0.00188	mg/L	0.000237	-0.00188	mg/L	0.000237	12.62%
Fe 239.562†	225.9	0.0133	mg/L	0.00079	0.0133	mg/L	0.00079	5.95%
Mg 279.077†	12155.2	3.24	mg/L	0.063	3.24	mg/L	0.063	1.96%
Mn 257.610†	26455.6	0.0271	mg/L	0.00021	0.0271	mg/L	0.00021	0.78%
Mo 202.031†	510.5	0.0106	mg/L	0.00023	0.0106	mg/L	0.00023	2.20%
Ni 231.604†	667.3	0.00426	mg/L	0.000335	0.00426	mg/L	0.000335	7.86%
Pb 220.353†	38.7	0.00196	mg/L	0.000623	0.00196	mg/L	0.000623	31.69%

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Sb 206.836†	0.8	-0.00256	mg/L	0.001316	-0.00256	mg/L	0.001316	51.32%
Se 196.026†	14.6	0.00913	mg/L	0.001232	0.00913	mg/L	0.001232	13.49%
Si 251.611†	250806.7	4.32	mg/L	0.068	4.32	mg/L	0.068	1.56%
Sn 189.927†	-290.2	-0.0193	mg/L	0.00012	-0.0193	mg/L	0.00012	0.62%
Ti 334.940†	-7699.9	0.00085	mg/L	0.000178	0.00085	mg/L	0.000178	21.06%
Tl 190.801†	-38.3	-0.0112	mg/L	0.00298	-0.0112	mg/L	0.00298	26.62%
V 290.880†	1769.6	0.00555	mg/L	0.001458	0.00555	mg/L	0.001458	26.24%
Zn 206.200†	846.8	0.00833	mg/L	0.000151	0.00833	mg/L	0.000151	1.82%
K 766.490†	3813.6	1.11	mg/L	0.019	1.11	mg/L	0.019	1.66%
Na 589.592†	2882439.2	157	mg/L	3.5	157	mg/L	3.5	2.20%
Sr 407.771†	1637721.5	0.683	mg/L	0.0323	0.683	mg/L	0.0323	4.73%
Li 670.784†	3090.6	0.0200	mg/L	0.00118	0.0200	mg/L	0.00118	5.91%

Sequence No.: 76 **Autosampler Location: 111**
Sample ID: L1207019919 **Date Collected: 7/24/2012 10:10:33 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1207019919

Analyte	Back Pressure	Flow
All	185.0 kPa	0.50 L/min

Mean Data: L1207019919

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	2650956.9						29686.78	1.12%
YRADIAL	294290.5						5713.52	1.94%
Ga 417.206	1378879.6						29042.78	2.11%
GaRADIAL	79100.4						1192.42	1.51%
Ag 328.068†	-210.2	-0.00101	mg/L	0.000113	-0.00101	mg/L	0.000113	11.22%
Al 396.153†	606.5	0.0855	mg/L	0.00500	0.0855	mg/L	0.00500	5.85%
As 188.979†	-13.8	-0.00321	mg/L	0.000601	-0.00321	mg/L	0.000601	18.70%
Ba 233.527†	566.4	0.00101	mg/L	0.000175	0.00101	mg/L	0.000175	17.37%
Be 234.861†	464.4	-0.00021	mg/L	0.000097	-0.00021	mg/L	0.000097	45.57%
B 249.677†	15142.7	0.122	mg/L	0.0046	0.122	mg/L	0.0046	3.79%
Ca 227.546†	587.4	1.41	mg/L	0.019	1.41	mg/L	0.019	1.32%
Cd 228.802†	18.8	0.00025	mg/L	0.000054	0.00025	mg/L	0.000054	21.77%
Co 228.616†	43.6	0.00049	mg/L	0.000220	0.00049	mg/L	0.000220	45.13%
Cr 267.716†	181.3	0.00024	mg/L	0.000091	0.00024	mg/L	0.000091	37.92%
Cu 327.393†	1933.4	0.00604	mg/L	0.000816	0.00604	mg/L	0.000816	13.52%
Fe 239.562†	27198.8	1.68	mg/L	0.026	1.68	mg/L	0.026	1.56%
Mg 279.077†	1050.8	0.285	mg/L	0.0198	0.285	mg/L	0.0198	6.95%
Mn 257.610†	15725.4	0.0157	mg/L	0.00015	0.0157	mg/L	0.00015	0.97%
Mo 202.031†	48.4	-0.00006	mg/L	0.000121	-0.00006	mg/L	0.000121	207.85%
Ni 231.604†	10318.0	0.120	mg/L	0.0014	0.120	mg/L	0.0014	1.18%
Pb 220.353†	-29.1	-0.00253	mg/L	0.001509	-0.00253	mg/L	0.001509	59.73%
Sb 206.836†	5.0	-0.00164	mg/L	0.000535	-0.00164	mg/L	0.000535	32.64%
Se 196.026†	-5.3	0.00147	mg/L	0.002725	0.00147	mg/L	0.002725	185.81%
Si 251.611†	7999.2	0.126	mg/L	0.0034	0.126	mg/L	0.0034	2.71%
Sn 189.927†	-4.7	-0.00083	mg/L	0.000793	-0.00083	mg/L	0.000793	95.65%
Ti 334.940†	1970.5	0.00194	mg/L	0.000105	0.00194	mg/L	0.000105	5.43%
Tl 190.801†	-3.1	-0.00349	mg/L	0.002214	-0.00349	mg/L	0.002214	63.42%
V 290.880†	1492.2	0.00443	mg/L	0.001244	0.00443	mg/L	0.001244	28.12%
Zn 206.200†	11813.3	0.145	mg/L	0.0016	0.145	mg/L	0.0016	1.12%
K 766.490†	991.2	0.0934	mg/L	0.02225	0.0934	mg/L	0.02225	23.81%
Na 589.592†	2757377.8	150	mg/L	0.1	150	mg/L	0.1	0.10%
Sr 407.771†	5155.2	0.00176	mg/L	0.000087	0.00176	mg/L	0.000087	4.95%
Li 670.784†	112.9	-0.00335	mg/L	0.000871	-0.00335	mg/L	0.000871	25.95%

Sequence No.: 77 **Autosampler Location: 112**
Sample ID: L1207019920 **Date Collected: 7/24/2012 10:16:32 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1207019920

Approved: July 25, 2012
Kym H. Rhoden

Analyte	Back Pressure	Flow
All	184.0 kPa	0.50 L/min

Mean Data: L1207019920

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	2696540.5						27290.59	1.01%
YRADIAL	294601.9						6828.61	2.32%
Ga 417.206	1463432.1						19095.42	1.30%
GaRADIAL	80954.7						1970.77	2.43%
Ag 328.068†	-4519.7	-0.00238	mg/L	0.000480	-0.00238	mg/L	0.000480	20.15%
Al 396.153†	-24.0	-0.0118	mg/L	0.00238	-0.0118	mg/L	0.00238	20.28%
As 188.979†	-20.4	0.00105	mg/L	0.001328	0.00105	mg/L	0.001328	126.78%
Ba 233.527†	1117.8	0.00236	mg/L	0.000060	0.00236	mg/L	0.000060	2.55%
Be 234.861†	9010.7	0.00024	mg/L	0.000136	0.00024	mg/L	0.000136	56.48%
B 249.677†	18296.9	0.137	mg/L	0.0046	0.137	mg/L	0.0046	3.35%
Ca 227.546†	-649.7	0.860	mg/L	0.0364	0.860	mg/L	0.0364	4.23%
Cd 228.802†	13.4	0.00024	mg/L	0.000022	0.00024	mg/L	0.000022	9.40%
Co 228.616†	263.6	0.00377	mg/L	0.000207	0.00377	mg/L	0.000207	5.49%
Cr 267.716†	-16.5	-0.00196	mg/L	0.000069	-0.00196	mg/L	0.000069	3.53%
Cu 327.393†	-180.9	-0.00124	mg/L	0.000388	-0.00124	mg/L	0.000388	31.25%
Fe 239.562†	414177.7	25.6	mg/L	0.19	25.6	mg/L	0.19	0.74%
Mg 279.077†	1090.2	0.283	mg/L	0.0104	0.283	mg/L	0.0104	3.69%
Mn 257.610†	137570.4	0.146	mg/L	0.0027	0.146	mg/L	0.0027	1.86%
Mo 202.031†	2.0	0.00006	mg/L	0.000105	0.00006	mg/L	0.000105	183.90%
Ni 231.604†	163374.4	1.95	mg/L	0.038	1.95	mg/L	0.038	1.94%
Pb 220.353†	34.9	-0.00061	mg/L	0.001002	-0.00061	mg/L	0.001002	165.50%
Sb 206.836†	-2.1	-0.00072	mg/L	0.000586	-0.00072	mg/L	0.000586	81.99%
Se 196.026†	-13.6	0.00258	mg/L	0.002503	0.00258	mg/L	0.002503	96.91%
Si 251.611†	4636.3	0.0679	mg/L	0.00100	0.0679	mg/L	0.00100	1.48%
Sn 189.927†	-19.4	-0.00178	mg/L	0.000785	-0.00178	mg/L	0.000785	44.19%
Ti 334.940†	-171.1	-0.00034	mg/L	0.000077	-0.00034	mg/L	0.000077	22.68%
Tl 190.801†	-20.0	-0.00729	mg/L	0.002291	-0.00729	mg/L	0.002291	31.43%
V 290.880†	1187.2	0.00019	mg/L	0.000750	0.00019	mg/L	0.000750	403.87%
Zn 206.200†	21222.3	0.262	mg/L	0.0047	0.262	mg/L	0.0047	1.79%
K 766.490†	2622.7	0.684	mg/L	0.0292	0.684	mg/L	0.0292	4.27%
Na 589.592†	2811943.6	153	mg/L	4.0	153	mg/L	4.0	2.65%
Sr 407.771†	6082.2	0.00220	mg/L	0.000103	0.00220	mg/L	0.000103	4.68%
Li 670.784†	134.7	-0.00318	mg/L	0.000022	-0.00318	mg/L	0.000022	0.70%

Sequence No.: 78
Sample ID: L1207019921
Analyst: KHR
Initial Sample Wt:
Dilution:

Autosampler Location: 113
Date Collected: 7/24/2012 10:23:32 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: L1207019921

Analyte	Back Pressure	Flow
All	184.0 kPa	0.50 L/min

Mean Data: L1207019921

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	2588381.4						14500.64	0.56%
YRADIAL	293374.9						3028.21	1.03%
Ga 417.206	1262036.2						13971.47	1.11%
GaRADIAL	78189.8						1891.65	2.42%
Ag 328.068†	26.2	-0.00109	mg/L	0.000096	-0.00109	mg/L	0.000096	8.77%
Al 396.153†	92.2	0.00360	mg/L	0.002036	0.00360	mg/L	0.002036	56.55%
As 188.979†	-16.6	-0.00424	mg/L	0.002793	-0.00424	mg/L	0.002793	65.87%
Ba 233.527†	345.9	0.00000	mg/L	0.000092	0.00000	mg/L	0.000092	>999.9%
Be 234.861†	-417.7	-0.00046	mg/L	0.000015	-0.00046	mg/L	0.000015	3.34%
B 249.677†	25534.7	0.208	mg/L	0.0105	0.208	mg/L	0.0105	5.06%
Ca 227.546†	1362.9	2.93	mg/L	0.013	2.93	mg/L	0.013	0.44%
Cd 228.802†	20.3	0.00027	mg/L	0.000114	0.00027	mg/L	0.000114	42.23%
Co 228.616†	6.5	-0.00016	mg/L	0.000235	-0.00016	mg/L	0.000235	150.24%
Cr 267.716†	155.1	0.00016	mg/L	0.000165	0.00016	mg/L	0.000165	103.09%
Cu 327.393†	96797.9	0.373	mg/L	0.0045	0.373	mg/L	0.0045	1.21%

Approved: July 25, 2012
Kym H. Rhoden

Fe 239.562†	1302.6	0.0798	mg/L	0.00203	0.0798	mg/L	0.00203	2.54%
Mg 279.077†	1120.8	0.305	mg/L	0.0036	0.305	mg/L	0.0036	1.17%
Mn 257.610†	3104.3	0.00226	mg/L	0.000009	0.00226	mg/L	0.000009	0.42%
Mo 202.031†	47.1	-0.00017	mg/L	0.000114	-0.00017	mg/L	0.000114	67.03%
Ni 231.604†	1004.2	0.00828	mg/L	0.000145	0.00828	mg/L	0.000145	1.75%
Pb 220.353†	-12.1	-0.00177	mg/L	0.001612	-0.00177	mg/L	0.001612	91.05%
Sb 206.836†	2.9	-0.00216	mg/L	0.003027	-0.00216	mg/L	0.003027	140.41%
Se 196.026†	14.3	0.00905	mg/L	0.002339	0.00905	mg/L	0.002339	25.84%
Si 251.611†	12386.7	0.202	mg/L	0.0185	0.202	mg/L	0.0185	9.19%
Sn 189.927†	-22.6	-0.00199	mg/L	0.000239	-0.00199	mg/L	0.000239	12.03%
Ti 334.940†	2229.6	0.00241	mg/L	0.000101	0.00241	mg/L	0.000101	4.17%
Tl 190.801†	-40.1	-0.0115	mg/L	0.00137	-0.0115	mg/L	0.00137	11.99%
V 290.880†	1291.5	0.00392	mg/L	0.001602	0.00392	mg/L	0.001602	40.85%
Zn 206.200†	90804.5	1.13	mg/L	0.009	1.13	mg/L	0.009	0.78%
K 766.490†	2413.7	0.608	mg/L	0.0094	0.608	mg/L	0.0094	1.54%
Na 589.592†	2811445.4	153	mg/L	6.7	153	mg/L	6.7	4.39%
Sr 407.771†	7575.9	0.00273	mg/L	0.000232	0.00273	mg/L	0.000232	8.49%
Li 670.784†	-9.8	-0.00432	mg/L	0.000887	-0.00432	mg/L	0.000887	20.55%

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Sequence No.: 79 **Autosampler Location: 114**
Sample ID: L1207019922 **Date Collected: 7/24/2012 10:30:32 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1207019922

Analyte	Back Pressure	Flow
All	184.0 kPa	0.50 L/min

Mean Data: L1207019922

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2629971.3						16843.79	0.64%
YRADIAL	288137.5						703.19	0.24%
Ga 417.206	1238913.7						44266.99	3.57%
GaRADIAL	76821.4						172.09	0.22%
Ag 328.068†	-2202.7	-0.00152	mg/L	0.000494	-0.00152	mg/L	0.000494	32.46%
Al 396.153†	155.0	0.0151	mg/L	0.00877	0.0151	mg/L	0.00877	57.87%
As 188.979†	-28.5	-0.00383	mg/L	0.000880	-0.00383	mg/L	0.000880	22.99%
Ba 233.527†	666.9	0.00084	mg/L	0.000207	0.00084	mg/L	0.000207	24.54%
Be 234.861†	4472.0	-0.00004	mg/L	0.000015	-0.00004	mg/L	0.000015	37.47%
B 249.677†	56555.2	0.455	mg/L	0.0520	0.455	mg/L	0.0520	11.41%
Ca 227.546†	337.7	1.19	mg/L	0.065	1.19	mg/L	0.065	5.47%
Cd 228.802†	125.8	0.00184	mg/L	0.000166	0.00184	mg/L	0.000166	8.99%
Co 228.616†	81.6	0.00090	mg/L	0.000202	0.00090	mg/L	0.000202	22.53%
Cr 267.716†	18.6	-0.00047	mg/L	0.000095	-0.00047	mg/L	0.000095	20.13%
Cu 327.393†	84813.7	0.328	mg/L	0.0081	0.328	mg/L	0.0081	2.46%
Fe 239.562†	211188.7	13.0	mg/L	0.06	13.0	mg/L	0.06	0.46%
Mg 279.077†	1168.3	0.310	mg/L	0.0227	0.310	mg/L	0.0227	7.30%
Mn 257.610†	99084.8	0.106	mg/L	0.0006	0.106	mg/L	0.0006	0.61%
Mo 202.031†	25.3	-0.00002	mg/L	0.000330	-0.00002	mg/L	0.000330	>999.9%
Ni 231.604†	14573.1	0.170	mg/L	0.0006	0.170	mg/L	0.0006	0.33%
Pb 220.353†	-29.6	-0.00392	mg/L	0.002640	-0.00392	mg/L	0.002640	67.28%
Sb 206.836†	-3.2	-0.00269	mg/L	0.001242	-0.00269	mg/L	0.001242	46.15%
Se 196.026†	6.9	0.00814	mg/L	0.004248	0.00814	mg/L	0.004248	52.19%
Si 251.611†	8999.3	0.143	mg/L	0.0055	0.143	mg/L	0.0055	3.84%
Sn 189.927†	25.4	0.00112	mg/L	0.000076	0.00112	mg/L	0.000076	6.78%
Ti 334.940†	1054.4	0.00105	mg/L	0.000267	0.00105	mg/L	0.000267	25.35%
Tl 190.801†	-19.4	-0.00710	mg/L	0.001515	-0.00710	mg/L	0.001515	21.33%
V 290.880†	1696.7	0.00366	mg/L	0.001268	0.00366	mg/L	0.001268	34.70%
Zn 206.200†	1616044.6	20.1	mg/L	0.35	20.1	mg/L	0.35	1.76%
K 766.490†	891.0	0.0530	mg/L	0.02853	0.0530	mg/L	0.02853	53.84%
Na 589.592†	2822506.0	154	mg/L	0.4	154	mg/L	0.4	0.27%
Sr 407.771†	1800.8	0.00037	mg/L	0.000003	0.00037	mg/L	0.000003	0.79%
Li 670.784†	86.9	-0.00356	mg/L	0.000840	-0.00356	mg/L	0.000840	23.60%

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Sequence No.: 80 **Autosampler Location: 115**
Sample ID: L1207019923 **Date Collected: 7/24/2012 10:36:32 PM**

Approved: July 25, 2012
Kym H. Rhoden

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

Nebulizer Parameters: L1207019923

Analyte	Back Pressure	Flow
All	184.0 kPa	0.50 L/min

Mean Data: L1207019923

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2672737.0						26851.49	1.00%
YRADIAL	290144.2						4239.59	1.46%
Ga 417.206	1275418.0						43887.44	3.44%
GaRADIAL	77061.0						1222.88	1.59%
Ag 328.068†	-340.5	-0.00093	mg/L	0.000453	-0.00093	mg/L	0.000453	48.72%
Al 396.153†	31.9	-0.00567	mg/L	0.013246	-0.00567	mg/L	0.013246	233.52%
As 188.979†	-10.9	-0.00230	mg/L	0.000885	-0.00230	mg/L	0.000885	38.53%
Ba 233.527†	394.2	0.00009	mg/L	0.000242	0.00009	mg/L	0.000242	271.21%
Be 234.861†	790.9	-0.00019	mg/L	0.000045	-0.00019	mg/L	0.000045	23.63%
B 249.677†	27505.8	0.223	mg/L	0.0128	0.223	mg/L	0.0128	5.77%
Ca 227.546†	-800.1	0.548	mg/L	0.0904	0.548	mg/L	0.0904	16.50%
Cd 228.802†	21.8	0.00039	mg/L	0.000174	0.00039	mg/L	0.000174	44.61%
Co 228.616†	69.9	0.00063	mg/L	0.000208	0.00063	mg/L	0.000208	32.81%
Cr 267.716†	177.9	0.00017	mg/L	0.000061	0.00017	mg/L	0.000061	35.26%
Cu 327.393†	25.3	-0.00168	mg/L	0.000388	-0.00168	mg/L	0.000388	23.14%
Fe 239.562†	43265.4	2.67	mg/L	0.019	2.67	mg/L	0.019	0.72%
Mg 279.077†	1007.5	0.273	mg/L	0.0085	0.273	mg/L	0.0085	3.11%
Mn 257.610†	13480.5	0.0133	mg/L	0.00011	0.0133	mg/L	0.00011	0.85%
Mo 202.031†	45.5	-0.00008	mg/L	0.000195	-0.00008	mg/L	0.000195	245.11%
Ni 231.604†	219542.5	2.62	mg/L	0.009	2.62	mg/L	0.009	0.35%
Pb 220.353†	15.3	0.00044	mg/L	0.001378	0.00044	mg/L	0.001378	315.39%
Sb 206.836†	-10.2	-0.00255	mg/L	0.001100	-0.00255	mg/L	0.001100	43.10%
Se 196.026†	6.3	0.00720	mg/L	0.002958	0.00720	mg/L	0.002958	41.07%
Si 251.611†	10036.5	0.161	mg/L	0.0054	0.161	mg/L	0.0054	3.36%
Sn 189.927†	12.8	0.00030	mg/L	0.000544	0.00030	mg/L	0.000544	179.34%
Ti 334.940†	1149.0	0.00077	mg/L	0.000134	0.00077	mg/L	0.000134	17.32%
Tl 190.801†	-15.8	-0.00625	mg/L	0.001439	-0.00625	mg/L	0.001439	23.02%
V 290.880†	982.3	0.00248	mg/L	0.001194	0.00248	mg/L	0.001194	48.19%
Zn 206.200†	2134.0	0.0248	mg/L	0.00042	0.0248	mg/L	0.00042	1.69%
K 766.490†	4328.3	1.30	mg/L	0.004	1.30	mg/L	0.004	0.29%
Na 589.592†	2912710.8	159	mg/L	0.9	159	mg/L	0.9	0.55%
Sr 407.771†	2017.3	0.00051	mg/L	0.000021	0.00051	mg/L	0.000021	4.06%
Li 670.784†	49.9	-0.00385	mg/L	0.000406	-0.00385	mg/L	0.000406	10.55%

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Sequence No.: 81 **Autosampler Location: 116**
Sample ID: L1207019924 **Date Collected: 7/24/2012 10:42:31 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1207019924

Analyte	Back Pressure	Flow
All	184.0 kPa	0.50 L/min

Mean Data: L1207019924

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2683022.1						17760.80	0.66%
YRADIAL	288184.7						2831.27	0.98%
Ga 417.206	1292030.3						35256.11	2.73%
GaRADIAL	77651.9						733.17	0.94%
Ag 328.068†	111.3	-0.00059	mg/L	0.000615	-0.00059	mg/L	0.000615	104.85%
Al 396.153†	50.3	-0.00302	mg/L	0.003038	-0.00302	mg/L	0.003038	100.75%
As 188.979†	-9.8	-0.00256	mg/L	0.001147	-0.00256	mg/L	0.001147	44.78%
Ba 233.527†	445.0	0.00047	mg/L	0.000185	0.00047	mg/L	0.000185	39.69%
Be 234.861†	114.3	-0.00021	mg/L	0.000113	-0.00021	mg/L	0.000113	54.18%

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B 249.677†	20041.1	0.162	mg/L	0.0072	0.162	mg/L	0.0072	4.42%
Ca 227.546†	642.6	1.47	mg/L	0.016	1.47	mg/L	0.016	1.11%
Cd 228.802†	43.1	0.00060	mg/L	0.000174	0.00060	mg/L	0.000174	28.92%
Co 228.616†	30.0	0.00027	mg/L	0.000273	0.00027	mg/L	0.000273	103.02%
Cr 267.716†	125.5	-0.00010	mg/L	0.000092	-0.00010	mg/L	0.000092	90.47%
Cu 327.393†	180.7	-0.00080	mg/L	0.000536	-0.00080	mg/L	0.000536	67.42%
Fe 239.562†	9746.0	0.601	mg/L	0.0192	0.601	mg/L	0.0192	3.20%
Mg 279.077†	882.6	0.241	mg/L	0.0052	0.241	mg/L	0.0052	2.18%
Mn 257.610†	2494.0	0.00155	mg/L	0.000047	0.00155	mg/L	0.000047	3.02%
Mo 202.031†	56.4	0.00007	mg/L	0.000316	0.00007	mg/L	0.000316	447.30%
Ni 231.604†	7371.0	0.0843	mg/L	0.00086	0.0843	mg/L	0.00086	1.01%
Pb 220.353†	-30.4	-0.00252	mg/L	0.001041	-0.00252	mg/L	0.001041	41.28%
Sb 206.836†	3.3	-0.00201	mg/L	0.000991	-0.00201	mg/L	0.000991	49.19%
Se 196.026†	11.4	0.00798	mg/L	0.002875	0.00798	mg/L	0.002875	36.02%
Si 251.611†	10495.3	0.169	mg/L	0.0059	0.169	mg/L	0.0059	3.50%
Sn 189.927†	-1.6	-0.00063	mg/L	0.000431	-0.00063	mg/L	0.000431	68.52%
Ti 334.940†	1182.9	0.00126	mg/L	0.000308	0.00126	mg/L	0.000308	24.35%
Tl 190.801†	-10.6	-0.00511	mg/L	0.001641	-0.00511	mg/L	0.001641	32.11%
V 290.880†	841.3	0.00225	mg/L	0.000832	0.00225	mg/L	0.000832	37.00%
Zn 206.200†	4146.5	0.0494	mg/L	0.00032	0.0494	mg/L	0.00032	0.65%
K 766.490†	32183.6	11.5	mg/L	0.36	11.5	mg/L	0.36	3.16%
Na 589.592†	2846326.0	155	mg/L	0.7	155	mg/L	0.7	0.43%
Sr 407.771†	3051.1	0.00087	mg/L	0.000063	0.00087	mg/L	0.000063	7.16%
Li 670.784†	38.3	-0.00394	mg/L	0.000950	-0.00394	mg/L	0.000950	24.10%

Sequence No.: 82
Sample ID: CCV
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 6
Date Collected: 7/24/2012 10:48:31 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: CCV

Analyte	Back Pressure	Flow
All	184.0 kPa	0.50 L/min

Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2665045.9						16729.04	0.63%
YRADIAL	290652.8						6151.30	2.12%
Ga 417.206	1305571.0						38249.60	2.93%
GaRADIAL	79151.5						1279.56	1.62%
Ag 328.068†	147385.5	0.424	mg/L	0.0117	0.424	mg/L	0.0117	2.76%
QC value within limits for Ag 328.068 Recovery = 106.09%								
Al 396.153†	63588.2	10.0	mg/L	0.02	10.0	mg/L	0.02	0.18%
QC value within limits for Al 396.153 Recovery = 100.20%								
As 188.979†	1788.0	0.405	mg/L	0.0139	0.405	mg/L	0.0139	3.44%
QC value within limits for As 188.979 Recovery = 101.14%								
Ba 233.527†	201443.8	1.01	mg/L	0.002	1.01	mg/L	0.002	0.24%
QC value within limits for Ba 233.527 Recovery = 100.78%								
Be 234.861†	75606.3	0.0524	mg/L	0.00165	0.0524	mg/L	0.00165	3.15%
QC value within limits for Be 234.861 Recovery = 104.70%								
B 249.677†	66349.0	0.537	mg/L	0.0160	0.537	mg/L	0.0160	2.99%
QC value within limits for B 249.677 Recovery = 107.40%								
Ca 227.546†	4752.0	10.6	mg/L	0.37	10.6	mg/L	0.37	3.52%
QC value within limits for Ca 227.546 Recovery = 106.28%								
Cd 228.802†	3526.8	0.0508	mg/L	0.00247	0.0508	mg/L	0.00247	4.87%
QC value within limits for Cd 228.802 Recovery = 101.60%								
Co 228.616†	10605.2	0.199	mg/L	0.0012	0.199	mg/L	0.0012	0.60%
QC value within limits for Co 228.616 Recovery = 99.25%								
Cr 267.716†	75225.9	0.506	mg/L	0.0026	0.506	mg/L	0.0026	0.52%
QC value within limits for Cr 267.716 Recovery = 101.18%								
Cu 327.393†	136806.2	0.529	mg/L	0.0134	0.529	mg/L	0.0134	2.53%
QC value within limits for Cu 327.393 Recovery = 105.80%								
Fe 239.562†	63584.4	3.92	mg/L	0.030	3.92	mg/L	0.030	0.76%
QC value within limits for Fe 239.562 Recovery = 98.09%								
Mg 279.077†	37121.3	9.88	mg/L	0.072	9.88	mg/L	0.072	0.73%
QC value within limits for Mg 279.077 Recovery = 98.84%								
Mn 257.610†	472837.4	0.504	mg/L	0.0028	0.504	mg/L	0.0028	0.57%

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   QC value within limits for Mn 257.610  Recovery = 100.84%
Mo 202.031†            42416.4       0.988 mg/L        0.0011       0.988 mg/L        0.0011   0.11%
   QC value within limits for Mo 202.031  Recovery = 98.78%
Ni 231.604†            43725.1       0.518 mg/L        0.0031       0.518 mg/L        0.0031   0.60%
   QC value within limits for Ni 231.604  Recovery = 103.64%
Pb 220.353†             8414.4       0.495 mg/L        0.0030       0.495 mg/L        0.0030   0.60%
   QC value within limits for Pb 220.353  Recovery = 98.95%
Sb 206.836†             6685.7        1.23 mg/L         0.046        1.23 mg/L         0.046   3.72%
   QC value within limits for Sb 206.836  Recovery = 102.68%
Se 196.026†             1011.9       0.411 mg/L        0.0174       0.411 mg/L        0.0174   4.25%
   QC value within limits for Se 196.026  Recovery = 102.64%
Si 251.611†           305238.9        5.25 mg/L         0.117        5.25 mg/L         0.117   2.23%
   QC value within limits for Si 251.611  Recovery = 105.08%
Sn 189.927†            15297.0       0.988 mg/L        0.0058       0.988 mg/L        0.0058   0.59%
   QC value within limits for Sn 189.927  Recovery = 98.80%
Ti 334.940†          1139816.6        1.00 mg/L         0.004        1.00 mg/L         0.004   0.44%
   QC value within limits for Ti 334.940  Recovery = 100.39%
Tl 190.801†             2316.5       0.511 mg/L        0.0061       0.511 mg/L        0.0061   1.19%
   QC value within limits for Tl 190.801  Recovery = 102.17%
V 290.880†            282592.8        1.01 mg/L         0.011        1.01 mg/L         0.011   1.08%
   QC value within limits for V 290.880  Recovery = 100.54%
Zn 206.200†            80197.7        1.00 mg/L         0.005        1.00 mg/L         0.005   0.54%
   QC value within limits for Zn 206.200  Recovery = 100.14%
K 766.490†            138663.3        50.6 mg/L          0.18        50.6 mg/L          0.18   0.35%
   QC value within limits for K 766.490  Recovery = 101.12%
Na 589.592†           980526.1        49.8 mg/L          0.55        49.8 mg/L          0.55   1.11%
   QC value within limits for Na 589.592  Recovery = 99.61%
Sr 407.771†          2405854.1        1.01 mg/L         0.037        1.01 mg/L         0.037   3.65%
   QC value within limits for Sr 407.771  Recovery = 100.51%
Li 670.784†           130335.8        1.02 mg/L         0.008        1.02 mg/L         0.008   0.79%
   QC value within limits for Li 670.784  Recovery = 101.85%
All analyte(s) passed QC.

==========================================================================================
Sequence No.: 83                                    Autosampler Location: 1
Sample ID: CCB                                      Date Collected: 7/24/2012 10:54:31 PM
Analyst:                                            Data Type: Original
Initial Sample Wt:                                  Initial Sample Vol:
Dilution:                                           Sample Prep Vol:

------------------------------------------------------------------------------------------
Nebulizer Parameters: CCB
Analyte                 Back Pressure    Flow
All                     184.0 kPa        0.50 L/min

------------------------------------------------------------------------------------------
Mean Data: CCB
                   Mean Corrected         Calib.                          Sample
Analyte               Intensity      Conc. Units      Std.Dev.      Conc. Units      Std.Dev.   RSD
Y 371.029            2748821.4                                                     15850.38   0.58%
YRADIAL               296020.7                                                      2115.77   0.71%
Ga 417.206           1344894.6                                                     10167.36   0.76%
GaRADIAL               81282.9                                                      2594.58   3.19%
Ag 328.068†              178.6    -0.00068 mg/L      0.000064    -0.00068 mg/L      0.000064   9.47%
   QC value within limits for Ag 328.068  Recovery = Not calculated
Al 396.153†               32.0    -0.00594 mg/L      0.001405    -0.00594 mg/L      0.001405  23.65%
   QC value within limits for Al 396.153  Recovery = Not calculated
As 188.979†               -3.6    -0.00127 mg/L      0.001238    -0.00127 mg/L      0.001238  97.37%
   QC value within limits for As 188.979  Recovery = Not calculated
Ba 233.527†               83.8    -0.00131 mg/L      0.000054    -0.00131 mg/L      0.000054   4.16%
   QC value within limits for Ba 233.527  Recovery = Not calculated
Be 234.861†              -15.0    -0.00016 mg/L      0.000033    -0.00016 mg/L      0.000033  20.29%
   QC value within limits for Be 234.861  Recovery = Not calculated
B 249.677†              1714.4      0.0131 mg/L       0.00035      0.0131 mg/L       0.00035   2.70%
   QC value within limits for B 249.677  Recovery = Not calculated
Ca 227.546†               -3.8     0.00486 mg/L      0.018228     0.00486 mg/L      0.018228 374.77%
   QC value within limits for Ca 227.546  Recovery = Not calculated
Cd 228.802†               -1.2    -0.00006 mg/L      0.000068    -0.00006 mg/L      0.000068 105.57%
   QC value within limits for Cd 228.802  Recovery = Not calculated
Co 228.616†                7.3    -0.00013 mg/L      0.000277    -0.00013 mg/L      0.000277 207.38%
   QC value within limits for Co 228.616  Recovery = Not calculated
Cr 267.716†               27.9    -0.00074 mg/L      0.000078    -0.00074 mg/L      0.000078  10.47%
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   QC value within limits for Cr 267.716  Recovery = Not calculated
Cu 327.393†              126.7    -0.00103 mg/L      0.000466    -0.00103 mg/L      0.000466  45.50%
   QC value within limits for Cu 327.393  Recovery = Not calculated
Fe 239.562†               33.5     0.00145 mg/L      0.000667     0.00145 mg/L      0.000667  46.12%
   QC value within limits for Fe 239.562  Recovery = Not calculated
Mg 279.077†               29.7      0.0150 mg/L       0.00246      0.0150 mg/L       0.00246  16.38%
   QC value within limits for Mg 279.077  Recovery = Not calculated
Mn 257.610†               24.3    -0.00109 mg/L      0.000012    -0.00109 mg/L      0.000012   1.13%
   QC value within limits for Mn 257.610  Recovery = Not calculated
Mo 202.031†               23.6    -0.00072 mg/L      0.000076    -0.00072 mg/L      0.000076  10.48%
   QC value within limits for Mo 202.031  Recovery = Not calculated
Ni 231.604†               28.8    -0.00337 mg/L      0.000240    -0.00337 mg/L      0.000240   7.12%
   QC value within limits for Ni 231.604  Recovery = Not calculated
Pb 220.353†                2.5    -0.00056 mg/L      0.000488    -0.00056 mg/L      0.000488  87.01%
   QC value within limits for Pb 220.353  Recovery = Not calculated
Sb 206.836†                4.8    -0.00181 mg/L      0.001130    -0.00181 mg/L      0.001130  62.36%
   QC value within limits for Sb 206.836  Recovery = Not calculated
Se 196.026†                0.0     0.00330 mg/L      0.003820     0.00330 mg/L      0.003820 115.75%
   QC value within limits for Se 196.026  Recovery = Not calculated
Si 251.611†              329.1    -0.00659 mg/L      0.000846    -0.00659 mg/L      0.000846  12.84%
   QC value within limits for Si 251.611  Recovery = Not calculated
Sn 189.927†               35.5     0.00177 mg/L      0.000506     0.00177 mg/L      0.000506  28.62%
   QC value within limits for Sn 189.927  Recovery = Not calculated
Ti 334.940†              346.8     0.00032 mg/L      0.000061     0.00032 mg/L      0.000061  19.07%
   QC value within limits for Ti 334.940  Recovery = Not calculated
Tl 190.801†               -3.5    -0.00359 mg/L      0.001350    -0.00359 mg/L      0.001350  37.59%
   QC value within limits for Tl 190.801  Recovery = Not calculated
V 290.880†               -33.8    -0.00078 mg/L      0.000663    -0.00078 mg/L      0.000663  84.48%
   QC value within limits for V 290.880  Recovery = Not calculated
Zn 206.200†              129.3    -0.00063 mg/L      0.000080    -0.00063 mg/L      0.000080  12.74%
   QC value within limits for Zn 206.200  Recovery = Not calculated
K 766.490†                -9.4      -0.121 mg/L        0.0191      -0.121 mg/L        0.0191  15.77%
   QC value within limits for K 766.490  Recovery = Not calculated
Na 589.592†             1258.9      0.0694 mg/L       0.00708      0.0694 mg/L       0.00708  10.21%
   QC value within limits for Na 589.592  Recovery = Not calculated
Sr 407.771†              843.2    -0.00002 mg/L      0.000015    -0.00002 mg/L      0.000015  82.30%
   QC value within limits for Sr 407.771  Recovery = Not calculated
Li 670.784†              197.5    -0.00269 mg/L      0.000258    -0.00269 mg/L      0.000258   9.57%
   QC value within limits for Li 670.784  Recovery = Not calculated
All analyte(s) passed QC.

==========================================================================================
Sequence No.: 84                                    Autosampler Location: 117
Sample ID: L1207019925                              Date Collected: 7/24/2012 11:01:24 PM
Analyst: KHR                                        Data Type: Original
Initial Sample Wt:                                  Initial Sample Vol:
Dilution:                                           Sample Prep Vol:

------------------------------------------------------------------------------------------
Nebulizer Parameters: L1207019925
Analyte                 Back Pressure    Flow
All                    184.0 kPa         0.50 L/min

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Mean Data: L1207019925
                  Mean Corrected         Calib.                          Sample
Analyte              Intensity      Conc. Units      Std.Dev.      Conc. Units      Std.Dev.   RSD
Y 371.029            2678806.9                                                     13130.51   0.49%
YRADIAL               285695.4                                                      2285.29   0.80%
Ga 417.206           1287992.7                                                     27469.00   2.13%
GaRADIAL               77050.3                                                       701.24   0.91%
Ag 328.068†            -1730.3    -0.00089 mg/L      0.000709    -0.00089 mg/L      0.000709  80.10%
Al 396.153†              358.4      0.0472 mg/L       0.00727      0.0472 mg/L       0.00727  15.39%
As 188.979†              -23.4    -0.00307 mg/L      0.001489    -0.00307 mg/L      0.001489  48.46%
Ba 233.527†              608.2     0.00065 mg/L      0.000182     0.00065 mg/L      0.000182  28.19%
Be 234.861†             3798.0    -0.00014 mg/L      0.000099    -0.00014 mg/L      0.000099  70.31%
B 249.677†             29081.7       0.232 mg/L        0.0110       0.232 mg/L        0.0110   4.74%
Ca 227.546†              331.3        1.43 mg/L         0.084        1.43 mg/L         0.084   5.87%
Cd 228.802†               14.9     0.00021 mg/L      0.000182     0.00021 mg/L      0.000182  87.06%
Co 228.616†               71.2     0.00070 mg/L      0.000503     0.00070 mg/L      0.000503  71.90%
Cr 267.716†              196.6    -0.00002 mg/L      0.000126    -0.00002 mg/L      0.000126 644.28%
Cu 327.393†               52.3    -0.00083 mg/L      0.000115    -0.00083 mg/L      0.000115  13.88%
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Fe 239.562†	184990.7	11.4	mg/L	0.02	11.4	mg/L	0.02	0.15%
Mg 279.077†	1419.9	0.378	mg/L	0.0136	0.378	mg/L	0.0136	3.60%
Mn 257.610†	31585.7	0.0326	mg/L	0.00063	0.0326	mg/L	0.00063	1.94%
Mo 202.031†	37.8	0.00018	mg/L	0.000234	0.00018	mg/L	0.000234	133.25%
Ni 231.604†	44124.7	0.523	mg/L	0.0104	0.523	mg/L	0.0104	1.99%
Pb 220.353†	-8.6	-0.00211	mg/L	0.000945	-0.00211	mg/L	0.000945	44.81%
Sb 206.836†	0.2	-0.00187	mg/L	0.000284	-0.00187	mg/L	0.000284	15.18%
Se 196.026†	-5.9	0.00290	mg/L	0.003942	0.00290	mg/L	0.003942	135.76%
Si 251.611†	8887.3	0.141	mg/L	0.0044	0.141	mg/L	0.0044	3.15%
Sn 189.927†	-8.6	-0.00108	mg/L	0.000529	-0.00108	mg/L	0.000529	48.84%
Ti 334.940†	1168.2	0.00115	mg/L	0.000437	0.00115	mg/L	0.000437	38.00%
Tl 190.801†	-10.5	-0.00512	mg/L	0.000796	-0.00512	mg/L	0.000796	15.53%
V 290.880†	1157.6	0.00195	mg/L	0.001018	0.00195	mg/L	0.001018	52.33%
Zn 206.200†	912.2	0.00902	mg/L	0.000189	0.00902	mg/L	0.000189	2.10%
K 766.490†	1418.0	0.240	mg/L	0.0251	0.240	mg/L	0.0251	10.46%
Na 589.592†	2899850.5	158	mg/L	1.3	158	mg/L	1.3	0.80%
Sr 407.771†	3284.8	0.00099	mg/L	0.000029	0.00099	mg/L	0.000029	2.99%
Li 670.784†	107.3	-0.00340	mg/L	0.000150	-0.00340	mg/L	0.000150	4.42%

Sequence No.: 85 **Autosampler Location: 118**
Sample ID: L1207019926 **Date Collected: 7/24/2012 11:07:25 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1207019926

Analyte	Back Pressure	Flow
All	184.0 kPa	0.50 L/min

Mean Data: L1207019926

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2704724.5						22919.51	0.85%
YRADIAL	292308.6						2514.02	0.86%
Ga 417.206	1300871.3						42127.09	3.24%
GaRADIAL	78311.3						477.42	0.61%
Ag 328.068†	-481.7	-0.00100	mg/L	0.000619	-0.00100	mg/L	0.000619	62.00%
Al 396.153†	-22.7	-0.0143	mg/L	0.01048	-0.0143	mg/L	0.01048	73.47%
As 188.979†	-4.9	-0.00075	mg/L	0.001885	-0.00075	mg/L	0.001885	250.41%
Ba 233.527†	425.7	0.00020	mg/L	0.000225	0.00020	mg/L	0.000225	110.31%
Be 234.861†	1029.5	-0.00022	mg/L	0.000052	-0.00022	mg/L	0.000052	23.56%
B 249.677†	17975.0	0.144	mg/L	0.0046	0.144	mg/L	0.0046	3.20%
Ca 227.546†	1714.5	3.79	mg/L	0.124	3.79	mg/L	0.124	3.27%
Cd 228.802†	22.0	0.00029	mg/L	0.000017	0.00029	mg/L	0.000017	6.03%
Co 228.616†	105.8	0.00163	mg/L	0.000107	0.00163	mg/L	0.000107	6.58%
Cr 267.716†	127.1	-0.00019	mg/L	0.000191	-0.00019	mg/L	0.000191	100.01%
Cu 327.393†	1600.7	0.00484	mg/L	0.000538	0.00484	mg/L	0.000538	11.11%
Fe 239.562†	55196.9	3.41	mg/L	0.064	3.41	mg/L	0.064	1.88%
Mg 279.077†	1054.7	0.285	mg/L	0.0039	0.285	mg/L	0.0039	1.37%
Mn 257.610†	12015.8	0.0117	mg/L	0.00015	0.0117	mg/L	0.00015	1.31%
Mo 202.031†	53.7	0.00015	mg/L	0.000295	0.00015	mg/L	0.000295	199.70%
Ni 231.604†	3727.6	0.0408	mg/L	0.00020	0.0408	mg/L	0.00020	0.49%
Pb 220.353†	-20.0	-0.00215	mg/L	0.000389	-0.00215	mg/L	0.000389	18.08%
Sb 206.836†	-1.8	-0.00288	mg/L	0.000548	-0.00288	mg/L	0.000548	19.00%
Se 196.026†	4.1	0.00550	mg/L	0.003001	0.00550	mg/L	0.003001	54.56%
Si 251.611†	6821.1	0.106	mg/L	0.0043	0.106	mg/L	0.0043	4.05%
Sn 189.927†	-34.6	-0.00276	mg/L	0.000488	-0.00276	mg/L	0.000488	17.69%
Ti 334.940†	469.4	0.00098	mg/L	0.000081	0.00098	mg/L	0.000081	8.22%
Tl 190.801†	-15.1	-0.00610	mg/L	0.002355	-0.00610	mg/L	0.002355	38.61%
V 290.880†	648.9	0.00119	mg/L	0.000591	0.00119	mg/L	0.000591	49.60%
Zn 206.200†	10292.5	0.126	mg/L	0.0006	0.126	mg/L	0.0006	0.49%
K 766.490†	4968.7	1.54	mg/L	0.037	1.54	mg/L	0.037	2.40%
Na 589.592†	2786836.9	151	mg/L	1.1	151	mg/L	1.1	0.74%
Sr 407.771†	13997.1	0.00540	mg/L	0.000129	0.00540	mg/L	0.000129	2.39%
Li 670.784†	231.8	-0.00242	mg/L	0.000327	-0.00242	mg/L	0.000327	13.52%

Sequence No.: 86 **Autosampler Location: 119**
Sample ID: L1207019927 WG404274-01 **Date Collected: 7/24/2012 11:13:25 PM**

Approved: July 25, 2012
Kym H. Rhoden

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

Nebulizer Parameters: L1207019927 WG404274-01

Analyte	Back Pressure	Flow
All	184.0 kPa	0.50 L/min

Mean Data: L1207019927 WG404274-01

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2689683.4						32406.92	1.20%
YRADIAL	289915.7						2704.35	0.93%
Ga 417.206	1338225.9						30885.75	2.31%
GaRADIAL	79568.2						2297.90	2.89%
Ag 328.068†	124.1	-0.00078	mg/L	0.000411	-0.00078	mg/L	0.000411	53.02%
Al 396.153†	58.1	-0.00180	mg/L	0.001887	-0.00180	mg/L	0.001887	104.91%
As 188.979†	-16.6	-0.00422	mg/L	0.000218	-0.00422	mg/L	0.000218	5.16%
Ba 233.527†	536.9	0.00096	mg/L	0.000055	0.00096	mg/L	0.000055	5.74%
Be 234.861†	-285.4	-0.00038	mg/L	0.000035	-0.00038	mg/L	0.000035	9.27%
B 249.677†	21074.8	0.171	mg/L	0.0024	0.171	mg/L	0.0024	1.41%
Ca 227.546†	766.6	1.71	mg/L	0.045	1.71	mg/L	0.045	2.60%
Cd 228.802†	3.5	0.00002	mg/L	0.000122	0.00002	mg/L	0.000122	564.23%
Co 228.616†	-0.3	-0.00029	mg/L	0.000266	-0.00029	mg/L	0.000266	91.04%
Cr 267.716†	128.5	-0.00007	mg/L	0.000090	-0.00007	mg/L	0.000090	136.63%
Cu 327.393†	105.4	-0.00111	mg/L	0.000084	-0.00111	mg/L	0.000084	7.61%
Fe 239.562†	1898.4	0.117	mg/L	0.0024	0.117	mg/L	0.0024	2.05%
Mg 279.077†	1263.5	0.343	mg/L	0.0046	0.343	mg/L	0.0046	1.34%
Mn 257.610†	1198.2	0.00016	mg/L	0.000010	0.00016	mg/L	0.000010	6.41%
Mo 202.031†	34.2	-0.00047	mg/L	0.000415	-0.00047	mg/L	0.000415	87.99%
Ni 231.604†	6128.8	0.0695	mg/L	0.00069	0.0695	mg/L	0.00069	1.00%
Pb 220.353†	8.7	-0.00018	mg/L	0.000656	-0.00018	mg/L	0.000656	361.68%
Sb 206.836†	10.4	-0.00073	mg/L	0.001193	-0.00073	mg/L	0.001193	163.78%
Se 196.026†	10.1	0.00740	mg/L	0.001447	0.00740	mg/L	0.001447	19.55%
Si 251.611†	7720.7	0.121	mg/L	0.0062	0.121	mg/L	0.0062	5.09%
Sn 189.927†	-12.9	-0.00136	mg/L	0.000136	-0.00136	mg/L	0.000136	9.97%
Ti 334.940†	1116.7	0.00125	mg/L	0.000069	0.00125	mg/L	0.000069	5.51%
Tl 190.801†	-29.6	-0.00920	mg/L	0.001581	-0.00920	mg/L	0.001581	17.18%
V 290.880†	420.4	0.00081	mg/L	0.000796	0.00081	mg/L	0.000796	98.18%
Zn 206.200†	1537.6	0.0169	mg/L	0.00013	0.0169	mg/L	0.00013	0.75%
K 766.490†	1272.7	0.195	mg/L	0.0061	0.195	mg/L	0.0061	3.12%
Na 589.592†	2779629.5	151	mg/L	3.1	151	mg/L	3.1	2.08%
Sr 407.771†	4296.2	0.00139	mg/L	0.000083	0.00139	mg/L	0.000083	6.00%
Li 670.784†	14.6	-0.00413	mg/L	0.000218	-0.00413	mg/L	0.000218	5.29%

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Sequence No.: 87 **Autosampler Location: 120**
Sample ID: L1207019928 **Date Collected: 7/24/2012 11:20:24 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1207019928

Analyte	Back Pressure	Flow
All	184.0 kPa	0.50 L/min

Mean Data: L1207019928

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2801952.8						47402.38	1.69%
YRADIAL	296945.7						5157.65	1.74%
Ga 417.206	1339994.4						22861.08	1.71%
GaRADIAL	82013.3						1735.43	2.12%
Ag 328.068†	68613.2	0.195	mg/L	0.0060	0.195	mg/L	0.0060	3.09%
Al 396.153†	136.1	0.0106	mg/L	0.00067	0.0106	mg/L	0.00067	6.32%
As 188.979†	1464.2	0.336	mg/L	0.0068	0.336	mg/L	0.0068	2.02%
Ba 233.527†	194230.9	0.971	mg/L	0.0213	0.971	mg/L	0.0213	2.19%
Be 234.861†	132495.7	0.0927	mg/L	0.00203	0.0927	mg/L	0.00203	2.20%

Approved: July 25, 2012

Kym H. Rhoden

B 249.677†	690.1	0.00123	mg/L	0.000315	0.00123	mg/L	0.000315	25.56%
Ca 227.546†	-108.1	-0.0581	mg/L	0.01879	-0.0581	mg/L	0.01879	32.32%
Cd 228.802†	6388.3	0.0930	mg/L	0.00211	0.0930	mg/L	0.00211	2.27%
Co 228.616†	-31.9	-0.00107	mg/L	0.000027	-0.00107	mg/L	0.000027	2.49%
Cr 267.716†	115667.7	0.778	mg/L	0.0208	0.778	mg/L	0.0208	2.68%
Cu 327.393†	567.0	0.00067	mg/L	0.000202	0.00067	mg/L	0.000202	30.21%
Fe 239.562†	658.9	0.0401	mg/L	0.00020	0.0401	mg/L	0.00020	0.49%
Mg 279.077†	52.6	0.0210	mg/L	0.00437	0.0210	mg/L	0.00437	20.77%
Mn 257.610†	843.1	-0.00012	mg/L	0.000039	-0.00012	mg/L	0.000039	32.26%
Mo 202.031†	13.3	-0.00096	mg/L	0.000190	-0.00096	mg/L	0.000190	19.78%
Ni 231.604†	16350.4	0.192	mg/L	0.0042	0.192	mg/L	0.0042	2.20%
Pb 220.353†	12836.8	0.753	mg/L	0.0168	0.753	mg/L	0.0168	2.23%
Sb 206.836†	2129.8	0.385	mg/L	0.0117	0.385	mg/L	0.0117	3.04%
Se 196.026†	886.9	0.359	mg/L	0.0076	0.359	mg/L	0.0076	2.13%
Si 251.611†	1473.6	0.0132	mg/L	0.00112	0.0132	mg/L	0.00112	8.45%
Sn 189.927†	1.3	-0.00044	mg/L	0.000095	-0.00044	mg/L	0.000095	21.38%
Ti 334.940†	549.2	0.00024	mg/L	0.000074	0.00024	mg/L	0.000074	31.39%
Tl 190.801†	891.0	0.189	mg/L	0.0070	0.189	mg/L	0.0070	3.71%
V 290.880†	-148.0	-0.00130	mg/L	0.000981	-0.00130	mg/L	0.000981	75.29%
Zn 206.200†	14764.8	0.188	mg/L	0.0033	0.188	mg/L	0.0033	1.78%
K 766.490†	453.4	0.0471	mg/L	0.00632	0.0471	mg/L	0.00632	13.42%
Na 589.592†	1232.7	0.0681	mg/L	0.01846	0.0681	mg/L	0.01846	27.12%
Sr 407.771†	2364.5	0.00062	mg/L	0.000035	0.00062	mg/L	0.000035	5.61%
Li 670.784†	78.4	-0.00362	mg/L	0.000130	-0.00362	mg/L	0.000130	3.59%

Sequence No.: 88
Sample ID: L1207019930S WG404274-04
Analyst: KHR
Initial Sample Wt:
Dilution:

Autosampler Location: 121
Date Collected: 7/24/2012 11:27:20 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: L1207019930S WG404274-04

Analyte	Back Pressure	Flow
All	184.0 kPa	0.50 L/min

Mean Data: L1207019930S WG404274-04

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2692552.7						25542.02	0.95%
YRADIAL	296312.4						3407.99	1.15%
Ga 417.206	1299444.1						30506.90	2.35%
GaRADIAL	78556.5						795.82	1.01%
Ag 328.068†	69431.5	0.199	mg/L	0.0063	0.199	mg/L	0.0063	3.14%
Al 396.153†	30848.0	4.86	mg/L	0.019	4.86	mg/L	0.019	0.39%
As 188.979†	808.2	0.183	mg/L	0.0049	0.183	mg/L	0.0049	2.70%
Ba 233.527†	94485.8	0.472	mg/L	0.0010	0.472	mg/L	0.0010	0.21%
Be 234.861†	34075.9	0.0234	mg/L	0.00079	0.0234	mg/L	0.00079	3.38%
B 249.677†	131962.3	1.07	mg/L	0.041	1.07	mg/L	0.041	3.82%
Ca 227.546†	2838.4	6.35	mg/L	0.196	6.35	mg/L	0.196	3.08%
Cd 228.802†	1625.7	0.0234	mg/L	0.00109	0.0234	mg/L	0.00109	4.66%
Co 228.616†	4869.5	0.0910	mg/L	0.00085	0.0910	mg/L	0.00085	0.93%
Cr 267.716†	35336.0	0.237	mg/L	0.0021	0.237	mg/L	0.0021	0.87%
Cu 327.393†	65069.1	0.251	mg/L	0.0083	0.251	mg/L	0.0083	3.32%
Fe 239.562†	34470.0	2.13	mg/L	0.012	2.13	mg/L	0.012	0.57%
Mg 279.077†	18224.7	4.86	mg/L	0.036	4.86	mg/L	0.036	0.73%
Mn 257.610†	226821.7	0.241	mg/L	0.0007	0.241	mg/L	0.0007	0.28%
Mo 202.031†	19735.6	0.459	mg/L	0.0027	0.459	mg/L	0.0027	0.59%
Ni 231.604†	25375.9	0.299	mg/L	0.0007	0.299	mg/L	0.0007	0.22%
Pb 220.353†	3798.5	0.223	mg/L	0.0026	0.223	mg/L	0.0026	1.16%
Sb 206.836†	3074.3	0.565	mg/L	0.0180	0.565	mg/L	0.0180	3.18%
Se 196.026†	478.8	0.196	mg/L	0.0087	0.196	mg/L	0.0087	4.44%
Si 251.611†	159048.3	2.73	mg/L	0.065	2.73	mg/L	0.065	2.39%
Sn 189.927†	-57.0	-0.00421	mg/L	0.000283	-0.00421	mg/L	0.000283	6.74%
Ti 334.940†	529907.7	0.467	mg/L	0.0031	0.467	mg/L	0.0031	0.67%
Tl 190.801†	998.6	0.219	mg/L	0.0051	0.219	mg/L	0.0051	2.31%
V 290.880†	133796.4	0.476	mg/L	0.0052	0.476	mg/L	0.0052	1.09%
Zn 206.200†	38990.8	0.486	mg/L	0.0045	0.486	mg/L	0.0045	0.92%
K 766.490†	65325.4	23.5	mg/L	0.24	23.5	mg/L	0.24	1.02%
Na 589.592†	3267791.9	181	mg/L	5.1	181	mg/L	5.1	2.83%

Approved: July 25, 2012
Kym H. Rhoden

Sr 407.771†	1132659.9	0.473 mg/L	0.0105	0.473 mg/L	0.0105	2.23%
Li 670.784†	61818.6	0.481 mg/L	0.0036	0.481 mg/L	0.0036	0.74%

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Sequence No.: 89 **Autosampler Location: 122**
Sample ID: L1207019931SD WG404274-05 **Date Collected: 7/24/2012 11:33:20 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1207019931SD WG404274-05

Analyte	Back Pressure	Flow
All	184.0 kPa	0.50 L/min

Mean Data: L1207019931SD WG404274-05

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2671803.5						9240.29	0.35%
YRADIAL	296932.9						1400.71	0.47%
Ga 417.206	1302225.2						19166.03	1.47%
GaRADIAL	78705.6						175.54	0.22%
Ag 328.068†	70645.8	0.203	mg/L	0.0039	0.203	mg/L	0.0039	1.90%
Al 396.153†	30696.9	4.83	mg/L	0.016	4.83	mg/L	0.016	0.34%
As 188.979†	826.6	0.187	mg/L	0.0020	0.187	mg/L	0.0020	1.06%
Ba 233.527†	96636.4	0.483	mg/L	0.0019	0.483	mg/L	0.0019	0.40%
Be 234.861†	34347.3	0.0237	mg/L	0.00058	0.0237	mg/L	0.00058	2.47%
B 249.677†	134052.5	1.09	mg/L	0.025	1.09	mg/L	0.025	2.31%
Ca 227.546†	2895.5	6.47	mg/L	0.103	6.47	mg/L	0.103	1.59%
Cd 228.802†	1653.9	0.0238	mg/L	0.00093	0.0238	mg/L	0.00093	3.90%
Co 228.616†	5004.9	0.0935	mg/L	0.00047	0.0935	mg/L	0.00047	0.51%
Cr 267.716†	36120.5	0.242	mg/L	0.0016	0.242	mg/L	0.0016	0.68%
Cu 327.393†	66543.4	0.257	mg/L	0.0040	0.257	mg/L	0.0040	1.57%
Fe 239.562†	32718.1	2.02	mg/L	0.017	2.02	mg/L	0.017	0.85%
Mg 279.077†	18313.2	4.88	mg/L	0.041	4.88	mg/L	0.041	0.83%
Mn 257.610†	228816.3	0.243	mg/L	0.0015	0.243	mg/L	0.0015	0.61%
Mo 202.031†	20402.0	0.474	mg/L	0.0034	0.474	mg/L	0.0034	0.72%
Ni 231.604†	25933.6	0.306	mg/L	0.0029	0.306	mg/L	0.0029	0.95%
Pb 220.353†	3909.8	0.230	mg/L	0.0018	0.230	mg/L	0.0018	0.80%
Sb 206.836†	3149.0	0.579	mg/L	0.0119	0.579	mg/L	0.0119	2.05%
Se 196.026†	484.3	0.198	mg/L	0.0052	0.198	mg/L	0.0052	2.62%
Si 251.611†	160759.5	2.76	mg/L	0.053	2.76	mg/L	0.053	1.92%
Sn 189.927†	-49.4	-0.00372	mg/L	0.000849	-0.00372	mg/L	0.000849	22.82%
Ti 334.940†	540014.5	0.476	mg/L	0.0013	0.476	mg/L	0.0013	0.28%
Tl 190.801†	1031.8	0.226	mg/L	0.0021	0.226	mg/L	0.0021	0.95%
V 290.880†	137450.2	0.489	mg/L	0.0041	0.489	mg/L	0.0041	0.84%
Zn 206.200†	39872.3	0.497	mg/L	0.0037	0.497	mg/L	0.0037	0.75%
K 766.490†	66762.9	24.1	mg/L	0.18	24.1	mg/L	0.18	0.73%
Na 589.592†	3283405.5	182	mg/L	3.1	182	mg/L	3.1	1.68%
Sr 407.771†	1137276.1	0.475	mg/L	0.0067	0.475	mg/L	0.0067	1.40%
Li 670.784†	62762.0	0.488	mg/L	0.0023	0.488	mg/L	0.0023	0.47%

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Sequence No.: 90 **Autosampler Location: 123**
Sample ID: L1207050403PS **Date Collected: 7/24/2012 11:39:20 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1207050403PS

Analyte	Back Pressure	Flow
All	184.0 kPa	0.50 L/min

Mean Data: L1207050403PS

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2699296.1						17973.28	0.67%
YRADIAL	292337.7						3270.87	1.12%
Ga 417.206	1378562.4						41300.82	3.00%

Approved: July 25, 2012

Kym H. Rhoden

GaRADIAL	79568.4					957.06	1.20%
Ag 328.068†	72032.9	0.207	mg/L	0.0074	0.207 mg/L	0.0074	3.59%
Al 396.153†	31657.2	4.98	mg/L	0.016	4.98 mg/L	0.016	0.32%
As 188.979†	845.3	0.191	mg/L	0.0062	0.191 mg/L	0.0062	3.26%
Ba 233.527†	101448.0	0.507	mg/L	0.0030	0.507 mg/L	0.0030	0.58%
Be 234.861†	36933.9	0.0254	mg/L	0.00102	0.0254 mg/L	0.00102	4.02%
B 249.677†	126162.5	1.03	mg/L	0.035	1.03 mg/L	0.035	3.43%
Ca 227.546†	29649.5	63.5	mg/L	2.32	63.5 mg/L	2.32	3.65%
Cd 228.802†	1648.2	0.0237	mg/L	0.00128	0.0237 mg/L	0.00128	5.39%
Co 228.616†	5117.7	0.0957	mg/L	0.00059	0.0957 mg/L	0.00059	0.61%
Cr 267.716†	37301.6	0.250	mg/L	0.0010	0.250 mg/L	0.0010	0.41%
Cu 327.393†	65380.1	0.252	mg/L	0.0086	0.252 mg/L	0.0086	3.39%
Fe 239.562†	36067.8	2.23	mg/L	0.016	2.23 mg/L	0.016	0.72%
Mg 279.077†	47524.5	12.6	mg/L	0.10	12.6 mg/L	0.10	0.79%
Mn 257.610†	305010.9	0.325	mg/L	0.0025	0.325 mg/L	0.0025	0.78%
Mo 202.031†	21302.2	0.495	mg/L	0.0036	0.495 mg/L	0.0036	0.73%
Ni 231.604†	20924.0	0.246	mg/L	0.0016	0.246 mg/L	0.0016	0.66%
Pb 220.353†	4111.1	0.242	mg/L	0.0017	0.242 mg/L	0.0017	0.72%
Sb 206.836†	3173.1	0.583	mg/L	0.0231	0.583 mg/L	0.0231	3.96%
Se 196.026†	490.0	0.201	mg/L	0.0134	0.201 mg/L	0.0134	6.71%
Si 251.611†	342601.3	5.91	mg/L	0.134	5.91 mg/L	0.134	2.27%
Sn 189.927†	7289.1	0.471	mg/L	0.0031	0.471 mg/L	0.0031	0.66%
Ti 334.940†	552750.2	0.496	mg/L	0.0027	0.496 mg/L	0.0027	0.54%
Tl 190.801†	1126.9	0.247	mg/L	0.0059	0.247 mg/L	0.0059	2.39%
V 290.880†	141130.9	0.502	mg/L	0.0037	0.502 mg/L	0.0037	0.75%
Zn 206.200†	38892.4	0.484	mg/L	0.0040	0.484 mg/L	0.0040	0.83%
K 766.490†	71390.0	25.9	mg/L	0.24	25.9 mg/L	0.24	0.94%
Na 589.592†	576752.7	28.9	mg/L	0.92	28.9 mg/L	0.92	3.19%
Sr 407.771†	1368340.7	0.570	mg/L	0.0164	0.570 mg/L	0.0164	2.88%
Li 670.784†	67196.1	0.523	mg/L	0.0037	0.523 mg/L	0.0037	0.70%

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Sequence No.: 91 **Autosampler Location: 124**
Sample ID: CCV **Date Collected: 7/24/2012 11:45:19 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: CCV

Analyte	Back Pressure	Flow
All	184.0 kPa	0.50 L/min

Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2665867.6						34611.62	1.30%
YRADIAL	295707.6						5915.16	2.00%
Ga 417.206	1317274.4						6727.71	0.51%
GaRADIAL	80084.1						1424.02	1.78%
Ag 328.068†	145434.5	0.419	mg/L	0.0060	0.419	mg/L	0.0060	1.44%
Al 396.153†	63368.0	9.98	mg/L	0.019	9.98	mg/L	0.019	0.19%
As 188.979†	1771.1	0.401	mg/L	0.0016	0.401	mg/L	0.0016	0.41%
Ba 233.527†	199361.6	0.997	mg/L	0.0050	0.997	mg/L	0.0050	0.50%
Be 234.861†	74401.9	0.0515	mg/L	0.00090	0.0515	mg/L	0.00090	1.75%
B 249.677†	64023.5	0.518	mg/L	0.0143	0.518	mg/L	0.0143	2.76%
Ca 227.546†	4704.5	10.5	mg/L	0.07	10.5	mg/L	0.07	0.69%
Cd 228.802†	3489.2	0.0503	mg/L	0.00098	0.0503	mg/L	0.00098	1.95%
Co 228.616†	10550.6	0.197	mg/L	0.0039	0.197	mg/L	0.0039	2.00%
Cr 267.716†	74500.9	0.501	mg/L	0.0014	0.501	mg/L	0.0014	0.29%
Cu 327.393†	134750.6	0.521	mg/L	0.0094	0.521	mg/L	0.0094	1.80%
Fe 239.562†	62582.3	3.86	mg/L	0.009	3.86	mg/L	0.009	0.23%
Mg 279.077†	36519.1	9.72	mg/L	0.084	9.72	mg/L	0.084	0.86%
Mn 257.610†	469110.6	0.500	mg/L	0.0033	0.500	mg/L	0.0033	0.66%
Mo 202.031†	42206.2	0.983	mg/L	0.0077	0.983	mg/L	0.0077	0.79%
Ni 231.604†	43478.5	0.515	mg/L	0.0091	0.515	mg/L	0.0091	1.76%
Pb 220.353†	8365.5	0.492	mg/L	0.0066	0.492	mg/L	0.0066	1.33%
Sb 206.836†	6595.2	1.22	mg/L	0.009	1.22	mg/L	0.009	0.77%
Se 196.026†	1005.1	0.408	mg/L	0.0013	0.408	mg/L	0.0013	0.32%
Si 251.611†	300305.8	5.17	mg/L	0.079	5.17	mg/L	0.079	1.53%
Sn 189.927†	15194.8	0.981	mg/L	0.0181	0.981	mg/L	0.0181	1.84%

Approved: July 25, 2012
Kim H. Rhoden

Ti 334.940†	1129770.8	0.995	mg/L	0.0014	0.995	mg/L	0.0014	0.14%
Tl 190.801†	2307.3	0.509	mg/L	0.0072	0.509	mg/L	0.0072	1.41%
V 290.880†	279113.2	0.993	mg/L	0.0045	0.993	mg/L	0.0045	0.46%
Zn 206.200†	78919.0	0.985	mg/L	0.0040	0.985	mg/L	0.0040	0.41%
K 766.490†	137700.6	50.2	mg/L	0.35	50.2	mg/L	0.35	0.71%
Na 589.592†	967876.1	49.1	mg/L	1.23	49.1	mg/L	1.23	2.51%
Sr 407.771†	2347651.9	0.981	mg/L	0.0281	0.981	mg/L	0.0281	2.86%
Li 670.784†	130985.8	1.02	mg/L	0.005	1.02	mg/L	0.005	0.49%

Sequence No.: 92
Sample ID: CCB
Analyst: KHR
Initial Sample Wt:
Dilution:

Autosampler Location: 125
Date Collected: 7/24/2012 11:51:17 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: CCB

Analyte	Back Pressure	Flow
All	183.0 kPa	0.50 L/min

Mean Data: CCB

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2793798.4						23905.33	0.86%
YRADIAL	295313.0						186.97	0.06%
Ga 417.206	1385392.7						28487.92	2.06%
GaRADIAL	80896.1						2734.42	3.38%
Ag 328.068†	101.5	-0.00090	mg/L	0.000374	-0.00090	mg/L	0.000374	41.61%
Al 396.153†	8.2	-0.00970	mg/L	0.000077	-0.00970	mg/L	0.000077	0.79%
As 188.979†	3.8	0.00042	mg/L	0.000841	0.00042	mg/L	0.000841	197.95%
Ba 233.527†	36.8	-0.00154	mg/L	0.000064	-0.00154	mg/L	0.000064	4.12%
Be 234.861†	-9.8	-0.00016	mg/L	0.000019	-0.00016	mg/L	0.000019	12.36%
B 249.677†	776.0	0.00540	mg/L	0.000465	0.00540	mg/L	0.000465	8.61%
Ca 227.546†	-0.9	0.0109	mg/L	0.01188	0.0109	mg/L	0.01188	108.75%
Cd 228.802†	2.1	-0.00002	mg/L	0.000032	-0.00002	mg/L	0.000032	136.11%
Co 228.616†	1.1	-0.00025	mg/L	0.000162	-0.00025	mg/L	0.000162	64.90%
Cr 267.716†	11.1	-0.00085	mg/L	0.000039	-0.00085	mg/L	0.000039	4.55%
Cu 327.393†	219.9	-0.00066	mg/L	0.000595	-0.00066	mg/L	0.000595	89.46%
Fe 239.562†	0.2	-0.00061	mg/L	0.000211	-0.00061	mg/L	0.000211	34.50%
Mg 279.077†	-0.8	0.00691	mg/L	0.002487	0.00691	mg/L	0.002487	36.00%
Mn 257.610†	-96.7	-0.00122	mg/L	0.000051	-0.00122	mg/L	0.000051	4.18%
Mo 202.031†	19.2	-0.00083	mg/L	0.000267	-0.00083	mg/L	0.000267	32.23%
Ni 231.604†	29.1	-0.00336	mg/L	0.000115	-0.00336	mg/L	0.000115	3.43%
Pb 220.353†	-3.9	-0.00094	mg/L	0.000596	-0.00094	mg/L	0.000596	63.63%
Sb 206.836†	3.8	-0.00200	mg/L	0.001078	-0.00200	mg/L	0.001078	53.90%
Se 196.026†	-6.1	0.00084	mg/L	0.001749	0.00084	mg/L	0.001749	208.48%
Si 251.611†	200.8	-0.00881	mg/L	0.000770	-0.00881	mg/L	0.000770	8.74%
Sn 189.927†	23.1	0.00097	mg/L	0.000653	0.00097	mg/L	0.000653	67.28%
Ti 334.940†	79.0	0.00009	mg/L	0.000158	0.00009	mg/L	0.000158	181.94%
Tl 190.801†	-6.7	-0.00429	mg/L	0.000175	-0.00429	mg/L	0.000175	4.07%
V 290.880†	-56.6	-0.00087	mg/L	0.000730	-0.00087	mg/L	0.000730	84.35%
Zn 206.200†	114.7	-0.00081	mg/L	0.000047	-0.00081	mg/L	0.000047	5.83%
K 766.490†	30.2	-0.107	mg/L	0.0309	-0.107	mg/L	0.0309	28.88%
Na 589.592†	580.4	0.0360	mg/L	0.00447	0.0360	mg/L	0.00447	12.43%
Sr 407.771†	-24.2	-0.00038	mg/L	0.000011	-0.00038	mg/L	0.000011	2.98%
Li 670.784†	131.7	-0.00321	mg/L	0.000100	-0.00321	mg/L	0.000100	3.11%

Approved: July 25, 2012

Kym H. Rhoden

2.1.2 Metals ICP-MS Data

2.1.2.1 Summary Data

Login Number: L12070507
Department: Metals
Analyst: Ji Hu

METHOD

Preparation: SW-846 3015

Analysis: SW-846 6020

HOLDING TIMES

Sample Preparation: All holding times were met.

Sample Analysis: All holding times were met.

PREPARATION

Sample preparation proceeded normally.

CALIBRATION

Initial Calibration: All acceptance criteria were met.

Alternate Source Standards: All acceptance criteria were met.

Interference Check Standards: All acceptance criteria were met.

Continuing Calibration: All acceptance criteria were met.

Continuing Calibration Blank: All acceptance criteria were met.

Low Level Check: All acceptance criteria were met.

BATCH QA/QC

Method Blank: All acceptance criteria were met.

Laboratory Control Sample: All acceptance criteria were met.

Serial Dilution/Post Digestion Spikes: WG403908 - All acceptance criteria were met.

Matrix Spikes: All acceptance criteria were met.

SAMPLES

Samples: All acceptance criteria were met.

Narrative ID: 50336
Approved By: Sheri Pfalzgraf

Microbac

Lab Report #: L12070507
Lab Project #: 3005.011
Project Name: White Sands MR
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L12070507-01	**PrePrep Method:**	N/A	**Instrument:**	ICP-MS2
Client ID:	MPL23-0712-1	**Prep Method:**	3015	**Prep Date:**	07/19/2012 07:26
Matrix:	Water	**Analytical Method:**	6020	**Cal Date:**	07/20/2012 08:27
Workgroup #:	WG403908	**Analyst:**	JYH	**Run Date:**	07/20/2012 09:46
Collect Date:	07/17/2012 12:42	**Dilution:**	1	**File ID:**	NI.072012.094655
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Antimony, Total	7440-36-0		U	0.00100	0.000500
Arsenic, Total	7440-38-2	0.00187		0.00100	0.000500
Barium, Total	7440-39-3	0.0186		0.00300	0.00150
Cadmium, Total	7440-43-9		U	0.000600	0.000300
Chromium, Total	7440-47-3	0.00484		0.00200	0.00100
Cobalt, Total	7440-48-4		U	0.00100	0.000500
Copper, Total	7440-50-8	0.00149	J	0.00200	0.00100
Lead, Total	7439-92-1		U	0.00100	0.000500
Manganese, Total	7439-96-5	0.00125	J	0.00200	0.00100
Nickel, Total	7440-02-0		U	0.00400	0.00200
Selenium, Total	7782-49-2	0.00217		0.00100	0.000500
Silver, Total	7440-22-4		U	0.00100	0.000500
Thallium, Total	7440-28-0		U	0.000200	0.000100

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

Certificate of Analysis

Sample #:	L12070507-02	**PrePrep Method:**	N/A	**Instrument:**	ICP-MS2
Client ID:	MPL23-0712-2	**Prep Method:**	3015	**Prep Date:**	07/19/2012 07:26
Matrix:	Water	**Analytical Method:**	6020	**Cal Date:**	07/20/2012 08:27
Workgroup #:	WG403908	**Analyst:**	JYH	**Run Date:**	07/20/2012 09:50
Collect Date:	07/17/2012 12:42	**Dilution:**	1	**File ID:**	NI.072012.095005
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Antimony, Total	7440-36-0		U	0.00100	0.000500
Arsenic, Total	7440-38-2	0.00186		0.00100	0.000500
Barium, Total	7440-39-3	0.0176		0.00300	0.00150
Cadmium, Total	7440-43-9		U	0.000600	0.000300
Chromium, Total	7440-47-3	0.00490		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	0.00106	J	0.00200	0.00100
Nickel, Total	7440-02-0		U	0.00400	0.00200
Selenium, Total	7782-49-2	0.00211		0.00100	0.000500
Silver, Total	7440-22-4		U	0.00100	0.000500
Thallium, Total	7440-28-0		U	0.000200	0.000100

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

Certificate of Analysis

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: WG403778
Analyst: VC
Spike Analyst: VC
Run Date: 07/19/2012 07:26
Method: 3015
Balance: BAL016
Instrument: MW-2

SOP: ME407 Revison 12
Spike Solution: STD52132
Spike Witness: REK
HNO3 Lot #: COA16174
Digestion Tubes Lot #: COA16262
MS WG# 401311 SYRINGE FI COA16241

	SAMPLE #	Type	Matrix	Initial Amount	Final Volume	Initial Vessel Wt	Final Vessel Wt	Spike Amount	Due Date
1	WG403778-03	BLANK	1	40 mL	100 mL	209.069 g	209.063 g		
2	WG403778-04	LCS	1	40 mL	100 mL	208.018 g	208.007 g	.25 mL	
3	L12070492-02	SAMP	2	40 mL	100 mL	206.538 g	206.53 g		07/27/12
4	L12070492-04	SAMP	2	40 mL	100 mL	207.018 g	207.011 g		07/27/12
5	WG403778-01	REF	2	40 mL	100 mL	207.449 g	207.43 g		
6	L12070492-06	RS02	2	40 mL	100 mL	207.449 g	207.43 g		07/27/12
7	L12070492-08	SAMP	2	40 mL	100 mL	208.953 g	208.94 g		07/27/12
8	WG403778-02	REF	2	40 mL	100 mL	206.371 g	206.362 g		
9	L12070492-10	SAMP	2	40 mL	100 mL	206.371 g	206.362 g		07/27/12
10	L12070492-12	SAMP	2	40 mL	100 mL	206.064 g	206.047 g		07/27/12
11	WG403778-05	MS	2	40 mL	100 mL	207.419 g	207.415 g	.25 mL	
12	L12070492-14	MS02	2	40 mL	100 mL	207.419 g	207.415 g	.25 mL	07/27/12
13	WG403778-06	MSD	2	40 mL	100 mL	209.95 g	209.929 g	.25 mL	
14	L12070492-16	SD02	2	40 mL	100 mL	209.95 g	209.929 g	.25 mL	07/27/12
15	L12070493-01	SAMP	2	40 mL	100 mL	208.705 g	208.699 g		07/27/12
16	L12070504-06	SAMP	1	40 mL	100 mL	207.795 g	207.779 g		07/27/12
17	L12070504-07	SAMP	1	40 mL	100 mL	207.756 g	207.742 g		07/27/12
18	L12070504-08	SAMP	1	40 mL	100 mL	206.291 g	206.284 g		07/27/12
19	L12070504-09	SAMP	1	40 mL	100 mL	207.414 g	207.383 g		07/27/12
20	L12070504-10	SAMP	1	40 mL	100 mL	207.593 g	207.549 g		07/27/12
21	L12070504-11	SAMP	1	40 mL	100 mL	208.978 g	208.96 g		07/27/12
22	L12070504-12	SAMP	1	40 mL	100 mL	209.013 g	209.006 g		07/27/12
23	L12070504-13	SAMP	1	40 mL	100 mL	206.861 g	206.853 g		07/27/12
24	L12070507-01	SAMP	1	40 mL	100 mL	207.6 g	207.575 g		07/27/12
25	L12070507-02	SAMP	1	40 mL	100 mL	206.145 g	206.131 g		07/27/12
26	L12070516-01	SAMP	1	40 mL	100 mL	206.376 g	206.367 g		07/25/12
27	L12070516-02	SAMP	1	40 mL	100 mL	206.393 g	206.376 g		07/25/12
28	WG403778-07	DUP	1	40 mL	100 mL	206.897 g	206.891 g		

Analyst: Vicki Collins

Reviewer:

MW_DIG - Modified 09/30/2009
PDF ID: 2503605
Report generated: 07/19/2012 09:03

Microbac Laboratories Inc.

Instrument Run Log

Instrument: ICP-MS2 Dataset: 072012A.REP
Analyst1: JYH Analyst2: N/A
Method: 6020 SOP: ME700A Rev:
Maintenance Log ID: 42546

Calibration Std: STD52815 ICV Std: STD52584 Post Spike: STD47984
ICSA: STD52753 ICSAB: STD52589 Int. Std: RGT17307
CCV: STD52697 LLCCV: STD52696

Workgroups: 403908, 403596, 403929, 403863

Comments:

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
1	NI.072012.081458	Blank	Blank		1		07/20/12 08:14
2	NI.072012.081809	WG403982-01	Calibration Point		1		07/20/12 08:18
3	NI.072012.082119	WG403982-02	Calibration Point		1		07/20/12 08:21
4	NI.072012.082430	WG403982-03	Calibration Point		1		07/20/12 08:24
5	NI.072012.082740	WG403982-04	Calibration Point		1		07/20/12 08:27
6	NI.072012.083053	WG403982-05	Initial Calibration Verification		1		07/20/12 08:30
7	NI.072012.083404	WG403982-06	Initial Calib Blank		1		07/20/12 08:34
8	NI.072012.083716	WG403982-07	Low Level Initial Calibration V		1		07/20/12 08:37
9	NI.072012.084025	WG403982-08	Interference Check		1		07/20/12 08:40
10	NI.072012.084334	WG403982-09	Interference Check		1		07/20/12 08:43
11	NI.072012.084646	WG403982-10	CCV		1		07/20/12 08:46
12	NI.072012.084957	WG403982-11	CCB		1		07/20/12 08:49
13	NI.072012.085309	WG403778-03	Method/Prep Blank	40/100	1		07/20/12 08:53
14	NI.072012.085619	WG403778-04	Laboratory Control S	40/100	1		07/20/12 08:56
15	NI.072012.085929	L12070516-01	Q/A MW570-2	40/100	1		07/20/12 08:59
16	NI.072012.090239	L12070516-02	FB MICROBAC-2	40/100	1		07/20/12 09:02
17	NI.072012.090547	WG403778-01	Reference Sample		1	L12070492-06	07/20/12 09:05
18	NI.072012.090857	WG403778-05	Matrix Spike	40/100	1	L12070492-06	07/20/12 09:08
19	NI.072012.091206	WG403778-06	Matrix Spike Duplica	40/100	1	L12070492-06	07/20/12 09:12
20	NI.072012.091514	L12070492-02	LCL-G-MW11A-DIS	40/100	1		07/20/12 09:15
21	NI.072012.091825	WG403908-01	Post Digestion Spike		1	L12070492-02	07/20/12 09:18
22	NI.072012.092134	WG403908-02	Serial Dilution		5	L12070492-02	07/20/12 09:21
23	NI.072012.092446	WG403982-12	CCV		1		07/20/12 09:24
24	NI.072012.092756	WG403982-13	CCB		1		07/20/12 09:27
25	NI.072012.093109	L12070492-04	LCL-G-MW11A-DIS-DUP	40/100	1		07/20/12 09:31
26	NI.072012.093419	L12070492-08	LCL-G-MW13B-DIS	40/100	1		07/20/12 09:34
27	NI.072012.093728	WG403778-02	Reference Sample		1	L12070492-10	07/20/12 09:37
28	NI.072012.094037	WG403778-07	Duplicate	40/100	1	L12070492-10	07/20/12 09:40
29	NI.072012.094346	L12070492-12	LCL-K-EQBLK-1-DIS	40/100	1		07/20/12 09:43
30	NI.072012.094655	L12070507-01	MPL23-0712-1	40/100	1		07/20/12 09:46
31	NI.072012.095005	L12070507-02	MPL23-0712-2	40/100	1		07/20/12 09:50
32	NI.072012.095436	L12070492-02	LCL-G-MW11A-DIS	40/100	50		07/20/12 09:54
33	NI.072012.095747	WG403908-01	Post Digestion Spike		50	L12070492-02	07/20/12 09:57
34	NI.072012.100056	WG403908-02	Serial Dilution		250	L12070492-02	07/20/12 10:00

Page: 1 Approved: July 24, 2012

Maren Berry

Microbac Laboratories Inc.

Instrument Run Log

Instrument: ICP-MS2 Dataset: 072012A.REP
Analyst1: JYH Analyst2: N/A
Method: 6020 SOP: ME700A Rev:
Maintenance Log ID: 42546

Calibration Std: STD52815 ICV Std: STD52584 Post Spike: STD47984
ICSA: STD52753 ICSAB: STD52589 Int. Std: RGT17307
CCV: STD52697 LLCCV: STD52696

Workgroups: 403908, 403596, 403929, 403863

Comments:

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
35	NI.072012.100409	WG403982-14	CCV		1		07/20/12 10:04
36	NI.072012.100719	WG403982-15	CCB		1		07/20/12 10:07
37	NI.072012.101239	L12070493-01	LCL-Z-LM1	40/100	5		07/20/12 10:12
38	NI.072012.101639	L12070504-06	LF30/31-PW5-16JULY2012	40/100	1		07/20/12 10:16
39	NI.072012.101947	L12070504-07	LF30/31-PW4-16JULY2012	40/100	1		07/20/12 10:19
40	NI.072012.102258	L12070504-08	LF30/31-PW3-16JULY2012	40/100	1		07/20/12 10:22
41	NI.072012.102607	L12070504-09	LF30/31-PW2-16JULY2012	40/100	1		07/20/12 10:26
42	NI.072012.102917	L12070504-10	LF30/31-PW6-16JULY2012	40/100	1		07/20/12 10:29
43	NI.072012.103227	L12070504-11	LF30/31-PW7-16JULY2012	40/100	1		07/20/12 10:32
44	NI.072012.103537	L12070504-12	LF30/31-PW8-16JULY2012	40/100	1		07/20/12 10:35
45	NI.072012.103847	L12070504-13	LF30/31-PW9-16JULY2012	40/100	1		07/20/12 10:38
46	NI.072012.104158	WG403982-16	CCV		1		07/20/12 10:41
47	NI.072012.104508	WG403982-17	CCB		1		07/20/12 10:45
48	NI.072012.104820	L12070434-03	CO-85	.5/200	5		07/20/12 10:48
49	NI.072012.105130	WG403596-01	Post Digestion Spike		5	L12070434-03	07/20/12 10:51
50	NI.072012.105634	WG403596-02	Serial Dilution		25	L12070434-03	07/20/12 10:56
51	NI.072012.105945	WG403982-18	Interference Check		1		07/20/12 10:59
52	NI.072012.110254	WG403982-19	Interference Check		1		07/20/12 11:02
53	NI.072012.110605	WG403982-20	CCV		1		07/20/12 11:06
54	NI.072012.110915	WG403982-21	CCB		1		07/20/12 11:09
55	NI.072012.111704	WG403458-02	Method/Prep Blank	40/100	1		07/20/12 11:17
56	NI.072012.112014	WG403459-03	Reference Sample	40/100	1	L12070405-07	07/20/12 11:20
57	NI.072012.112324	L12070356-08	PTO-EB01-071112	40/100	1		07/20/12 11:23
58	NI.072012.112633	L12070360-02	PTO-EB01-071212	40/100	1		07/20/12 11:26
59	NI.072012.112943	WG403458-01	Reference Sample		1	L12070425-02	07/20/12 11:29
60	NI.072012.113253	WG403458-04	Matrix Spike	40/100	1	L12070425-02	07/20/12 11:32
61	NI.072012.113602	WG403458-05	Matrix Spike Duplica	40/100	1	L12070425-02	07/20/12 11:36
62	NI.072012.113912	L12070425-01	MPL29-0712-1	40/100	1		07/20/12 11:39
63	NI.072012.114222	WG403929-01	Post Digestion Spike		1	L12070425-01	07/20/12 11:42
64	NI.072012.114531	WG403929-02	Serial Dilution		5	L12070425-01	07/20/12 11:45
65	NI.072012.114843	WG403982-22	CCV		1		07/20/12 11:48
66	NI.072012.115153	WG403982-23	CCB		1		07/20/12 11:51
67	NI.072012.115506	L12070401-01	C\&B LEEK W1	40/100	1		07/20/12 11:55
68	NI.072012.115815	L12070401-03	E\&D COLLINS W-1	40/100	1		07/20/12 11:58

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Maren Berry

Microbac

Microbac Laboratories Inc.

Instrument Run Log

Instrument: ICP-MS2 Dataset: 072012A.REP
Analyst1: JYH Analyst2: N/A
Method: 6020 SOP: ME700A Rev:
Maintenance Log ID: 42546

Calibration Std: STD52815 ICV Std: STD52584 Post Spike: STD47984
ICSA: STD52753 ICSAB: STD52589 Int. Std: RGT17307
CCV: STD52697 LLCCV: STD52696

Workgroups: 403908, 403596, 403929, 403863

Comments:

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
69	NI.072012.120125	L12070401-05	D NEFF W1	40/100	1		07/20/12 12:01
70	NI.072012.120435	L12070401-07	AS JENNA DS-1	40/100	1		07/20/12 12:04
71	NI.072012.120745	L12070401-09	AS GREEK RUIN DS-2	40/100	1		07/20/12 12:07
72	NI.072012.121055	L12070401-11	D SNOW W-1	40/100	1		07/20/12 12:10
73	NI.072012.121405	L12070401-13	T\&B JONES W-1	40/100	1		07/20/12 12:14
74	NI.072012.121717	WG403982-24	Interference Check		1		07/20/12 12:17
75	NI.072012.122028	WG403982-25	Interference Check		1		07/20/12 12:20
76	NI.072012.122339	WG403982-26	CCV		1		07/20/12 12:23
77	NI.072012.122650	WG403982-27	CCB		1		07/20/12 12:26
78	NI.072012.123002	WG403982-28	Low Level Continuing Calibra		1		07/20/12 12:30
79	NI.072012.123950	WG403843-03	Method/Prep Blank	40/100	1		07/20/12 12:39
80	NI.072012.124300	WG403843-04	Laboratory Control S	40/100	1		07/20/12 12:43
81	NI.072012.124610	L12070515-02	OUTFALL003-120717	40/100	1		07/20/12 12:46
82	NI.072012.124919	L12070515-03	OUTFALL001-120717	40/100	1		07/20/12 12:49
83	NI.072012.125229	L12070534-02	LCL-G-MW4-DIS		1	WG403843-01	07/20/12 12:52
84	NI.072012.125539	L12070534-14	LCL-G-MW4-MS-DIS	40/100	1	WG403843-05	07/20/12 12:55
85	NI.072012.125850	L12070534-16	LCL-G-MW4-MSD-DIS	40/100	1	WG403843-06	07/20/12 12:58
86	NI.072012.130200	L12070534-06	LCL-G-MW6-DIS	40/100	1		07/20/12 13:02
87	NI.072012.130509	WG403863-01	Post Digestion Spike		1	L12070534-06	07/20/12 13:05
88	NI.072012.131044	WG403863-02	Serial Dilution		5	L12070534-06	07/20/12 13:10
89	NI.072012.131357	WG403982-29	CCV		1		07/20/12 13:13
90	NI.072012.131708	WG403982-30	CCB		1		07/20/12 13:17
91	NI.072012.132021	L12070528-01	1213PWT005-INF	40/100	1		07/20/12 13:20
92	NI.072012.132330	L12070528-02	1213PWT005-INF	40/100	1		07/20/12 13:23
93	NI.072012.132640	WG403843-07	Duplicate	40/100	1	L12070534-02	07/20/12 13:26
94	NI.072012.132950	L12070534-08	LCL-G-MW9-DIS	40/100	1		07/20/12 13:29
95	NI.072012.133259	L12070534-10	LCL-G-MW10-DIS	40/100	1		07/20/12 13:32
96	NI.072012.133609	L12070534-12	LCL-K-EQBLK-1-DIS	40/100	1		07/20/12 13:36
97	NI.072012.133920	WG403982-31	CCV		1		07/20/12 13:39
98	NI.072012.134230	WG403982-32	CCB		1		07/20/12 13:42
99	NI.072012.134543	WG403982-33	Low Level Continuing Calibra		1		07/20/12 13:45
100	NI.072012.135418	WG403982-34	CCV		1		07/20/12 13:54
101	NI.072012.135733	WG403982-35	CCB		1		07/20/12 13:57
102	NI.072012.140528	L12070528-01	1213PWT005-INF	40/100	100		07/20/12 14:05

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Marcu Berry

Microbac Laboratories Inc.

Instrument Run Log

Instrument: ICP-MS2 Dataset: 072012A.REP
Analyst1: JYH Analyst2: N/A
Method: 6020 SOP: ME700A Rev:
Maintenance Log ID: 42546

Calibration Std: STD52815 ICV Std: STD52584 Post Spike: STD47984
ICSA: STD52753 ICSAB: STD52589 Int. Std: RGT17307
CCV: STD52697 LLCCV: STD52696

Workgroups: 403908, 403596, 403929, 403863

Comments:

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
103	NI.072012.141156	L12070528-02	1213PWT005-INF		100		07/20/12 14:11
104	NI.072012.141508	WG403982-36	CCV		1		07/20/12 14:15
105	NI.072012.141818	WG403982-37	CCB		1		07/20/12 14:18

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Marcu Berry

Microbac Laboratories Inc.

Data Checklist

Date: 20-JUL-2012
Analyst: JYH
Analyst: NA
Method: 6020
Instrument: ICP-MS2
Curve Workgroup: 403982
Runlog ID: 47948
Analytical Workgroups: 403908, 403596, 403929, 403863

Calibration/Linearity	X
ICV/CCV	X
ICV RSD <= 3% (EPA 200.7 only)	X
ICB/CCB	X
ICSA/ICSAB	X
CRI	X
Blank/LCS	X
MS/MSD	X
Post Spike/Serial Dilution	X
Upload Results	X
Data Qualifiers	
Generate PDF Instrument Data	X
Sign/Annotate PDF Data	X
Upload Curve Data	X
Workgroup Forms	X
Case Narrative	0492, 0493, 0504, 0507, 0516, 0434,
	0356, 0360, 0401, 0425, 0515, 0528,
	0534
Client Forms	X
Level X	
Level 3	0434, 0356, 0360, 0515, 0528
Level 4	0504, 0507, 05165, 0401, 0425
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	SLP
Secondary Reviewer	MMB
Comments	

Primary Reviewer: 23-JUL-2012
Secondary Reviewer: 24-JUL-2012

CHECKLIST1 - Modified 03/05/2008
Generated: JUL-24-2012 13:55:44

Microbac Laboratories Inc.

HOLDING TIMES
EQUIVALENT TO AFCEE FORM 9

Analytical Method: 6020 AAB#: WG403908

Login Number: L12070507

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
MPL23-0712-1	01	07/17/12					07/19/2012	1.8	180		07/20/12	2.9	180	
MPL23-0712-2	02	07/17/12					07/19/2012	1.8	180		07/20/12	2.9	180	

* = SEE PROJECT QAPP REQUIREMENTS

HOLD_TIMES - Modified 03/06/2008
PDF File ID: 2506988
Report generated 07/20/2012 12:16

Microbac Laboratories Inc.

METHOD BLANK SUMMARY

Login Number: L12070507
Blank File ID: NI.072012.085309
Prep Date: 07/19/12 07:26
Analyzed Date: 07/20/12 08:53
Analyst: JYH

Work Group: WG403908
Blank Sample ID: WG403778-03
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	WG403778-04	NI.072012.085619	07/20/12 08:56	01
DUP	WG403778-07	NI.072012.094037	07/20/12 09:40	01
MPL23-0712-1	L12070507-01	NI.072012.094655	07/20/12 09:46	01
MPL23-0712-2	L12070507-02	NI.072012.095005	07/20/12 09:50	01

Report Name: BLANK_SUMMARY
PDF File ID: 2506989
Report generated 07/20/2012 13:19

Microbac Laboratories Inc.

METHOD BLANK REPORT

Login Number: L12070507 Prep Date: 07/19/12 07:26 Sample ID: WG403778-03
Instrument ID: ICP-MS2 Run Date: 07/20/12 08:53 Prep Method: 3015
File ID: NI.072012.085309 Analyst: JYH Method: 6020
Workgroup (AAB#): WG403908 Matrix: Water Units: mg/L
Contract #: Cal ID: ICP-MS-20-JUL-12

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: 2506990
20-JUL-2012 13:19

Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L12070507 Run Date: 07/20/2012 Sample ID: WG403778-04
Instrument ID: ICP-MS2 Run Time: 08:56 Prep Method: 3015
File ID: NI.072012.085619 Analyst: JYH Method: 6020
Workgroup (AAB#): WG403908 Matrix: Water Units: mg/L
QC Key: DOD4 Lot#: STD52132 Cal ID: ICP-MS-20-JUL-12

Analytes	Expected	Found	% Rec	LCS Limits	Q
Antimony, Total	0.0625	0.0598	95.8	80 - 120	
Arsenic, Total	0.0625	0.0599	95.8	80 - 120	
Barium, Total	0.0625	0.0608	97.3	80 - 120	
Cadmium, Total	0.0625	0.0625	99.9	80 - 120	
Chromium, Total	0.0625	0.0631	101	80 - 120	
Cobalt, Total	0.0625	0.0636	102	80 - 120	
Copper, Total	0.0625	0.0654	105	80 - 120	
Lead, Total	0.0625	0.0636	102	80 - 120	
Manganese, Total	0.0625	0.0650	104	80 - 120	
Nickel, Total	0.0625	0.0647	103	80 - 120	
Selenium, Total	0.0625	0.0590	94.5	80 - 120	
Silver, Total	0.0625	0.0653	104	80 - 120	
Thallium, Total	0.0625	0.0629	101	80 - 120	

LCS - Modified 03/06/2008
PDF File ID: 2506991
Report generated: 07/20/2012 13:19

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

Loginnum: L12070507 Cal ID: ICP-MS2- Worknum: WG403908
Instrument ID: ICP-MS2 Contract #: Method: 6020
Parent ID: WG403778-01 File ID: NI.072012.090547 Dil: 1 Matrix: WATER
Sample ID: WG403778-05 MS File ID: NI.072012.090857 Dil: 1 Units: mg/L
Sample ID: WG403778-06 MSD File ID: NI.072012.091206 Dil: 1

Analyte	Parent	MS Spiked	MS Found	MS %Rec	MSD Spiked	MSD Found	MSD %Rec	%RPD	%Rec Limits	RPD Limit	Q
Antimony, Dissolved	ND	0.0625	0.0651	104	0.0625	0.0642	103	1.31	80 - 120	20	
Arsenic, Dissolved	0.0186	0.0625	0.0875	110	0.0625	0.0868	109	0.835	80 - 120	20	
Barium, Dissolved	0.0483	0.0625	0.113	104	0.0625	0.112	102	0.734	80 - 120	20	
Cadmium, Dissolved	ND	0.0625	0.0660	106	0.0625	0.0655	105	0.815	80 - 120	20	
Chromium, Dissolved	0.00230	0.0625	0.0666	103	0.0625	0.0672	104	0.900	80 - 120	20	
Cobalt, Dissolved	ND	0.0625	0.0667	107	0.0625	0.0665	106	0.311	80 - 120	20	
Copper, Dissolved	0.00124	0.0625	0.0646	101	0.0625	0.0634	99.5	1.78	80 - 120	20	
Lead, Dissolved	ND	0.0625	0.0662	106	0.0625	0.0650	104	1.92	80 - 120	20	
Manganese, Dissolved	0.00207	0.0625	0.0712	111	0.0625	0.0690	107	3.14	80 - 120	20	
Nickel, Dissolved	ND	0.0625	0.0632	101	0.0625	0.0633	101	0.108	80 - 120	20	
Selenium, Dissolved	0.00160	0.0625	0.0726	114	0.0625	0.0722	113	0.526	80 - 120	20	
Silver, Dissolved	ND	0.0625	0.0661	106	0.0625	0.0655	105	0.846	80 - 120	20	
Thallium, Dissolved	ND	0.0625	0.0659	105	0.0625	0.0643	103	2.46	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: 2510009
Report generated 07/23/2012 11:27

Microbac Laboratories Inc.
Serial Dilution Report

Login: L12070507 **Worknum:** WG403908
Instrument: ICP-MS2 **Method:** 6020
Serial Dil: WG403908-02 **File ID:** NI.072012.092134 **Dil:** 5 **Units:** ug/L
Sample: L12070492-02 **File ID:** NI.072012.091514 **Dil:** 1

Analyte	Sample	Qual	Serial Dil	Qual	% Diff	Q
Antimony	ND	U	ND	U		
Arsenic	3.16	X	3.14	X	0.78	
Barium	108		106		1.65	
Cadmium	ND	U	ND	U		
Chromium	0.669	F	ND	U		
Cobalt	ND	U	ND	U		
Copper	ND	U	ND	U		
Lead	ND	U	ND	U		
Manganese	758		756		0.30	
Nickel	ND	U	ND	U		
Selenium	1.41	X	2.14	X	52.10	
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: 2506985
07/20/2012 13:19

Microbac Laboratories Inc.
Serial Dilution Report

Login: L12070507 **Worknum:** WG403908
Instrument: ICP-MS2 **Method:** 6020
Serial Dil: WG403908-02 **File ID:** NI.072012.100056 **Dil:** 250 **Units:** ug/L
Sample: L12070492-02 **File ID:** NI.072012.095436 **Dil:** 50

Analyte	Sample	Qual	Serial Dil	Qual	% Diff	Q
Antimony	ND	U	64.7	F	*******	
Arsenic	ND	U	ND	U		
Barium	104	X	ND	U		
Cadmium	ND	U	ND	U		
Chromium	ND	U	ND	U		
Cobalt	ND	U	ND	U		
Copper	ND	U	ND	U		
Lead	ND	U	ND	U		
Manganese	775	X	787	X	1.54	
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: 2506985
07/20/2012 13:19

Microbac Laboratories Inc.
POST SPIKE REPORT

Sample Login ID: L12070507 **Worknum:** WG403908
Instrument ID: ICP-MS2 **Method:** 6020
Post Spike ID: WG403908-01 **File ID:** NI.072012.091825 **Dil:** 1 **Units:** ug/L
Sample ID: L12070492-02 **File ID:** NI.072012.091514 **Dil:** 1 **Matrix:** Water

Analyte	Post Spike Result	C	Sample Result	C	Spike Added(SA)	% R	Control Limit %R	Q
ANTIMONY	50.0		0	U	50	100.1	75 - 125	
ARSENIC	54.5		3.16		50	102.7	75 - 125	
BARIUM	154		108		50	92.5	75 - 125	
CADMIUM	51.3		0	U	50	102.6	75 - 125	
CHROMIUM	50.0		0.669	F	50	98.7	75 - 125	
COBALT	51.8		0	U	50	103.5	75 - 125	
COPPER	48.4		0	U	50	96.8	75 - 125	
LEAD	49.9		0	U	50	99.8	75 - 125	
MANGANESE	811		758		50	106.1	75 - 125	
NICKEL	48.8		0	U	50	97.5	75 - 125	
SELENIUM	54.1		1.41		50	105.4	75 - 125	
SILVER	53.9		0	U	50	107.8	75 - 125	
THALLIUM	50.1		0	U	50	100.3	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: 2506986
Report generated: 07/20/2012 13:25

Microbac Laboratories Inc.
POST SPIKE REPORT

Sample Login ID: L12070507 **Worknum:** WG403908
Instrument ID: ICP-MS2 **Method:** 6020
Post Spike ID: WG403908-01 **File ID:** NI.072012.095747 **Dil:** 50 **Units:** ug/L
Sample ID: L12070492-02 **File ID:** NI.072012.095436 **Dil:** 50 **Matrix:** Water

Analyte	Post Spike Result	C	Sample Result	C	Spike Added(SA)	% R	Control Limit %R	Q
ANTIMONY	51.5		0	U	50	103.0	75 - 125	
ARSENIC	55.7		0	U	50	111.5	75 - 125	
BARIUM	51.3		2.09		50	98.5	75 - 125	
CADMIUM	54.9		0	U	50	109.9	75 - 125	
CHROMIUM	48.4		0	U	50	96.8	75 - 125	
COBALT	50.2		0	U	50	100.4	75 - 125	
COPPER	50.9		0	U	50	101.8	75 - 125	
LEAD	47.9		0	U	50	95.8	75 - 125	
MANGANESE	65.2		15.5		50	99.4	75 - 125	
NICKEL	49.4		0	U	50	98.9	75 - 125	
SELENIUM	65.8		0	U	50	131.5	75 - 125	N
SILVER	53.8		0	U	50	107.6	75 - 125	
THALLIUM	47.1		0	U	50	94.3	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: 2506986
Report generated: 07/20/2012 13:25

Microbac Laboratories Inc.
Initial Calibration Summary

Login:	L12070507	Workgroup (AAB#):	WG403908
Analytical Method:	6020	Instrument ID:	ICP-MS2
ICAL Worknum:	WG403982	Initial Calibration Date:	20-JUL-2012 08:27

	WG403982-01		WG403982-02		WG403982-03		WG403982-04			
	Conc	INT	Conc	INT	Conc	INT	Conc	INT	R	Q
ANTIMONY	0	24.5	.4	569	50	541000	100	1060000	.999995	
ARSENIC	0	-189	.4	-127	50	54600	100	108000	.999995	
BARIUM	0	22.7	.4	294	50	239000	100	465000	.999983	
CADMIUM	0	73.3	.4	297	50	214000	100	414000	.99996	
CHROMIUM	0	8570	.4	8990	50	446000	100	863000	.999944	
COBALT	0	92.7	.4	639	50	526000	100	1020000	.999932	
COPPER	0	83.3	.4	196	50	119000	100	234000	.999965	
LEAD	0	1520	.4	4380	50	2720000	100	5210000	.999993	
MANGANESE	0	1110	.4	1920	50	779000	100	1520000	.999951	
NICKEL	0	55.3	.4	186	50	131000	100	254000	.999919	
SELENIUM	0	14.0	.4	22.5	50	5460	100	10800	.999998	
SILVER	0	73.7	.4	471	50	402000	100	775000	.999938	
THALLIUM	0	1.70	.4	955	50	896000	100	1740000	.999998	

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: 2506995
Report generated: 20-JUL-2012 12:16

Microbac Laboratories Inc.
INITIAL CALIBRATION BLANK (ICB)

Login Number: L12070507
Run Date: 07/20/2012
Sample ID: WG403982-06
Instrument ID: ICP-MS2
Run Time: 08:34
Method: 6020
File ID: NI.072012.083404
Analyst: JYH
Units: ug/L
Workgroup (AAB#): WG403908
Cal ID: ICP-MS2 - 20-JUL-12
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: 2506998
Report generated 07/20/2012 12:16

Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L12070507
Run Date: 07/20/2012
Sample ID: WG403982-11
Instrument ID: ICP-MS2
Run Time: 08:49
Method: 6020
File ID: NI.072012.084957
Analyst: JYH
Units: ug/L
Workgroup (AAB#): WG403908
Cal ID: ICP-MS - 20-JUL-12
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: 2507001
Report generated 07/20/2012 12:16

Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L12070507
Run Date: 07/20/2012
Sample ID: WG403982-13
Instrument ID: ICP-MS2
Run Time: 09:27
Method: 6020
File ID: NI.072012.092756
Analyst: JYH
Units: ug/L
Workgroup (AAB#): WG403908
Cal ID: ICP-MS - 20-JUL-12
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: 2507001
Report generated 07/20/2012 12:16

Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L12070507
Run Date: 07/20/2012
Sample ID: WG403982-15
Instrument ID: ICP-MS2
Run Time: 10:07
Method: 6020
File ID: NI.072012.100719
Analyst: JYH
Units: ug/L
Workgroup (AAB#): WG403908
Cal ID: ICP-MS - 20-JUL-12
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: 2507001
Report generated 07/20/2012 12:16

Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L12070507
Run Date: 07/20/2012
Sample ID: WG403982-17
Instrument ID: ICP-MS2
Run Time: 10:45
Method: 6020
File ID: NI.072012.104508
Analyst: JYH
Units: ug/L
Workgroup (AAB#): WG403908
Cal ID: ICP-MS - 20-JUL-12
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: 2507001
Report generated 07/20/2012 12:16

Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L12070507
Run Date: 07/20/2012
Sample ID: WG403982-21
Instrument ID: ICP-MS2
Run Time: 11:09
Method: 6020
File ID: NI.072012.110915
Analyst: JYH
Units: ug/L
Workgroup (AAB#): WG403908
Cal ID: ICP-MS - 20-JUL-12
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: 2507001
Report generated 07/20/2012 12:16

Microbac Laboratories Inc.

INITIAL CALIBRATION VERIFICATION (ICV)
(Alternate Source)

Login Number: L12070507 Run Date: 07/20/2012 Sample ID: WG403982-05
Instrument ID: ICP-MS2 Run Time: 08:30 Method: 6020
File ID: NI.072012.083053 Analyst: JYH Units: ug/L
Workgroup (AAB#): WG403908 Cal ID: ICP-MS - 20-JUL-12
QC Key: DOD4

Analyte		Expected	Found	%REC	LIMITS	Q
Antimony		50	50.0	100	90 - 110	
Arsenic		50	50.8	102	90 - 110	
Barium		50	50.3	101	90 - 110	
Cadmium		50	49.9	99.8	90 - 110	
Chromium		50	50.4	101	90 - 110	
Cobalt		50	49.9	99.8	90 - 110	
Copper		50	51.3	103	90 - 110	
Lead		50	49.7	99.5	90 - 110	
Manganese		50	50.4	101	90 - 110	
Nickel		50	50.1	100	90 - 110	
Selenium		50	51.1	102	90 - 110	
Silver		50	49.6	99.1	90 - 110	
Thallium		50	49.7	99.5	90 - 110	

* Exceeds LIMITS Limit

ICV - Modified 03/06/2008
PDF File ID: 2506997
Report generated 07/20/2012 12:16

Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12070507
Run Date: 07/20/2012
Sample ID: WG403982-10
Instrument ID: ICP-MS2
Run Time: 08:46
Method: 6020
File ID: NI.072012.084646
Analyst: JYH
QC Key: DOD4
Workgroup (AAB#): WG403908
Cal ID: ICP-MS - 20-JUL-12
Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Antimony		50.0	50.0	ug/L	100	90 - 110		
Arsenic		50.0	49.8	ug/L	99.5	90 - 110		
Barium		50.0	49.1	ug/L	98.3	90 - 110		
Cadmium		50.0	51.2	ug/L	102	90 - 110		
Chromium		50.0	49.7	ug/L	99.5	90 - 110		
Cobalt		50.0	50.1	ug/L	100	90 - 110		
Copper		50.0	50.4	ug/L	101	90 - 110		
Lead		50.0	50.0	ug/L	100	90 - 110		
Manganese		50.0	50.6	ug/L	101	90 - 110		
Nickel		50.0	49.7	ug/L	99.4	90 - 110		
Selenium		50.0	50.7	ug/L	101	90 - 110		
Silver		50.0	52.3	ug/L	105	90 - 110		
Thallium		50.0	49.6	ug/L	99.2	90 - 110		

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008
PDF File ID: 2507000
Report generated 07/20/2012 12:16

Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12070507
Run Date: 07/20/2012
Sample ID: WG403982-12
Instrument ID: ICP-MS2
Run Time: 09:24
Method: 6020
File ID: NI.072012.092446
Analyst: JYH
QC Key: DOD4
Workgroup (AAB#): WG403908
Cal ID: ICP-MS - 20-JUL-12
Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Antimony		50.0	49.5	ug/L	98.9	90 - 110		
Arsenic		50.0	50.0	ug/L	100	90 - 110		
Barium		50.0	48.3	ug/L	96.6	90 - 110		
Cadmium		50.0	50.9	ug/L	102	90 - 110		
Chromium		50.0	50.3	ug/L	101	90 - 110		
Cobalt		50.0	52.0	ug/L	104	90 - 110		
Copper		50.0	50.5	ug/L	101	90 - 110		
Lead		50.0	49.8	ug/L	99.5	90 - 110		
Manganese		50.0	52.3	ug/L	105	90 - 110		
Nickel		50.0	50.2	ug/L	100	90 - 110		
Selenium		50.0	51.7	ug/L	103	90 - 110		
Silver		50.0	53.0	ug/L	106	90 - 110		
Thallium		50.0	49.8	ug/L	99.5	90 - 110		

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008
PDF File ID: 2507000
Report generated 07/20/2012 12:16

Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12070507
Run Date: 07/20/2012
Sample ID: WG403982-14
Instrument ID: ICP-MS2
Run Time: 10:04
Method: 6020
File ID: NI.072012.100409
Analyst: JYH
QC Key: DOD4
Workgroup (AAB#): WG403908
Cal ID: ICP-MS - 20-JUL-12
Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Antimony		50.0	49.1	ug/L	98.3	90 - 110		
Arsenic		50.0	50.4	ug/L	101	90 - 110		
Barium		50.0	48.1	ug/L	96.2	90 - 110		
Cadmium		50.0	50.4	ug/L	101	90 - 110		
Chromium		50.0	50.7	ug/L	101	90 - 110		
Cobalt		50.0	51.2	ug/L	102	90 - 110		
Copper		50.0	50.7	ug/L	101	90 - 110		
Lead		50.0	49.6	ug/L	99.3	90 - 110		
Manganese		50.0	52.0	ug/L	104	90 - 110		
Nickel		50.0	50.2	ug/L	100	90 - 110		
Selenium		50.0	51.6	ug/L	103	90 - 110		
Silver		50.0	51.1	ug/L	102	90 - 110		
Thallium		50.0	49.5	ug/L	98.9	90 - 110		

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008
PDF File ID: 2507000
Report generated 07/20/2012 12:16

Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12070507
Run Date: 07/20/2012
Sample ID: WG403982-16
Instrument ID: ICP-MS2
Run Time: 10:41
Method: 6020
File ID: NI.072012.104158
Analyst: JYH
QC Key: DOD4
Workgroup (AAB#): WG403908
Cal ID: ICP-MS - 20-JUL-12
Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Antimony		50.0	49.5	ug/L	99.0	90 - 110		
Arsenic		50.0	50.0	ug/L	100	90 - 110		
Barium		50.0	48.2	ug/L	96.4	90 - 110		
Cadmium		50.0	50.5	ug/L	101	90 - 110		
Chromium		50.0	50.7	ug/L	101	90 - 110		
Cobalt		50.0	50.7	ug/L	101	90 - 110		
Copper		50.0	50.4	ug/L	101	90 - 110		
Lead		50.0	50.0	ug/L	100	90 - 110		
Manganese		50.0	51.7	ug/L	103	90 - 110		
Nickel		50.0	49.5	ug/L	99.1	90 - 110		
Selenium		50.0	51.1	ug/L	102	90 - 110		
Silver		50.0	50.2	ug/L	100	90 - 110		
Thallium		50.0	49.7	ug/L	99.5	90 - 110		

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008
PDF File ID: 2507000
Report generated 07/20/2012 12:16

Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12070507
Run Date: 07/20/2012
Sample ID: WG403982-20
Instrument ID: ICP-MS2
Run Time: 11:06
Method: 6020
File ID: NI.072012.110605
Analyst: JYH
QC Key: DOD4
Workgroup (AAB#): WG403908
Cal ID: ICP-MS - 20-JUL-12
Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Antimony		50.0	49.3	ug/L	98.7	90 - 110		
Arsenic		50.0	50.2	ug/L	100	90 - 110		
Barium		50.0	47.6	ug/L	95.1	90 - 110		
Cadmium		50.0	50.3	ug/L	101	90 - 110		
Chromium		50.0	50.0	ug/L	100	90 - 110		
Cobalt		50.0	50.8	ug/L	102	90 - 110		
Copper		50.0	50.0	ug/L	100	90 - 110		
Lead		50.0	49.2	ug/L	98.5	90 - 110		
Manganese		50.0	51.9	ug/L	104	90 - 110		
Nickel		50.0	49.0	ug/L	98.0	90 - 110		
Selenium		50.0	51.4	ug/L	103	90 - 110		
Silver		50.0	51.8	ug/L	104	90 - 110		
Thallium		50.0	48.9	ug/L	97.8	90 - 110		

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008
PDF File ID: 2507000
Report generated 07/20/2012 12:16

Microbac Laboratories Inc.
LOW LEVEL CALIBRATION VERIFICATION

Login Number: L12070507 Run Date: 07/20/2012 Sample ID: WG403982-07
Instrument ID: ICP-MS2 Run Time: 08:37 Method: 6020
File ID: NI.072012.083716 Analyst: JYH QC Key: DOD4
Workgroup (AAB#): WG403908 Cal ID: ICP-MS - 20-JUL-12
Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Antimony		0.400	0.417	ug/L	104	70 - 130		
Arsenic		0.400	0.369	ug/L	92.3	70 - 130		
Barium		0.750	0.730	ug/L	97.3	70 - 130		
Cadmium		0.240	0.238	ug/L	99.3	70 - 130		
Chromium		0.800	0.782	ug/L	97.8	70 - 130		
Cobalt		0.400	0.380	ug/L	95.0	70 - 130		
Copper		0.800	0.821	ug/L	103	70 - 130		
Lead		0.200	0.192	ug/L	95.9	70 - 130		
Manganese		0.500	0.477	ug/L	95.3	70 - 130		
Nickel		1.60	1.59	ug/L	99.1	70 - 130		
Selenium		0.400	0.381	ug/L	95.1	70 - 130		
Silver		0.400	0.383	ug/L	95.9	70 - 130		
Thallium		0.0800	0.0751	ug/L	93.9	70 - 130		

* Exceeds LIMITS Criteria

LLCCV - Modified 1/7/2010
PDF File ID: 2507002
Report generated 07/20/2012 12:16

Microbac Laboratories Inc.
INTERFERENCE CHECK SAMPLES

Login number: L12070507
Instrument ID: ICP-MS2
Sol. A : WG403982-08 **File ID:** NI.072012.084025
Sol. AB : WG403982-09 **File ID:** NI.072012.084334

Workgroup (AAB#): WG403908
Method: 6020
Units: ug/L
Matrix: Water

	Sol. A			Sol. AB			
ANALYTE	True	Found	%Recovery	True	Found	%Recovery	Q
Antimony	NS	0.0694	NS	100	101	101	
Arsenic	NS	-0.0241	NS	100	101	101	
Barium	NS	0.0256	NS	100	96.8	96.8	
Cadmium	NS	-0.0120	NS	100	101	101	
Chromium	NS	0.0280	NS	100	96.6	96.6	
Cobalt	NS	0.0356	NS	100	98.9	98.9	
Copper	NS	0.0791	NS	100	98.1	98.1	
Lead	NS	0.0360	NS	100	99.8	99.8	
Manganese	NS	0.0284	NS	100	100	100	
Nickel	NS	0.332	NS	100	98.2	98.2	
Selenium	NS	0.0779	NS	100	102	102	
Silver	NS	0.0147	NS	100	103	103	
Thallium	NS	0.0386	NS	100	98.0	98.0	

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: 2506999
Report generated 07/20/2012 12:16

Microbac Laboratories Inc.
INTERFERENCE CHECK SAMPLES

Login number: L12070507 **Workgroup (AAB#):** WG403908
Instrument ID: ICP-MS2 **Method:** 6020
Sol. A : WG403982-18 **File ID:** NI.072012.105945 **Units:** ug/L
Sol. AB : WG403982-19 **File ID:** NI.072012.110254 **Matrix:** Water

	Sol. A			Sol. AB			
ANALYTE	True	Found	%Recovery	True	Found	%Recovery	Q
Antimony	NS	0.0450	NS	100	99.7	99.7	
Arsenic	NS	0.00780	NS	100	100	100	
Barium	NS	0.00350	NS	100	93.9	93.9	
Cadmium	NS	-0.00560	NS	100	101	101	
Chromium	NS	0.0199	NS	100	96.8	96.8	
Cobalt	NS	0.0152	NS	100	99.7	99.7	
Copper	NS	0.0838	NS	100	96.8	96.8	
Lead	NS	0.00840	NS	100	100	100	
Manganese	NS	0.0143	NS	100	102	102	
Nickel	NS	0.323	NS	100	96.8	96.8	
Selenium	NS	0.0881	NS	100	102	102	
Silver	NS	0.00570	NS	100	99.9	99.9	
Thallium	NS	0.00410	NS	100	96.7	96.7	

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: 2506999
Report generated 07/20/2012 12:16

Microbac Laboratories Inc.

INTERNAL STANDARD REPORT

Login: L12070507 **Analytical Method:** 6020
Analytical Workgroup: WG403908 **Matrix:** 1
Instrument: ICP-MS2 **Analyst:** JYH
ICAL Date: 20-JUL-2012 08:18

			BISMUTH	GERMANIUM	INDIUM	TERBIUM
Sample	Type	Run Date	% Rec	% Rec	% Rec	% Rec
L12070507-01	SAMP	20-JUL-2012 09:46	101.954	107.84	108.377	
L12070507-02	SAMP	20-JUL-2012 09:50	102.027	107.005	109.943	
WG403778-01	REF	20-JUL-2012 09:05	90.875	99.813	100.63	
WG403778-02	REF	20-JUL-2012 09:37	94.141	103.877	103.509	
WG403778-03	BLANK	20-JUL-2012 08:53	99.338	100.085	102.131	
WG403778-04	LCS	20-JUL-2012 08:56	107.516	115.428	115.022	
WG403778-05	MS	20-JUL-2012 09:08	90.873	100.039	100.81	
WG403778-06	MSD	20-JUL-2012 09:12	90.685	99.233	99.801	
WG403778-07	DUP	20-JUL-2012 09:40	93.774	102.933	103.231	
WG403908-01	PSPK	20-JUL-2012 09:18	97.474	103.906	105.77	
WG403908-01	PSPK	20-JUL-2012 09:57	97.08	93.126	94.307	
WG403908-02	SERIAL	20-JUL-2012 09:21	104.314	107.075	109.771	
WG403908-02	SERIAL	20-JUL-2012 10:00	103.466	106.231	106.352	
WG403982-05	ICV	20-JUL-2012 08:30	97.453	101.073	98.433	
WG403982-06	ICB	20-JUL-2012 08:34	99.5	101.279	98.036	
WG403982-07	LLICV	20-JUL-2012 08:37	98.034	100.31	97.483	
WG403982-08	ICS	20-JUL-2012 08:40	88.381	88.009	85.712	
WG403982-09	ICS	20-JUL-2012 08:43	96.571	102.113	100.502	
WG403982-10	CCV	20-JUL-2012 08:46	97.934	103.082	100.999	
WG403982-11	CCB	20-JUL-2012 08:49	100.267	102.374	101.98	
WG403982-12	CCV	20-JUL-2012 09:24	102.453	107.198	108.415	
WG403982-13	CCB	20-JUL-2012 09:27	105.684	108.674	109.911	
WG403982-14	CCV	20-JUL-2012 10:04	102.149	107.287	109.554	
WG403982-15	CCB	20-JUL-2012 10:07	103.587	105.237	107.867	
WG403982-16	CCV	20-JUL-2012 10:41	101.1	105.68	107.056	
WG403982-17	CCB	20-JUL-2012 10:45	103.796	104.265	107.671	
WG403982-18	ICS	20-JUL-2012 10:59	90.989	88.875	90.208	
WG403982-19	ICS	20-JUL-2012 11:02	99.359	105.737	106.619	
WG403982-20	CCV	20-JUL-2012 11:06	101.202	105.923	108.187	
WG403982-21	CCB	20-JUL-2012 11:09	102.492	104.739	106.619	
WG403982-22	CCV	20-JUL-2012 11:48	98.89	98.636	105.143	
WG403982-23	CCB	20-JUL-2012 11:51	100.175	96.626	104.655	
WG403982-24	ICS	20-JUL-2012 12:17	89.329	82.712	88.194	
WG403982-25	ICS	20-JUL-2012 12:20	96.607	95.79	102.444	
WG403982-26	CCV	20-JUL-2012 12:23	98.264	97.268	104.383	
WG403982-27	CCB	20-JUL-2012 12:26	99.139	95.405	102.997	
WG403982-28	LLCCV	20-JUL-2012 12:30	99.424	95.695	102.934	

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: 2506994
Report generated: 07/20/2012 13:19

Microbac Laboratories Inc.

INTERNAL STANDARD REPORT

Login: L12070507 **Analytical Method:** 6020
Analytical Workgroup: WG403908 **Matrix:** 2
Instrument: ICP-MS2 **Analyst:** JYH
ICAL Date: 20-JUL-2012 08:18

			BISMUTH	GERMANIUM	INDIUM	TERBIUM
Sample	Type	Run Date	% Rec	% Rec	% Rec	% Rec
L12070492-02	SAMP	20-JUL-2012 09:15	97.198	102.946	104.571	
L12070492-02	SAMP	20-JUL-2012 09:54	96.586	93.297	96.925	

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: 2506994
Report generated: 07/20/2012 13:19

Microbac Laboratories Inc.
LINEAR RANGE (QUARTERLY)

Login Number: L12070507 **Date:** 06/11/2012
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: 2506992
Report generated: 07/20/2012 12:16

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: Friday, July 20, 2012 07:33:06

Mass Calibration and Resolution

Analyte	E Mass	Meas Mass	Mass C DAC Val	Res DAC Value	Meas Peak WCustom Res
Li	7.016	7.025	1338	2021	0.712
Mg	23.985	23.975	4706	2020	0.709
In	114.904	114.875	22867	2023	0.686
U	238.050	238.025	47467	2034	0.682

Relative Std. Dev.

Mass	Meas. Intens. RSD
5.525	18.064
5.575	6.791
5.625	5.242
5.675	3.206
5.725	5.000
5.775	4.994
5.825	2.448
5.875	3.768
5.925	4.956
5.975	4.106
6.025	2.568
6.075	4.968
6.125	3.064
6.175	2.039
6.225	3.533
6.275	22.122
6.325	91.287
6.375	149.071
6.425	34.312
6.475	10.019
6.525	7.591
6.575	4.568
6.625	4.347
6.675	3.127
6.725	3.241
6.775	2.336
6.825	3.915
6.875	1.647

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6.925	3.842
6.975	1.972
7.025	3.878
7.075	3.906
7.125	2.115
7.175	5.429
7.225	6.674
7.275	16.710
7.325	223.607
7.375	136.931
7.425	162.980
7.475	91.287
7.525	223.607
7.575	91.287
7.625	223.607
7.675	136.931
7.725	223.607
7.775	91.287
7.825	136.931
7.875	223.607
7.925	223.607
7.975	223.607
8.025	
8.075	136.931
8.125	104.583
8.175	223.607
8.225	223.607
8.275	223.607
8.325	104.583
8.375	136.931
8.425	223.607
8.475	30.987
22.525	7.652
22.575	3.878
22.625	2.891
22.675	2.434
22.725	1.943
22.775	1.406
22.825	2.594
22.875	2.521
22.925	1.909
22.975	1.755
23.025	3.055
23.075	2.823
23.125	2.341
23.175	2.126
23.225	2.590

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23.275	2.724
23.325	4.531
23.375	223.607
23.425	223.607
23.475	136.931
23.525	29.911
23.575	6.042
23.625	7.139
23.675	4.268
23.725	4.480
23.775	4.890
23.825	4.685
23.875	5.000
23.925	3.678
23.975	3.309
24.025	4.452
24.075	5.201
24.125	3.609
24.175	6.358
24.225	4.761
24.275	7.594
24.325	18.761
24.375	100.000
24.425	223.607
24.475	136.931
24.525	16.090
24.575	24.422
24.625	7.946
24.675	8.607
24.725	9.715
24.775	12.380
24.825	6.517
24.875	5.016
24.925	5.849
24.975	6.127
25.025	2.181
25.075	7.607
25.125	7.678
25.175	7.731
25.225	6.883
25.275	11.410
25.325	46.351
25.375	91.287
25.425	
25.475	55.902
113.525	21.992
113.575	12.024

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113.625	3.960
113.675	4.168
113.725	2.733
113.775	2.381
113.825	1.345
113.875	3.497
113.925	3.160
113.975	4.128
114.025	3.090
114.075	4.499
114.125	1.806
114.175	5.228
114.225	20.498
114.275	51.446
114.325	63.191
114.375	25.882
114.425	9.062
114.475	3.517
114.525	2.889
114.575	3.051
114.625	3.956
114.675	4.149
114.725	1.840
114.775	2.896
114.825	2.800
114.875	3.066
114.925	2.627
114.975	2.714
115.025	3.693
115.075	3.395
115.125	5.127
115.175	4.521
115.225	4.302
115.275	19.408
115.325	149.071
115.375	223.607
115.425	39.460
115.475	26.723
115.525	13.400
115.575	7.757
115.625	7.644
115.675	4.298
115.725	3.133
115.775	5.767
115.825	6.730
115.875	7.003
115.925	7.557

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115.975	5.060
116.025	4.003
116.075	4.754
116.125	9.338
116.175	8.192
116.225	18.746
116.275	55.902
116.325	136.931
116.375	104.583
116.425	223.607
116.475	55.902
236.525	
236.575	223.607
236.625	
236.675	
236.725	
236.775	223.607
236.825	223.607
236.875	
236.925	
236.975	
237.025	136.931
237.075	223.607
237.125	
237.175	
237.225	
237.275	223.607
237.325	
237.375	136.931
237.425	104.583
237.475	75.691
237.525	28.770
237.575	13.141
237.625	2.364
237.675	7.875
237.725	3.620
237.775	2.771
237.825	3.343
237.875	2.238
237.925	1.893
237.975	1.065
238.025	2.369
238.075	1.615
238.125	2.041
238.175	2.484
238.225	0.386
238.275	1.844

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238.325	4.587
238.375	3.448
238.425	3.568
238.475	16.846
238.525	47.650
238.575	136.931
238.625	
238.675	
238.725	223.607
238.775	136.931
238.825	
238.875	223.607
238.925	223.607
238.975	223.607
239.025	
239.075	136.931
239.125	
239.175	223.607
239.225	
239.275	223.607
239.325	223.607
239.375	
239.425	
239.475	

Approved: July 23, 2012

Daily Performance Report

Sample ID: Daily Performance Check
Sample Date/Time: Friday, July 20, 2012 07:40:08
Sample Description:
Method File: C:\NexION Data\Method\ESI Daily Performance.mth
Dataset File: C:\NexION Data\DataSet\072012\Daily Performance Check.006
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): 0.00

Summary

	Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Net Intens. SD	Net Intens. RSD	Mode
	Be	9.0	2298.4	2298.441	28.568	1.2	Standard
	Mg	24.0	31637.3	31637.268	442.150	1.4	Standard
	In	114.9	82688.9	82688.895	499.157	0.6	Standard
	U	238.1	69671.0	69670.963	719.554	1.0	Standard
⌈	CeO	155.9	1843.3	0.017	0.000	1.3	Standard
| >	Ce	139.9	106685.8	106685.785	1158.895	1.1	Standard
⌊	Ce++	70.0	1015.8	0.010	0.000	2.1	Standard
	Bkgd	220.0	0.5	0.533	0.274	51.3	Standard

Current Conditions File Data

Current Value	Description
0.98	Nebulizer Gas Flow STD/KED [NEB]
1.00	Auxiliary Gas Flow
18.00	Plasma Gas Flow
-8.75	Deflector Voltage
1600.00	ICP RF Power
-1975.00	Analog Stage Voltage
1300.00	Pulse Stage Voltage
0.00	Quadrupole Rod Offset STD [QRO]
-15.00	Cell Rod Offset STD [CRO]
12.00	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: Friday, July 20, 2012 07:42:26
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Approved: July 23, 2012

SmartTune Wizard - Summary

```
Optimization Summary

SmartTune file: C:\NexIONData\Wizard\SmartTune\ESI SmartTune Fullmicrobac.swz

Start Time: 7/20/2012 7:40:08 AM
End Time: 7/20/2012 7:42:26 AM

Daily Performance Check - [Passed]  Optimum value(s): N/A
        Obtained Intensity (Be 9.0122): 2298.44
        Obtained Intensity (Mg 23.985): 31637.27
        Obtained Intensity (In 114.904): 82688.90
        Obtained Intensity (U 238.05): 69670.96
        Obtained Intensity (Bkgd 220): 0.53
        Obtained Formula (CeO 155.9 / Ce 139.905): 0.017 (=1843.31 / 106685.79)
        Obtained Formula (Ce++ 69.9527 / Ce 139.905): 0.010 (=1015.77 / 106685.79)
```

Report Date/Time: Friday, July 20, 2012 07:42:26
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Approved: July 23, 2012

SmartTune Wizard - Details

```
Optimization Details

SmartTune file: C:\NexIONData\Wizard\SmartTune\ESI SmartTune Fullmicrobac.swz

Optimization Status

Start Time: 7/20/2012 7:40:08 AM

Daily Performance Check
        Optimization Settings:
                Method: C:\NexIONData\Method\ESI Daily Performance.mth.
                Intensity Criterion: Be 9.0122 > 2000
                Intensity Criterion: Mg 23.985 > 15000
                Intensity Criterion: In 114.904 > 40000
                Intensity Criterion: U 238.05 > 30000
                Intensity Criterion: Bkgd 220 <= 1
                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): 2298.44
                Obtained Intensity (Mg 23.985): 31637.27
                Obtained Intensity (In 114.904): 82688.90
                Obtained Intensity (U 238.05): 69670.96
                Obtained Intensity (Bkgd 220): 0.53
                Obtained Formula (CeO 155.9 / Ce 139.905): 0.017 (=1843.31 / 106685.79)
                Obtained Formula (Ce++ 69.9527 / Ce 139.905): 0.010 (=1015.77 / 106685.79)
[Passed]  Optimum value(s): N/A

End Time: 7/20/2012 7:42:26 AM
```


Approved: July 23, 2012

Method 6020 - Summary Report

Sample ID: Blank
Sample Date/Time: Friday, July 20, 2012 08:14:58
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	7	9659.7	1.4				ug/L		Standard
	Be	9	6.7	114.6				ug/L		Standard
	Al	27	6609.8	4.8				ug/L		Standard
>	**Sc**	45	350980.9	1.5				ug/L		Standard
	Ti	47	63.3	18.8				ug/L		Standard
	V	51	2655.4	1.4				ug/L		Standard
	Cr	52	8416.7	1.5				ug/L		Standard
	Cr	53	145.8	8.8				ug/L		Standard
	Mn	55	1081.0	3.2				ug/L		Standard
	Co	59	84.0	11.4				ug/L		Standard
	Ni	60	55.0	8.3				ug/L		Standard
	Cu	65	78.0	1.3				ug/L		Standard
	Zn	66	98.7	5.6				ug/L		Standard
>	**Ge**	72	289580.9	0.9				ug/L		Standard
	As	75	-189.2	13.7				ug/L		Standard
	Se	82	18.3	7.5				ug/L		Standard
	Se-1	77	96.7	7.3				ug/L		Standard
>	**Ga**	71	628.3	16.0				mg/L		Standard
	Rb	85	10.0	86.6				ug/L		Standard
	Y	89	254545.6	1.2				ug/L		Standard
>	**Rh**	103	400.0	5.0				ug/L		Standard
	Mo	98	8.3	11.4				ug/L		Standard
	Ag	107	75.7	21.8				ug/L		Standard
	Cd	111	63.0	7.3				mg/L		Standard
	Cd	114	200.8	9.8				ug/L		Standard
>	**In**	115	847070.1	1.8				ug/L		Standard
	Sn	118	553.0	1.4				ug/L		Standard
	Sb	123	24.7	16.5				ug/L		Standard
	Ba	135	25.0	13.9				ug/L		Standard
	Ce	140	21.3	21.1				ug/L		Standard
>	**Tb**	159	1162404.6	0.5				ug/L		Standard
	Ho	165	12.0	16.7				ug/L		Standard
	Tl	203	4.0	25.0				ug/L		Standard
	Tl	205	3.7	78.7				ug/L		Standard
	Pb	206	379.7	11.4				ug/L		Standard
	Pb	207	306.3	8.3				ug/L		Standard
	Pb	208	1470.7	4.6				ug/L		Standard
	U	238	0.3	173.2				ug/L		Standard
>	**Bi**	209	592578.7	1.2				ug/L		Standard

Sample ID: Blank
Report Date/Time: Friday, July 20, 2012 08:17:28
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Approved: July 23, 2012

Na	23	326.7	17.9	mg/L	Standard
Mg	24	50.0	17.3	mg/L	Standard
K	39	125.0	16.0	mg/L	Standard
Ca	43	0.0		mg/L	Standard
Fe	54	579.2	16.1	mg/L	Standard
Fe	57	2535.2	7.4	mg/L	Standard
> **Sc-1**	45	350980.9	1.5	mg/L	Standard
Cl	35	6.0	60.1	ug/L	Standard
Kr	83	39.0	8.2	ug/L	Standard
Br	81	918.4	2.5	ug/L	Standard
P	31	337.5	4.6	ug/L	Standard
S	34	6424.7	3.2	ug/L	Standard
Sr	88	28.3	36.7	ug/L	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	7			
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			
Y	89			
> Rh	103			
Mo	98			
Ag	107			

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	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

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

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Method 6020 - Summary Report

Sample ID: Standard 1
Sample Date/Time: Friday, July 20, 2012 08:18:09
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	7	9407.9	1.6				ug/L	9660	Standard
	Be	9	0.0					ug/L	7	Standard
	Al	27	6411.4	2.8				ug/L	6610	Standard
>	**Sc**	45	366700.3	1.8				ug/L	350981	Standard
	Ti	47	66.0	18.4				ug/L	63	Standard
	V	51	2709.2	1.1				ug/L	2655	Standard
	Cr	52	8567.1	1.6				ug/L	8417	Standard
	Cr	53	178.3	3.2				ug/L	146	Standard
	Mn	55	1114.7	2.5				ug/L	1081	Standard
	Co	59	92.7	1.6				ug/L	84	Standard
	Ni	60	55.3	2.8				ug/L	55	Standard
	Cu	65	83.3	9.3				ug/L	78	Standard
	Zn	66	101.7	7.9				ug/L	99	Standard
>	**Ge**	72	294627.2	1.0				ug/L	289581	Standard
	As	75	-189.0	16.7				ug/L	-189	Standard
	Se	82	14.0	6.1				ug/L	18	Standard
	Se-1	77	105.7	3.0				ug/L	97	Standard
>	**Ga**	71	593.3	16.5				mg/L	628	Standard
	Rb	85	18.3	41.7				ug/L	10	Standard
	Y	89	260397.0	0.8				ug/L	254546	Standard
>	**Rh**	103	381.7	14.4				ug/L	400	Standard
	Mo	98	4.7	44.0				ug/L	8	Standard
	Ag	107	73.7	24.3				ug/L	76	Standard
	Cd	111	73.3	15.3				mg/L	63	Standard
	Cd	114	200.7	2.1				ug/L	201	Standard
>	**In**	115	855708.6	1.4				ug/L	847070	Standard
	Sn	118	544.7	4.0				ug/L	553	Standard
	Sb	123	24.5	19.6				ug/L	25	Standard
	Ba	135	22.7	17.8				ug/L	25	Standard
	Ce	140	23.0	41.5				ug/L	21	Standard
>	**Tb**	159	1174595.2	0.3				ug/L	1162405	Standard
	Ho	165	15.3	26.4				ug/L	12	Standard
	Tl	203	1.7	34.6				ug/L	4	Standard
	Tl	205	5.7	50.9				ug/L	4	Standard
	Pb	206	403.7	5.3				ug/L	380	Standard
	Pb	207	328.0	9.4				ug/L	306	Standard
	Pb	208	1515.7	4.1				ug/L	1471	Standard
	U	238	0.3	173.2				ug/L	0	Standard
>	**Bi**	209	604936.0	0.7				ug/L	592579	Standard

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Na	23	343.3	13.1	mg/L	327	Standard
Mg	24	50.0	52.0	mg/L	50	Standard
K	39	113.3	35.4	mg/L	125	Standard
Ca	43	3.3	86.6	mg/L	0	Standard
Fe	54	533.1	6.6	mg/L	579	Standard
Fe	57	2743.6	2.0	mg/L	2535	Standard
Sc-1	45	366700.3	1.8	mg/L	350981	Standard
Cl	35	2.3	99.0	ug/L	6	Standard
Kr	83	38.9	6.1	ug/L	39	Standard
Br	81	880.9	2.4	ug/L	918	Standard
P	31	373.3	3.4	ug/L	338	Standard
S	34	6504.7	0.9	ug/L	6425	Standard
Sr	88	26.7	84.5	ug/L	28	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	7			
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			
Y	89			
Rh	103			
Mo	98			
Ag	107			

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	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

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: Standard 1
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Method 6020 - Summary Report

Sample ID: Standard 2
Sample Date/Time: Friday, July 20, 2012 08:21:19
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	7	9484.6	3.6				ug/L	9660	Standard
	Be	9	100.0	22.9				ug/L	7	Standard
	Al	27	7635.3	1.9				ug/L	6610	Standard
>	Sc	45	364026.8	1.6				ug/L	350981	Standard
	Ti	47	194.7	4.5				ug/L	63	Standard
	V	51	3206.2	1.4				ug/L	2655	Standard
	Cr	52	8990.3	0.4				ug/L	8417	Standard
	Cr	53	235.8	20.0				ug/L	146	Standard
	Mn	55	1920.8	2.5				ug/L	1081	Standard
	Co	59	639.0	4.7				ug/L	84	Standard
	Ni	60	186.0	7.9				ug/L	55	Standard
	Cu	65	196.3	8.5				ug/L	78	Standard
	Zn	66	172.0	6.1				ug/L	99	Standard
>	Ge	72	294329.2	1.2				ug/L	289581	Standard
	As	75	-127.0	18.8				ug/L	-189	Standard
	Se	82	22.5	10.5				ug/L	18	Standard
	Se-1	77	97.7	12.2				ug/L	97	Standard
>	Ga	71	643.3	2.7				mg/L	628	Standard
	Rb	85	18.3	15.7				ug/L	10	Standard
	Y	89	257697.8	3.2				ug/L	254546	Standard
>	Rh	103	401.7	8.3				ug/L	400	Standard
	Mo	98	403.8	4.6				ug/L	8	Standard
	Ag	107	471.0	2.2				ug/L	76	Standard
	Cd	111	297.4	4.0				mg/L	63	Standard
	Cd	114	797.4	1.9				ug/L	201	Standard
>	In	115	855620.2	1.8				ug/L	847070	Standard
	Sn	118	2049.5	1.1				ug/L	553	Standard
	Sb	123	568.5	4.5				ug/L	25	Standard
	Ba	135	293.7	3.5				ug/L	25	Standard
	Ce	140	20.0	20.0				ug/L	21	Standard
>	Tb	159	1177746.6	1.0				ug/L	1162405	Standard
	Ho	165	11.7	17.8				ug/L	12	Standard
	Tl	203	955.4	3.7				ug/L	4	Standard
	Tl	205	2128.5	2.7				ug/L	4	Standard
	Pb	206	1098.7	2.3				ug/L	380	Standard
	Pb	207	975.0	2.8				ug/L	306	Standard
	Pb	208	4377.9	1.8				ug/L	1471	Standard
	U	238	894.7	3.7				ug/L	0	Standard
>	Bi	209	604640.7	1.3				ug/L	592579	Standard

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Na	23	708.3	4.5	mg/L	327	Standard
Mg	24	3397.0	1.3	mg/L	50	Standard
K	39	110.0	25.3	mg/L	125	Standard
Ca	43	1.7	173.2	mg/L	0	Standard
Fe	54	581.1	5.9	mg/L	579	Standard
Fe	57	3155.3	6.5	mg/L	2535	Standard
Sc-1	45	364026.8	1.6	mg/L	350981	Standard
Cl	35	5.3	10.8	ug/L	6	Standard
Kr	83	40.2	5.4	ug/L	39	Standard
Br	81	892.5	7.2	ug/L	918	Standard
P	31	413.3	8.7	ug/L	338	Standard
S	34	6402.2	1.8	ug/L	6425	Standard
Sr	88	31.7	36.5	ug/L	28	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	7			
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			
Y	89			
Rh	103			
Mo	98			
Ag	107			

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	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

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: Standard 2
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Method 6020 - Summary Report

Sample ID: Standard 3
Sample Date/Time: Friday, July 20, 2012 08:24:30
Number of Replicates: 3
Autosampler Position: 3
Sample Description:
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	7	9272.8	0.6	**50.0000**	152.513	305.0	ug/L	9660	Standard
	Be	9	90078.6	0.7	**50.0000**	1.369	2.7	ug/L	7	Standard
	Al	27	755451.7	2.0	**50.0000**	1.958	3.9	ug/L	6610	Standard
>	**Sc**	45	358233.3	2.1				ug/L	350981	Standard
	Ti	47	126742.2	0.1	**100.0000**	0.540	0.5	ug/L	63	Standard
	V	51	535844.8	1.2	**50.0000**	0.812	1.6	ug/L	2655	Standard
	Cr	52	446444.5	1.3	**50.0000**	0.664	1.3	ug/L	8417	Standard
	Cr	53	73921.6	0.2	**50.0000**	0.249	0.5	ug/L	146	Standard
	Mn	55	779003.1	0.3	**50.0000**	0.416	0.8	ug/L	1081	Standard
	Co	59	525907.3	0.6	**50.0000**	0.254	0.5	ug/L	84	Standard
	Ni	60	130532.6	1.1	**50.0000**	0.333	0.7	ug/L	55	Standard
	Cu	65	119273.0	0.4	**50.0000**	0.197	0.4	ug/L	78	Standard
	Zn	66	54003.4	1.1	**50.0000**	0.486	1.0	ug/L	99	Standard
>	**Ge**	72	294050.0	0.6				ug/L	289581	Standard
	As	75	54573.3	0.7	**50.0000**	0.547	1.1	ug/L	-189	Standard
	Se	82	5460.7	1.7	**50.0000**	1.050	2.1	ug/L	18	Standard
	Se-1	77	3936.5	2.1	**50.0000**	0.915	1.8	ug/L	97	Standard
>	**Ga**	71	623.3	13.7				mg/L	628	Standard
	Rb	85	813.4	6.4				ug/L	10	Standard
	Y	89	260521.1	1.7				ug/L	254546	Standard
>	**Rh**	103	441.7	8.2				ug/L	400	Standard
	Mo	98	389422.0	0.9	**100.0000**	1.449	1.4	ug/L	8	Standard
	Ag	107	401869.4	0.1	**50.0000**	0.482	1.0	ug/L	76	Standard
	Cd	111	213713.5	0.6	**50.0000**	0.341	0.7	mg/L	63	Standard
	Cd	114	592083.9	1.2	**50.0000**	0.075	0.2	ug/L	201	Standard
>	**In**	115	839462.9	1.1				ug/L	847070	Standard
	Sn	118	1422549.6	0.3	**50.0000**	0.405	0.8	ug/L	553	Standard
	Sb	123	540877.9	1.0	**50.0000**	0.370	0.7	ug/L	25	Standard
	Ba	135	238600.8	1.1	**50.0000**	0.430	0.9	ug/L	25	Standard
	Ce	140	975.0	3.5				ug/L	21	Standard
>	**Tb**	159	1184839.5	0.7				ug/L	1162405	Standard
	Ho	165	15.0	23.1				ug/L	12	Standard
	Tl	203	896423.6	0.6	**50.0000**	0.478	1.0	ug/L	4	Standard
	Tl	205	2077300.4	0.3	**50.0000**	0.273	0.5	ug/L	4	Standard
	Pb	206	688938.7	0.5	**50.0000**	0.154	0.3	ug/L	380	Standard
	Pb	207	587396.1	0.5	**50.0000**	0.230	0.5	ug/L	306	Standard
	Pb	208	2719371.8	0.5	**50.0000**	0.339	0.7	ug/L	1471	Standard
	U	238	887255.9	1.3	**50.0000**	0.503	1.0	ug/L	0	Standard
>	**Bi**	209	584137.1	0.6				ug/L	592579	Standard

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	Na	23	113412.9	1.3	**5.0000**	0.164	3.3	mg/L	327	Standard
	Mg	24	3279096.1	1.5	**5.0000**	0.147	2.9	mg/L	50	Standard
	K	39	6041.2	2.2	**5.0000**	0.008	0.2	mg/L	125	Standard
	Ca	43	10.0	132.3	**5.0000**	7.851	157.0	mg/L	0	Standard
	Fe	54	24400.0	1.5	**5.0000**	0.136	2.7	mg/L	579	Standard
	Fe	57	479134.7	3.8	**5.0000**	0.282	5.6	mg/L	2535	Standard
>	**Sc-1**	45	358233.3	2.1				mg/L	350981	Standard
	Cl	35	4.7	32.7				ug/L	6	Standard
	Kr	83	47.3	6.7				ug/L	39	Standard
	Br	81	918.4	3.0				ug/L	918	Standard
	P	31	483.3	9.6				ug/L	338	Standard
	S	34	6164.6	1.6				ug/L	6425	Standard
	Sr	88	30.0	66.7				ug/L	28	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
	Li	7			
	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			
	Y	89			
>	Rh	103			
	Mo	98			
	Ag	107			

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	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

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: Standard 3
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Method 6020 - Summary Report

Sample ID: Standard 4
Sample Date/Time: Friday, July 20, 2012 08:27:40
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	7	9576.4	0.8	**392.1487**	256.510	65.4	ug/L	9660	Standard
	Be	9	178932.1	0.8	**99.6646**	2.098	2.1	ug/L	7	Standard
	Al	27	1417492.7	1.1	**97.0238**	2.746	2.8	ug/L	6610	Standard
>	**Sc**	45	358157.9	1.8				ug/L	350981	Standard
	Ti	47	252604.4	1.0	**200.0146**	1.739	0.9	ug/L	63	Standard
	V	51	1062673.6	0.8	**99.8696**	1.042	1.0	ug/L	2655	Standard
	Cr	52	863135.4	0.4	**98.9456**	0.710	0.7	ug/L	8417	Standard
	Cr	53	144924.8	0.6	**99.2251**	0.258	0.3	ug/L	146	Standard
	Mn	55	1521343.3	0.3	**99.0139**	0.662	0.7	ug/L	1081	Standard
	Co	59	1023938.6	1.1	**98.8320**	1.210	1.2	ug/L	84	Standard
	Ni	60	253588.2	1.6	**98.7258**	1.113	1.1	ug/L	55	Standard
	Cu	65	233732.6	1.5	**99.1664**	1.612	1.6	ug/L	78	Standard
	Zn	66	106055.9	0.7	**99.3113**	0.525	0.5	ug/L	99	Standard
>	**Ge**	72	293059.4	0.5				ug/L	289581	Standard
	As	75	108271.2	1.2	**99.6825**	1.239	1.2	ug/L	-189	Standard
	Se	82	10824.9	0.8	**99.7994**	0.555	0.6	ug/L	18	Standard
	Se-1	77	7664.6	0.8	**99.4219**	1.140	1.1	ug/L	97	Standard
>	**Ga**	71	595.0	3.0				mg/L	628	Standard
	Rb	85	6024.5	1.5				ug/L	10	Standard
	Y	89	261849.2	2.6				ug/L	254546	Standard
>	**Rh**	103	418.3	13.1				ug/L	400	Standard
	Mo	98	760923.5	0.6	**199.0999**	2.220	1.1	ug/L	8	Standard
	Ag	107	774720.3	0.9	**98.8832**	2.017	2.0	ug/L	76	Standard
	Cd	111	413774.2	0.0	**99.1026**	1.267	1.3	mg/L	63	Standard
	Cd	114	1142611.6	0.8	**98.9381**	0.746	0.8	ug/L	201	Standard
>	**In**	115	827581.0	1.3				ug/L	847070	Standard
	Sn	118	1380043.1	1.1	**65.9573**	0.267	0.4	ug/L	553	Standard
	Sb	123	1059410.7	1.0	**99.6712**	0.903	0.9	ug/L	25	Standard
	Ba	135	465014.5	1.6	**99.4225**	0.533	0.5	ug/L	25	Standard
	Ce	140	345.7	2.3				ug/L	21	Standard
>	**Tb**	159	1179548.6	0.9				ug/L	1162405	Standard
	Ho	165	32.0	8.3				ug/L	12	Standard
	Tl	203	1736368.0	0.2	**100.2003**	0.539	0.5	ug/L	4	Standard
	Tl	205	4020503.8	0.6	**100.1609**	1.064	1.1	ug/L	4	Standard
	Pb	206	1347876.3	0.6	**100.7130**	0.101	0.1	ug/L	380	Standard
	Pb	207	1099688.1	0.7	**98.5138**	0.986	1.0	ug/L	306	Standard
	Pb	208	5206682.2	0.5	**99.6338**	0.349	0.3	ug/L	1471	Standard
	U	238	1693223.5	1.7	**99.4556**	1.464	1.5	ug/L	0	Standard
>	**Bi**	209	563478.2	0.7				ug/L	592579	Standard

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Na	23	135473.0	1.0	**7.4834**	0.190	2.5	mg/L	327	Standard
Mg	24	6512580.3	2.1	**9.9654**	0.260	2.6	mg/L	50	Standard
K	39	12024.8	0.1	**10.0211**	0.172	1.7	mg/L	125	Standard
Ca	43	21.7	48.0	**10.8480**	5.579	51.4	mg/L	0	Standard
Fe	54	48058.7	1.9	**9.9799**	0.202	2.0	mg/L	579	Standard
Fe	57	946407.2	3.2	**9.9488**	0.273	2.7	mg/L	2535	Standard
Sc-1	45	358157.9	1.8				mg/L	350981	Standard
Cl	35	4.0	25.0				ug/L	6	Standard
Kr	83	44.1	1.2				ug/L	39	Standard
Br	81	954.2	5.3				ug/L	918	Standard
P	31	465.0	9.2				ug/L	338	Standard
S	34	5940.3	1.5				ug/L	6425	Standard
Sr	88	40.0	21.7				ug/L	28	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	7			
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			
Y	89			
Rh	103			
Mo	98			
Ag	107			

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	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

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Corr. Coef.	Sn	118	Correlation coefficient < 0.998
Corr. Coef.	Na	23	Correlation coefficient < 0.998
Corr. Coef.	Ca	43	Correlation coefficient < 0.998

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Method 6020 - Summary Report

Sample ID: QC Std 1
Sample Date/Time: Friday, July 20, 2012 08:30:53
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	7	9259.5	3.3	**-174.4217**	577.263	331.0	ug/L	9660	Standard
	Be	9	90699.0	1.4	**50.3044**	0.446	0.9	ug/L	7	Standard
	Al	27	743390.1	2.1	**50.4435**	1.087	2.2	ug/L	6610	Standard
>	**Sc**	45	359575.1	0.6				ug/L	350981	Standard
	Ti	47	126846.4	0.7	**100.5426**	0.492	0.5	ug/L	63	Standard
	V	51	537420.4	1.0	**50.4500**	0.746	1.5	ug/L	2655	Standard
	Cr	52	443571.9	0.8	**50.4386**	0.789	1.6	ug/L	8417	Standard
	Cr	53	72923.4	0.8	**49.9384**	0.293	0.6	ug/L	146	Standard
	Mn	55	773670.9	0.5	**50.3842**	0.694	1.4	ug/L	1081	Standard
	Co	59	516493.7	0.8	**49.9128**	0.561	1.1	ug/L	84	Standard
	Ni	60	128431.4	1.0	**50.0564**	0.440	0.9	ug/L	55	Standard
	Cu	65	120842.0	0.8	**51.3196**	0.249	0.5	ug/L	78	Standard
	Zn	66	55005.7	0.7	**51.5235**	0.573	1.1	ug/L	99	Standard
>	**Ge**	72	292687.2	1.1				ug/L	289581	Standard
	As	75	54974.4	0.2	**50.7631**	0.564	1.1	ug/L	-189	Standard
	Se	82	5545.7	1.4	**51.1263**	1.263	2.5	ug/L	18	Standard
	Se-1	77	3909.5	0.4	**50.1806**	0.727	1.4	ug/L	97	Standard
>	**Ga**	71	605.0	8.0				mg/L	628	Standard
	Rb	85	793.4	1.3				ug/L	10	Standard
	Y	89	261948.4	0.9				ug/L	254546	Standard
>	**Rh**	103	410.0	5.3				ug/L	400	Standard
	Mo	98	386240.6	1.0	**100.2983**	0.495	0.5	ug/L	8	Standard
	Ag	107	391360.8	0.7	**49.5678**	0.108	0.2	ug/L	76	Standard
	Cd	111	210038.3	1.0	**49.9156**	0.135	0.3	mg/L	63	Standard
	Cd	114	588200.9	0.9	**50.5415**	0.301	0.6	ug/L	201	Standard
>	**In**	115	833800.5	0.9				ug/L	847070	Standard
	Sn	118	1393841.1	0.5	**66.1233**	0.817	1.2	ug/L	553	Standard
	Sb	123	535406.2	0.8	**49.9943**	0.417	0.8	ug/L	25	Standard
	Ba	135	236968.4	0.2	**50.2854**	0.467	0.9	ug/L	25	Standard
	Ce	140	996.7	4.4				ug/L	21	Standard
>	**Tb**	159	1164342.0	0.4				ug/L	1162405	Standard
	Ho	165	20.3	28.4				ug/L	12	Standard
	Tl	203	883359.1	1.0	**49.7386**	0.529	1.1	ug/L	4	Standard
	Tl	205	2038307.3	2.0	**49.5486**	1.131	2.3	ug/L	4	Standard
	Pb	206	676414.7	1.3	**49.3017**	0.515	1.0	ug/L	380	Standard
	Pb	207	577582.7	1.4	**50.4684**	0.430	0.9	ug/L	306	Standard
	Pb	208	2664053.2	1.0	**49.7280**	0.434	0.9	ug/L	1471	Standard
	U	238	856843.2	1.2	**49.1088**	0.418	0.9	ug/L	0	Standard
>	**Bi**	209	577484.3	0.7				ug/L	592579	Standard

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Na	23	113782.3	1.1	**6.2530**	0.038	0.6	mg/L	327	Standard
Mg	24	3355328.2	1.5	**5.1128**	0.055	1.1	mg/L	50	Standard
K	39	5981.2	2.8	**4.9199**	0.109	2.2	mg/L	125	Standard
Ca	43	5.0	100.0	**1.8229**	2.687	147.4	mg/L	0	Standard
Fe	54	23918.3	1.3	**4.8890**	0.095	1.9	mg/L	579	Standard
Fe	57	457689.9	2.7	**4.7778**	0.126	2.6	mg/L	2535	Standard
Sc-1	45	359575.1	0.6				mg/L	350981	Standard
Cl	35	3.0	0.0				ug/L	6	Standard
Kr	83	40.3	11.5				ug/L	39	Standard
Br	81	933.4	9.4				ug/L	918	Standard
P	31	476.7	0.8				ug/L	338	Standard
S	34	6100.4	2.0				ug/L	6425	Standard
Sr	88	38.3	37.7				ug/L	28	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	7			
Be	9	100.609		
Al	27	100.887		
Sc	45			
Ti	47	100.543		
V	51	100.900		
Cr	52	100.877		
Cr	53	99.877		
Mn	55	100.768		
Co	59	99.826		
Ni	60	100.113		
Cu	65	102.639		
Zn	66	103.047		
Ge	72		101.073	
As	75	101.526		
Se	82	102.253		
Se-1	77			
Ga	71			
Rb	85			
Y	89			
Rh	103			
Mo	98	100.298		
Ag	107	99.136		

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	Cd	111	99.831	
	Cd	114		
>	In	115		98.433
	Sn	118	132.247	
	Sb	123	99.989	
	Ba	135	100.571	
	Ce	140		
>	Tb	159		
	Ho	165		
	Tl	203	99.477	
	Tl	205		
	Pb	206	98.603	
	Pb	207	100.937	
	Pb	208	99.456	
	U	238	98.218	
>	Bi	209		97.453
	Na	23	125.060	
	Mg	24	102.256	
	K	39	98.399	
	Ca	43	36.457	
	Fe	54	97.780	
	Fe	57	95.557	
>	Sc-1	45		
	Cl	35		
	Kr	83		
	Br	81		
	P	31		
	S	34		
	Sr	88		

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 1	Sn	118	
QC Std 1	Na	23	
QC Std 1	Ca	43	

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Method 6020 - Summary Report

Sample ID: QC Std 2
Sample Date/Time: Friday, July 20, 2012 08:34:04
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	7	9444.6	1.3	**35.7704**	168.870	472.1	ug/L	9660	Standard
	Be	9	41.7	79.9	**0.0179**	0.018	100.3	ug/L	7	Standard
	Al	27	6581.4	8.1	**-0.0185**	0.031	165.1	ug/L	6610	Standard
>	**Sc**	45	361579.0	1.3				ug/L	350981	Standard
	Ti	47	104.3	52.0	**0.0290**	0.043	148.2	ug/L	63	Standard
	V	51	2723.4	7.0	**0.0056**	0.018	327.5	ug/L	2655	Standard
	Cr	52	8120.8	3.3	**-0.0470**	0.032	67.2	ug/L	8417	Standard
	Cr	53	187.5	18.8	**0.0177**	0.024	137.9	ug/L	146	Standard
	Mn	55	1324.4	21.6	**0.0116**	0.019	160.9	ug/L	1081	Standard
	Co	59	270.0	81.7	**0.0147**	0.021	145.4	ug/L	84	Standard
	Ni	60	99.3	42.5	**0.0165**	0.016	99.6	ug/L	55	Standard
	Cu	65	137.0	38.7	**0.0251**	0.023	89.9	ug/L	78	Standard
	Zn	66	130.3	26.3	**0.0116**	0.032	277.1	ug/L	99	Standard
>	**Ge**	72	293284.7	0.4				ug/L	289581	Standard
	As	75	-132.3	28.5	**0.0446**	0.034	77.2	ug/L	-189	Standard
	Se	82	26.3	8.7	**0.0855**	0.022	25.7	ug/L	18	Standard
	Se-1	77	95.3	9.5	**0.0248**	0.119	478.9	ug/L	97	Standard
>	**Ga**	71	618.3	8.6				mg/L	628	Standard
	Rb	85	20.0	90.1				ug/L	10	Standard
	Y	89	260203.8	1.2				ug/L	254546	Standard
>	**Rh**	103	411.7	6.7				ug/L	400	Standard
	Mo	98	252.9	67.9	**0.0639**	0.045	70.7	ug/L	8	Standard
	Ag	107	384.3	56.4	**0.0408**	0.028	68.2	ug/L	76	Standard
	Cd	111	164.7	59.5	**0.0205**	0.024	115.4	mg/L	63	Standard
	Cd	114	454.8	69.0	**0.0225**	0.027	121.2	ug/L	201	Standard
>	**In**	115	830434.2	0.5				ug/L	847070	Standard
	Sn	118	1449.1	34.7	**0.0243**	0.024	100.2	ug/L	553	Standard
	Sb	123	1350.0	24.7	**0.1249**	0.032	25.4	ug/L	25	Standard
	Ba	135	112.3	80.1	**0.0132**	0.019	145.9	ug/L	25	Standard
	Ce	140	24.3	22.6				ug/L	21	Standard
>	**Tb**	159	1131833.2	0.8				ug/L	1162405	Standard
	Ho	165	10.0	26.5				ug/L	12	Standard
	Tl	203	366.7	106.2	**0.0188**	0.021	113.8	ug/L	4	Standard
	Tl	205	815.7	104.2	**0.0200**	0.020	101.1	ug/L	4	Standard
	Pb	206	653.7	47.5	**0.0201**	0.022	109.4	ug/L	380	Standard
	Pb	207	510.7	43.8	**0.0123**	0.019	154.8	ug/L	306	Standard
	Pb	208	2453.1	44.8	**0.0167**	0.020	119.3	ug/L	1471	Standard
	U	238	282.7	97.7	**0.0168**	0.015	91.7	ug/L	0	Standard
>	**Bi**	209	589616.1	0.3				ug/L	592579	Standard

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Na	23	545.0	32.6	**-0.0038**	0.009	247.0	mg/L	327	Standard
Mg	24	1091.7	100.1	**0.0015**	0.002	106.5	mg/L	50	Standard
K	39	123.3	28.5	**0.0167**	0.031	183.0	mg/L	125	Standard
Ca	43	1.7	173.2	**0.0325**	1.569	4833.6	mg/L	0	Standard
Fe	54	609.4	5.9	**0.0117**	0.009	75.8	mg/L	579	Standard
Fe	57	2725.2	5.9	**0.0007**	0.001	189.2	mg/L	2535	Standard
Sc-1	45	361579.0	1.3				mg/L	350981	Standard
Cl	35	3.0	33.3				ug/L	6	Standard
Kr	83	38.0	0.9				ug/L	39	Standard
Br	81	935.9	3.0				ug/L	918	Standard
P	31	421.7	1.7				ug/L	338	Standard
S	34	6062.0	1.4				ug/L	6425	Standard
Sr	88	31.7	39.7				ug/L	28	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	7			
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		101.279	
As	75			
Se	82			
Se-1	77			
Ga	71			
Rb	85			
Y	89			
Rh	103			
Mo	98			
Ag	107			

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	Cd	111	
	Cd	114	
>	In	115	98.036
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	99.500
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: QC Std 2
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Method 6020 - Summary Report

Sample ID: QC Std 3
Sample Date/Time: Friday, July 20, 2012 08:37:16
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	7	9352.9	3.2	**20.3750**	579.924	2846.3	ug/L	9660	Standard
	Be	9	11.7	65.5	**0.0016**	0.004	272.1	ug/L	7	Standard
	Al	27	5439.3	4.6	**-0.0928**	0.019	20.1	ug/L	6610	Standard
>	**Sc**	45	358572.2	2.8				ug/L	350981	Standard
	Ti	47	70.3	5.0	**0.0026**	0.002	80.9	ug/L	63	Standard
	V	51	6822.0	0.9	**0.3978**	0.014	3.5	ug/L	2655	Standard
	Cr	52	15141.6	1.1	**0.7824**	0.032	4.0	ug/L	8417	Standard
	Cr	53	1284.2	3.0	**0.7776**	0.035	4.6	ug/L	146	Standard
	Mn	55	8384.3	0.6	**0.4765**	0.012	2.5	ug/L	1081	Standard
	Co	59	4019.5	1.7	**0.3801**	0.005	1.2	ug/L	84	Standard
	Ni	60	4090.2	0.7	**1.5852**	0.028	1.8	ug/L	55	Standard
	Cu	65	1994.5	2.7	**0.8213**	0.032	3.9	ug/L	78	Standard
	Zn	66	7531.2	1.1	**7.0142**	0.171	2.4	ug/L	99	Standard
>	**Ge**	72	290479.3	1.9				ug/L	289581	Standard
	As	75	218.9	5.4	**0.3692**	0.013	3.5	ug/L	-189	Standard
	Se	82	57.7	4.9	**0.3805**	0.036	9.5	ug/L	18	Standard
	Se-1	77	129.0	3.6	**0.4838**	0.086	17.8	ug/L	97	Standard
>	**Ga**	71	621.7	13.4				mg/L	628	Standard
	Rb	85	20.0	25.0				ug/L	10	Standard
	Y	89	255384.5	1.2				ug/L	254546	Standard
>	**Rh**	103	390.0	13.5				ug/L	400	Standard
	Mo	98	45.6	21.7	**0.0098**	0.002	24.8	ug/L	8	Standard
	Ag	107	3061.0	0.9	**0.3834**	0.009	2.3	ug/L	76	Standard
	Cd	111	1071.3	1.3	**0.2383**	0.001	0.6	mg/L	63	Standard
	Cd	114	2967.6	0.7	**0.2408**	0.005	2.1	ug/L	201	Standard
>	**In**	115	825749.4	1.4				ug/L	847070	Standard
	Sn	118	795.7	4.6	**-0.0067**	0.002	34.2	ug/L	553	Standard
	Sb	123	4438.8	1.4	**0.4169**	0.009	2.3	ug/L	25	Standard
	Ba	135	3454.1	1.5	**0.7296**	0.019	2.6	ug/L	25	Standard
	Ce	140	20.3	17.3				ug/L	21	Standard
>	**Tb**	159	1119065.5	1.0				ug/L	1162405	Standard
	Ho	165	14.3	4.0				ug/L	12	Standard
	Tl	203	1366.7	3.1	**0.0751**	0.002	2.9	ug/L	4	Standard
	Tl	205	3349.0	1.4	**0.0815**	0.001	1.7	ug/L	4	Standard
	Pb	206	3085.0	2.4	**0.1971**	0.006	2.9	ug/L	380	Standard
	Pb	207	2530.9	2.8	**0.1886**	0.006	3.0	ug/L	306	Standard
	Pb	208	11846.1	2.5	**0.1918**	0.005	2.7	ug/L	1471	Standard
	U	238	6695.8	1.0	**0.3825**	0.005	1.3	ug/L	0	Standard
>	**Bi**	209	580926.0	0.4				ug/L	592579	Standard

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Na	23	458.3	5.0	**-0.0083**	0.001	7.7	mg/L	327	Standard
Mg	24	155.0	14.1	**0.0001**	0.000	21.6	mg/L	50	Standard
K	39	126.7	12.1	**0.0200**	0.010	50.9	mg/L	125	Standard
Ca	43	1.7	173.2	**0.0334**	1.570	4702.9	mg/L	0	Standard
Fe	54	581.3	6.9	**0.0067**	0.006	90.2	mg/L	579	Standard
Fe	57	2745.2	2.5	**0.0012**	0.000	42.5	mg/L	2535	Standard
Sc-1	45	358572.2	2.8				mg/L	350981	Standard
Cl	35	1.7	34.6				ug/L	6	Standard
Kr	83	39.8	7.8				ug/L	39	Standard
Br	81	885.0	0.6				ug/L	918	Standard
P	31	407.5	4.6				ug/L	338	Standard
S	34	5900.3	1.9				ug/L	6425	Standard
Sr	88	21.7	48.0				ug/L	28	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	7			
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51	99.450		
Cr	52	97.804		
Cr	53			
Mn	55	95.297		
Co	59	95.018		
Ni	60	99.072		
Cu	65	102.657		
Zn	66	112.228		
Ge	72		100.310	
As	75	92.294		
Se	82	95.128		
Se-1	77			
Ga	71			
Rb	85			
Y	89			
Rh	103			
Mo	98			
Ag	107	95.861		

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	Cd	111	99.274	
	Cd	114		
>	In	115		97.483
	Sn	118		
	Sb	123	104.218	
	Ba	135	97.285	
	Ce	140		
>	Tb	159		
	Ho	165		
	Tl	203	93.896	
	Tl	205		
	Pb	206		
	Pb	207		
	Pb	208	95.920	
	U	238	95.624	
>	Bi	209		98.034
	Na	23		
	Mg	24		
	K	39		
	Ca	43		
	Fe	54		
	Fe	57		
>	Sc-1	45		
	Cl	35		
	Kr	83		
	Br	81		
	P	31		
	S	34		
	Sr	88		

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

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Method 6020 - Summary Report

Sample ID: QC Std 4
Sample Date/Time: Friday, July 20, 2012 08:40:25
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	7	7765.3	4.3	**-190.9200**	404.118	211.7	ug/L	9660	Standard
	Be	9	26.7	84.5	**0.0127**	0.015	115.9	ug/L	7	Standard
	Al	27	57468163.9	1.3	**4690.5372**	129.994	2.8	ug/L	6610	Standard
>	**Sc**	45	301757.5	1.6				ug/L	350981	Standard
	Ti	47	25847.0	3.3	**23.4824**	0.277	1.2	ug/L	63	Standard
	V	51	2606.2	10.7	**0.0316**	0.031	97.0	ug/L	2655	Standard
	Cr	52	7619.6	2.2	**0.0280**	0.016	58.6	ug/L	8417	Standard
	Cr	53	1376.7	6.8	**0.9737**	0.052	5.4	ug/L	146	Standard
	Mn	55	1375.1	18.2	**0.0284**	0.018	65.0	ug/L	1081	Standard
	Co	59	423.3	37.5	**0.0356**	0.017	48.9	ug/L	84	Standard
	Ni	60	790.0	3.1	**0.3318**	0.014	4.1	ug/L	55	Standard
	Cu	65	229.7	3.5	**0.0791**	0.006	7.3	ug/L	78	Standard
	Zn	66	1115.0	4.0	**1.0914**	0.034	3.1	ug/L	99	Standard
>	**Ge**	72	254858.2	2.2				ug/L	289581	Standard
	As	75	-179.8	11.1	**-0.0241**	0.023	96.6	ug/L	-189	Standard
	Se	82	22.2	9.0	**0.0779**	0.020	26.3	ug/L	18	Standard
	Se-1	77	178.7	11.4	**1.4717**	0.303	20.6	ug/L	97	Standard
>	**Ga**	71	598.3	16.0				mg/L	628	Standard
	Rb	85	2455.2	5.9				ug/L	10	Standard
	Y	89	223453.0	2.6				ug/L	254546	Standard
>	**Rh**	103	376.7	0.8				ug/L	400	Standard
	Mo	98	294011.6	1.3	**87.6848**	0.568	0.6	ug/L	8	Standard
	Ag	107	157.7	23.1	**0.0147**	0.005	34.5	ug/L	76	Standard
	Cd	111	25.1	120.3	**-0.0120**	0.008	68.8	mg/L	63	Standard
	Cd	114	1529.1	7.0	**0.1341**	0.009	6.5	ug/L	201	Standard
>	**In**	115	726037.6	1.7				ug/L	847070	Standard
	Sn	118	721.0	52.1	**-0.0057**	0.020	350.9	ug/L	553	Standard
	Sb	123	665.2	46.6	**0.0694**	0.032	46.4	ug/L	25	Standard
	Ba	135	150.7	118.1	**0.0256**	0.043	166.2	ug/L	25	Standard
	Ce	140	1681.1	4.0				ug/L	21	Standard
>	**Tb**	159	1041277.7	0.8				ug/L	1162405	Standard
	Ho	165	17.3	12.0				ug/L	12	Standard
	Tl	203	641.7	85.2	**0.0386**	0.034	87.7	ug/L	4	Standard
	Tl	205	1475.1	82.4	**0.0402**	0.033	80.8	ug/L	4	Standard
	Pb	206	834.0	41.6	**0.0407**	0.028	69.2	ug/L	380	Standard
	Pb	207	656.3	39.7	**0.0320**	0.025	79.3	ug/L	306	Standard
	Pb	208	3106.5	40.4	**0.0360**	0.026	72.5	ug/L	1471	Standard
	U	238	226.3	85.1	**0.0154**	0.012	79.2	ug/L	0	Standard
>	**Bi**	209	523729.4	1.4				ug/L	592579	Standard

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Na	23	137837.5	0.8	**9.0438**	0.215	2.4	mg/L	327	Standard
Mg	24	2708941.3	1.7	**4.9207**	0.165	3.4	mg/L	50	Standard
K	39	4687.4	2.4	**4.5910**	0.182	4.0	mg/L	125	Standard
Ca	43	26.7	21.7	**16.2755**	3.800	23.3	mg/L	0	Standard
Fe	54	16520.1	1.9	**4.0034**	0.071	1.8	mg/L	579	Standard
Fe	57	298206.0	4.2	**3.7022**	0.096	2.6	mg/L	2535	Standard
Sc-1	45	301757.5	1.6				mg/L	350981	Standard
Cl	35	228.7	1.5				ug/L	6	Standard
Kr	83	38.4	5.8				ug/L	39	Standard
Br	81	780.9	9.8				ug/L	918	Standard
P	31	30146.6	0.4				ug/L	338	Standard
S	34	12055.6	2.8				ug/L	6425	Standard
Sr	88	40.0	37.5				ug/L	28	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	7			
Be	9			
Al	27	93.811		
Sc	45			
Ti	47	23.482		
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		88.009	
As	75			
Se	82			
Se-1	77			
Ga	71			
Rb	85			
Y	89			
Rh	103			
Mo	98	87.685		
Ag	107			

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	Cd	111		
	Cd	114		
>	In	115		85.712
	Sn	118		
	Sb	123		
	Ba	135		
	Ce	140		
>	Tb	159		
	Ho	165		
	Tl	203		
	Tl	205		
	Pb	206		
	Pb	207		
	Pb	208		
	U	238		
>	Bi	209		88.381
	Na	23	72.350	
	Mg	24	98.414	
	K	39	91.820	
	Ca	43	108.503	
	Fe	54	32.027	
	Fe	57	29.618	
>	Sc-1	45		
	Cl	35		
	Kr	83		
	Br	81		
	P	31		
	S	34		
	Sr	88		

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 4	Ti	47	
QC Std 4	Na	23	
QC Std 4	Fe	54	
QC Std 4	Fe	57	

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Method 6020 - Summary Report

Sample ID: QC Std 5
Sample Date/Time: Friday, July 20, 2012 08:43:34
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	7	9738.1	0.9	**501.1958**	196.924	39.3	ug/L	9660	Standard
	Be	9	174873.4	0.3	**96.4652**	1.405	1.5	ug/L	7	Standard
	Al	27	69107004.9	2.5	**4705.5383**	91.124	1.9	ug/L	6610	Standard
>	**Sc**	45	361618.6	1.7				ug/L	350981	Standard
	Ti	47	128245.3	2.2	**100.6077**	1.585	1.6	ug/L	63	Standard
	V	51	1037152.0	1.4	**96.5872**	0.560	0.6	ug/L	2655	Standard
	Cr	52	850890.7	1.1	**96.6450**	0.239	0.2	ug/L	8417	Standard
	Cr	53	145905.9	1.5	**99.0099**	1.710	1.7	ug/L	146	Standard
	Mn	55	1550580.3	1.0	**100.0172**	1.015	1.0	ug/L	1081	Standard
	Co	59	1033678.7	0.5	**98.8821**	0.497	0.5	ug/L	84	Standard
	Ni	60	254487.9	1.1	**98.1953**	0.777	0.8	ug/L	55	Standard
	Cu	65	233342.2	0.8	**98.1161**	0.705	0.7	ug/L	78	Standard
	Zn	66	109912.9	1.4	**102.0059**	0.886	0.9	ug/L	99	Standard
>	**Ge**	72	295700.1	0.9				ug/L	289581	Standard
	As	75	110307.1	0.8	**100.6545**	1.414	1.4	ug/L	-189	Standard
	Se	82	11113.8	1.3	**101.5550**	1.385	1.4	ug/L	18	Standard
	Se-1	77	7994.8	1.7	**102.8154**	1.428	1.4	ug/L	97	Standard
>	**Ga**	71	765.0	8.8				mg/L	628	Standard
	Rb	85	2975.3	2.4				ug/L	10	Standard
	Y	89	261993.9	3.2				ug/L	254546	Standard
>	**Rh**	103	470.0	1.1				ug/L	400	Standard
	Mo	98	384487.2	1.0	**97.8048**	1.904	1.9	ug/L	8	Standard
	Ag	107	833899.5	2.4	**103.4455**	1.228	1.2	ug/L	76	Standard
	Cd	111	432896.6	1.0	**100.7911**	1.386	1.4	mg/L	63	Standard
	Cd	114	1165656.6	0.1	**98.1284**	1.497	1.5	ug/L	201	Standard
>	**In**	115	851325.8	1.6				ug/L	847070	Standard
	Sn	118	1170.4	2.3	**0.0096**	0.001	9.6	ug/L	553	Standard
	Sb	123	1099613.4	1.5	**100.5661**	0.728	0.7	ug/L	25	Standard
	Ba	135	465784.2	0.3	**96.8303**	1.844	1.9	ug/L	25	Standard
	Ce	140	2001.1	0.8				ug/L	21	Standard
>	**Tb**	159	1186863.7	0.6				ug/L	1162405	Standard
	Ho	165	25.3	26.3				ug/L	12	Standard
	Tl	203	1724286.4	0.2	**97.9803**	0.921	0.9	ug/L	4	Standard
	Tl	205	4066948.7	0.1	**99.7666**	1.093	1.1	ug/L	4	Standard
	Pb	206	1341158.0	0.5	**98.6771**	0.716	0.7	ug/L	380	Standard
	Pb	207	1134145.9	1.0	**100.0455**	1.368	1.4	ug/L	306	Standard
	Pb	208	5296212.7	0.6	**99.7950**	0.664	0.7	ug/L	1471	Standard
	U	238	1737709.0	1.2	**100.5032**	0.188	0.2	ug/L	0	Standard
>	**Bi**	209	572259.4	1.1				ug/L	592579	Standard

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Na	23	142845.2	0.6	**7.8154**	0.092	1.2	mg/L	327	Standard
Mg	24	3060915.5	2.2	**4.6377**	0.028	0.6	mg/L	50	Standard
K	39	5392.6	0.6	**4.4034**	0.100	2.3	mg/L	125	Standard
Ca	43	26.7	21.7	**13.4409**	3.195	23.8	mg/L	0	Standard
Fe	54	54825.3	1.1	**11.2922**	0.250	2.2	mg/L	579	Standard
Fe	57	1174120.4	3.3	**12.2286**	0.226	1.8	mg/L	2535	Standard
Sc-1	45	361618.6	1.7				mg/L	350981	Standard
Cl	35	227.7	12.6				ug/L	6	Standard
Kr	83	49.2	10.0				ug/L	39	Standard
Br	81	1185.0	9.8				ug/L	918	Standard
P	31	69679.9	0.6				ug/L	338	Standard
S	34	12842.1	2.4				ug/L	6425	Standard
Sr	88	45.0	19.2				ug/L	28	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	7			
Be	9			
Al	27	94.111		
Sc	45			
Ti	47	100.608		
V	51	96.587		
Cr	52	96.645		
Cr	53			
Mn	55	100.017		
Co	59	98.882		
Ni	60	98.195		
Cu	65	98.116		
Zn	66	102.006		
Ge	72		102.113	
As	75	100.654		
Se	82	101.555		
Se-1	77			
Ga	71			
Rb	85			
Y	89			
Rh	103			
Mo	98	97.805		
Ag	107	103.446		

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	Cd	111	100.791	
	Cd	114		
>	In	115		100.502
	Sn	118		
	Sb	123	100.566	
	Ba	135	96.830	
	Ce	140		
>	Tb	159		
	Ho	165		
	Tl	203	97.980	
	Tl	205		
	Pb	206	98.677	
	Pb	207	100.046	
	Pb	208	99.795	
	U	238	100.503	
>	Bi	209		96.571
	Na	23	62.523	
	Mg	24	92.754	
	K	39	88.067	
	Ca	43	89.606	
	Fe	54	90.337	
	Fe	57	97.829	
>	Sc-1	45		
	Cl	35		
	Kr	83		
	Br	81		
	P	31		
	S	34		
	Sr	88		

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 5	Na	23	
QC Std 5	Ca	43	

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Method 6020 - Summary Report

Sample ID: QC Std 6
Sample Date/Time: Friday, July 20, 2012 08:46:46
Number of Replicates: 3
Autosampler Position: 101
Sample Description:
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
	Li	7	9297.9	1.7	**-679.8867**	171.011	25.2	ug/L	9660	Standard
	Be	9	87448.4	2.5	**46.6604**	1.185	2.5	ug/L	7	Standard
	Al	27	718720.2	0.6	**46.8938**	1.251	2.7	ug/L	6610	Standard
>	**Sc**	45	373828.4	2.1				ug/L	350981	Standard
	Ti	47	125681.2	1.3	**97.6728**	1.394	1.4	ug/L	63	Standard
	V	51	535993.5	0.8	**49.3259**	0.477	1.0	ug/L	2655	Standard
	Cr	52	446296.0	1.9	**49.7422**	1.064	2.1	ug/L	8417	Standard
	Cr	53	73170.4	1.1	**49.1279**	0.626	1.3	ug/L	146	Standard
	Mn	55	792677.0	1.1	**50.6119**	0.645	1.3	ug/L	1081	Standard
	Co	59	529017.3	0.3	**50.1231**	0.027	0.1	ug/L	84	Standard
	Ni	60	130065.9	0.2	**49.7035**	0.097	0.2	ug/L	55	Standard
	Cu	65	121117.9	1.4	**50.4325**	0.749	1.5	ug/L	78	Standard
	Zn	66	54258.0	0.4	**49.8252**	0.112	0.2	ug/L	99	Standard
>	**Ge**	72	298507.2	0.2				ug/L	289581	Standard
	As	75	54975.6	0.8	**49.7733**	0.305	0.6	ug/L	-189	Standard
	Se	82	5614.0	0.2	**50.7362**	0.107	0.2	ug/L	18	Standard
	Se-1	77	3952.2	0.8	**49.7234**	0.426	0.9	ug/L	97	Standard
>	**Ga**	71	643.3	14.9				mg/L	628	Standard
	Rb	85	870.0	12.4				ug/L	10	Standard
	Y	89	266844.4	0.8				ug/L	254546	Standard
>	**Rh**	103	435.0	12.6				ug/L	400	Standard
	Mo	98	397005.1	1.2	**100.4778**	1.051	1.0	ug/L	8	Standard
	Ag	107	423849.7	0.3	**52.3235**	0.604	1.2	ug/L	76	Standard
	Cd	111	220929.1	0.6	**51.1739**	0.455	0.9	mg/L	63	Standard
	Cd	114	599353.5	0.4	**50.1942**	0.435	0.9	ug/L	201	Standard
>	**In**	115	855531.4	1.1				ug/L	847070	Standard
	Sn	118	1444626.3	0.9	**66.7901**	0.511	0.8	ug/L	553	Standard
	Sb	123	549903.7	0.5	**50.0485**	0.801	1.6	ug/L	25	Standard
	Ba	135	237629.2	1.4	**49.1424**	0.438	0.9	ug/L	25	Standard
	Ce	140	948.0	3.1				ug/L	21	Standard
>	**Tb**	159	1176392.4	1.2				ug/L	1162405	Standard
	Ho	165	21.0	26.5				ug/L	12	Standard
	Tl	203	885547.5	0.7	**49.6161**	0.128	0.3	ug/L	4	Standard
	Tl	205	2103608.3	0.9	**50.8817**	0.081	0.2	ug/L	4	Standard
	Pb	206	686528.4	0.6	**49.7942**	0.137	0.3	ug/L	380	Standard
	Pb	207	581033.3	0.4	**50.5239**	0.385	0.8	ug/L	306	Standard
	Pb	208	2691325.5	0.6	**49.9909**	0.180	0.4	ug/L	1471	Standard
	U	238	877761.0	0.7	**50.0647**	0.713	1.4	ug/L	0	Standard
>	**Bi**	209	580335.3	0.8				ug/L	592579	Standard

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Na	23	117324.2	0.5	**6.2033**	0.122	2.0	mg/L	327	Standard
Mg	24	3282702.7	2.2	**4.8124**	0.119	2.5	mg/L	50	Standard
K	39	5626.0	4.1	**4.4435**	0.162	3.6	mg/L	125	Standard
Ca	43	16.7	75.5	**7.8624**	6.726	85.6	mg/L	0	Standard
Fe	54	23701.7	1.1	**4.6553**	0.091	2.0	mg/L	579	Standard
Fe	57	502891.3	3.1	**5.0546**	0.261	5.2	mg/L	2535	Standard
Sc-1	45	373828.4	2.1				mg/L	350981	Standard
Cl	35	5.0	103.9				ug/L	6	Standard
Kr	83	43.7	7.0				ug/L	39	Standard
Br	81	1070.9	5.5				ug/L	918	Standard
P	31	394.2	10.7				ug/L	338	Standard
S	34	5539.3	0.6				ug/L	6425	Standard
Sr	88	26.7	28.6				ug/L	28	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	7			
Be	9			
Al	27	93.788		
Sc	45			
Ti	47	97.673		
V	51	98.652		
Cr	52	99.484		
Cr	53			
Mn	55	101.224		
Co	59	100.246		
Ni	60	99.407		
Cu	65	100.865		
Zn	66	99.650		
Ge	72		103.082	
As	75	99.547		
Se	82	101.472		
Se-1	77			
Ga	71			
Rb	85			
Y	89			
Rh	103			
Mo	98	100.478		
Ag	107	104.647		

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	Cd	111	102.348	
	Cd	114		
>	In	115		100.999
	Sn	118	133.580	
	Sb	123	100.097	
	Ba	135	98.285	
	Ce	140		
>	Tb	159		
	Ho	165		
	Tl	203	99.232	
	Tl	205		
	Pb	206	99.588	
	Pb	207	101.048	
	Pb	208	99.982	
	U	238	100.129	
>	Bi	209		97.934
	Na	23		
	Mg	24		
	K	39		
	Ca	43		
	Fe	54		
	Fe	57		
>	Sc-1	45		
	Cl	35		
	Kr	83		
	Br	81		
	P	31		
	S	34		
	Sr	88		

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 6	Sn	118	

Sample ID: QC Std 6
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Method 6020 - Summary Report

Sample ID: QC Std 7
Sample Date/Time: Friday, July 20, 2012 08:49:57
Number of Replicates: 3
Autosampler Position: 102
Sample Description:
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
	Li	7	9636.4	1.3	**244.9215**	390.200	159.3	ug/L	9660	Standard
	Be	9	75.0	150.1	**0.0358**	0.061	170.3	ug/L	7	Standard
	Al	27	10961.2	45.7	**0.2730**	0.329	120.6	ug/L	6610	Standard
>	**Sc**	45	363908.8	1.3				ug/L	350981	Standard
	Ti	47	155.3	91.8	**0.0681**	0.112	164.1	ug/L	63	Standard
	V	51	2668.3	4.2	**-0.0023**	0.010	438.7	ug/L	2655	Standard
	Cr	52	8203.6	2.0	**-0.0476**	0.016	32.7	ug/L	8417	Standard
	Cr	53	296.7	31.1	**0.0903**	0.063	69.6	ug/L	146	Standard
	Mn	55	1199.7	13.9	**0.0027**	0.011	408.6	ug/L	1081	Standard
	Co	59	185.7	51.9	**0.0063**	0.009	146.0	ug/L	84	Standard
	Ni	60	188.7	112.6	**0.0506**	0.082	161.9	ug/L	55	Standard
	Cu	65	200.0	105.2	**0.0509**	0.088	173.5	ug/L	78	Standard
	Zn	66	158.3	54.5	**0.0363**	0.080	220.9	ug/L	99	Standard
>	**Ge**	72	296456.6	0.7				ug/L	289581	Standard
	As	75	-140.3	46.9	**0.0386**	0.060	154.9	ug/L	-189	Standard
	Se	82	27.2	8.7	**0.0909**	0.021	23.6	ug/L	18	Standard
	Se-1	77	104.3	4.9	**0.1282**	0.065	51.0	ug/L	97	Standard
>	**Ga**	71	641.7	2.5				mg/L	628	Standard
	Rb	85	28.3	10.2				ug/L	10	Standard
	Y	89	265976.0	0.9				ug/L	254546	Standard
>	**Rh**	103	411.7	2.8				ug/L	400	Standard
	Mo	98	208.0	68.9	**0.0500**	0.036	71.9	ug/L	8	Standard
	Ag	107	324.3	31.1	**0.0315**	0.012	39.1	ug/L	76	Standard
	Cd	111	115.8	48.2	**0.0077**	0.013	167.3	mg/L	63	Standard
	Cd	114	361.0	45.8	**0.0132**	0.014	104.2	ug/L	201	Standard
>	**In**	115	863838.7	0.1				ug/L	847070	Standard
	Sn	118	1055.0	18.1	**0.0035**	0.009	249.4	ug/L	553	Standard
	Sb	123	1677.5	31.2	**0.1495**	0.047	31.5	ug/L	25	Standard
	Ba	135	85.7	67.2	**0.0068**	0.012	173.3	ug/L	25	Standard
	Ce	140	26.0	13.9				ug/L	21	Standard
>	**Tb**	159	1156550.8	0.8				ug/L	1162405	Standard
	Ho	165	11.0	55.3				ug/L	12	Standard
	Tl	203	184.3	79.9	**0.0087**	0.008	92.2	ug/L	4	Standard
	Tl	205	461.7	91.2	**0.0115**	0.010	86.4	ug/L	4	Standard
	Pb	206	523.3	30.6	**0.0105**	0.011	106.0	ug/L	380	Standard
	Pb	207	432.3	30.8	**0.0053**	0.011	210.9	ug/L	306	Standard
	Pb	208	2007.1	29.2	**0.0083**	0.010	126.2	ug/L	1471	Standard
	U	238	171.7	88.0	**0.0105**	0.008	79.4	ug/L	0	Standard
>	**Bi**	209	594162.6	1.4				ug/L	592579	Standard

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Na	23	526.7	14.6	**-0.0049**	0.004	79.2	mg/L	327	Standard
Mg	24	556.7	72.9	**0.0007**	0.001	83.1	mg/L	50	Standard
K	39	138.3	4.2	**0.0282**	0.004	13.0	mg/L	125	Standard
Ca	43	1.7	173.2	**0.0130**	1.535	11834.9	mg/L	0	Standard
Fe	54	586.1	8.6	**0.0060**	0.010	162.5	mg/L	579	Standard
Fe	57	2913.6	6.4	**0.0025**	0.002	62.0	mg/L	2535	Standard
> **Sc-1**	45	363908.8	1.3				mg/L	350981	Standard
Cl	35	3.7	68.6				ug/L	6	Standard
Kr	83	39.1	6.0				ug/L	39	Standard
Br	81	993.4	2.6				ug/L	918	Standard
P	31	420.0	8.2				ug/L	338	Standard
S	34	5858.6	1.6				ug/L	6425	Standard
Sr	88	40.0	45.1				ug/L	28	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	7			
Be	9			
Al	27			
> Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
> Ge	72		102.374	
As	75			
Se	82			
Se-1	77			
> Ga	71			
Rb	85			
Y	89			
> Rh	103			
Mo	98			
Ag	107			

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	Cd	111	
	Cd	114	
>	In	115	101.980
	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	100.267
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: QC Std 7
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Method 6020 - Summary Report

Sample ID: PBW 48 WG403778-03
Sample Date/Time: Friday, July 20, 2012 08:53:09
Number of Replicates: 3
Autosampler Position: 205
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	7	9723.1	3.9	**314.3091**	432.182	137.5	ug/L	9660	Standard
	Be	9	16.7	96.4	**0.0042**	0.009	209.4	ug/L	7	Standard
	Al	27	7576.9	9.0	**0.0446**	0.052	115.8	ug/L	6610	Standard
>	**Sc**	45	365361.4	1.2				ug/L	350981	Standard
	Ti	47	65.7	25.9	**-0.0008**	0.014	1701.9	ug/L	63	Standard
	V	51	2644.8	0.9	**0.0012**	0.004	367.2	ug/L	2655	Standard
	Cr	52	8258.3	1.9	**-0.0194**	0.027	138.0	ug/L	8417	Standard
	Cr	53	200.0	9.9	**0.0278**	0.012	42.8	ug/L	146	Standard
	Mn	55	1058.7	3.1	**-0.0048**	0.003	62.2	ug/L	1081	Standard
	Co	59	107.0	18.2	**-0.0010**	0.002	196.1	ug/L	84	Standard
	Ni	60	103.7	5.0	**0.0187**	0.003	14.5	ug/L	55	Standard
	Cu	65	89.0	12.8	**0.0052**	0.005	88.0	ug/L	78	Standard
	Zn	66	555.7	6.3	**0.4160**	0.026	6.3	ug/L	99	Standard
>	**Ge**	72	289826.4	2.0				ug/L	289581	Standard
	As	75	-180.3	3.8	**-0.0014**	0.004	268.4	ug/L	-189	Standard
	Se	82	16.0	28.8	**-0.0075**	0.045	607.2	ug/L	18	Standard
	Se-1	77	110.0	9.0	**0.2335**	0.110	47.1	ug/L	97	Standard
>	**Ga**	71	606.7	6.2				mg/L	628	Standard
	Rb	85	20.0	43.3				ug/L	10	Standard
	Y	89	262715.1	1.6				ug/L	254546	Standard
>	**Rh**	103	415.0	10.4				ug/L	400	Standard
	Mo	98	64.3	9.4	**0.0139**	0.001	10.2	ug/L	8	Standard
	Ag	107	106.7	8.9	**0.0049**	0.001	22.3	ug/L	76	Standard
	Cd	111	89.8	18.2	**0.0017**	0.004	221.1	mg/L	63	Standard
	Cd	114	252.0	1.9	**0.0041**	0.000	6.7	ug/L	201	Standard
>	**In**	115	865119.6	0.6				ug/L	847070	Standard
	Sn	118	709.7	7.4	**-0.0124**	0.002	17.8	ug/L	553	Standard
	Sb	123	498.2	12.4	**0.0431**	0.005	12.4	ug/L	25	Standard
	Ba	135	32.0	16.5	**-0.0042**	0.001	25.3	ug/L	25	Standard
	Ce	140	26.0	7.7				ug/L	21	Standard
>	**Tb**	159	1150869.9	1.0				ug/L	1162405	Standard
	Ho	165	11.7	27.6				ug/L	12	Standard
	Tl	203	76.0	31.3	**0.0028**	0.001	46.7	ug/L	4	Standard
	Tl	205	160.7	31.5	**0.0044**	0.001	26.5	ug/L	4	Standard
	Pb	206	426.3	5.6	**0.0040**	0.002	42.0	ug/L	380	Standard
	Pb	207	347.0	11.6	**-0.0017**	0.003	198.3	ug/L	306	Standard
	Pb	208	1647.0	3.9	**0.0021**	0.001	59.7	ug/L	1471	Standard
	U	238	59.7	33.3	**0.0044**	0.001	25.4	ug/L	0	Standard
>	**Bi**	209	588657.9	1.7				ug/L	592579	Standard

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Na	23	468.3	13.0	**-0.0082**	0.003	42.6	mg/L	327	Standard
Mg	24	206.7	38.6	**0.0002**	0.000	62.5	mg/L	50	Standard
K	39	120.0	32.5	**0.0124**	0.031	248.0	mg/L	125	Standard
Ca	43	1.7	173.2	**0.0147**	1.538	10495.0	mg/L	0	Standard
Fe	54	558.9	12.7	**-0.0002**	0.013	7221.1	mg/L	579	Standard
Fe	57	2972.0	0.8	**0.0030**	0.000	9.6	mg/L	2535	Standard
Sc-1	45	365361.4	1.2				mg/L	350981	Standard
Cl	35	5.0	20.0				ug/L	6	Standard
Kr	83	45.0	9.7				ug/L	39	Standard
Br	81	1044.2	8.3				ug/L	918	Standard
P	31	386.7	5.8				ug/L	338	Standard
S	34	5835.3	2.1				ug/L	6425	Standard
Sr	88	30.0	33.3				ug/L	28	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	7			
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		100.085	
As	75			
Se	82			
Se-1	77			
Ga	71			
Rb	85			
Y	89			
Rh	103			
Mo	98			
Ag	107			

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Cd	111	
Cd	114	
> In	115	102.131
Sn	118	
Sb	123	
Ba	135	
Ce	140	
> Tb	159	
Ho	165	
Tl	203	
Tl	205	
Pb	206	
Pb	207	
Pb	208	
U	238	
> Bi	209	99.338
Na	23	
Mg	24	
K	39	
Ca	43	
Fe	54	
Fe	57	
> Sc-1	45	
Cl	35	
Kr	83	
Br	81	
P	31	
S	34	
Sr	88	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: PBW 48 WG403778-03
Report Date/Time: Friday, July 20, 2012 08:55:40
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Method 6020 - Summary Report

Sample ID: LCSW 48 WG403778-04
Sample Date/Time: Friday, July 20, 2012 08:56:19
Number of Replicates: 3
Autosampler Position: 206
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	7	11080.7	4.1	**-87.2670**	290.311	332.7	ug/L	9660	Standard
	Be	9	51009.2	5.5	**23.7736**	0.585	2.5	ug/L	7	Standard
	Al	27	472579.5	3.6	**26.7442**	0.493	1.8	ug/L	6610	Standard
>	**Sc**	45	427697.2	3.5				ug/L	350981	Standard
	Ti	47	97.0	10.5	**0.0137**	0.005	34.7	ug/L	63	Standard
	V	51	305582.8	2.4	**24.9993**	0.490	2.0	ug/L	2655	Standard
	Cr	52	258326.3	3.2	**25.2371**	0.141	0.6	ug/L	8417	Standard
	Cr	53	43544.2	3.8	**26.0571**	0.393	1.5	ug/L	146	Standard
	Mn	55	456543.8	4.0	**25.9932**	0.245	0.9	ug/L	1081	Standard
	Co	59	300698.6	2.3	**25.4444**	0.296	1.2	ug/L	84	Standard
	Ni	60	75828.4	3.1	**25.8697**	0.202	0.8	ug/L	55	Standard
	Cu	65	70440.3	5.3	**26.1676**	0.565	2.2	ug/L	78	Standard
	Zn	66	32123.4	2.5	**26.3000**	0.477	1.8	ug/L	99	Standard
>	**Ge**	72	334257.3	3.5				ug/L	289581	Standard
	As	75	29507.4	2.8	**23.9482**	0.161	0.7	ug/L	-189	Standard
	Se	82	2936.0	3.2	**23.6154**	0.302	1.3	ug/L	18	Standard
	Se-1	77	2186.2	1.0	**23.9567**	0.618	2.6	ug/L	97	Standard
>	**Ga**	71	751.7	1.0				mg/L	628	Standard
	Rb	85	43.3	58.1				ug/L	10	Standard
	Y	89	302181.2	5.5				ug/L	254546	Standard
>	**Rh**	103	468.3	14.5				ug/L	400	Standard
	Mo	98	87.0	32.6	**0.0172**	0.007	37.9	ug/L	8	Standard
	Ag	107	241103.4	5.8	**26.1156**	0.641	2.5	ug/L	76	Standard
	Cd	111	122928.6	5.1	**24.9823**	0.417	1.7	mg/L	63	Standard
	Cd	114	328606.2	3.8	**24.1531**	0.191	0.8	ug/L	201	Standard
>	**In**	115	974320.6	3.5				ug/L	847070	Standard
	Sn	118	1281.1	8.3	**0.0072**	0.003	38.4	ug/L	553	Standard
	Sb	123	299513.5	2.5	**23.9393**	0.413	1.7	ug/L	25	Standard
	Ba	135	133956.8	2.7	**24.3244**	0.288	1.2	ug/L	25	Standard
	Ce	140	333.0	9.0				ug/L	21	Standard
>	**Tb**	159	1255155.8	1.5				ug/L	1162405	Standard
	Ho	165	15.0	23.1				ug/L	12	Standard
	Tl	203	493263.1	1.3	**25.1769**	0.256	1.0	ug/L	4	Standard
	Tl	205	1139041.7	1.4	**25.0995**	0.257	1.0	ug/L	4	Standard
	Pb	206	381423.8	2.2	**25.1864**	0.075	0.3	ug/L	380	Standard
	Pb	207	324378.6	2.2	**25.6768**	0.132	0.5	ug/L	306	Standard
	Pb	208	1503626.3	2.1	**25.4271**	0.077	0.3	ug/L	1471	Standard
	U	238	478862.0	3.1	**24.8744**	0.187	0.8	ug/L	0	Standard
>	**Bi**	209	637116.6	2.3				ug/L	592579	Standard

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Na	23	1031.7	13.1	**0.0143**	0.007	47.1	mg/L	327	Standard
Mg	24	3052.0	1.1	**0.0038**	0.000	3.2	mg/L	50	Standard
K	39	150.0	3.3	**0.0194**	0.005	24.7	mg/L	125	Standard
Ca	43	0.0		**-0.8733**			mg/L	0	Standard
Fe	54	796.2	5.3	**0.0249**	0.005	20.2	mg/L	579	Standard
Fe	57	3825.5	8.5	**0.0060**	0.002	28.4	mg/L	2535	Standard
> **Sc-1**	45	427697.2	3.5				mg/L	350981	Standard
Cl	35	3.0	33.3				ug/L	6	Standard
Kr	83	42.7	5.1				ug/L	39	Standard
Br	81	1260.9	6.9				ug/L	918	Standard
P	31	603.3	3.8				ug/L	338	Standard
S	34	6279.6	1.1				ug/L	6425	Standard
Sr	88	33.3	22.9				ug/L	28	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	7			
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		115.428	
As	75			
Se	82			
Se-1	77			
> Ga	71			
Rb	85			
Y	89			
> Rh	103			
Mo	98			
Ag	107			

Sample ID: LCSW 48 WG403778-04
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	Cd	111	
	Cd	114	
>	In	115	115.022
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	107.516
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: LCSW 48 WG403778-04
Report Date/Time: Friday, July 20, 2012 08:58:50
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Method 6020 - Summary Report

Sample ID: L1207051601
Sample Date/Time: Friday, July 20, 2012 08:59:29
Number of Replicates: 3
Autosampler Position: 207
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	7	369442.8	3.2	**534207.0331**	10227.219	1.9	ug/L	9660	Standard
	Be	9	16.7	45.8	**0.0037**	0.004	106.5	ug/L	7	Standard
	Al	27	466672.4	4.2	**29.3015**	0.871	3.0	ug/L	6610	Standard
>	**Sc**	45	385991.5	2.3				ug/L	350981	Standard
	Ti	47	1537.4	3.3	**1.1828**	0.023	1.9	ug/L	63	Standard
	V	51	33339.7	1.8	**2.9390**	0.025	0.8	ug/L	2655	Standard
	Cr	52	17543.2	2.1	**1.0761**	0.021	2.0	ug/L	8417	Standard
	Cr	53	2976.1	24.2	**1.9663**	0.534	27.2	ug/L	146	Standard
	Mn	55	101373.0	1.4	**6.6311**	0.093	1.4	ug/L	1081	Standard
	Co	59	540.0	9.8	**0.0415**	0.004	10.6	ug/L	84	Standard
	Ni	60	1048.0	2.7	**0.3923**	0.006	1.5	ug/L	55	Standard
	Cu	65	1127.0	6.5	**0.4525**	0.025	5.5	ug/L	78	Standard
	Zn	66	2582.6	2.6	**2.3479**	0.034	1.5	ug/L	99	Standard
>	**Ge**	72	288575.9	1.5				ug/L	289581	Standard
	As	75	2024.3	3.3	**2.0562**	0.078	3.8	ug/L	-189	Standard
	Se	82	244.2	12.3	**2.1358**	0.311	14.6	ug/L	18	Standard
	Se-1	77	264.0	2.7	**2.2944**	0.074	3.2	ug/L	97	Standard
>	**Ga**	71	778.4	11.7				mg/L	628	Standard
	Rb	85	8178.9	3.2				ug/L	10	Standard
	Y	89	272533.4	2.4				ug/L	254546	Standard
>	**Rh**	103	668.3	6.7				ug/L	400	Standard
	Mo	98	6162.4	2.2	**1.5542**	0.021	1.4	ug/L	8	Standard
	Ag	107	224.7	6.5	**0.0195**	0.002	9.2	ug/L	76	Standard
	Cd	111	100.2	27.2	**0.0042**	0.006	143.8	mg/L	63	Standard
	Cd	114	312.6	6.8	**0.0093**	0.002	16.4	ug/L	201	Standard
>	**In**	115	857274.4	0.9				ug/L	847070	Standard
	Sn	118	1107.7	0.6	**0.0063**	0.000	6.3	ug/L	553	Standard
	Sb	123	1524.8	12.0	**0.1367**	0.016	11.4	ug/L	25	Standard
	Ba	135	64902.7	0.7	**13.3873**	0.100	0.7	ug/L	25	Standard
	Ce	140	4828.1	11.1				ug/L	21	Standard
>	**Tb**	159	1191917.6	0.2				ug/L	1162405	Standard
	Ho	165	108.3	31.0				ug/L	12	Standard
	Tl	203	351.7	8.0	**0.0199**	0.002	8.6	ug/L	4	Standard
	Tl	205	807.7	18.2	**0.0217**	0.004	17.7	ug/L	4	Standard
	Pb	206	1496.1	1.0	**0.0907**	0.001	1.4	ug/L	380	Standard
	Pb	207	1191.4	5.0	**0.0805**	0.006	7.0	ug/L	306	Standard
	Pb	208	5553.7	2.6	**0.0834**	0.003	3.4	ug/L	1471	Standard
	U	238	133433.7	1.1	**8.2190**	0.100	1.2	ug/L	0	Standard
>	**Bi**	209	537400.0	0.1				ug/L	592579	Standard

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Na	23	420204.3	1.1	**21.5999**	0.376	1.7	mg/L	327	Standard
Mg	24	741877.3	2.2	**1.0531**	0.011	1.0	mg/L	50	Standard
K	39	1138.4	5.1	**0.8013**	0.034	4.2	mg/L	125	Standard
Ca	43	8.3	69.3	**3.3544**	3.024	90.2	mg/L	0	Standard
Fe	54	636.4	13.9	**0.0092**	0.020	217.9	mg/L	579	Standard
Fe	57	6154.6	6.2	**0.0324**	0.003	9.3	mg/L	2535	Standard
Sc-1	45	385991.5	2.3				mg/L	350981	Standard
Cl	35	190.0	2.1				ug/L	6	Standard
Kr	83	56.7	15.6				ug/L	39	Standard
Br	81	19482.6	7.2				ug/L	918	Standard
P	31	662.5	2.6				ug/L	338	Standard
S	34	38014.3	0.6				ug/L	6425	Standard
Sr	88	266.7	7.6				ug/L	28	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	7			
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		99.653	
As	75			
Se	82			
Se-1	77			
Ga	71			
Rb	85			
Y	89			
Rh	103			
Mo	98			
Ag	107			

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	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

101.205

90.688

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Approved: July 23, 2012

Method 6020 - Summary Report

Sample ID: L1207051602
Sample Date/Time: Friday, July 20, 2012 09:02:39
Number of Replicates: 3
Autosampler Position: 208
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	7	10965.6	3.9	**1125.4446**	552.949	49.1	ug/L	9660	Standard
	Be	9	28.3	44.4	**0.0096**	0.007	68.1	ug/L	7	Standard
	Al	27	411804.2	2.9	**25.4526**	0.935	3.7	ug/L	6610	Standard
>	**Sc**	45	391303.7	0.7				ug/L	350981	Standard
	Ti	47	215.3	9.2	**0.1078**	0.015	13.9	ug/L	63	Standard
	V	51	4072.4	5.7	**0.1120**	0.019	17.3	ug/L	2655	Standard
	Cr	52	11150.8	2.3	**0.2344**	0.022	9.3	ug/L	8417	Standard
	Cr	53	612.5	10.3	**0.2865**	0.043	15.2	ug/L	146	Standard
	Mn	55	15252.7	1.4	**0.8649**	0.015	1.7	ug/L	1081	Standard
	Co	59	452.0	34.9	**0.0298**	0.014	48.0	ug/L	84	Standard
	Ni	60	513.7	4.3	**0.1670**	0.007	4.4	ug/L	55	Standard
	Cu	65	747.7	3.7	**0.2671**	0.011	4.2	ug/L	78	Standard
	Zn	66	2360.5	0.5	**1.9823**	0.012	0.6	ug/L	99	Standard
>	**Ge**	72	309880.2	0.7				ug/L	289581	Standard
	As	75	-147.8	24.8	**0.0376**	0.032	84.2	ug/L	-189	Standard
	Se	82	32.8	21.4	**0.1290**	0.061	47.0	ug/L	18	Standard
	Se-1	77	107.0	6.1	**0.1024**	0.073	71.1	ug/L	97	Standard
>	**Ga**	71	736.7	9.8				mg/L	628	Standard
	Rb	85	531.7	1.4				ug/L	10	Standard
	Y	89	282352.1	1.8				ug/L	254546	Standard
>	**Rh**	103	528.3	9.3				ug/L	400	Standard
	Mo	98	336.3	108.2	**0.0771**	0.086	112.1	ug/L	8	Standard
	Ag	107	492.0	123.0	**0.0485**	0.070	144.4	ug/L	76	Standard
	Cd	111	275.2	109.8	**0.0405**	0.066	162.3	mg/L	63	Standard
	Cd	114	789.9	104.9	**0.0448**	0.065	145.3	ug/L	201	Standard
>	**In**	115	925003.8	1.1				ug/L	847070	Standard
	Sn	118	1109.7	53.8	**0.0028**	0.026	929.2	ug/L	553	Standard
	Sb	123	636.5	83.5	**0.0522**	0.046	87.3	ug/L	25	Standard
	Ba	135	1572.7	11.7	**0.2904**	0.038	13.1	ug/L	25	Standard
	Ce	140	3303.4	3.0				ug/L	21	Standard
>	**Tb**	159	1250510.1	0.3				ug/L	1162405	Standard
	Ho	165	95.0	11.1				ug/L	12	Standard
	Tl	203	400.7	119.6	**0.0193**	0.025	127.5	ug/L	4	Standard
	Tl	205	822.7	115.7	**0.0189**	0.021	111.7	ug/L	4	Standard
	Pb	206	1153.7	22.6	**0.0510**	0.017	33.1	ug/L	380	Standard
	Pb	207	936.4	25.6	**0.0440**	0.019	42.5	ug/L	306	Standard
	Pb	208	4389.3	23.4	**0.0474**	0.017	36.1	ug/L	1471	Standard
	U	238	227.0	82.7	**0.0130**	0.010	75.6	ug/L	0	Standard
>	**Bi**	209	626193.8	0.8				ug/L	592579	Standard

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Na	23	4955.8	19.3	**0.2179**	0.048	22.0	mg/L	327	Standard
Mg	24	10663.8	4.4	**0.0148**	0.001	5.2	mg/L	50	Standard
K	39	148.3	14.0	**0.0280**	0.016	58.9	mg/L	125	Standard
Ca	43	0.0		**-0.8733**			mg/L	0	Standard
Fe	54	1203.8	6.0	**0.1162**	0.013	11.1	mg/L	579	Standard
Fe	57	14211.7	4.1	**0.1094**	0.006	5.2	mg/L	2535	Standard
Sc-1	45	391303.7	0.7				mg/L	350981	Standard
Cl	35	3.3	62.4				ug/L	6	Standard
Kr	83	40.9	8.2				ug/L	39	Standard
Br	81	1748.4	23.8				ug/L	918	Standard
P	31	372.5	11.8				ug/L	338	Standard
S	34	6258.8	1.3				ug/L	6425	Standard
Sr	88	36.7	28.4				ug/L	28	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	7			
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		107.010	
As	75			
Se	82			
Se-1	77			
Ga	71			
Rb	85			
Y	89			
Rh	103			
Mo	98			
Ag	107			

Sample ID: L1207051602
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	Cd	111	
	Cd	114	
>	In	115	109.200
	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	105.673
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: L1207051602
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Method 6020 - Summary Report

Sample ID: L1207049206 WG403778-01
Sample Date/Time: Friday, July 20, 2012 09:05:47
Number of Replicates: 3
Autosampler Position: 209
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	7	65784.2	2.2	**84788.2011**	1014.292	1.2	ug/L	9660	Standard
	Be	9	10.0	50.0	**0.0004**	0.003	741.6	ug/L	7	Standard
	Al	27	128410.8	4.2	**7.8911**	0.387	4.9	ug/L	6610	Standard
>	**Sc**	45	378409.2	1.2				ug/L	350981	Standard
	Ti	47	402.7	7.4	**0.2697**	0.021	7.9	ug/L	63	Standard
	V	51	11983.9	0.9	**0.8941**	0.018	2.0	ug/L	2655	Standard
	Cr	52	16228.0	1.5	**0.9189**	0.054	5.8	ug/L	8417	Standard
	Cr	53	781.7	7.3	**0.4328**	0.045	10.4	ug/L	146	Standard
	Mn	55	13649.8	1.4	**0.8270**	0.023	2.8	ug/L	1081	Standard
	Co	59	404.0	6.1	**0.0281**	0.002	7.2	ug/L	84	Standard
	Ni	60	885.0	1.4	**0.3273**	0.003	0.9	ug/L	55	Standard
	Cu	65	1229.4	2.8	**0.4962**	0.021	4.2	ug/L	78	Standard
	Zn	66	1951.5	1.8	**1.7443**	0.014	0.8	ug/L	99	Standard
>	**Ge**	72	289038.8	1.3				ug/L	289581	Standard
	As	75	7785.8	0.3	**7.4224**	0.069	0.9	ug/L	-189	Standard
	Se	82	85.3	13.7	**0.6418**	0.118	18.3	ug/L	18	Standard
	Se-1	77	132.7	5.0	**0.5400**	0.078	14.4	ug/L	97	Standard
>	**Ga**	71	766.7	12.6				mg/L	628	Standard
	Rb	85	5322.6	4.5				ug/L	10	Standard
	Y	89	269024.5	1.8				ug/L	254546	Standard
>	**Rh**	103	581.7	6.2				ug/L	400	Standard
	Mo	98	394530.3	1.1	**100.2153**	1.050	1.0	ug/L	8	Standard
	Ag	107	98.0	10.4	**0.0040**	0.001	33.1	ug/L	76	Standard
	Cd	111	-247.9	9.2	**-0.0766**	0.006	7.4	mg/L	63	Standard
	Cd	114	1320.0	1.2	**0.0942**	0.002	2.1	ug/L	201	Standard
>	**In**	115	852408.8	0.7				ug/L	847070	Standard
	Sn	118	1605.4	1.7	**0.0297**	0.001	2.8	ug/L	553	Standard
	Sb	123	1685.7	3.3	**0.1523**	0.006	3.7	ug/L	25	Standard
	Ba	135	93169.3	1.1	**19.3331**	0.332	1.7	ug/L	25	Standard
	Ce	140	862.0	4.5				ug/L	21	Standard
>	**Tb**	159	1179977.9	1.4				ug/L	1162405	Standard
	Ho	165	40.7	28.5				ug/L	12	Standard
	Tl	203	198.0	9.1	**0.0106**	0.001	10.6	ug/L	4	Standard
	Tl	205	442.7	6.9	**0.0121**	0.001	6.7	ug/L	4	Standard
	Pb	206	571.3	2.8	**0.0182**	0.001	6.9	ug/L	380	Standard
	Pb	207	463.7	2.7	**0.0121**	0.001	8.8	ug/L	306	Standard
	Pb	208	2181.4	1.2	**0.0156**	0.001	4.4	ug/L	1471	Standard
	U	238	176453.9	0.8	**10.8464**	0.123	1.1	ug/L	0	Standard
>	**Bi**	209	538503.5	0.3				ug/L	592579	Standard

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	Na	23	386681.0	1.4	**20.2693**	0.310	1.5	mg/L	327	Standard
	Mg	24	92929.3	3.1	**0.1344**	0.003	1.9	mg/L	50	Standard
	K	39	505.0	1.7	**0.3155**	0.007	2.2	mg/L	125	Standard
	Ca	43	6.7	43.3	**2.5504**	1.513	59.3	mg/L	0	Standard
	Fe	54	623.9	9.3	**0.0089**	0.012	134.5	mg/L	579	Standard
	Fe	57	3878.8	8.2	**0.0109**	0.003	25.8	mg/L	2535	Standard
>	**Sc-1**	45	378409.2	1.2				mg/L	350981	Standard
	Cl	35	13.7	40.3				ug/L	6	Standard
	Kr	83	46.8	8.2				ug/L	39	Standard
	Br	81	3979.7	2.3				ug/L	918	Standard
	P	31	874.2	6.1				ug/L	338	Standard
	S	34	31329.0	1.0				ug/L	6425	Standard
	Sr	88	146.7	27.6				ug/L	28	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
	Li	7			
	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		99.813	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			
	Y	89			
>	Rh	103			
	Mo	98			
	Ag	107			

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	Cd	111	
	Cd	114	
>	In	115	100.630
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	90.875
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Mo 98 Upper, S, EEE	Mo	98	

Approved: July 23, 2012

Method 6020 - Summary Report

Sample ID: L1207049214S WG403778-05
Sample Date/Time: Friday, July 20, 2012 09:08:57
Number of Replicates: 3
Autosampler Position: 210
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	7	68084.4	3.3	**88383.2035**	1595.710	1.8	ug/L	9660	Standard
	Be	9	46698.6	3.1	**24.6387**	0.713	2.9	ug/L	7	Standard
	Al	27	585578.9	1.2	**37.6863**	0.417	1.1	ug/L	6610	Standard
>	**Sc**	45	378005.4	2.3				ug/L	350981	Standard
	Ti	47	455.3	5.7	**0.3116**	0.026	8.5	ug/L	63	Standard
	V	51	286131.0	2.5	**27.0179**	0.288	1.1	ug/L	2655	Standard
	Cr	52	235820.0	2.4	**26.6306**	0.201	0.8	ug/L	8417	Standard
	Cr	53	37476.3	3.8	**25.8700**	0.636	2.5	ug/L	146	Standard
	Mn	55	433129.8	0.8	**28.4663**	0.272	1.0	ug/L	1081	Standard
	Co	59	273372.4	2.4	**26.6823**	0.256	1.0	ug/L	84	Standard
	Ni	60	64264.4	3.4	**25.2894**	0.435	1.7	ug/L	55	Standard
	Cu	65	60231.2	3.0	**25.8236**	0.450	1.7	ug/L	78	Standard
	Zn	66	30018.4	2.4	**28.3549**	0.247	0.9	ug/L	99	Standard
>	**Ge**	72	289694.4	1.7				ug/L	289581	Standard
	As	75	37479.7	1.6	**35.0161**	0.316	0.9	ug/L	-189	Standard
	Se	82	3124.0	2.1	**29.0276**	0.582	2.0	ug/L	18	Standard
	Se-1	77	2193.5	1.3	**27.9129**	0.175	0.6	ug/L	97	Standard
>	**Ga**	71	803.4	1.0				mg/L	628	Standard
	Rb	85	5062.5	1.9				ug/L	10	Standard
	Y	89	267624.4	3.1				ug/L	254546	Standard
>	**Rh**	103	643.3	5.8				ug/L	400	Standard
	Mo	98	416765.3	1.0	**105.6728**	0.359	0.3	ug/L	8	Standard
	Ag	107	213795.9	0.6	**26.4363**	0.114	0.4	ug/L	76	Standard
	Cd	111	113815.8	1.1	**26.4015**	0.112	0.4	mg/L	63	Standard
	Cd	114	302487.2	1.5	**25.3692**	0.183	0.7	ug/L	201	Standard
>	**In**	115	853931.9	0.8				ug/L	847070	Standard
	Sn	118	1592.1	1.1	**0.0290**	0.000	1.0	ug/L	553	Standard
	Sb	123	285547.4	1.0	**26.0332**	0.106	0.4	ug/L	25	Standard
	Ba	135	218226.3	1.7	**45.2123**	0.578	1.3	ug/L	25	Standard
	Ce	140	1401.1	0.8				ug/L	21	Standard
>	**Tb**	159	1188698.2	1.3				ug/L	1162405	Standard
	Ho	165	64.0	3.1				ug/L	12	Standard
	Tl	203	436406.6	0.9	**26.3514**	0.310	1.2	ug/L	4	Standard
	Tl	205	1008190.1	0.7	**26.2828**	0.367	1.4	ug/L	4	Standard
	Pb	206	337003.0	0.5	**26.3308**	0.310	1.2	ug/L	380	Standard
	Pb	207	285087.5	2.0	**26.7034**	0.714	2.7	ug/L	306	Standard
	Pb	208	1323883.8	1.3	**26.4904**	0.529	2.0	ug/L	1471	Standard
	U	238	631666.5	1.9	**38.8296**	0.992	2.6	ug/L	0	Standard
>	**Bi**	209	538493.7	0.7				ug/L	592579	Standard

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Na	23	385974.5	0.6	**20.2587**	0.422	2.1	mg/L	327	Standard
Mg	24	97700.8	2.2	**0.1416**	0.004	2.9	mg/L	50	Standard
K	39	468.3	10.7	**0.2863**	0.031	10.9	mg/L	125	Standard
Ca	43	5.0	100.0	**1.7289**	2.612	151.1	mg/L	0	Standard
Fe	54	639.1	9.6	**0.0122**	0.015	122.2	mg/L	579	Standard
Fe	57	4387.3	8.6	**0.0161**	0.004	23.9	mg/L	2535	Standard
Sc-1	45	378005.4	2.3				mg/L	350981	Standard
Cl	35	18.3	25.2				ug/L	6	Standard
Kr	83	43.1	14.4				ug/L	39	Standard
Br	81	4764.9	6.5				ug/L	918	Standard
P	31	930.9	6.2				ug/L	338	Standard
S	34	32147.4	2.3				ug/L	6425	Standard
Sr	88	183.3	8.3				ug/L	28	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	7			
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		100.039	
As	75			
Se	82			
Se-1	77			
Ga	71			
Rb	85			
Y	89			
Rh	103			
Mo	98			
Ag	107			

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	Cd	111	
	Cd	114	
>	In	115	100.810
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	90.873
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Mo 98 Upper, S, EEE	Mo	98	

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Method 6020 - Summary Report

Sample ID: L1207049216SD WG403778-06
Sample Date/Time: Friday, July 20, 2012 09:12:06
Number of Replicates: 3
Autosampler Position: 211
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	7	66589.3	0.1	**86917.7702**	1789.017	2.1	ug/L	9660	Standard
	Be	9	46073.3	2.1	**24.4951**	0.593	2.4	ug/L	7	Standard
	Al	27	792256.1	0.7	**51.5538**	1.338	2.6	ug/L	6610	Standard
>	**Sc**	45	375145.1	1.9				ug/L	350981	Standard
	Ti	47	600.3	22.2	**0.4321**	0.113	26.2	ug/L	63	Standard
	V	51	281326.8	1.3	**26.7815**	0.393	1.5	ug/L	2655	Standard
	Cr	52	235921.7	1.0	**26.8713**	0.362	1.3	ug/L	8417	Standard
	Cr	53	37407.0	1.7	**26.0385**	0.410	1.6	ug/L	146	Standard
	Mn	55	416453.2	1.8	**27.5862**	0.197	0.7	ug/L	1081	Standard
	Co	59	270288.6	0.4	**26.5994**	0.264	1.0	ug/L	84	Standard
	Ni	60	63794.7	0.7	**25.3168**	0.444	1.8	ug/L	55	Standard
	Cu	65	58673.7	1.0	**25.3668**	0.555	2.2	ug/L	78	Standard
	Zn	66	29249.9	1.3	**27.8550**	0.370	1.3	ug/L	99	Standard
>	**Ge**	72	287361.0	1.3				ug/L	289581	Standard
	As	75	36865.3	0.4	**34.7248**	0.321	0.9	ug/L	-189	Standard
	Se	82	3083.0	1.3	**28.8753**	0.040	0.1	ug/L	18	Standard
	Se-1	77	2183.2	2.9	**28.0163**	1.076	3.8	ug/L	97	Standard
>	**Ga**	71	731.7	10.0				mg/L	628	Standard
	Rb	85	5662.7	4.0				ug/L	10	Standard
	Y	89	267974.3	1.4				ug/L	254546	Standard
>	**Rh**	103	735.0	3.8				ug/L	400	Standard
	Mo	98	402598.7	0.5	**103.1166**	0.893	0.9	ug/L	8	Standard
	Ag	107	209867.3	1.3	**26.2135**	0.420	1.6	ug/L	76	Standard
	Cd	111	111755.5	1.0	**26.1873**	0.386	1.5	mg/L	63	Standard
	Cd	114	298144.0	0.1	**25.2589**	0.103	0.4	ug/L	201	Standard
>	**In**	115	845383.1	0.5				ug/L	847070	Standard
	Sn	118	1612.8	3.0	**0.0307**	0.002	6.8	ug/L	553	Standard
	Sb	123	279000.1	0.5	**25.6938**	0.134	0.5	ug/L	25	Standard
	Ba	135	214454.4	0.8	**44.8818**	0.428	1.0	ug/L	25	Standard
	Ce	140	2017.5	1.2				ug/L	21	Standard
>	**Tb**	159	1183094.5	0.7				ug/L	1162405	Standard
	Ho	165	65.7	7.8				ug/L	12	Standard
	Tl	203	424913.2	0.4	**25.7110**	0.226	0.9	ug/L	4	Standard
	Tl	205	983241.8	0.3	**25.6852**	0.182	0.7	ug/L	4	Standard
	Pb	206	329822.9	0.5	**25.8224**	0.158	0.6	ug/L	380	Standard
	Pb	207	278998.0	0.5	**26.1844**	0.126	0.5	ug/L	306	Standard
	Pb	208	1296082.3	1.1	**25.9856**	0.240	0.9	ug/L	1471	Standard
	U	238	621794.5	1.6	**38.2970**	0.400	1.0	ug/L	0	Standard
>	**Bi**	209	537378.5	1.0				ug/L	592579	Standard

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Na	23	384706.1	0.5	**20.3453**	0.428	2.1	mg/L	327	Standard
Mg	24	96235.0	4.1	**0.1405**	0.006	4.3	mg/L	50	Standard
K	39	491.7	11.2	**0.3079**	0.038	12.3	mg/L	125	Standard
Ca	43	5.0	173.2	**1.6753**	4.414	263.5	mg/L	0	Standard
Fe	54	731.4	19.9	**0.0316**	0.030	94.9	mg/L	579	Standard
Fe	57	7418.5	0.9	**0.0469**	0.002	3.8	mg/L	2535	Standard
> **Sc-1**	45	375145.1	1.9				mg/L	350981	Standard
Cl	35	11.0	32.8				ug/L	6	Standard
Kr	83	48.0	11.8				ug/L	39	Standard
Br	81	4107.2	5.1				ug/L	918	Standard
P	31	905.0	2.1				ug/L	338	Standard
S	34	31840.9	2.1				ug/L	6425	Standard
Sr	88	180.0	8.3				ug/L	28	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	7			
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		99.233	
As	75			
Se	82			
Se-1	77			
> Ga	71			
Rb	85			
Y	89			
> Rh	103			
Mo	98			
Ag	107			

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	Cd	111	
	Cd	114	
>	In	115	99.801
	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	90.685
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Mo 98 Upper, S, EEE	Mo	98	

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Method 6020 - Summary Report

Sample ID: L1207049202
Sample Date/Time: Friday, July 20, 2012 09:15:14
Number of Replicates: 3
Autosampler Position: 212
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	7	30522.4	1.9	**28853.3562**	547.242	1.9	ug/L	9660	Standard
	Be	9	48.3	21.5	**0.0192**	0.005	27.7	ug/L	7	Standard
	Al	27	113771.3	5.1	**6.5432**	0.405	6.2	ug/L	6610	Standard
>	**Sc**	45	399773.9	0.7				ug/L	350981	Standard
	Ti	47	1203.0	2.5	**0.8831**	0.024	2.7	ug/L	63	Standard
	V	51	8225.8	1.2	**0.5110**	0.009	1.7	ug/L	2655	Standard
	Cr	52	14541.6	1.4	**0.6686**	0.029	4.3	ug/L	8417	Standard
	Cr	53	1746.8	12.3	**1.0659**	0.141	13.2	ug/L	146	Standard
	Mn	55	11836068.6	0.4	**757.7582**	3.973	0.5	ug/L	1081	Standard
	Co	59	806.7	5.7	**0.0651**	0.004	6.4	ug/L	84	Standard
	Ni	60	1989.1	2.8	**0.7394**	0.024	3.2	ug/L	55	Standard
	Cu	65	742.0	4.8	**0.2766**	0.015	5.4	ug/L	78	Standard
	Zn	66	2557.5	1.0	**2.2465**	0.026	1.2	ug/L	99	Standard
>	**Ge**	72	298112.9	0.4				ug/L	289581	Standard
	As	75	3318.6	1.8	**3.1647**	0.064	2.0	ug/L	-189	Standard
	Se	82	172.4	7.0	**1.4081**	0.115	8.2	ug/L	18	Standard
	Se-1	77	165.3	5.5	**0.9084**	0.124	13.6	ug/L	97	Standard
>	**Ga**	71	661.7	9.2				mg/L	628	Standard
	Rb	85	2411.9	0.9				ug/L	10	Standard
	Y	89	277869.1	2.4				ug/L	254546	Standard
>	**Rh**	103	560.0	7.3				ug/L	400	Standard
	Mo	98	2048.3	2.5	**0.4987**	0.019	3.7	ug/L	8	Standard
	Ag	107	247.3	6.1	**0.0213**	0.002	8.1	ug/L	76	Standard
	Cd	111	93.4	7.4	**0.0020**	0.001	64.3	mg/L	63	Standard
	Cd	114	278.6	6.4	**0.0058**	0.002	28.7	ug/L	201	Standard
>	**In**	115	885785.8	1.3				ug/L	847070	Standard
	Sn	118	972.4	2.7	**-0.0014**	0.001	94.9	ug/L	553	Standard
	Sb	123	849.7	21.8	**0.0731**	0.017	23.6	ug/L	25	Standard
	Ba	135	539787.3	0.8	**107.8344**	0.705	0.7	ug/L	25	Standard
	Ce	140	4252.9	0.6				ug/L	21	Standard
>	**Tb**	159	1244997.9	0.3				ug/L	1162405	Standard
	Ho	165	397.0	4.3				ug/L	12	Standard
	Tl	203	361.3	4.3	**0.0190**	0.001	4.6	ug/L	4	Standard
	Tl	205	806.0	5.8	**0.0202**	0.001	5.5	ug/L	4	Standard
	Pb	206	606.3	2.4	**0.0178**	0.001	6.2	ug/L	380	Standard
	Pb	207	505.7	4.5	**0.0129**	0.002	15.9	ug/L	306	Standard
	Pb	208	2362.7	2.0	**0.0162**	0.001	5.0	ug/L	1471	Standard
	U	238	235.0	12.1	**0.0145**	0.002	11.1	ug/L	0	Standard
>	**Bi**	209	575973.4	0.2				ug/L	592579	Standard

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Na	23	160734.8	0.4	**7.9545**	0.044	0.6	mg/L	327	Standard
Mg	24	6047337.0	0.7	**8.2888**	0.066	0.8	mg/L	50	Standard
K	39	481.7	8.7	**0.2763**	0.029	10.5	mg/L	125	Standard
Ca	43	53.3	46.2	**25.0457**	12.097	48.3	mg/L	0	Standard
Fe	54	35823.2	0.9	**6.6258**	0.075	1.1	mg/L	579	Standard
Fe	57	774410.3	1.0	**7.2860**	0.098	1.4	mg/L	2535	Standard
Sc-1	45	399773.9	0.7				mg/L	350981	Standard
Cl	35	122.3	7.0				ug/L	6	Standard
Kr	83	53.0	3.8				ug/L	39	Standard
Br	81	14347.6	3.9				ug/L	918	Standard
P	31	2110.1	4.0				ug/L	338	Standard
S	34	17427.5	2.1				ug/L	6425	Standard
Sr	88	376.7	10.3				ug/L	28	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	7			
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		102.946	
As	75			
Se	82			
Se-1	77			
Ga	71			
Rb	85			
Y	89			
Rh	103			
Mo	98			
Ag	107			

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	Cd	111	
	Cd	114	
>	In	115	104.571
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	97.198
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	

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	

Approved: July 23, 2012

Method 6020 - Summary Report

Sample ID: L1207049202PS WG403908-01
Sample Date/Time: Friday, July 20, 2012 09:18:25
Number of Replicates: 3
Autosampler Position: 213
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	7	29826.0	2.5	**28094.2938**	1372.002	4.9	ug/L	9660	Standard
	Be	9	96075.4	1.8	**48.2016**	1.542	3.2	ug/L	7	Standard
	Al	27	827223.5	0.1	**50.7692**	0.810	1.6	ug/L	6610	Standard
>	**Sc**	45	397639.4	1.5				ug/L	350981	Standard
	Ti	47	1147.0	1.1	**0.8313**	0.006	0.7	ug/L	63	Standard
	V	51	547697.7	1.1	**50.0076**	0.626	1.3	ug/L	2655	Standard
	Cr	52	452387.0	0.5	**50.0260**	0.217	0.4	ug/L	8417	Standard
	Cr	53	74708.7	0.8	**49.7651**	0.521	1.0	ug/L	146	Standard
	Mn	55	12782386.5	0.1	**810.7965**	3.656	0.5	ug/L	1081	Standard
	Co	59	550630.3	0.5	**51.7587**	0.341	0.7	ug/L	84	Standard
	Ni	60	128602.9	1.7	**48.7541**	0.778	1.6	ug/L	55	Standard
	Cu	65	117184.4	0.5	**48.4061**	0.043	0.1	ug/L	78	Standard
	Zn	66	55548.3	0.8	**50.6089**	0.532	1.1	ug/L	99	Standard
>	**Ge**	72	300890.7	0.4				ug/L	289581	Standard
	As	75	60695.1	0.5	**54.5018**	0.434	0.8	ug/L	-189	Standard
	Se	82	6033.8	0.6	**54.1092**	0.255	0.5	ug/L	18	Standard
	Se-1	77	4104.6	0.2	**51.2691**	0.237	0.5	ug/L	97	Standard
>	**Ga**	71	751.7	10.9				mg/L	628	Standard
	Rb	85	2451.9	5.4				ug/L	10	Standard
	Y	89	282437.0	1.8				ug/L	254546	Standard
>	**Rh**	103	575.0	11.3				ug/L	400	Standard
	Mo	98	2110.1	1.7	**0.5078**	0.003	0.6	ug/L	8	Standard
	Ag	107	457305.0	0.9	**53.9059**	0.630	1.2	ug/L	76	Standard
	Cd	111	231898.0	1.2	**51.2909**	0.638	1.2	mg/L	63	Standard
	Cd	114	615755.1	0.6	**49.2420**	0.590	1.2	ug/L	201	Standard
>	**In**	115	895949.2	1.1				ug/L	847070	Standard
	Sn	118	1220.0	2.6	**0.0091**	0.001	10.7	ug/L	553	Standard
	Sb	123	575766.6	0.7	**50.0381**	0.798	1.6	ug/L	25	Standard
	Ba	135	780145.0	0.3	**154.0899**	1.337	0.9	ug/L	25	Standard
	Ce	140	4276.9	1.5				ug/L	21	Standard
>	**Tb**	159	1247959.8	0.5				ug/L	1162405	Standard
	Ho	165	396.3	0.9				ug/L	12	Standard
	Tl	203	890809.3	0.7	**50.1488**	0.618	1.2	ug/L	4	Standard
	Tl	205	2120217.8	1.1	**51.5264**	0.493	1.0	ug/L	4	Standard
	Pb	206	682957.1	0.4	**49.7710**	0.547	1.1	ug/L	380	Standard
	Pb	207	572990.5	0.4	**50.0598**	0.485	1.0	ug/L	306	Standard
	Pb	208	2672577.6	0.3	**49.8786**	0.502	1.0	ug/L	1471	Standard
	U	238	929122.6	1.7	**53.2440**	1.103	2.1	ug/L	0	Standard
>	**Bi**	209	577607.9	0.7				ug/L	592579	Standard

Sample ID: L1207049202PS WG403908-01
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	Na	23	160963.9	1.4	**8.0105**	0.203	2.5	mg/L	327	Standard
	Mg	24	5977869.2	0.7	**8.2384**	0.111	1.3	mg/L	50	Standard
	K	39	520.0	24.0	**0.3077**	0.097	31.5	mg/L	125	Standard
	Ca	43	60.0	50.7	**28.2948**	14.622	51.7	mg/L	0	Standard
	Fe	54	34822.4	1.7	**6.4746**	0.208	3.2	mg/L	579	Standard
	Fe	57	763076.4	2.8	**7.2206**	0.315	4.4	mg/L	2535	Standard
>	**Sc-1**	45	397639.4	1.5				mg/L	350981	Standard
	Cl	35	130.0	4.6				ug/L	6	Standard
	Kr	83	52.7	1.1				ug/L	39	Standard
	Br	81	15050.0	5.2				ug/L	918	Standard
	P	31	2090.1	2.2				ug/L	338	Standard
	S	34	17056.3	0.8				ug/L	6425	Standard
	Sr	88	361.7	12.4				ug/L	28	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
	Li	7			
	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		103.906	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			
	Y	89			
>	Rh	103			
	Mo	98			
	Ag	107			

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	Cd	111	
	Cd	114	
>	In	115	105.770
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	97.474
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	

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	

Approved: July 23, 2012

Method 6020 - Summary Report

Sample ID: L1207049202SDL WG403908-02
Sample Date/Time: Friday, July 20, 2012 09:21:34
Number of Replicates: 3
Autosampler Position: 214
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	7	13894.7	4.2	**5098.1514**	703.983	13.8	ug/L	9660	Standard
	Be	9	21.7	58.1	**0.0059**	0.006	103.8	ug/L	7	Standard
	Al	27	41369.9	6.0	**2.0968**	0.171	8.2	ug/L	6610	Standard
>	**Sc**	45	397581.4	1.7				ug/L	350981	Standard
	Ti	47	355.7	17.2	**0.2127**	0.046	21.7	ug/L	63	Standard
	V	51	3990.4	2.2	**0.1046**	0.009	8.5	ug/L	2655	Standard
	Cr	52	9986.0	1.0	**0.1062**	0.012	11.4	ug/L	8417	Standard
	Cr	53	570.0	9.8	**0.2585**	0.037	14.1	ug/L	146	Standard
	Mn	55	2455841.7	1.7	**151.1002**	2.364	1.6	ug/L	1081	Standard
	Co	59	299.7	16.0	**0.0159**	0.004	27.9	ug/L	84	Standard
	Ni	60	776.7	4.0	**0.2638**	0.012	4.7	ug/L	55	Standard
	Cu	65	319.7	6.1	**0.0952**	0.008	8.7	ug/L	78	Standard
	Zn	66	2768.3	3.2	**2.3421**	0.071	3.1	ug/L	99	Standard
>	**Ge**	72	310068.6	0.3				ug/L	289581	Standard
	As	75	531.8	3.9	**0.6280**	0.016	2.6	ug/L	-189	Standard
	Se	82	67.1	11.3	**0.4283**	0.068	15.9	ug/L	18	Standard
	Se-1	77	126.3	2.5	**0.3418**	0.041	12.0	ug/L	97	Standard
>	**Ga**	71	680.0	3.9				mg/L	628	Standard
	Rb	85	511.7	13.1				ug/L	10	Standard
	Y	89	283222.9	1.4				ug/L	254546	Standard
>	**Rh**	103	491.7	13.5				ug/L	400	Standard
	Mo	98	459.3	14.4	**0.1048**	0.016	15.1	ug/L	8	Standard
	Ag	107	306.3	40.7	**0.0267**	0.014	53.8	ug/L	76	Standard
	Cd	111	125.9	49.5	**0.0080**	0.013	168.4	mg/L	63	Standard
	Cd	114	363.8	39.3	**0.0113**	0.011	98.9	ug/L	201	Standard
>	**In**	115	929836.9	0.4				ug/L	847070	Standard
	Sn	118	2143.2	2.3	**0.0464**	0.002	4.3	ug/L	553	Standard
	Sb	123	1352.8	36.6	**0.1117**	0.042	37.6	ug/L	25	Standard
	Ba	135	111508.2	0.9	**21.2114**	0.210	1.0	ug/L	25	Standard
	Ce	140	957.7	9.2				ug/L	21	Standard
>	**Tb**	159	1257677.1	0.1				ug/L	1162405	Standard
	Ho	165	89.7	12.9				ug/L	12	Standard
	Tl	203	426.3	30.5	**0.0211**	0.007	33.1	ug/L	4	Standard
	Tl	205	968.7	32.2	**0.0226**	0.007	31.9	ug/L	4	Standard
	Pb	206	614.7	15.9	**0.0154**	0.007	44.7	ug/L	380	Standard
	Pb	207	485.3	20.1	**0.0083**	0.008	99.2	ug/L	306	Standard
	Pb	208	2314.4	17.6	**0.0123**	0.007	59.6	ug/L	1471	Standard
	U	238	176.7	70.1	**0.0105**	0.007	63.9	ug/L	0	Standard
>	**Bi**	209	618140.4	0.6				ug/L	592579	Standard

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	Na	23	119170.2	1.4	**5.9216**	0.023	0.4	mg/L	327	Standard
	Mg	24	953570.8	2.1	**1.3146**	0.048	3.6	mg/L	50	Standard
	K	39	200.0	11.5	**0.0651**	0.015	23.0	mg/L	125	Standard
	Ca	43	15.0	66.7	**6.4965**	4.995	76.9	mg/L	0	Standard
	Fe	54	7632.4	3.1	**1.3287**	0.023	1.7	mg/L	579	Standard
	Fe	57	156572.1	3.3	**1.4596**	0.066	4.5	mg/L	2535	Standard
>	**Sc-1**	45	397581.4	1.7				mg/L	350981	Standard
	Cl	35	29.3	19.4				ug/L	6	Standard
	Kr	83	44.1	2.7				ug/L	39	Standard
	Br	81	3847.2	1.8				ug/L	918	Standard
	P	31	737.5	8.0				ug/L	338	Standard
	S	34	8397.3	3.8				ug/L	6425	Standard
	Sr	88	83.3	19.3				ug/L	28	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
	Li	7			
	Be	9			
	Al	27			
>	Sc	45			
	Ti	47			
	V	51			
	Cr	52			
	Cr	53			
	Mn	55			
	Co	59			
	Ni	60			
	Cu	65			
	Zn	66			
>	Ge	72		107.075	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			
	Y	89			
>	Rh	103			
	Mo	98			
	Ag	107			

Sample ID: L1207049202SDL WG403908-02
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	Cd	111	
	Cd	114	
>	In	115	109.771
	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	104.314
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Mn 55 Upper, S, EEE	Mn	55	

Approved: July 23, 2012

Method 6020 - Summary Report

Sample ID: QC Std 6
Sample Date/Time: Friday, July 20, 2012 09:24:46
Number of Replicates: 3
Autosampler Position: 101
Sample Description:
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
	Li	7	10728.8	1.3	**529.3567**	407.017	76.9	ug/L	9660	Standard
	Be	9	98155.4	2.8	**49.2117**	0.564	1.1	ug/L	7	Standard
	Al	27	764121.1	0.4	**46.8496**	0.724	1.5	ug/L	6610	Standard
>	**Sc**	45	397749.4	2.0				ug/L	350981	Standard
	Ti	47	134699.8	0.4	**100.6661**	0.602	0.6	ug/L	63	Standard
	V	51	570880.0	1.2	**50.5298**	0.959	1.9	ug/L	2655	Standard
	Cr	52	468876.0	0.2	**50.2641**	0.533	1.1	ug/L	8417	Standard
	Cr	53	77972.7	2.0	**50.3411**	0.575	1.1	ug/L	146	Standard
	Mn	55	851821.3	1.2	**52.3021**	0.544	1.0	ug/L	1081	Standard
	Co	59	570247.7	0.6	**51.9597**	0.719	1.4	ug/L	84	Standard
	Ni	60	136649.8	0.4	**50.2161**	0.272	0.5	ug/L	55	Standard
	Cu	65	126174.6	1.0	**50.5199**	0.153	0.3	ug/L	78	Standard
	Zn	66	55987.9	1.3	**49.4378**	0.247	0.5	ug/L	99	Standard
>	**Ge**	72	310425.9	0.9				ug/L	289581	Standard
	As	75	57418.1	1.8	**49.9860**	0.527	1.1	ug/L	-189	Standard
	Se	82	5943.1	1.0	**51.6513**	0.324	0.6	ug/L	18	Standard
	Se-1	77	4061.9	1.5	**49.1250**	0.352	0.7	ug/L	97	Standard
>	**Ga**	71	655.0	6.2				mg/L	628	Standard
	Rb	85	841.7	6.4				ug/L	10	Standard
	Y	89	281504.9	1.8				ug/L	254546	Standard
>	**Rh**	103	501.7	10.0				ug/L	400	Standard
	Mo	98	419870.5	0.7	**98.9939**	0.520	0.5	ug/L	8	Standard
	Ag	107	460939.3	1.7	**53.0051**	0.795	1.5	ug/L	76	Standard
	Cd	111	235898.4	1.8	**50.9019**	0.957	1.9	mg/L	63	Standard
	Cd	114	638258.6	0.8	**49.7927**	0.148	0.3	ug/L	201	Standard
>	**In**	115	918350.9	0.7				ug/L	847070	Standard
	Sn	118	1531725.7	1.4	**65.9679**	0.578	0.9	ug/L	553	Standard
	Sb	123	583357.4	1.6	**49.4537**	0.471	1.0	ug/L	25	Standard
	Ba	135	250738.9	1.3	**48.3061**	0.571	1.2	ug/L	25	Standard
	Ce	140	1026.7	2.4				ug/L	21	Standard
>	**Tb**	159	1253671.0	0.9				ug/L	1162405	Standard
	Ho	165	20.7	19.6				ug/L	12	Standard
	Tl	203	928986.3	0.6	**49.7554**	0.291	0.6	ug/L	4	Standard
	Tl	205	2212684.2	1.0	**51.1634**	0.774	1.5	ug/L	4	Standard
	Pb	206	716246.2	0.4	**49.6598**	0.353	0.7	ug/L	380	Standard
	Pb	207	605875.0	1.0	**50.3633**	0.861	1.7	ug/L	306	Standard
	Pb	208	2802898.1	0.4	**49.7705**	0.680	1.4	ug/L	1471	Standard
	U	238	949966.6	0.9	**51.7905**	0.367	0.7	ug/L	0	Standard
>	**Bi**	209	607113.5	1.0				ug/L	592579	Standard

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	Na	23	120284.0	1.5	**5.9770**	0.195	3.3	mg/L	327	Standard
	Mg	24	3520176.7	2.0	**4.8504**	0.127	2.6	mg/L	50	Standard
	K	39	5907.8	2.6	**4.3842**	0.062	1.4	mg/L	125	Standard
	Ca	43	8.3	69.3	**3.1559**	2.713	86.0	mg/L	0	Standard
	Fe	54	25484.8	2.5	**4.7060**	0.157	3.3	mg/L	579	Standard
	Fe	57	539065.5	3.8	**5.0928**	0.291	5.7	mg/L	2535	Standard
>	**Sc-1**	45	397749.4	2.0				mg/L	350981	Standard
	Cl	35	4.0	66.1				ug/L	6	Standard
	Kr	83	46.4	7.5				ug/L	39	Standard
	Br	81	1393.4	6.8				ug/L	918	Standard
	P	31	409.2	6.5				ug/L	338	Standard
	S	34	6353.8	0.5				ug/L	6425	Standard
	Sr	88	41.7	38.6				ug/L	28	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
	Li	7			
	Be	9			
	Al	27	93.699		
>	Sc	45			
	Ti	47	100.666		
	V	51	101.060		
	Cr	52	100.528		
	Cr	53			
	Mn	55	104.604		
	Co	59	103.919		
	Ni	60	100.432		
	Cu	65	101.040		
	Zn	66	98.876		
>	Ge	72		107.198	
	As	75	99.972		
	Se	82	103.303		
	Se-1	77			
>	Ga	71			
	Rb	85			
	Y	89			
>	Rh	103			
	Mo	98	98.994		
	Ag	107	106.010		

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	Cd	111	101.804	
	Cd	114		
>	In	115		108.415
	Sn	118	131.936	
	Sb	123	98.907	
	Ba	135	96.612	
	Ce	140		
>	Tb	159		
	Ho	165		
	Tl	203	99.511	
	Tl	205		
	Pb	206	99.320	
	Pb	207	100.727	
	Pb	208	99.541	
	U	238	103.581	
>	Bi	209		102.453
	Na	23		
	Mg	24		
	K	39		
	Ca	43		
	Fe	54		
	Fe	57		
>	Sc-1	45		
	Cl	35		
	Kr	83		
	Br	81		
	P	31		
	S	34		
	Sr	88		

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 6	Sn	118	

Sample ID: QC Std 6
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Method 6020 - Summary Report

Sample ID: QC Std 7
Sample Date/Time: Friday, July 20, 2012 09:27:56
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	7	10787.2	2.2	**733.8360**	437.690	59.6	ug/L	9660	Standard
	Be	9	31.7	96.5	**0.0112**	0.016	141.0	ug/L	7	Standard
	Al	27	7698.7	21.3	**0.0150**	0.111	739.1	ug/L	6610	Standard
>	**Sc**	45	394677.4	2.0				ug/L	350981	Standard
	Ti	47	107.3	21.6	**0.0256**	0.017	66.2	ug/L	63	Standard
	V	51	2841.5	7.1	**-0.0015**	0.017	1169.2	ug/L	2655	Standard
	Cr	52	8825.2	4.1	**-0.0350**	0.038	109.9	ug/L	8417	Standard
	Cr	53	274.2	9.1	**0.0642**	0.016	24.9	ug/L	146	Standard
	Mn	55	2649.7	83.2	**0.0860**	0.133	155.1	ug/L	1081	Standard
	Co	59	221.7	73.6	**0.0085**	0.015	172.1	ug/L	84	Standard
	Ni	60	89.3	27.8	**0.0103**	0.009	87.1	ug/L	55	Standard
	Cu	65	141.0	22.7	**0.0227**	0.013	55.5	ug/L	78	Standard
	Zn	66	115.7	5.2	**-0.0095**	0.005	55.3	ug/L	99	Standard
>	**Ge**	72	314697.9	0.3				ug/L	289581	Standard
	As	75	-197.0	9.8	**-0.0026**	0.016	639.0	ug/L	-189	Standard
	Se	82	23.5	19.9	**0.0449**	0.040	88.6	ug/L	18	Standard
	Se-1	77	97.0	3.7	**-0.0400**	0.041	102.5	ug/L	97	Standard
>	**Ga**	71	710.0	12.9				mg/L	628	Standard
	Rb	85	21.7	35.3				ug/L	10	Standard
	Y	89	288078.1	1.3				ug/L	254546	Standard
>	**Rh**	103	473.3	15.3				ug/L	400	Standard
	Mo	98	332.5	111.6	**0.0749**	0.086	114.6	ug/L	8	Standard
	Ag	107	412.0	75.5	**0.0385**	0.035	91.0	ug/L	76	Standard
	Cd	111	194.5	89.9	**0.0224**	0.037	165.1	mg/L	63	Standard
	Cd	114	507.2	74.4	**0.0222**	0.029	130.1	ug/L	201	Standard
>	**In**	115	931026.2	0.4				ug/L	847070	Standard
	Sn	118	1274.1	20.1	**0.0093**	0.011	114.5	ug/L	553	Standard
	Sb	123	1480.9	15.1	**0.1221**	0.018	15.1	ug/L	25	Standard
	Ba	135	220.3	133.5	**0.0310**	0.056	179.6	ug/L	25	Standard
	Ce	140	21.7	59.5				ug/L	21	Standard
>	**Tb**	159	1222758.3	1.0				ug/L	1162405	Standard
	Ho	165	12.7	4.6				ug/L	12	Standard
	Tl	203	278.0	115.0	**0.0130**	0.017	127.1	ug/L	4	Standard
	Tl	205	607.7	112.4	**0.0142**	0.015	107.8	ug/L	4	Standard
	Pb	206	601.0	38.6	**0.0139**	0.016	112.0	ug/L	380	Standard
	Pb	207	501.0	37.9	**0.0090**	0.015	170.3	ug/L	306	Standard
	Pb	208	2294.4	37.6	**0.0114**	0.015	129.8	ug/L	1471	Standard
	U	238	256.7	113.2	**0.0146**	0.015	105.3	ug/L	0	Standard
>	**Bi**	209	626261.7	0.1				ug/L	592579	Standard

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⌈	**Na**	23	2502.0	92.7	**0.0936**	0.120	128.2	mg/L	327	Standard
|	**Mg**	24	1183.4	118.8	**0.0016**	0.002	128.9	mg/L	50	Standard
|	**K**	39	113.3	16.7	**0.0001**	0.013	16717.2	mg/L	125	Standard
|	**Ca**	43	3.3	173.2	**0.7964**	2.892	363.1	mg/L	0	Standard
|	**Fe**	54	590.5	6.4	**-0.0026**	0.007	268.8	mg/L	579	Standard
|	**Fe**	57	3505.4	9.5	**0.0058**	0.004	60.9	mg/L	2535	Standard
⌊>	**Sc-1**	45	394677.4	2.0				mg/L	350981	Standard
	Cl	35	2.7	78.1				ug/L	6	Standard
	Kr	83	43.6	10.4				ug/L	39	Standard
	Br	81	1298.4	2.5				ug/L	918	Standard
	P	31	426.7	10.3				ug/L	338	Standard
	S	34	6573.1	2.5				ug/L	6425	Standard
	Sr	88	25.0	34.6				ug/L	28	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈	Li	7			
|	Be	9			
|	Al	27			
⌊>	Sc	45			
⌈	Ti	47			
|	V	51			
|	Cr	52			
|	Cr	53			
|	Mn	55			
|	Co	59			
|	Ni	60			
|	Cu	65			
|	Zn	66			
|>	Ge	72		108.674	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			
⌈	Mo	98			
|	Ag	107			

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	Cd	111	
	Cd	114	
>	In	115	109.911
	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	105.684
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: QC Std 7
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Method 6020 - Summary Report

Sample ID: L1207049204
Sample Date/Time: Friday, July 20, 2012 09:31:09
Number of Replicates: 3
Autosampler Position: 215
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	7	32175.8	3.2	**29858.2926**	748.198	2.5	ug/L	9660	Standard
	Be	9	35.0	37.8	**0.0121**	0.007	55.7	ug/L	7	Standard
	Al	27	197831.5	0.8	**11.3657**	0.446	3.9	ug/L	6610	Standard
>	**Sc**	45	412018.3	2.9				ug/L	350981	Standard
	Ti	47	1799.1	2.3	**1.3045**	0.026	2.0	ug/L	63	Standard
	V	51	8865.4	2.6	**0.5452**	0.019	3.5	ug/L	2655	Standard
	Cr	52	15445.9	3.2	**0.7177**	0.041	5.7	ug/L	8417	Standard
	Cr	53	1427.6	6.4	**0.8219**	0.062	7.6	ug/L	146	Standard
	Mn	55	12692026.8	1.4	**787.8516**	15.189	1.9	ug/L	1081	Standard
	Co	59	891.0	3.8	**0.0706**	0.003	3.7	ug/L	84	Standard
	Ni	60	2388.2	4.2	**0.8644**	0.040	4.6	ug/L	55	Standard
	Cu	65	757.0	2.4	**0.2732**	0.007	2.7	ug/L	78	Standard
	Zn	66	9544.7	1.3	**8.4179**	0.145	1.7	ug/L	99	Standard
>	**Ge**	72	307485.2	0.8				ug/L	289581	Standard
	As	75	3383.3	1.8	**3.1303**	0.076	2.4	ug/L	-189	Standard
	Se	82	175.8	8.0	**1.3900**	0.133	9.6	ug/L	18	Standard
	Se-1	77	162.3	7.1	**0.8050**	0.130	16.1	ug/L	97	Standard
>	**Ga**	71	733.4	7.6				mg/L	628	Standard
	Rb	85	2816.9	5.2				ug/L	10	Standard
	Y	89	283993.0	2.7				ug/L	254546	Standard
>	**Rh**	103	555.0	18.9				ug/L	400	Standard
	Mo	98	2125.8	1.6	**0.5027**	0.005	1.0	ug/L	8	Standard
	Ag	107	583.3	1.6	**0.0594**	0.001	1.5	ug/L	76	Standard
	Cd	111	96.9	9.1	**0.0022**	0.002	94.8	mg/L	63	Standard
	Cd	114	260.2	9.2	**0.0037**	0.002	54.9	ug/L	201	Standard
>	**In**	115	911689.8	0.6				ug/L	847070	Standard
	Sn	118	1583.7	4.3	**0.0239**	0.003	12.3	ug/L	553	Standard
	Sb	123	530.7	4.5	**0.0436**	0.002	5.3	ug/L	25	Standard
	Ba	135	559342.0	0.7	**108.5616**	0.719	0.7	ug/L	25	Standard
	Ce	140	5315.6	0.6				ug/L	21	Standard
>	**Tb**	159	1251913.8	0.5				ug/L	1162405	Standard
	Ho	165	412.3	4.4				ug/L	12	Standard
	Tl	203	323.7	3.7	**0.0166**	0.001	4.6	ug/L	4	Standard
	Tl	205	765.0	0.9	**0.0189**	0.000	1.2	ug/L	4	Standard
	Pb	206	673.3	1.0	**0.0218**	0.001	3.4	ug/L	380	Standard
	Pb	207	575.0	1.4	**0.0181**	0.000	2.2	ug/L	306	Standard
	Pb	208	2659.1	1.4	**0.0208**	0.001	4.6	ug/L	1471	Standard
	U	238	213.7	4.7	**0.0131**	0.001	4.8	ug/L	0	Standard
>	**Bi**	209	586289.5	0.6				ug/L	592579	Standard

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Sheri L. Babczuk

Na	23	162026.7	0.6	**7.7837**	0.233	3.0	mg/L	327	Standard
Mg	24	6240300.0	2.2	**8.3062**	0.396	4.8	mg/L	50	Standard
K	39	558.3	7.3	**0.3225**	0.042	13.1	mg/L	125	Standard
Ca	43	55.0	32.8	**25.1862**	9.360	37.2	mg/L	0	Standard
Fe	54	36919.0	1.2	**6.6302**	0.261	3.9	mg/L	579	Standard
Fe	57	822737.9	3.9	**7.5197**	0.480	6.4	mg/L	2535	Standard
> **Sc-1**	45	412018.3	2.9				mg/L	350981	Standard
Cl	35	132.0	14.5				ug/L	6	Standard
Kr	83	52.4	5.9				ug/L	39	Standard
Br	81	13202.4	6.9				ug/L	918	Standard
P	31	2231.8	4.0				ug/L	338	Standard
S	34	17486.8	1.7				ug/L	6425	Standard
Sr	88	351.7	18.6				ug/L	28	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	7			
Be	9			
Al	27			
> Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
> Ge	72		106.183	
As	75			
Se	82			
Se-1	77			
> Ga	71			
Rb	85			
Y	89			
> Rh	103			
Mo	98			
Ag	107			

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	Cd	111	
	Cd	114	
>	In	115	107.629
	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	98.939
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Mn 55 Upper, S, EEE	Mn	55	
Ba 135 Upper, S, EEE	Ba	135	

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Method 6020 - Summary Report

Sample ID: L1207049208
Sample Date/Time: Friday, July 20, 2012 09:34:19
Number of Replicates: 3
Autosampler Position: 216
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	7	94398.4	3.5	**122965.3837**	4493.998	3.7	ug/L	9660	Standard
	Be	9	25.0	40.0	**0.0078**	0.005	65.1	ug/L	7	Standard
	Al	27	622590.1	1.2	**38.5719**	0.388	1.0	ug/L	6610	Standard
>	**Sc**	45	392710.9	0.2				ug/L	350981	Standard
	Ti	47	814.7	3.6	**0.5955**	0.025	4.2	ug/L	63	Standard
	V	51	13103.4	0.7	**0.9909**	0.010	1.0	ug/L	2655	Standard
	Cr	52	19818.3	2.0	**1.3215**	0.057	4.3	ug/L	8417	Standard
	Cr	53	1795.9	15.2	**1.1269**	0.183	16.2	ug/L	146	Standard
	Mn	55	62333.0	0.2	**4.0089**	0.039	1.0	ug/L	1081	Standard
	Co	59	1404.4	1.4	**0.1250**	0.003	2.4	ug/L	84	Standard
	Ni	60	2369.2	3.2	**0.9060**	0.035	3.8	ug/L	55	Standard
	Cu	65	1471.7	2.5	**0.5952**	0.011	1.9	ug/L	78	Standard
	Zn	66	2939.0	1.8	**2.6607**	0.057	2.1	ug/L	99	Standard
>	**Ge**	72	291373.8	0.8				ug/L	289581	Standard
	As	75	9971.6	1.5	**9.3841**	0.087	0.9	ug/L	-189	Standard
	Se	82	183.6	9.9	**1.5476**	0.172	11.1	ug/L	18	Standard
	Se-1	77	172.7	6.6	**1.0536**	0.132	12.5	ug/L	97	Standard
>	**Ga**	71	778.4	8.7				mg/L	628	Standard
	Rb	85	8288.9	3.4				ug/L	10	Standard
	Y	89	268105.3	2.1				ug/L	254546	Standard
>	**Rh**	103	708.3	7.9				ug/L	400	Standard
	Mo	98	337134.6	1.4	**85.0315**	0.769	0.9	ug/L	8	Standard
	Ag	107	151.0	9.3	**0.0104**	0.002	17.7	ug/L	76	Standard
	Cd	111	-146.1	8.2	**-0.0527**	0.003	5.6	mg/L	63	Standard
	Cd	114	1239.9	3.2	**0.0867**	0.004	4.5	ug/L	201	Standard
>	**In**	115	858434.2	0.6				ug/L	847070	Standard
	Sn	118	1262.1	4.1	**0.0134**	0.003	19.0	ug/L	553	Standard
	Sb	123	3373.5	1.3	**0.3042**	0.003	0.8	ug/L	25	Standard
	Ba	135	131795.7	0.7	**27.1586**	0.082	0.3	ug/L	25	Standard
	Ce	140	2995.0	2.8				ug/L	21	Standard
>	**Tb**	159	1170229.5	0.1				ug/L	1162405	Standard
	Ho	165	110.3	13.1				ug/L	12	Standard
	Tl	203	352.7	8.1	**0.0201**	0.002	7.7	ug/L	4	Standard
	Tl	205	842.4	6.5	**0.0228**	0.001	5.4	ug/L	4	Standard
	Pb	206	1140.7	3.0	**0.0637**	0.004	5.7	ug/L	380	Standard
	Pb	207	916.7	2.9	**0.0555**	0.002	4.5	ug/L	306	Standard
	Pb	208	4351.9	0.7	**0.0600**	0.001	0.9	ug/L	1471	Standard
	U	238	24140.9	1.3	**1.5016**	0.035	2.4	ug/L	0	Standard
>	**Bi**	209	532557.0	1.0				ug/L	592579	Standard

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Na	23	398848.4	0.9	**20.1441**	0.125	0.6	mg/L	327	Standard
Mg	24	112862.1	0.5	**0.1574**	0.000	0.3	mg/L	50	Standard
K	39	555.0	9.5	**0.3392**	0.042	12.3	mg/L	125	Standard
Ca	43	6.7	114.6	**2.4168**	3.764	155.8	mg/L	0	Standard
Fe	54	1056.5	7.3	**0.0872**	0.014	16.6	mg/L	579	Standard
Fe	57	12306.7	2.2	**0.0906**	0.002	2.6	mg/L	2535	Standard
Sc-1	45	392710.9	0.2				mg/L	350981	Standard
Cl	35	65.7	17.8				ug/L	6	Standard
Kr	83	45.0	2.2				ug/L	39	Standard
Br	81	12266.6	4.6				ug/L	918	Standard
P	31	930.9	2.5				ug/L	338	Standard
S	34	12275.0	1.4				ug/L	6425	Standard
Sr	88	216.7	31.8				ug/L	28	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	7			
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		100.619	
As	75			
Se	82			
Se-1	77			
Ga	71			
Rb	85			
Y	89			
Rh	103			
Mo	98			
Ag	107			

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	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

101.342

89.871

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Approved: July 23, 2012

Method 6020 - Summary Report

Sample ID: L1207049210 WG403778-02
Sample Date/Time: Friday, July 20, 2012 09:37:28
Number of Replicates: 3
Autosampler Position: 217
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	7	66346.7	2.0	**83117.4841**	438.284	0.5	ug/L	9660	Standard
	Be	9	11.7	89.2	**0.0011**	0.005	480.2	ug/L	7	Standard
	Al	27	76363.7	2.7	**4.3789**	0.156	3.6	ug/L	6610	Standard
>	**Sc**	45	388163.5	1.7				ug/L	350981	Standard
	Ti	47	558.0	0.4	**0.3770**	0.001	0.4	ug/L	63	Standard
	V	51	5253.2	3.9	**0.2314**	0.020	8.5	ug/L	2655	Standard
	Cr	52	15676.1	1.5	**0.7818**	0.037	4.8	ug/L	8417	Standard
	Cr	53	861.7	7.8	**0.4645**	0.041	8.8	ug/L	146	Standard
	Mn	55	1321183.0	1.8	**83.7544**	1.004	1.2	ug/L	1081	Standard
	Co	59	1476.4	3.3	**0.1274**	0.005	3.8	ug/L	84	Standard
	Ni	60	730.0	1.3	**0.2548**	0.003	1.2	ug/L	55	Standard
	Cu	65	710.0	3.3	**0.2605**	0.008	3.2	ug/L	78	Standard
	Zn	66	2729.6	2.4	**2.3823**	0.043	1.8	ug/L	99	Standard
>	**Ge**	72	300807.7	0.6				ug/L	289581	Standard
	As	75	1329.1	3.4	**1.3561**	0.034	2.5	ug/L	-189	Standard
	Se	82	99.3	4.2	**0.7360**	0.043	5.8	ug/L	18	Standard
	Se-1	77	121.7	22.4	**0.3296**	0.344	104.4	ug/L	97	Standard
>	**Ga**	71	643.3	5.8				mg/L	628	Standard
	Rb	85	5345.9	3.1				ug/L	10	Standard
	Y	89	275027.1	1.0				ug/L	254546	Standard
>	**Rh**	103	836.7	7.0				ug/L	400	Standard
	Mo	98	16105.9	2.0	**3.9753**	0.073	1.8	ug/L	8	Standard
	Ag	107	97.0	31.3	**0.0035**	0.004	103.3	ug/L	76	Standard
	Cd	111	84.3	35.1	**0.0001**	0.007	4660.8	mg/L	63	Standard
	Cd	114	318.5	13.6	**0.0092**	0.004	38.3	ug/L	201	Standard
>	**In**	115	876792.3	1.3				ug/L	847070	Standard
	Sn	118	1000.0	2.9	**0.0003**	0.001	377.2	ug/L	553	Standard
	Sb	123	430.2	10.7	**0.0365**	0.004	11.0	ug/L	25	Standard
	Ba	135	421739.5	1.8	**85.1152**	1.581	1.9	ug/L	25	Standard
	Ce	140	1120.7	3.1				ug/L	21	Standard
>	**Tb**	159	1209638.0	0.9				ug/L	1162405	Standard
	Ho	165	102.3	2.0				ug/L	12	Standard
	Tl	203	289.7	13.5	**0.0155**	0.002	15.0	ug/L	4	Standard
	Tl	205	616.3	14.7	**0.0161**	0.002	14.6	ug/L	4	Standard
	Pb	206	534.7	0.4	**0.0138**	0.000	2.8	ug/L	380	Standard
	Pb	207	442.0	3.0	**0.0086**	0.001	13.2	ug/L	306	Standard
	Pb	208	2073.4	2.1	**0.0120**	0.001	6.4	ug/L	1471	Standard
	U	238	3754.8	1.6	**0.2238**	0.004	1.8	ug/L	0	Standard
>	**Bi**	209	557861.8	0.6				ug/L	592579	Standard

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Na	23	283815.3	0.7	**14.4963**	0.316	2.2	mg/L	327	Standard
Mg	24	631837.5	0.9	**0.8920**	0.022	2.5	mg/L	50	Standard
K	39	550.0	13.4	**0.3397**	0.051	14.9	mg/L	125	Standard
Ca	43	10.0	100.0	**4.1250**	4.952	120.0	mg/L	0	Standard
Fe	54	1117.8	8.1	**0.1013**	0.014	13.9	mg/L	579	Standard
Fe	57	16151.9	1.9	**0.1293**	0.001	1.1	mg/L	2535	Standard
Sc-1	45	388163.5	1.7				mg/L	350981	Standard
Cl	35	22.0	27.3				ug/L	6	Standard
Kr	83	42.1	10.7				ug/L	39	Standard
Br	81	6979.9	1.4				ug/L	918	Standard
P	31	922.5	5.5				ug/L	338	Standard
S	34	8769.2	3.0				ug/L	6425	Standard
Sr	88	606.7	10.6				ug/L	28	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	7			
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		103.877	
As	75			
Se	82			
Se-1	77			
Ga	71			
Rb	85			
Y	89			
Rh	103			
Mo	98			
Ag	107			

Sample ID: L1207049210 WG403778-02
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Cd	111	
Cd	114	
> In	115	103.509
Sn	118	
Sb	123	
Ba	135	
Ce	140	
> Tb	159	
Ho	165	
Tl	203	
Tl	205	
Pb	206	
Pb	207	
Pb	208	
U	238	
> Bi	209	94.141
Na	23	
Mg	24	
K	39	
Ca	43	
Fe	54	
Fe	57	
> Sc-1	45	
Cl	35	
Kr	83	
Br	81	
P	31	
S	34	
Sr	88	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: L1207049210 WG403778-02
Report Date/Time: Friday, July 20, 2012 09:39:58
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Method 6020 - Summary Report

Sample ID: L1207049210DP WG403778-07
Sample Date/Time: Friday, July 20, 2012 09:40:37
Number of Replicates: 3
Autosampler Position: 218
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	7	68522.9	1.1	**83689.9514**	2366.576	2.8	ug/L	9660	Standard
	Be	9	6.7	43.3	**-0.0016**	0.001	95.1	ug/L	7	Standard
	Al	27	62809.9	0.5	**3.4138**	0.077	2.2	ug/L	6610	Standard
>	**Sc**	45	398674.4	1.5				ug/L	350981	Standard
	Ti	47	479.3	0.7	**0.3197**	0.003	1.0	ug/L	63	Standard
	V	51	5198.3	1.7	**0.2307**	0.007	3.2	ug/L	2655	Standard
	Cr	52	15398.5	1.7	**0.7663**	0.028	3.6	ug/L	8417	Standard
	Cr	53	804.2	4.2	**0.4312**	0.023	5.2	ug/L	146	Standard
	Mn	55	1268029.1	0.8	**81.1243**	0.709	0.9	ug/L	1081	Standard
	Co	59	1450.4	2.7	**0.1262**	0.003	2.8	ug/L	84	Standard
	Ni	60	1260.4	1.4	**0.4604**	0.005	1.1	ug/L	55	Standard
	Cu	65	865.4	5.1	**0.3280**	0.018	5.4	ug/L	78	Standard
	Zn	66	2367.5	1.2	**2.0716**	0.023	1.1	ug/L	99	Standard
>	**Ge**	72	298074.8	0.3				ug/L	289581	Standard
	As	75	1341.5	0.5	**1.3784**	0.003	0.2	ug/L	-189	Standard
	Se	82	123.4	11.0	**0.9628**	0.127	13.2	ug/L	18	Standard
	Se-1	77	127.0	11.9	**0.4133**	0.192	46.5	ug/L	97	Standard
>	**Ga**	71	653.3	13.7				mg/L	628	Standard
	Rb	85	5265.9	3.8				ug/L	10	Standard
	Y	89	273313.6	1.7				ug/L	254546	Standard
>	**Rh**	103	720.0	13.2				ug/L	400	Standard
	Mo	98	15940.0	0.8	**3.9448**	0.022	0.6	ug/L	8	Standard
	Ag	107	73.7	15.0	**0.0007**	0.001	183.4	ug/L	76	Standard
	Cd	111	88.1	12.6	**0.0011**	0.003	241.3	mg/L	63	Standard
	Cd	114	304.0	5.2	**0.0081**	0.001	15.4	ug/L	201	Standard
>	**In**	115	874438.1	0.3				ug/L	847070	Standard
	Sn	118	1166.4	4.6	**0.0080**	0.002	29.4	ug/L	553	Standard
	Sb	123	454.6	4.8	**0.0388**	0.002	4.9	ug/L	25	Standard
	Ba	135	422486.4	0.4	**85.4907**	0.599	0.7	ug/L	25	Standard
	Ce	140	1167.7	1.6				ug/L	21	Standard
>	**Tb**	159	1199508.4	1.2				ug/L	1162405	Standard
	Ho	165	99.0	9.0				ug/L	12	Standard
	Tl	203	216.7	4.7	**0.0113**	0.000	4.2	ug/L	4	Standard
	Tl	205	500.7	4.8	**0.0132**	0.001	4.9	ug/L	4	Standard
	Pb	206	528.7	6.1	**0.0136**	0.003	21.1	ug/L	380	Standard
	Pb	207	442.7	4.0	**0.0088**	0.001	16.0	ug/L	306	Standard
	Pb	208	2069.1	0.5	**0.0121**	0.000	2.5	ug/L	1471	Standard
	U	238	3754.1	0.7	**0.2246**	0.001	0.5	ug/L	0	Standard
>	**Bi**	209	555685.4	1.0				ug/L	592579	Standard

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Na	23	288103.4	0.8	**14.3253**	0.203	1.4	mg/L	327	Standard
Mg	24	643633.5	1.6	**0.8848**	0.026	3.0	mg/L	50	Standard
K	39	505.0	11.4	**0.2954**	0.048	16.1	mg/L	125	Standard
Ca	43	8.3	124.9	**3.2033**	5.081	158.6	mg/L	0	Standard
Fe	54	1208.4	2.3	**0.1128**	0.002	1.7	mg/L	579	Standard
Fe	57	16113.6	3.2	**0.1249**	0.007	5.7	mg/L	2535	Standard
Sc-1	45	398674.4	1.5				mg/L	350981	Standard
Cl	35	29.3	13.8				ug/L	6	Standard
Kr	83	43.7	0.8				ug/L	39	Standard
Br	81	9222.8	4.4				ug/L	918	Standard
P	31	891.7	7.9				ug/L	338	Standard
S	34	8796.7	1.7				ug/L	6425	Standard
Sr	88	596.7	4.3				ug/L	28	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	7			
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		102.933	
As	75			
Se	82			
Se-1	77			
Ga	71			
Rb	85			
Y	89			
Rh	103			
Mo	98			
Ag	107			

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	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

103.231

93.774

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

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Method 6020 - Summary Report

Sample ID: L1207049212
Sample Date/Time: Friday, July 20, 2012 09:43:46
Number of Replicates: 3
Autosampler Position: 219
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	7	11452.7	5.1	**1632.2253**	758.195	46.5	ug/L	9660	Standard
	Be	9	6.7	43.3	**-0.0015**	0.001	96.6	ug/L	7	Standard
	Al	27	66714.9	2.2	**3.6800**	0.054	1.5	ug/L	6610	Standard
>	**Sc**	45	396181.7	1.3				ug/L	350981	Standard
	Ti	47	353.7	3.8	**0.2086**	0.013	6.1	ug/L	63	Standard
	V	51	3175.5	1.0	**0.0291**	0.004	13.8	ug/L	2655	Standard
	Cr	52	11168.4	1.8	**0.2233**	0.032	14.5	ug/L	8417	Standard
	Cr	53	495.8	9.8	**0.2070**	0.028	13.6	ug/L	146	Standard
	Mn	55	4801.8	32.6	**0.2175**	0.093	42.6	ug/L	1081	Standard
	Co	59	141.7	10.8	**0.0014**	0.001	91.7	ug/L	84	Standard
	Ni	60	553.3	7.5	**0.1795**	0.016	9.0	ug/L	55	Standard
	Cu	65	512.0	3.2	**0.1703**	0.006	3.7	ug/L	78	Standard
	Zn	66	3101.0	3.1	**2.6085**	0.061	2.3	ug/L	99	Standard
>	**Ge**	72	313281.9	1.0				ug/L	289581	Standard
	As	75	-198.7	12.4	**-0.0046**	0.019	418.8	ug/L	-189	Standard
	Se	82	27.9	31.8	**0.0837**	0.077	92.5	ug/L	18	Standard
	Se-1	77	107.7	4.6	**0.0969**	0.072	74.5	ug/L	97	Standard
>	**Ga**	71	645.0	5.1				mg/L	628	Standard
	Rb	85	395.0	8.9				ug/L	10	Standard
	Y	89	283097.1	0.9				ug/L	254546	Standard
>	**Rh**	103	576.7	25.4				ug/L	400	Standard
	Mo	98	154.7	102.4	**0.0342**	0.037	108.1	ug/L	8	Standard
	Ag	107	90.0	35.3	**0.0022**	0.004	163.6	ug/L	76	Standard
	Cd	111	103.6	19.2	**0.0035**	0.004	116.4	mg/L	63	Standard
	Cd	114	329.1	12.3	**0.0089**	0.003	31.1	ug/L	201	Standard
>	**In**	115	916185.0	2.2				ug/L	847070	Standard
	Sn	118	4308.6	6.0	**0.1412**	0.007	5.3	ug/L	553	Standard
	Sb	123	140.4	32.9	**0.0102**	0.004	37.8	ug/L	25	Standard
	Ba	135	855.4	39.6	**0.1541**	0.064	41.3	ug/L	25	Standard
	Ce	140	212.3	4.6				ug/L	21	Standard
>	**Tb**	159	1223838.9	1.2				ug/L	1162405	Standard
	Ho	165	14.7	14.2				ug/L	12	Standard
	Tl	203	56.7	72.4	**0.0016**	0.002	134.4	ug/L	4	Standard
	Tl	205	122.7	73.6	**0.0033**	0.002	60.8	ug/L	4	Standard
	Pb	206	464.3	6.3	**0.0051**	0.002	36.9	ug/L	380	Standard
	Pb	207	380.0	12.9	**-0.0004**	0.004	942.1	ug/L	306	Standard
	Pb	208	1797.0	8.1	**0.0032**	0.002	74.6	ug/L	1471	Standard
	U	238	23.7	111.0	**0.0023**	0.001	61.6	ug/L	0	Standard
>	**Bi**	209	618713.7	0.4				ug/L	592579	Standard

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Na	23	16722.7	13.8	**0.8048**	0.114	14.1	mg/L	327	Standard
Mg	24	22598.5	0.7	**0.0311**	0.001	2.0	mg/L	50	Standard
K	39	183.3	9.6	**0.0530**	0.012	23.1	mg/L	125	Standard
Ca	43	0.0		**-0.8733**			mg/L	0	Standard
Fe	54	728.3	16.0	**0.0229**	0.020	88.9	mg/L	579	Standard
Fe	57	3548.7	4.3	**0.0061**	0.001	17.1	mg/L	2535	Standard
> **Sc-1**	45	396181.7	1.3				mg/L	350981	Standard
Cl	35	2.0	100.0				ug/L	6	Standard
Kr	83	41.1	2.0				ug/L	39	Standard
Br	81	1433.4	12.0				ug/L	918	Standard
P	31	469.2	12.7				ug/L	338	Standard
S	34	6588.9	1.6				ug/L	6425	Standard
Sr	88	45.0	38.5				ug/L	28	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	7			
Be	9			
Al	27			
> Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
> Ge	72		108.185	
As	75			
Se	82			
Se-1	77			
> Ga	71			
Rb	85			
Y	89			
> Rh	103			
Mo	98			
Ag	107			

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Cd	111	
Cd	114	
> In	115	108.159
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	104.410
Na	23	
Mg	24	
K	39	
Ca	43	
Fe	54	
Fe	57	
> Sc-1	45	
Cl	35	
Kr	83	
Br	81	
P	31	
S	34	
Sr	88	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

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Method 6020 - Summary Report

Sample ID: L1207050701
Sample Date/Time: Friday, July 20, 2012 09:46:55
Number of Replicates: 3
Autosampler Position: 220
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	7	70421.7	3.2	**80375.4579**	1293.033	1.6	ug/L	9660	Standard
	Be	9	8.3	34.6	**-0.0010**	0.001	138.5	ug/L	7	Standard
	Al	27	153379.4	2.5	**8.4468**	0.241	2.9	ug/L	6610	Standard
>	**Sc**	45	423803.4	1.9				ug/L	350981	Standard
	Ti	47	1150.7	4.7	**0.8017**	0.037	4.6	ug/L	63	Standard
	V	51	37233.2	0.4	**3.0413**	0.034	1.1	ug/L	2655	Standard
	Cr	52	26881.2	0.6	**1.9342**	0.024	1.3	ug/L	8417	Standard
	Cr	53	3495.4	5.1	**2.1374**	0.106	5.0	ug/L	146	Standard
	Mn	55	9372.9	0.9	**0.4983**	0.005	0.9	ug/L	1081	Standard
	Co	59	292.3	10.0	**0.0151**	0.003	17.8	ug/L	84	Standard
	Ni	60	1786.8	1.1	**0.6309**	0.007	1.1	ug/L	55	Standard
	Cu	65	1577.1	1.6	**0.5951**	0.004	0.7	ug/L	78	Standard
	Zn	66	6688.8	1.0	**5.7745**	0.105	1.8	ug/L	99	Standard
>	**Ge**	72	312285.3	1.0				ug/L	289581	Standard
	As	75	675.6	3.7	**0.7488**	0.020	2.7	ug/L	-189	Standard
	Se	82	118.4	5.1	**0.8688**	0.057	6.5	ug/L	18	Standard
	Se-1	77	150.7	1.7	**0.6307**	0.041	6.5	ug/L	97	Standard
>	**Ga**	71	693.3	14.2				mg/L	628	Standard
	Rb	85	6843.2	2.2				ug/L	10	Standard
	Y	89	283779.5	0.3				ug/L	254546	Standard
>	**Rh**	103	538.3	9.5				ug/L	400	Standard
	Mo	98	9160.5	1.5	**2.1584**	0.025	1.1	ug/L	8	Standard
	Ag	107	153.0	7.9	**0.0094**	0.001	15.4	ug/L	76	Standard
	Cd	111	158.0	5.7	**0.0152**	0.002	13.7	mg/L	63	Standard
	Cd	114	473.5	1.5	**0.0202**	0.000	2.0	ug/L	201	Standard
>	**In**	115	918028.5	0.4				ug/L	847070	Standard
	Sn	118	1337.4	3.9	**0.0128**	0.002	16.2	ug/L	553	Standard
	Sb	123	441.5	6.5	**0.0357**	0.002	6.9	ug/L	25	Standard
	Ba	135	38606.8	0.6	**7.4313**	0.013	0.2	ug/L	25	Standard
	Ce	140	1540.4	3.3				ug/L	21	Standard
>	**Tb**	159	1243048.9	0.5				ug/L	1162405	Standard
	Ho	165	32.3	10.9				ug/L	12	Standard
	Tl	203	219.0	11.2	**0.0104**	0.001	11.9	ug/L	4	Standard
	Tl	205	524.0	6.0	**0.0127**	0.001	4.7	ug/L	4	Standard
	Pb	206	2728.6	2.3	**0.1637**	0.004	2.3	ug/L	380	Standard
	Pb	207	2261.8	0.7	**0.1576**	0.003	2.0	ug/L	306	Standard
	Pb	208	10556.8	0.9	**0.1604**	0.002	1.3	ug/L	1471	Standard
	U	238	6160.9	2.3	**0.3386**	0.010	2.9	ug/L	0	Standard
>	**Bi**	209	604155.8	1.0				ug/L	592579	Standard

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Na	23	143609.1	1.4	**6.7002**	0.157	2.3	mg/L	327	Standard
Mg	24	839674.5	1.1	**1.0859**	0.028	2.6	mg/L	50	Standard
K	39	1065.0	8.6	**0.6712**	0.080	11.9	mg/L	125	Standard
Ca	43	25.0	52.9	**10.6200**	6.143	57.8	mg/L	0	Standard
Fe	54	677.3	1.2	**0.0051**	0.001	26.9	mg/L	579	Standard
Fe	57	7938.7	1.7	**0.0430**	0.001	1.6	mg/L	2535	Standard
> **Sc-1**	45	423803.4	1.9				mg/L	350981	Standard
Cl	35	19.3	57.2				ug/L	6	Standard
Kr	83	43.8	5.3				ug/L	39	Standard
Br	81	4634.9	6.4				ug/L	918	Standard
P	31	411.7	4.3				ug/L	338	Standard
S	34	17334.1	0.8				ug/L	6425	Standard
Sr	88	316.7	9.5				ug/L	28	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	7			
Be	9			
Al	27			
> Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
> Ge	72		107.840	
As	75			
Se	82			
Se-1	77			
> Ga	71			
Rb	85			
Y	89			
> Rh	103			
Mo	98			
Ag	107			

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	Cd	111	
	Cd	114	
>	In	115	108.377
	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	101.954
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: L1207050701
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Method 6020 - Summary Report

Sample ID: L1207050702
Sample Date/Time: Friday, July 20, 2012 09:50:05
Number of Replicates: 3
Autosampler Position: 221
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	7	70925.7	3.2	**79902.6048**	6069.575	7.6	ug/L	9660	Standard
	Be	9	18.3	95.8	**0.0037**	0.008	220.6	ug/L	7	Standard
	Al	27	104911.7	7.5	**5.5585**	0.625	11.2	ug/L	6610	Standard
>	**Sc**	45	429611.2	3.2				ug/L	350981	Standard
	Ti	47	1170.0	22.4	**0.8211**	0.181	22.0	ug/L	63	Standard
	V	51	36904.2	0.4	**3.0379**	0.040	1.3	ug/L	2655	Standard
	Cr	52	26888.5	0.5	**1.9584**	0.061	3.1	ug/L	8417	Standard
	Cr	53	3415.4	4.5	**2.1033**	0.093	4.4	ug/L	146	Standard
	Mn	55	8082.8	3.0	**0.4232**	0.008	1.8	ug/L	1081	Standard
	Co	59	282.3	7.3	**0.0144**	0.002	14.2	ug/L	84	Standard
	Ni	60	1619.8	3.4	**0.5743**	0.011	1.9	ug/L	55	Standard
	Cu	65	697.7	0.4	**0.2471**	0.004	1.4	ug/L	78	Standard
	Zn	66	4822.1	0.6	**4.1654**	0.058	1.4	ug/L	99	Standard
>	**Ge**	72	309866.0	1.6				ug/L	289581	Standard
	As	75	662.5	3.1	**0.7421**	0.020	2.8	ug/L	-189	Standard
	Se	82	114.8	3.0	**0.8453**	0.033	3.9	ug/L	18	Standard
	Se-1	77	141.3	11.2	**0.5315**	0.223	42.0	ug/L	97	Standard
>	**Ga**	71	718.4	5.9				mg/L	628	Standard
	Rb	85	6831.5	0.6				ug/L	10	Standard
	Y	89	290594.1	1.7				ug/L	254546	Standard
>	**Rh**	103	540.0	5.8				ug/L	400	Standard
	Mo	98	9037.7	1.1	**2.0991**	0.031	1.5	ug/L	8	Standard
	Ag	107	197.7	8.2	**0.0143**	0.002	13.0	ug/L	76	Standard
	Cd	111	106.0	10.8	**0.0036**	0.002	66.7	mg/L	63	Standard
	Cd	114	340.0	17.2	**0.0094**	0.004	46.9	ug/L	201	Standard
>	**In**	115	931292.4	0.4				ug/L	847070	Standard
	Sn	118	1641.8	9.6	**0.0250**	0.007	27.7	ug/L	553	Standard
	Sb	123	418.3	5.7	**0.0332**	0.002	5.5	ug/L	25	Standard
	Ba	135	37068.6	0.8	**7.0329**	0.031	0.4	ug/L	25	Standard
	Ce	140	871.7	5.7				ug/L	21	Standard
>	**Tb**	159	1247425.1	0.5				ug/L	1162405	Standard
	Ho	165	29.3	39.8				ug/L	12	Standard
	Tl	203	234.0	5.6	**0.0112**	0.001	5.6	ug/L	4	Standard
	Tl	205	544.7	5.7	**0.0132**	0.001	5.1	ug/L	4	Standard
	Pb	206	1489.1	0.6	**0.0772**	0.002	2.1	ug/L	380	Standard
	Pb	207	1257.4	1.3	**0.0736**	0.002	2.9	ug/L	306	Standard
	Pb	208	5838.1	0.7	**0.0761**	0.001	1.3	ug/L	1471	Standard
	U	238	6203.6	0.4	**0.3406**	0.005	1.4	ug/L	0	Standard
>	**Bi**	209	604587.4	0.9				ug/L	592579	Standard

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	Na	23	145242.9	0.9	**6.6868**	0.177	2.7	mg/L	327	Standard
	Mg	24	815146.6	0.5	**1.0403**	0.037	3.6	mg/L	50	Standard
	K	39	1110.0	4.3	**0.6914**	0.018	2.5	mg/L	125	Standard
	Ca	43	15.0	33.3	**5.9488**	2.479	41.7	mg/L	0	Standard
	Fe	54	667.3	2.8	**0.0017**	0.004	230.2	mg/L	579	Standard
	Fe	57	7675.3	2.1	**0.0398**	0.003	8.6	mg/L	2535	Standard
>	**Sc-1**	45	429611.2	3.2				mg/L	350981	Standard
	Cl	35	14.7	32.2				ug/L	6	Standard
	Kr	83	43.7	7.4				ug/L	39	Standard
	Br	81	4826.6	1.9				ug/L	918	Standard
	P	31	421.7	3.0				ug/L	338	Standard
	S	34	17113.0	1.3				ug/L	6425	Standard
	Sr	88	396.7	17.7				ug/L	28	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
	Li	7			
	Be	9			
	Al	27			
>	Sc	45			
	Ti	47			
	V	51			
	Cr	52			
	Cr	53			
	Mn	55			
	Co	59			
	Ni	60			
	Cu	65			
	Zn	66			
>	Ge	72		107.005	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			
	Y	89			
>	Rh	103			
	Mo	98			
	Ag	107			

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	Cd	111	
	Cd	114	
>	In	115	109.943
	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	102.027
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

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Method 6020 - Summary Report

Sample ID: L1207049202
Sample Date/Time: Friday, July 20, 2012 09:54:36
Number of Replicates: 3
Autosampler Position: 212
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	7	9126.1	3.6	**934.1629**	911.469	97.6	ug/L	9660	Standard
	Be	9	13.3	57.3	**0.0032**	0.005	145.2	ug/L	7	Standard
	Al	27	27526.7	3.8	**1.5885**	0.074	4.7	ug/L	6610	Standard
>	**Sc**	45	329894.0	2.4				ug/L	350981	Standard
	Ti	47	84.7	10.0	**0.0192**	0.007	37.9	ug/L	63	Standard
	V	51	2543.8	5.1	**0.0092**	0.013	138.5	ug/L	2655	Standard
	Cr	52	7415.1	4.0	**-0.0553**	0.036	65.4	ug/L	8417	Standard
	Cr	53	207.5	8.4	**0.0435**	0.013	29.7	ug/L	146	Standard
	Mn	55	220500.3	0.6	**15.5039**	0.155	1.0	ug/L	1081	Standard
	Co	59	102.3	10.5	**-0.0007**	0.001	168.6	ug/L	84	Standard
	Ni	60	150.0	10.4	**0.0413**	0.007	16.5	ug/L	55	Standard
	Cu	65	106.3	12.8	**0.0159**	0.006	39.7	ug/L	78	Standard
	Zn	66	1544.1	3.6	**1.4597**	0.061	4.2	ug/L	99	Standard
>	**Ge**	72	270170.5	0.4				ug/L	289581	Standard
	As	75	-102.1	15.0	**0.0644**	0.015	23.0	ug/L	-189	Standard
	Se	82	23.4	41.1	**0.0770**	0.097	125.7	ug/L	18	Standard
	Se-1	77	87.3	7.6	**0.0178**	0.093	525.3	ug/L	97	Standard
>	**Ga**	71	573.3	3.9				mg/L	628	Standard
	Rb	85	75.0	11.5				ug/L	10	Standard
	Y	89	239954.4	2.7				ug/L	254546	Standard
>	**Rh**	103	426.7	20.2				ug/L	400	Standard
	Mo	98	42.8	14.6	**0.0091**	0.001	14.1	ug/L	8	Standard
	Ag	107	49.3	16.9	**-0.0018**	0.001	47.6	ug/L	76	Standard
	Cd	111	26.2	17.3	**-0.0126**	0.001	10.2	mg/L	63	Standard
	Cd	114	85.7	13.9	**-0.0093**	0.001	14.4	ug/L	201	Standard
>	**In**	115	821021.1	4.3				ug/L	847070	Standard
	Sn	118	843.0	3.0	**-0.0042**	0.002	44.0	ug/L	553	Standard
	Sb	123	50.4	6.4	**0.0031**	0.000	11.3	ug/L	25	Standard
	Ba	135	9722.8	1.2	**2.0873**	0.085	4.1	ug/L	25	Standard
	Ce	140	98.3	4.6				ug/L	21	Standard
>	**Tb**	159	1103031.7	2.1				ug/L	1162405	Standard
	Ho	165	19.3	26.5				ug/L	12	Standard
	Tl	203	92.3	18.9	**0.0039**	0.001	25.8	ug/L	4	Standard
	Tl	205	215.3	17.4	**0.0059**	0.001	15.8	ug/L	4	Standard
	Pb	206	417.0	5.2	**0.0042**	0.002	38.7	ug/L	380	Standard
	Pb	207	332.0	5.6	**-0.0021**	0.002	77.9	ug/L	306	Standard
	Pb	208	1564.7	2.0	**0.0014**	0.001	43.9	ug/L	1471	Standard
	U	238	5.7	53.9	**0.0013**	0.000	13.3	ug/L	0	Standard
>	**Bi**	209	572349.2	0.1				ug/L	592579	Standard

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	Na	23	29754.2	4.1	**1.7578**	0.031	1.8	mg/L	327	Standard
	Mg	24	100935.2	2.3	**0.1675**	0.000	0.2	mg/L	50	Standard
	K	39	133.3	17.3	**0.0353**	0.019	55.1	mg/L	125	Standard
	Ca	43	5.0	173.2	**2.1475**	5.232	243.6	mg/L	0	Standard
	Fe	54	882.9	1.1	**0.0862**	0.005	6.4	mg/L	579	Standard
	Fe	57	13906.4	3.6	**0.1314**	0.006	4.3	mg/L	2535	Standard
>	**Sc-1**	45	329894.0	2.4				mg/L	350981	Standard
	Cl	35	6.0	44.1				ug/L	6	Standard
	Kr	83	39.6	2.6				ug/L	39	Standard
	Br	81	1079.2	4.9				ug/L	918	Standard
	P	31	165.8	9.1				ug/L	338	Standard
	S	34	6313.8	1.6				ug/L	6425	Standard
	Sr	88	41.7	13.9				ug/L	28	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
	Li	7			
	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		93.297	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			
	Y	89			
>	Rh	103			
	Mo	98			
	Ag	107			

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	Cd	111	
	Cd	114	
>	In	115	96.925
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	96.586
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

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Method 6020 - Summary Report

Sample ID: L1207049202PS WG403908-01
Sample Date/Time: Friday, July 20, 2012 09:57:47
Number of Replicates: 3
Autosampler Position: 213
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	7	9049.4	1.2	**682.9583**	351.720	51.5	ug/L	9660	Standard
	Be	9	94988.6	2.8	**57.0293**	0.995	1.7	ug/L	7	Standard
	Al	27	658123.3	3.4	**48.3093**	0.370	0.8	ug/L	6610	Standard
>	**Sc**	45	332259.6	3.4				ug/L	350981	Standard
	Ti	47	90.0	14.2	**0.0240**	0.011	47.5	ug/L	63	Standard
	V	51	467557.6	3.2	**47.6127**	0.996	2.1	ug/L	2655	Standard
	Cr	52	392602.6	1.8	**48.4067**	0.297	0.6	ug/L	8417	Standard
	Cr	53	65128.9	3.3	**48.3934**	0.981	2.0	ug/L	146	Standard
	Mn	55	922412.8	3.0	**65.2033**	1.114	1.7	ug/L	1081	Standard
	Co	59	478768.9	2.9	**50.2055**	0.806	1.6	ug/L	84	Standard
	Ni	60	116898.5	2.9	**49.4409**	0.842	1.7	ug/L	55	Standard
	Cu	65	110430.4	2.3	**50.8940**	0.526	1.0	ug/L	78	Standard
	Zn	66	60517.3	2.8	**61.5330**	0.932	1.5	ug/L	99	Standard
>	**Ge**	72	269674.0	1.3				ug/L	289581	Standard
	As	75	55638.1	2.2	**55.7388**	0.950	1.7	ug/L	-189	Standard
	Se	82	6568.9	0.9	**65.7623**	0.357	0.5	ug/L	18	Standard
	Se-1	77	4598.4	0.6	**64.3954**	0.443	0.7	ug/L	97	Standard
>	**Ga**	71	600.0	16.4				mg/L	628	Standard
	Rb	85	65.0	26.6				ug/L	10	Standard
	Y	89	237314.2	1.3				ug/L	254546	Standard
>	**Rh**	103	435.0	15.9				ug/L	400	Standard
	Mo	98	122.4	5.8	**0.0310**	0.001	3.9	ug/L	8	Standard
	Ag	107	407067.1	3.4	**53.8040**	0.668	1.2	ug/L	76	Standard
	Cd	111	221435.4	3.1	**54.9226**	0.642	1.2	mg/L	63	Standard
	Cd	114	604291.4	2.1	**54.1976**	0.140	0.3	ug/L	201	Standard
>	**In**	115	798842.9	2.2				ug/L	847070	Standard
	Sn	118	641.0	3.1	**-0.0131**	0.001	7.4	ug/L	553	Standard
	Sb	123	528233.9	2.2	**51.4819**	0.309	0.6	ug/L	25	Standard
	Ba	135	231742.5	2.5	**51.3237**	0.228	0.4	ug/L	25	Standard
	Ce	140	132.0	6.1				ug/L	21	Standard
>	**Tb**	159	1101351.0	1.0				ug/L	1162405	Standard
	Ho	165	19.7	12.8				ug/L	12	Standard
	Tl	203	833919.0	3.1	**47.1396**	0.846	1.8	ug/L	4	Standard
	Tl	205	1932720.9	2.1	**47.1750**	0.940	2.0	ug/L	4	Standard
	Pb	206	650541.8	2.4	**47.6105**	0.946	2.0	ug/L	380	Standard
	Pb	207	550493.0	3.2	**48.2906**	0.805	1.7	ug/L	306	Standard
	Pb	208	2554580.4	2.6	**47.8763**	0.799	1.7	ug/L	1471	Standard
	U	238	805430.9	2.2	**46.3518**	0.713	1.5	ug/L	0	Standard
>	**Bi**	209	575276.3	3.2				ug/L	592579	Standard

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	Na	23	32003.8	4.6	**1.8804**	0.079	4.2	mg/L	327	Standard
	Mg	24	111126.1	1.9	**0.1832**	0.003	1.6	mg/L	50	Standard
	K	39	128.3	31.3	**0.0307**	0.039	125.9	mg/L	125	Standard
	Ca	43	8.3	34.6	**4.0296**	1.814	45.0	mg/L	0	Standard
	Fe	54	898.3	5.2	**0.0886**	0.017	19.3	mg/L	579	Standard
	Fe	57	15786.6	7.2	**0.1515**	0.008	5.2	mg/L	2535	Standard
>	**Sc-1**	45	332259.6	3.4				mg/L	350981	Standard
	Cl	35	6.0	28.9				ug/L	6	Standard
	Kr	83	44.7	7.1				ug/L	39	Standard
	Br	81	1065.9	8.0				ug/L	918	Standard
	P	31	152.5	2.8				ug/L	338	Standard
	S	34	6221.3	1.5				ug/L	6425	Standard
	Sr	88	35.0	28.6				ug/L	28	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
	Li	7			
	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		93.126	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			
	Y	89			
>	Rh	103			
	Mo	98			
	Ag	107			

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	Cd	111	
	Cd	114	
>	In	115	94.307
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	97.080
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: L1207049202PS WG403908-01
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Method 6020 - Summary Report

Sample ID: L1207049202SDL WG403908-02
Sample Date/Time: Friday, July 20, 2012 10:00:56
Number of Replicates: 3
Autosampler Position: 214
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	7	10366.9	2.4	**724.3034**	516.089	71.3	ug/L	9660	Standard
	Be	9	13.3	43.3	**0.0021**	0.003	149.9	ug/L	7	Standard
	Al	27	16959.5	0.8	**0.6341**	0.029	4.5	ug/L	6610	Standard
>	**Sc**	45	379549.5	1.9				ug/L	350981	Standard
	Ti	47	80.3	12.8	**0.0071**	0.008	111.5	ug/L	63	Standard
	V	51	2965.0	1.3	**0.0153**	0.004	25.8	ug/L	2655	Standard
	Cr	52	8949.3	0.2	**0.0006**	0.002	282.9	ug/L	8417	Standard
	Cr	53	277.5	7.2	**0.0704**	0.012	17.6	ug/L	146	Standard
	Mn	55	51943.6	0.5	**3.1484**	0.019	0.6	ug/L	1081	Standard
	Co	59	145.7	29.0	**0.0020**	0.004	195.2	ug/L	84	Standard
	Ni	60	349.7	7.8	**0.1076**	0.010	9.2	ug/L	55	Standard
	Cu	65	227.0	9.1	**0.0587**	0.008	13.9	ug/L	78	Standard
	Zn	66	2384.5	3.1	**2.0189**	0.059	2.9	ug/L	99	Standard
>	**Ge**	72	307624.9	0.4				ug/L	289581	Standard
	As	75	-177.6	12.4	**0.0106**	0.019	180.2	ug/L	-189	Standard
	Se	82	22.6	10.4	**0.0411**	0.021	50.6	ug/L	18	Standard
	Se-1	77	98.3	8.8	**0.0039**	0.106	2707.2	ug/L	97	Standard
>	**Ga**	71	678.3	0.4				mg/L	628	Standard
	Rb	85	46.7	27.0				ug/L	10	Standard
	Y	89	269534.7	0.8				ug/L	254546	Standard
>	**Rh**	103	420.0	10.2				ug/L	400	Standard
	Mo	98	49.8	13.1	**0.0098**	0.002	16.1	ug/L	8	Standard
	Ag	107	253.7	21.3	**0.0215**	0.006	27.9	ug/L	76	Standard
	Cd	111	97.5	29.5	**0.0025**	0.006	242.6	mg/L	63	Standard
	Cd	114	310.8	19.7	**0.0079**	0.005	58.3	ug/L	201	Standard
>	**In**	115	900876.5	1.0				ug/L	847070	Standard
	Sn	118	1860.1	1.1	**0.0369**	0.001	3.2	ug/L	553	Standard
	Sb	123	3011.7	32.0	**0.2586**	0.084	32.5	ug/L	25	Standard
	Ba	135	2228.2	2.1	**0.4269**	0.007	1.6	ug/L	25	Standard
	Ce	140	59.3	12.8				ug/L	21	Standard
>	**Tb**	159	1180756.7	0.9				ug/L	1162405	Standard
	Ho	165	14.0	39.8				ug/L	12	Standard
	Tl	203	233.3	45.2	**0.0110**	0.006	50.5	ug/L	4	Standard
	Tl	205	570.0	40.1	**0.0136**	0.005	38.2	ug/L	4	Standard
	Pb	206	771.0	11.1	**0.0264**	0.006	21.5	ug/L	380	Standard
	Pb	207	679.0	12.7	**0.0245**	0.007	28.3	ug/L	306	Standard
	Pb	208	3093.8	13.7	**0.0263**	0.007	27.8	ug/L	1471	Standard
	U	238	278.0	32.8	**0.0160**	0.005	30.6	ug/L	0	Standard
>	**Bi**	209	613115.2	0.4				ug/L	592579	Standard

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	Na	23	8405.7	4.4	**0.4066**	0.026	6.3	mg/L	327	Standard
	Mg	24	22505.0	1.0	**0.0324**	0.000	0.9	mg/L	50	Standard
	K	39	145.0	9.1	**0.0290**	0.013	44.2	mg/L	125	Standard
	Ca	43	3.3	86.6	**0.8111**	1.459	179.8	mg/L	0	Standard
	Fe	54	587.0	20.6	**0.0009**	0.022	2442.6	mg/L	579	Standard
	Fe	57	6059.5	4.6	**0.0325**	0.003	8.4	mg/L	2535	Standard
>	**Sc-1**	45	379549.5	1.9				mg/L	350981	Standard
	Cl	35	6.0	66.7				ug/L	6	Standard
	Kr	83	43.3	3.4				ug/L	39	Standard
	Br	81	1167.5	7.2				ug/L	918	Standard
	P	31	346.7	10.4				ug/L	338	Standard
	S	34	6835.7	1.4				ug/L	6425	Standard
	Sr	88	31.7	9.1				ug/L	28	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
	Li	7			
	Be	9			
	Al	27			
>	Sc	45			
	Ti	47			
	V	51			
	Cr	52			
	Cr	53			
	Mn	55			
	Co	59			
	Ni	60			
	Cu	65			
	Zn	66			
>	Ge	72		106.231	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			
	Y	89			
>	Rh	103			
	Mo	98			
	Ag	107			

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	Cd	111	
	Cd	114	
>	In	115	106.352
	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	103.466
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

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Method 6020 - Summary Report

Sample ID: QC Std 6
Sample Date/Time: Friday, July 20, 2012 10:04:09
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	7	10552.0	0.7	**396.0532**	118.208	29.8	ug/L	9660	Standard
	Be	9	97816.4	1.4	**49.4531**	0.680	1.4	ug/L	7	Standard
	Al	27	769269.0	1.8	**47.5584**	1.175	2.5	ug/L	6610	Standard
>	**Sc**	45	394489.9	1.0				ug/L	350981	Standard
	Ti	47	134547.1	0.1	**100.4680**	0.611	0.6	ug/L	63	Standard
	V	51	569028.2	1.1	**50.3210**	0.810	1.6	ug/L	2655	Standard
	Cr	52	472843.5	0.9	**50.6546**	0.726	1.4	ug/L	8417	Standard
	Cr	53	78713.1	0.9	**50.7835**	0.683	1.3	ug/L	146	Standard
	Mn	55	848072.9	1.0	**52.0307**	0.790	1.5	ug/L	1081	Standard
	Co	59	562007.0	1.2	**51.1655**	0.892	1.7	ug/L	84	Standard
	Ni	60	136677.4	1.0	**50.1854**	0.706	1.4	ug/L	55	Standard
	Cu	65	126674.7	0.5	**50.6791**	0.176	0.3	ug/L	78	Standard
	Zn	66	56543.6	0.6	**49.8915**	0.552	1.1	ug/L	99	Standard
>	**Ge**	72	310682.0	0.5				ug/L	289581	Standard
	As	75	57918.2	0.6	**50.3829**	0.578	1.1	ug/L	-189	Standard
	Se	82	5945.9	0.3	**51.6342**	0.357	0.7	ug/L	18	Standard
	Se-1	77	4204.3	3.7	**50.8520**	2.046	4.0	ug/L	97	Standard
>	**Ga**	71	703.3	6.7				mg/L	628	Standard
	Rb	85	830.0	4.8				ug/L	10	Standard
	Y	89	284680.6	2.4				ug/L	254546	Standard
>	**Rh**	103	476.7	17.6				ug/L	400	Standard
	Mo	98	414828.6	0.4	**96.7898**	0.803	0.8	ug/L	8	Standard
	Ag	107	449206.6	0.8	**51.1202**	0.536	1.0	ug/L	76	Standard
	Cd	111	236243.7	0.8	**50.4454**	0.410	0.8	mg/L	63	Standard
	Cd	114	639786.7	0.3	**49.3943**	0.408	0.8	ug/L	201	Standard
>	**In**	115	927998.5	0.5				ug/L	847070	Standard
	Sn	118	1539650.7	1.2	**65.6207**	0.570	0.9	ug/L	553	Standard
	Sb	123	585542.5	0.3	**49.1250**	0.191	0.4	ug/L	25	Standard
	Ba	135	252357.3	0.6	**48.1128**	0.323	0.7	ug/L	25	Standard
	Ce	140	1038.4	2.1				ug/L	21	Standard
>	**Tb**	159	1237726.6	0.4				ug/L	1162405	Standard
	Ho	165	21.3	5.4				ug/L	12	Standard
	Tl	203	920586.9	0.4	**49.4533**	0.535	1.1	ug/L	4	Standard
	Tl	205	2220470.9	0.8	**51.4951**	0.681	1.3	ug/L	4	Standard
	Pb	206	715355.6	0.4	**49.7456**	0.476	1.0	ug/L	380	Standard
	Pb	207	604302.9	0.8	**50.3769**	0.060	0.1	ug/L	306	Standard
	Pb	208	2787876.9	0.5	**49.6472**	0.129	0.3	ug/L	1471	Standard
	U	238	933631.0	0.2	**51.0525**	0.480	0.9	ug/L	0	Standard
>	**Bi**	209	605311.9	0.7				ug/L	592579	Standard

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Na	23	121596.0	1.3	**6.0911**	0.135	2.2	mg/L	327	Standard
Mg	24	3474564.9	1.5	**4.8261**	0.063	1.3	mg/L	50	Standard
K	39	6019.5	4.4	**4.5081**	0.249	5.5	mg/L	125	Standard
Ca	43	8.3	124.9	**3.2213**	5.094	158.1	mg/L	0	Standard
Fe	54	25937.0	0.9	**4.8307**	0.016	0.3	mg/L	579	Standard
Fe	57	539913.4	0.8	**5.1396**	0.043	0.8	mg/L	2535	Standard
Sc-1	45	394489.9	1.0				mg/L	350981	Standard
Cl	35	3.3	75.5				ug/L	6	Standard
Kr	83	49.3	9.5				ug/L	39	Standard
Br	81	1265.1	3.3				ug/L	918	Standard
P	31	495.0	2.2				ug/L	338	Standard
S	34	6918.2	3.4				ug/L	6425	Standard
Sr	88	38.3	19.9				ug/L	28	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	7			
Be	9			
Al	27	95.117		
Sc	45			
Ti	47	100.468		
V	51	100.642		
Cr	52	101.309		
Cr	53			
Mn	55	104.061		
Co	59	102.331		
Ni	60	100.371		
Cu	65	101.358		
Zn	66	99.783		
Ge	72		107.287	
As	75	100.766		
Se	82	103.268		
Se-1	77			
Ga	71			
Rb	85			
Y	89			
Rh	103			
Mo	98	96.790		
Ag	107	102.240		

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	Cd	111	100.891	
	Cd	114		
>	In	115		109.554
	Sn	118	131.241	
	Sb	123	98.250	
	Ba	135	96.226	
	Ce	140		
>	Tb	159		
	Ho	165		
	Tl	203	98.907	
	Tl	205		
	Pb	206	99.491	
	Pb	207	100.754	
	Pb	208	99.294	
	U	238	102.105	
>	Bi	209		102.149
	Na	23		
	Mg	24		
	K	39		
	Ca	43		
	Fe	54		
	Fe	57		
>	Sc-1	45		
	Cl	35		
	Kr	83		
	Br	81		
	P	31		
	S	34		
	Sr	88		

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 6	Sn	118	

Sample ID: QC Std 6
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Method 6020 - Summary Report

Sample ID: QC Std 7
Sample Date/Time: Friday, July 20, 2012 10:07:19
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	7	10068.3	5.0	**108.0254**	793.970	735.0	ug/L	9660	Standard
	Be	9	41.7	113.4	**0.0169**	0.025	146.9	ug/L	7	Standard
	Al	27	7168.4	11.8	**-0.0060**	0.059	974.7	ug/L	6610	Standard
>	**Sc**	45	383646.8	1.2				ug/L	350981	Standard
	Ti	47	111.7	25.4	**0.0316**	0.022	70.2	ug/L	63	Standard
	V	51	2969.5	17.2	**0.0184**	0.048	259.9	ug/L	2655	Standard
	Cr	52	8698.5	6.3	**-0.0177**	0.067	379.6	ug/L	8417	Standard
	Cr	53	210.8	23.3	**0.0283**	0.033	117.5	ug/L	146	Standard
	Mn	55	2282.9	80.9	**0.0689**	0.117	169.7	ug/L	1081	Standard
	Co	59	357.3	103.5	**0.0219**	0.035	158.2	ug/L	84	Standard
	Ni	60	92.3	42.9	**0.0125**	0.015	120.5	ug/L	55	Standard
	Cu	65	128.7	30.4	**0.0196**	0.016	83.5	ug/L	78	Standard
	Zn	66	137.0	22.9	**0.0131**	0.029	221.4	ug/L	99	Standard
>	**Ge**	72	304745.6	0.7				ug/L	289581	Standard
	As	75	-174.7	12.8	**0.0116**	0.020	174.2	ug/L	-189	Standard
	Se	82	24.7	23.4	**0.0616**	0.050	82.0	ug/L	18	Standard
	Se-1	77	106.3	11.3	**0.1174**	0.161	137.1	ug/L	97	Standard
>	**Ga**	71	623.3	10.3				mg/L	628	Standard
	Rb	85	36.7	34.3				ug/L	10	Standard
	Y	89	272629.8	1.8				ug/L	254546	Standard
>	**Rh**	103	466.7	11.8				ug/L	400	Standard
	Mo	98	117.9	23.3	**0.0257**	0.006	24.1	ug/L	8	Standard
	Ag	107	246.7	16.4	**0.0204**	0.005	24.0	ug/L	76	Standard
	Cd	111	109.0	18.5	**0.0048**	0.004	94.6	mg/L	63	Standard
	Cd	114	288.5	6.7	**0.0058**	0.002	28.1	ug/L	201	Standard
>	**In**	115	913712.6	1.4				ug/L	847070	Standard
	Sn	118	1100.0	6.8	**0.0028**	0.003	104.8	ug/L	553	Standard
	Sb	123	1521.7	22.0	**0.1277**	0.027	20.8	ug/L	25	Standard
	Ba	135	74.3	56.2	**0.0037**	0.008	223.5	ug/L	25	Standard
	Ce	140	26.7	15.2				ug/L	21	Standard
>	**Tb**	159	1189236.1	1.0				ug/L	1162405	Standard
	Ho	165	12.3	37.4				ug/L	12	Standard
	Tl	203	132.3	43.9	**0.0056**	0.003	54.4	ug/L	4	Standard
	Tl	205	320.0	40.5	**0.0079**	0.003	37.4	ug/L	4	Standard
	Pb	206	497.0	5.3	**0.0076**	0.002	23.0	ug/L	380	Standard
	Pb	207	483.7	23.7	**0.0084**	0.009	111.9	ug/L	306	Standard
	Pb	208	2379.8	35.1	**0.0137**	0.015	106.4	ug/L	1471	Standard
	U	238	401.0	122.6	**0.0226**	0.026	117.1	ug/L	0	Standard
>	**Bi**	209	613831.9	0.2				ug/L	592579	Standard

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Na	23	1725.1	82.4	**0.0561**	0.075	133.1	mg/L	327	Standard
Mg	24	1276.8	124.3	**0.0017**	0.002	133.2	mg/L	50	Standard
K	39	123.3	24.8	**0.0105**	0.023	222.5	mg/L	125	Standard
Ca	43	3.3	86.6	**0.8030**	1.452	180.8	mg/L	0	Standard
Fe	54	646.0	1.2	**0.0115**	0.002	14.8	mg/L	579	Standard
Fe	57	3523.7	12.7	**0.0070**	0.005	68.2	mg/L	2535	Standard
> **Sc-1**	45	383646.8	1.2				mg/L	350981	Standard
Cl	35	4.0	66.1				ug/L	6	Standard
Kr	83	40.6	7.1				ug/L	39	Standard
Br	81	1246.7	3.4				ug/L	918	Standard
P	31	473.3	5.5				ug/L	338	Standard
S	34	6748.2	2.4				ug/L	6425	Standard
Sr	88	38.3	32.8				ug/L	28	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	7			
Be	9			
Al	27			
> Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
> Ge	72		105.237	
As	75			
Se	82			
Se-1	77			
> Ga	71			
Rb	85			
Y	89			
> Rh	103			
Mo	98			
Ag	107			

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Cd	111	
Cd	114	
> In	115	107.867
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	103.587
Na	23	
Mg	24	
K	39	
Ca	43	
Fe	54	
Fe	57	
> Sc-1	45	
Cl	35	
Kr	83	
Br	81	
P	31	
S	34	
Sr	88	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: QC Std 7
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Method 6020 - Summary Report

Sample ID: L1207049301
Sample Date/Time: Friday, July 20, 2012 10:12:39
Number of Replicates: 3
Autosampler Position: 222
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	7	283598.2	1.5	**447110.6283**	6449.258	1.4	ug/L	9660	Standard
	Be	9	31.7	50.8	**0.0131**	0.009	71.0	ug/L	7	Standard
	Al	27	132857.1	3.7	**8.8253**	0.420	4.8	ug/L	6610	Standard
>	**Sc**	45	352170.9	0.8				ug/L	350981	Standard
	Ti	47	5940.5	1.1	**4.8876**	0.056	1.2	ug/L	63	Standard
	V	51	6357.0	0.7	**0.3782**	0.002	0.6	ug/L	2655	Standard
	Cr	52	9076.7	0.3	**0.1171**	0.003	2.4	ug/L	8417	Standard
	Cr	53	340.8	5.2	**0.1346**	0.013	9.3	ug/L	146	Standard
	Mn	55	5896798.3	1.8	**403.2623**	7.353	1.8	ug/L	1081	Standard
	Co	59	1066.7	0.8	**0.0967**	0.001	1.2	ug/L	84	Standard
	Ni	60	1787.8	3.5	**0.7091**	0.028	4.0	ug/L	55	Standard
	Cu	65	1492.4	2.5	**0.6322**	0.017	2.7	ug/L	78	Standard
	Zn	66	2800.3	0.8	**2.6464**	0.031	1.2	ug/L	99	Standard
>	**Ge**	72	279058.1	0.4				ug/L	289581	Standard
	As	75	4072.1	2.4	**4.0966**	0.091	2.2	ug/L	-189	Standard
	Se	82	199.2	6.5	**1.7744**	0.122	6.9	ug/L	18	Standard
	Se-1	77	100.0	15.1	**0.1534**	0.213	138.5	ug/L	97	Standard
>	**Ga**	71	660.0	9.9				mg/L	628	Standard
	Rb	85	17580.2	0.8				ug/L	10	Standard
	Y	89	242299.3	2.1				ug/L	254546	Standard
>	**Rh**	103	551.7	6.0				ug/L	400	Standard
	Mo	98	524.8	4.7	**0.1448**	0.005	3.6	ug/L	8	Standard
	Ag	107	125.3	14.1	**0.0089**	0.002	24.4	ug/L	76	Standard
	Cd	111	54.4	3.9	**-0.0050**	0.001	15.1	mg/L	63	Standard
	Cd	114	140.7	20.0	**-0.0038**	0.003	67.0	ug/L	201	Standard
>	**In**	115	772971.7	1.5				ug/L	847070	Standard
	Sn	118	1689.1	1.2	**0.0417**	0.002	4.8	ug/L	553	Standard
	Sb	123	899.2	5.1	**0.0888**	0.004	4.2	ug/L	25	Standard
	Ba	135	978641.3	2.2	**224.0268**	2.147	1.0	ug/L	25	Standard
	Ce	140	4394.0	1.0				ug/L	21	Standard
>	**Tb**	159	1123228.3	0.3				ug/L	1162405	Standard
	Ho	165	290.3	9.9				ug/L	12	Standard
	Tl	203	174.0	15.0	**0.0103**	0.002	16.8	ug/L	4	Standard
	Tl	205	390.0	8.9	**0.0118**	0.001	8.6	ug/L	4	Standard
	Pb	206	490.7	5.2	**0.0160**	0.002	14.1	ug/L	380	Standard
	Pb	207	404.7	2.9	**0.0106**	0.001	11.2	ug/L	306	Standard
	Pb	208	1857.4	1.9	**0.0131**	0.001	6.2	ug/L	1471	Standard
	U	238	1077.0	4.4	**0.0744**	0.003	4.6	ug/L	0	Standard
>	**Bi**	209	486045.3	0.4				ug/L	592579	Standard

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Na	23	154921.3	0.3	**8.7065**	0.084	1.0	mg/L	327	Standard
Mg	24	6532293.8	1.5	**10.1647**	0.231	2.3	mg/L	50	Standard
K	39	2538.5	4.2	**2.0839**	0.107	5.2	mg/L	125	Standard
Ca	43	26.7	47.2	**13.8423**	7.056	51.0	mg/L	0	Standard
Fe	54	72371.4	2.8	**15.3464**	0.557	3.6	mg/L	579	Standard
Fe	57	1488975.1	3.4	**15.9375**	0.641	4.0	mg/L	2535	Standard
Sc-1	45	352170.9	0.8				mg/L	350981	Standard
Cl	35	17.3	18.5				ug/L	6	Standard
Kr	83	42.8	9.2				ug/L	39	Standard
Br	81	15093.4	3.0				ug/L	918	Standard
P	31	32005.4	2.0				ug/L	338	Standard
S	34	6719.8	1.1				ug/L	6425	Standard
Sr	88	951.7	5.8				ug/L	28	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	7			
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		96.366	
As	75			
Se	82			
Se-1	77			
Ga	71			
Rb	85			
Y	89			
Rh	103			
Mo	98			
Ag	107			

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Cd	111	
Cd	114	
> In	115	91.252
Sn	118	
Sb	123	
Ba	135	
Ce	140	
> Tb	159	
Ho	165	
Tl	203	
Tl	205	
Pb	206	
Pb	207	
Pb	208	
U	238	
> Bi	209	82.022
Na	23	
Mg	24	
K	39	
Ca	43	
Fe	54	
Fe	57	
> Sc-1	45	
Cl	35	
Kr	83	
Br	81	
P	31	
S	34	
Sr	88	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Mn 55 Upper, S, EEE	Mn	55	
Ba 135 Upper, S, EEE	Ba	135	

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Method 6020 - Summary Report

Sample ID: L1207050406
Sample Date/Time: Friday, July 20, 2012 10:16:39
Number of Replicates: 3
Autosampler Position: 223
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	7	14278.4	2.1	**5105.7981**	328.505	6.4	ug/L	9660	Standard
	Be	9	15.0	57.7	**0.0024**	0.004	175.2	ug/L	7	Standard
	Al	27	170248.1	2.2	**9.7996**	0.314	3.2	ug/L	6610	Standard
>	**Sc**	45	408444.3	1.3				ug/L	350981	Standard
	Ti	47	935.7	1.9	**0.6571**	0.020	3.0	ug/L	63	Standard
	V	51	6920.0	2.5	**0.3742**	0.013	3.6	ug/L	2655	Standard
	Cr	52	13207.4	2.9	**0.4794**	0.034	7.2	ug/L	8417	Standard
	Cr	53	479.2	9.1	**0.2040**	0.027	13.1	ug/L	146	Standard
	Mn	55	1431559.0	2.6	**89.3133**	2.075	2.3	ug/L	1081	Standard
	Co	59	2355.2	0.2	**0.2066**	0.002	0.9	ug/L	84	Standard
	Ni	60	3476.7	2.4	**1.2762**	0.043	3.4	ug/L	55	Standard
	Cu	65	693.0	5.4	**0.2489**	0.012	5.0	ug/L	78	Standard
	Zn	66	10566.7	1.8	**9.3862**	0.129	1.4	ug/L	99	Standard
>	**Ge**	72	305676.5	0.9				ug/L	289581	Standard
	As	75	652.7	7.0	**0.7415**	0.045	6.1	ug/L	-189	Standard
	Se	82	40.0	22.2	**0.1971**	0.081	41.2	ug/L	18	Standard
	Se-1	77	107.0	11.2	**0.1211**	0.153	126.2	ug/L	97	Standard
>	**Ga**	71	683.3	18.7				mg/L	628	Standard
	Rb	85	5727.7	1.5				ug/L	10	Standard
	Y	89	278869.8	1.2				ug/L	254546	Standard
>	**Rh**	103	423.3	9.8				ug/L	400	Standard
	Mo	98	1352.5	3.6	**0.3187**	0.015	4.6	ug/L	8	Standard
	Ag	107	77.0	12.5	**0.0007**	0.001	139.4	ug/L	76	Standard
	Cd	111	117.4	9.4	**0.0066**	0.002	32.7	mg/L	63	Standard
	Cd	114	324.3	3.1	**0.0087**	0.001	9.2	ug/L	201	Standard
>	**In**	115	912919.6	1.1				ug/L	847070	Standard
	Sn	118	1802.4	2.4	**0.0333**	0.003	8.1	ug/L	553	Standard
	Sb	123	343.7	2.7	**0.0276**	0.001	3.9	ug/L	25	Standard
	Ba	135	47147.2	0.4	**9.1291**	0.096	1.1	ug/L	25	Standard
	Ce	140	4172.9	0.5				ug/L	21	Standard
>	**Tb**	159	1209060.4	0.1				ug/L	1162405	Standard
	Ho	165	159.0	12.6				ug/L	12	Standard
	Tl	203	159.0	5.4	**0.0072**	0.000	6.5	ug/L	4	Standard
	Tl	205	379.0	5.8	**0.0094**	0.000	5.1	ug/L	4	Standard
	Pb	206	2826.9	2.7	**0.1722**	0.005	2.6	ug/L	380	Standard
	Pb	207	2240.5	3.9	**0.1574**	0.006	3.9	ug/L	306	Standard
	Pb	208	10765.8	2.1	**0.1657**	0.003	1.7	ug/L	1471	Standard
	U	238	238.3	4.5	**0.0142**	0.001	4.7	ug/L	0	Standard
>	**Bi**	209	599176.7	0.6				ug/L	592579	Standard

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Na	23	79811.3	1.5	**3.8486**	0.049	1.3	mg/L	327	Standard
Mg	24	2602291.7	4.7	**3.4900**	0.121	3.5	mg/L	50	Standard
K	39	581.7	7.5	**0.3422**	0.027	7.8	mg/L	125	Standard
Ca	43	81.7	30.8	**37.8882**	12.009	31.7	mg/L	0	Standard
Fe	54	10011.1	4.2	**1.7282**	0.054	3.1	mg/L	579	Standard
Fe	57	200682.2	1.8	**1.8273**	0.032	1.8	mg/L	2535	Standard
Sc-1	45	408444.3	1.3				mg/L	350981	Standard
Cl	35	8.3	45.4				ug/L	6	Standard
Kr	83	44.1	6.6				ug/L	39	Standard
Br	81	1724.3	2.7				ug/L	918	Standard
P	31	523.3	2.5				ug/L	338	Standard
S	34	7656.1	1.8				ug/L	6425	Standard
Sr	88	115.0	15.7				ug/L	28	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	7			
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		105.558	
As	75			
Se	82			
Se-1	77			
Ga	71			
Rb	85			
Y	89			
Rh	103			
Mo	98			
Ag	107			

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	Cd	111	
	Cd	114	
>	In	115	107.774
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	101.113
	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	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

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Method 6020 - Summary Report

Sample ID: L1207050407
Sample Date/Time: Friday, July 20, 2012 10:19:47
Number of Replicates: 3
Autosampler Position: 224
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	7	15524.6	1.7	**6693.2647**	680.102	10.2	ug/L	9660	Standard
	Be	9	33.3	134.4	**0.0111**	0.021	192.8	ug/L	7	Standard
	Al	27	49428.8	0.6	**2.4909**	0.062	2.5	ug/L	6610	Standard
>	**Sc**	45	411679.4	2.0				ug/L	350981	Standard
	Ti	47	638.0	6.4	**0.4315**	0.029	6.6	ug/L	63	Standard
	V	51	7759.2	0.9	**0.4510**	0.005	1.1	ug/L	2655	Standard
	Cr	52	14906.7	2.8	**0.6704**	0.044	6.6	ug/L	8417	Standard
	Cr	53	508.3	14.8	**0.2236**	0.048	21.4	ug/L	146	Standard
	Mn	55	1671817.0	0.1	**104.4665**	0.629	0.6	ug/L	1081	Standard
	Co	59	2100.1	0.9	**0.1832**	0.001	0.4	ug/L	84	Standard
	Ni	60	4367.6	1.1	**1.6108**	0.017	1.1	ug/L	55	Standard
	Cu	65	798.4	6.3	**0.2922**	0.020	6.8	ug/L	78	Standard
	Zn	66	3663.8	0.6	**3.1870**	0.007	0.2	ug/L	99	Standard
>	**Ge**	72	305248.2	0.5				ug/L	289581	Standard
	As	75	540.0	9.4	**0.6425**	0.043	6.7	ug/L	-189	Standard
	Se	82	38.2	10.9	**0.1809**	0.037	20.6	ug/L	18	Standard
	Se-1	77	103.3	4.4	**0.0767**	0.059	77.4	ug/L	97	Standard
>	**Ga**	71	625.0	2.8				mg/L	628	Standard
	Rb	85	8173.9	1.7				ug/L	10	Standard
	Y	89	280371.2	2.3				ug/L	254546	Standard
>	**Rh**	103	466.7	8.1				ug/L	400	Standard
	Mo	98	1260.6	5.7	**0.2954**	0.017	5.9	ug/L	8	Standard
	Ag	107	83.0	22.3	**0.0014**	0.002	154.1	ug/L	76	Standard
	Cd	111	111.6	15.0	**0.0052**	0.004	70.3	mg/L	63	Standard
	Cd	114	346.6	16.5	**0.0103**	0.004	43.4	ug/L	201	Standard
>	**In**	115	917434.6	0.5				ug/L	847070	Standard
	Sn	118	2065.5	0.5	**0.0443**	0.000	0.6	ug/L	553	Standard
	Sb	123	291.3	7.9	**0.0230**	0.002	8.9	ug/L	25	Standard
	Ba	135	46676.8	1.3	**8.9930**	0.131	1.5	ug/L	25	Standard
	Ce	140	2635.2	3.1				ug/L	21	Standard
>	**Tb**	159	1222729.3	0.6				ug/L	1162405	Standard
	Ho	165	125.3	8.1				ug/L	12	Standard
	Tl	203	299.3	12.6	**0.0148**	0.002	13.7	ug/L	4	Standard
	Tl	205	687.3	8.6	**0.0166**	0.001	8.3	ug/L	4	Standard
	Pb	206	1001.0	5.5	**0.0435**	0.004	8.7	ug/L	380	Standard
	Pb	207	820.7	2.7	**0.0374**	0.002	5.0	ug/L	306	Standard
	Pb	208	3847.2	2.1	**0.0408**	0.001	3.4	ug/L	1471	Standard
	U	238	311.3	15.3	**0.0181**	0.003	14.4	ug/L	0	Standard
>	**Bi**	209	602003.9	0.1				ug/L	592579	Standard

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Sheri L. Babczuk

Na	23	73501.2	1.8	**3.5153**	0.135	3.8	mg/L	327	Standard
Mg	24	2405258.4	21.9	**3.1926**	0.644	20.2	mg/L	50	Standard
K	39	691.7	11.8	**0.4198**	0.062	14.8	mg/L	125	Standard
Ca	43	83.3	18.3	**38.4780**	8.047	20.9	mg/L	0	Standard
Fe	54	8388.9	2.2	**1.4185**	0.061	4.3	mg/L	579	Standard
Fe	57	175003.6	2.4	**1.5782**	0.072	4.6	mg/L	2535	Standard
Sc-1	45	411679.4	2.0				mg/L	350981	Standard
Cl	35	11.0	32.8				ug/L	6	Standard
Kr	83	47.9	12.2				ug/L	39	Standard
Br	81	1701.8	3.1				ug/L	918	Standard
P	31	506.7	10.9				ug/L	338	Standard
S	34	8536.6	0.7				ug/L	6425	Standard
Sr	88	121.7	19.4				ug/L	28	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	7			
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		105.410	
As	75			
Se	82			
Se-1	77			
Ga	71			
Rb	85			
Y	89			
Rh	103			
Mo	98			
Ag	107			

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	Cd	111	
	Cd	114	
>	In	115	108.307
	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	101.591
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Mn 55 Upper, S, EEE	Mn	55	

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Method 6020 - Summary Report

Sample ID: L1207050408
Sample Date/Time: Friday, July 20, 2012 10:22:58
Number of Replicates: 3
Autosampler Position: 225
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	7	13312.5	0.9	**4534.1145**	505.698	11.2	ug/L	9660	Standard
	Be	9	6.7	86.6	**-0.0016**	0.003	186.4	ug/L	7	Standard
	Al	27	64296.1	0.7	**3.5724**	0.094	2.6	ug/L	6610	Standard
>	**Sc**	45	392157.4	2.7				ug/L	350981	Standard
	Ti	47	609.3	2.2	**0.4155**	0.015	3.7	ug/L	63	Standard
	V	51	7042.3	1.3	**0.3939**	0.003	0.9	ug/L	2655	Standard
	Cr	52	12771.4	1.2	**0.4502**	0.006	1.4	ug/L	8417	Standard
	Cr	53	433.3	9.9	**0.1780**	0.031	17.6	ug/L	146	Standard
	Mn	55	896143.1	1.0	**56.6372**	0.244	0.4	ug/L	1081	Standard
	Co	59	753.4	3.3	**0.0593**	0.003	5.1	ug/L	84	Standard
	Ni	60	2810.3	2.5	**1.0414**	0.036	3.5	ug/L	55	Standard
	Cu	65	535.3	2.5	**0.1877**	0.005	2.5	ug/L	78	Standard
	Zn	66	4083.9	1.0	**3.6099**	0.079	2.2	ug/L	99	Standard
>	**Ge**	72	301616.1	1.1				ug/L	289581	Standard
	As	75	515.2	1.3	**0.6263**	0.011	1.8	ug/L	-189	Standard
	Se	82	40.0	6.6	**0.2013**	0.028	13.8	ug/L	18	Standard
	Se-1	77	91.7	21.3	**-0.0581**	0.236	405.7	ug/L	97	Standard
>	**Ga**	71	695.0	2.6				mg/L	628	Standard
	Rb	85	3553.8	3.2				ug/L	10	Standard
	Y	89	272524.2	0.9				ug/L	254546	Standard
>	**Rh**	103	501.7	9.4				ug/L	400	Standard
	Mo	98	1308.1	0.8	**0.3135**	0.005	1.8	ug/L	8	Standard
	Ag	107	74.3	16.3	**0.0006**	0.001	237.0	ug/L	76	Standard
	Cd	111	79.9	5.0	**-0.0013**	0.001	74.1	mg/L	63	Standard
	Cd	114	266.4	3.4	**0.0045**	0.001	20.7	ug/L	201	Standard
>	**In**	115	897473.2	1.2				ug/L	847070	Standard
	Sn	118	1179.7	3.1	**0.0072**	0.002	30.2	ug/L	553	Standard
	Sb	123	196.3	4.6	**0.0153**	0.001	3.9	ug/L	25	Standard
	Ba	135	35346.2	0.8	**6.9590**	0.030	0.4	ug/L	25	Standard
	Ce	140	2791.9	2.0				ug/L	21	Standard
>	**Tb**	159	1207921.2	1.6				ug/L	1162405	Standard
	Ho	165	143.3	0.8				ug/L	12	Standard
	Tl	203	163.3	3.7	**0.0075**	0.000	4.9	ug/L	4	Standard
	Tl	205	369.0	9.8	**0.0092**	0.001	9.5	ug/L	4	Standard
	Pb	206	629.0	1.3	**0.0178**	0.000	2.6	ug/L	380	Standard
	Pb	207	537.7	1.3	**0.0140**	0.000	3.5	ug/L	306	Standard
	Pb	208	2442.7	3.0	**0.0160**	0.001	6.8	ug/L	1471	Standard
	U	238	179.3	8.4	**0.0109**	0.001	7.6	ug/L	0	Standard
>	**Bi**	209	597202.3	0.6				ug/L	592579	Standard

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Na	23	69070.4	0.8	**3.4677**	0.118	3.4	mg/L	327	Standard
Mg	24	2714648.2	3.5	**3.7942**	0.149	3.9	mg/L	50	Standard
K	39	488.3	3.9	**0.2888**	0.018	6.2	mg/L	125	Standard
Ca	43	63.3	48.2	**30.2038**	14.396	47.7	mg/L	0	Standard
Fe	54	6924.6	3.0	**1.2143**	0.071	5.8	mg/L	579	Standard
Fe	57	144414.0	4.0	**1.3631**	0.062	4.5	mg/L	2535	Standard
Sc-1	45	392157.4	2.7				mg/L	350981	Standard
Cl	35	13.0	30.8				ug/L	6	Standard
Kr	83	38.8	5.6				ug/L	39	Standard
Br	81	1585.1	0.7				ug/L	918	Standard
P	31	455.0	5.7				ug/L	338	Standard
S	34	8467.4	2.1				ug/L	6425	Standard
Sr	88	123.3	10.2				ug/L	28	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	7			
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		104.156	
As	75			
Se	82			
Se-1	77			
Ga	71			
Rb	85			
Y	89			
Rh	103			
Mo	98			
Ag	107			

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	Cd	111	
	Cd	114	
>	In	115	105.950
	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	100.780
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: L1207050408
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Method 6020 - Summary Report

Sample ID: L1207050409
Sample Date/Time: Friday, July 20, 2012 10:26:07
Number of Replicates: 3
Autosampler Position: 226
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	7	13033.9	2.6	**3275.5325**	400.864	12.2	ug/L	9660	Standard
	Be	9	16.7	34.6	**0.0032**	0.003	89.9	ug/L	7	Standard
	Al	27	314008.6	2.6	**18.3903**	0.897	4.9	ug/L	6610	Standard
>	**Sc**	45	410326.9	2.1				ug/L	350981	Standard
	Ti	47	533.3	4.8	**0.3487**	0.015	4.4	ug/L	63	Standard
	V	51	7135.2	0.9	**0.3896**	0.011	2.9	ug/L	2655	Standard
	Cr	52	12508.2	0.7	**0.3930**	0.015	3.9	ug/L	8417	Standard
	Cr	53	480.0	3.2	**0.2027**	0.011	5.6	ug/L	146	Standard
	Mn	55	259362.8	0.8	**16.0174**	0.222	1.4	ug/L	1081	Standard
	Co	59	646.7	2.6	**0.0481**	0.002	3.7	ug/L	84	Standard
	Ni	60	5863.1	0.6	**2.1529**	0.034	1.6	ug/L	55	Standard
	Cu	65	3212.0	3.6	**1.2652**	0.033	2.6	ug/L	78	Standard
	Zn	66	5606.7	2.2	**4.8957**	0.064	1.3	ug/L	99	Standard
>	**Ge**	72	307662.8	1.0				ug/L	289581	Standard
	As	75	116.0	8.3	**0.2677**	0.009	3.3	ug/L	-189	Standard
	Se	82	33.9	8.3	**0.1404**	0.022	15.9	ug/L	18	Standard
	Se-1	77	106.0	15.6	**0.1005**	0.214	212.7	ug/L	97	Standard
>	**Ga**	71	763.4	8.3				mg/L	628	Standard
	Rb	85	2977.0	2.1				ug/L	10	Standard
	Y	89	281755.9	1.2				ug/L	254546	Standard
>	**Rh**	103	450.0	3.3				ug/L	400	Standard
	Mo	98	487.7	3.4	**0.1115**	0.004	4.0	ug/L	8	Standard
	Ag	107	63.3	17.7	**-0.0010**	0.001	134.5	ug/L	76	Standard
	Cd	111	110.8	16.3	**0.0047**	0.004	84.7	mg/L	63	Standard
	Cd	114	311.7	2.5	**0.0072**	0.001	8.1	ug/L	201	Standard
>	**In**	115	929338.6	0.7				ug/L	847070	Standard
	Sn	118	806.0	3.7	**-0.0105**	0.001	14.2	ug/L	553	Standard
	Sb	123	337.1	12.1	**0.0265**	0.003	12.4	ug/L	25	Standard
	Ba	135	19092.7	1.2	**3.6248**	0.027	0.7	ug/L	25	Standard
	Ce	140	8223.9	1.4				ug/L	21	Standard
>	**Tb**	159	1233369.8	0.4				ug/L	1162405	Standard
	Ho	165	167.0	2.6				ug/L	12	Standard
	Tl	203	183.3	11.5	**0.0084**	0.001	13.8	ug/L	4	Standard
	Tl	205	433.7	7.5	**0.0105**	0.001	6.9	ug/L	4	Standard
	Pb	206	4569.7	0.4	**0.2880**	0.001	0.5	ug/L	380	Standard
	Pb	207	3802.1	0.9	**0.2824**	0.004	1.3	ug/L	306	Standard
	Pb	208	17588.3	1.1	**0.2820**	0.004	1.3	ug/L	1471	Standard
	U	238	932.0	3.9	**0.0514**	0.002	3.3	ug/L	0	Standard
>	**Bi**	209	611806.9	0.5				ug/L	592579	Standard

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Na	23	82334.8	2.0	**3.9536**	0.089	2.2	mg/L	327	Standard
Mg	24	2690198.3	0.8	**3.5933**	0.071	2.0	mg/L	50	Standard
K	39	440.0	7.1	**0.2364**	0.019	8.1	mg/L	125	Standard
Ca	43	41.7	18.3	**18.8064**	3.481	18.5	mg/L	0	Standard
Fe	54	1278.7	11.1	**0.1194**	0.027	22.5	mg/L	579	Standard
Fe	57	20901.1	2.7	**0.1645**	0.002	0.9	mg/L	2535	Standard
> **Sc-1**	45	410326.9	2.1				mg/L	350981	Standard
Cl	35	9.0	40.1				ug/L	6	Standard
Kr	83	43.0	8.1				ug/L	39	Standard
Br	81	1495.1	3.1				ug/L	918	Standard
P	31	518.3	2.4				ug/L	338	Standard
S	34	9159.4	1.6				ug/L	6425	Standard
Sr	88	111.7	17.0				ug/L	28	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	7			
Be	9			
Al	27			
> Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
> Ge	72		106.244	
As	75			
Se	82			
Se-1	77			
> Ga	71			
Rb	85			
Y	89			
> Rh	103			
Mo	98			
Ag	107			

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Cd	111	
Cd	114	
> In	115	109.712
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	103.245
Na	23	
Mg	24	
K	39	
Ca	43	
Fe	54	
Fe	57	
> Sc-1	45	
Cl	35	
Kr	83	
Br	81	
P	31	
S	34	
Sr	88	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

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Method 6020 - Summary Report

Sample ID: L1207050410
Sample Date/Time: Friday, July 20, 2012 10:29:17
Number of Replicates: 3
Autosampler Position: 227
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	7	15683.1	1.0	**7234.3634**	332.791	4.6	ug/L	9660	Standard
	Be	9	66.7	129.1	**0.0278**	0.042	151.9	ug/L	7	Standard
	Al	27	255621.8	1.1	**15.0530**	0.233	1.5	ug/L	6610	Standard
>	**Sc**	45	405609.2	0.5				ug/L	350981	Standard
	Ti	47	753.7	1.4	**0.5165**	0.009	1.8	ug/L	63	Standard
	V	51	6693.2	0.8	**0.3513**	0.006	1.6	ug/L	2655	Standard
	Cr	52	13169.7	1.2	**0.4695**	0.020	4.3	ug/L	8417	Standard
	Cr	53	429.2	10.8	**0.1701**	0.030	17.4	ug/L	146	Standard
	Mn	55	1654727.6	1.6	**102.8326**	1.225	1.2	ug/L	1081	Standard
	Co	59	1188.0	2.0	**0.0981**	0.003	3.0	ug/L	84	Standard
	Ni	60	4011.5	2.5	**1.4695**	0.035	2.4	ug/L	55	Standard
	Cu	65	876.7	2.4	**0.3223**	0.011	3.3	ug/L	78	Standard
	Zn	66	4161.6	1.2	**3.6146**	0.026	0.7	ug/L	99	Standard
>	**Ge**	72	306910.3	0.7				ug/L	289581	Standard
	As	75	444.6	8.5	**0.5563**	0.033	5.9	ug/L	-189	Standard
	Se	82	38.4	6.6	**0.1815**	0.024	13.5	ug/L	18	Standard
	Se-1	77	97.0	5.4	**-0.0101**	0.058	570.6	ug/L	97	Standard
>	**Ga**	71	680.0	11.4				mg/L	628	Standard
	Rb	85	7151.7	1.5				ug/L	10	Standard
	Y	89	278564.5	1.6				ug/L	254546	Standard
>	**Rh**	103	453.3	2.5				ug/L	400	Standard
	Mo	98	1362.9	0.5	**0.3227**	0.000	0.1	ug/L	8	Standard
	Ag	107	87.3	29.5	**0.0020**	0.003	149.9	ug/L	76	Standard
	Cd	111	102.1	23.1	**0.0033**	0.005	152.3	mg/L	63	Standard
	Cd	114	315.7	7.4	**0.0081**	0.002	22.7	ug/L	201	Standard
>	**In**	115	908456.8	0.5				ug/L	847070	Standard
	Sn	118	1327.4	2.6	**0.0130**	0.001	9.9	ug/L	553	Standard
	Sb	123	263.5	13.4	**0.0209**	0.003	14.2	ug/L	25	Standard
	Ba	135	51130.8	0.1	**9.9495**	0.040	0.4	ug/L	25	Standard
	Ce	140	5722.1	1.0				ug/L	21	Standard
>	**Tb**	159	1230614.7	1.3				ug/L	1162405	Standard
	Ho	165	158.0	12.2				ug/L	12	Standard
	Tl	203	233.7	18.3	**0.0113**	0.002	20.6	ug/L	4	Standard
	Tl	205	551.0	12.9	**0.0135**	0.002	12.1	ug/L	4	Standard
	Pb	206	1637.8	2.8	**0.0884**	0.003	3.0	ug/L	380	Standard
	Pb	207	1366.1	2.6	**0.0835**	0.003	3.2	ug/L	306	Standard
	Pb	208	6237.8	1.1	**0.0840**	0.001	1.2	ug/L	1471	Standard
	U	238	896.4	16.2	**0.0504**	0.008	15.9	ug/L	0	Standard
>	**Bi**	209	600094.9	0.5				ug/L	592579	Standard

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Na	23	70505.4	1.9	**3.4197**	0.054	1.6	mg/L	327	Standard
Mg	24	2699091.8	1.5	**3.6460**	0.038	1.0	mg/L	50	Standard
K	39	571.7	6.2	**0.3380**	0.026	7.8	mg/L	125	Standard
Ca	43	65.0	27.7	**30.1971**	8.605	28.5	mg/L	0	Standard
Fe	54	5516.8	4.9	**0.9081**	0.053	5.9	mg/L	579	Standard
Fe	57	108205.4	3.9	**0.9795**	0.043	4.4	mg/L	2535	Standard
Sc-1	45	405609.2	0.5				mg/L	350981	Standard
Cl	35	7.7	19.9				ug/L	6	Standard
Kr	83	47.4	9.1				ug/L	39	Standard
Br	81	1650.1	1.8				ug/L	918	Standard
P	31	495.8	6.8				ug/L	338	Standard
S	34	9322.9	1.1				ug/L	6425	Standard
Sr	88	135.0	3.7				ug/L	28	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	7			
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		105.984	
As	75			
Se	82			
Se-1	77			
Ga	71			
Rb	85			
Y	89			
Rh	103			
Mo	98			
Ag	107			

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	Cd	111	
	Cd	114	
>	In	115	107.247
	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	101.268
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Mn 55 Upper, S, EEE	Mn	55	

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Method 6020 - Summary Report

Sample ID: L1207050411
Sample Date/Time: Friday, July 20, 2012 10:32:27
Number of Replicates: 3
Autosampler Position: 228
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	7	13944.8	4.5	**4963.2769**	1068.907	21.5	ug/L	9660	Standard
	Be	9	3.3	86.6	**-0.0032**	0.001	44.7	ug/L	7	Standard
	Al	27	215503.5	1.1	**12.7391**	0.202	1.6	ug/L	6610	Standard
>	**Sc**	45	401917.3	2.0				ug/L	350981	Standard
	Ti	47	690.7	7.7	**0.4676**	0.033	7.0	ug/L	63	Standard
	V	51	6575.1	2.0	**0.3398**	0.017	4.9	ug/L	2655	Standard
	Cr	52	12915.5	0.8	**0.4390**	0.024	5.5	ug/L	8417	Standard
	Cr	53	492.5	6.2	**0.2112**	0.024	11.4	ug/L	146	Standard
	Mn	55	1135727.0	0.8	**70.4453**	1.559	2.2	ug/L	1081	Standard
	Co	59	975.0	4.5	**0.0783**	0.005	6.5	ug/L	84	Standard
	Ni	60	5694.4	1.8	**2.0914**	0.008	0.4	ug/L	55	Standard
	Cu	65	3069.3	4.4	**1.2084**	0.046	3.8	ug/L	78	Standard
	Zn	66	6187.9	2.1	**5.4183**	0.055	1.0	ug/L	99	Standard
>	**Ge**	72	307464.4	1.4				ug/L	289581	Standard
	As	75	368.7	5.3	**0.4891**	0.016	3.3	ug/L	-189	Standard
	Se	82	40.6	10.5	**0.2006**	0.041	20.2	ug/L	18	Standard
	Se-1	77	103.0	5.9	**0.0639**	0.093	146.1	ug/L	97	Standard
>	**Ga**	71	678.3	9.3				mg/L	628	Standard
	Rb	85	5569.4	4.9				ug/L	10	Standard
	Y	89	277672.1	2.3				ug/L	254546	Standard
>	**Rh**	103	473.3	3.2				ug/L	400	Standard
	Mo	98	912.7	2.0	**0.2118**	0.004	1.8	ug/L	8	Standard
	Ag	107	70.0	13.8	**-0.0002**	0.001	681.9	ug/L	76	Standard
	Cd	111	104.1	5.4	**0.0034**	0.001	35.5	mg/L	63	Standard
	Cd	114	277.1	2.4	**0.0047**	0.001	13.4	ug/L	201	Standard
>	**In**	115	923463.0	0.6				ug/L	847070	Standard
	Sn	118	1436.7	1.2	**0.0167**	0.001	4.5	ug/L	553	Standard
	Sb	123	198.4	3.7	**0.0150**	0.001	4.6	ug/L	25	Standard
	Ba	135	36399.0	0.4	**6.9645**	0.012	0.2	ug/L	25	Standard
	Ce	140	4488.7	1.0				ug/L	21	Standard
>	**Tb**	159	1224869.4	0.3				ug/L	1162405	Standard
	Ho	165	130.0	12.8				ug/L	12	Standard
	Tl	203	269.7	11.2	**0.0130**	0.002	13.3	ug/L	4	Standard
	Tl	205	619.0	6.0	**0.0148**	0.001	6.8	ug/L	4	Standard
	Pb	206	6202.6	1.0	**0.4018**	0.009	2.3	ug/L	380	Standard
	Pb	207	5139.9	0.5	**0.3941**	0.004	1.0	ug/L	306	Standard
	Pb	208	24063.8	0.8	**0.3975**	0.006	1.5	ug/L	1471	Standard
	U	238	456.0	2.5	**0.0257**	0.000	1.4	ug/L	0	Standard
>	**Bi**	209	609892.5	1.2				ug/L	592579	Standard

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Na	23	62478.6	2.3	**3.0563**	0.126	4.1	mg/L	327	Standard
Mg	24	1537079.2	0.9	**2.0962**	0.058	2.8	mg/L	50	Standard
K	39	525.0	14.2	**0.3064**	0.048	15.7	mg/L	125	Standard
Ca	43	41.7	18.3	**19.1827**	3.273	17.1	mg/L	0	Standard
Fe	54	2810.5	2.3	**0.4111**	0.019	4.6	mg/L	579	Standard
Fe	57	52972.5	2.7	**0.4701**	0.022	4.7	mg/L	2535	Standard
Sc-1	45	401917.3	2.0				mg/L	350981	Standard
Cl	35	14.7	49.3				ug/L	6	Standard
Kr	83	39.1	11.6				ug/L	39	Standard
Br	81	1506.7	3.4				ug/L	918	Standard
P	31	498.3	10.5				ug/L	338	Standard
S	34	9190.3	0.6				ug/L	6425	Standard
Sr	88	126.7	16.0				ug/L	28	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	7			
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		106.176	
As	75			
Se	82			
Se-1	77			
Ga	71			
Rb	85			
Y	89			
Rh	103			
Mo	98			
Ag	107			

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	Cd	111	
	Cd	114	
>	In	115	109.018
	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	102.922
	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	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

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Method 6020 - Summary Report

Sample ID: L1207050412
Sample Date/Time: Friday, July 20, 2012 10:35:37
Number of Replicates: 3
Autosampler Position: 229
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	7	12912.2	1.1	**3284.6384**	557.418	17.0	ug/L	9660	Standard
	Be	9	16.7	75.5	**0.0032**	0.006	186.3	ug/L	7	Standard
	Al	27	116167.1	2.0	**6.5729**	0.137	2.1	ug/L	6610	Standard
>	**Sc**	45	406441.3	2.4				ug/L	350981	Standard
	Ti	47	473.7	3.7	**0.3106**	0.009	3.0	ug/L	63	Standard
	V	51	6403.2	3.5	**0.3348**	0.020	5.8	ug/L	2655	Standard
	Cr	52	12303.0	1.6	**0.3962**	0.017	4.4	ug/L	8417	Standard
	Cr	53	583.3	1.7	**0.2774**	0.003	1.2	ug/L	146	Standard
	Mn	55	268690.2	0.4	**16.9153**	0.270	1.6	ug/L	1081	Standard
	Co	59	473.7	7.7	**0.0330**	0.003	9.8	ug/L	84	Standard
	Ni	60	2070.1	1.1	**0.7605**	0.006	0.8	ug/L	55	Standard
	Cu	65	931.0	1.8	**0.3506**	0.007	2.0	ug/L	78	Standard
	Zn	66	3410.1	0.8	**2.9928**	0.023	0.8	ug/L	99	Standard
>	**Ge**	72	301898.7	1.2				ug/L	289581	Standard
	As	75	187.3	2.7	**0.3331**	0.003	0.8	ug/L	-189	Standard
	Se	82	28.4	4.8	**0.0976**	0.011	11.2	ug/L	18	Standard
	Se-1	77	108.7	3.2	**0.1588**	0.028	17.6	ug/L	97	Standard
>	**Ga**	71	725.0	8.8				mg/L	628	Standard
	Rb	85	2771.9	4.7				ug/L	10	Standard
	Y	89	277008.0	1.5				ug/L	254546	Standard
>	**Rh**	103	396.7	9.6				ug/L	400	Standard
	Mo	98	522.1	3.4	**0.1215**	0.005	4.4	ug/L	8	Standard
	Ag	107	96.3	16.1	**0.0029**	0.002	57.7	ug/L	76	Standard
	Cd	111	124.7	15.8	**0.0081**	0.005	55.3	mg/L	63	Standard
	Cd	114	355.9	3.4	**0.0111**	0.001	10.7	ug/L	201	Standard
>	**In**	115	914619.4	0.9				ug/L	847070	Standard
	Sn	118	1408.4	1.5	**0.0161**	0.001	8.8	ug/L	553	Standard
	Sb	123	382.6	3.2	**0.0309**	0.001	4.2	ug/L	25	Standard
	Ba	135	23953.3	0.8	**4.6240**	0.049	1.1	ug/L	25	Standard
	Ce	140	2435.9	2.4				ug/L	21	Standard
>	**Tb**	159	1221595.2	0.2				ug/L	1162405	Standard
	Ho	165	95.7	4.0				ug/L	12	Standard
	Tl	203	284.3	7.9	**0.0137**	0.001	8.7	ug/L	4	Standard
	Tl	205	630.7	5.3	**0.0150**	0.001	4.9	ug/L	4	Standard
	Pb	206	1799.4	2.3	**0.0969**	0.003	3.2	ug/L	380	Standard
	Pb	207	1463.1	2.1	**0.0889**	0.002	2.5	ug/L	306	Standard
	Pb	208	6923.3	1.5	**0.0935**	0.002	2.0	ug/L	1471	Standard
	U	238	977.0	3.5	**0.0537**	0.002	3.1	ug/L	0	Standard
>	**Bi**	209	614150.8	0.3				ug/L	592579	Standard

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Na	23	62200.8	2.1	**3.0070**	0.014	0.5	mg/L	327	Standard
Mg	24	1533480.2	1.0	**2.0677**	0.030	1.5	mg/L	50	Standard
K	39	486.7	9.5	**0.2745**	0.038	13.7	mg/L	125	Standard
Ca	43	36.7	51.6	**16.5812**	8.913	53.8	mg/L	0	Standard
Fe	54	1106.2	2.4	**0.0897**	0.009	10.0	mg/L	579	Standard
Fe	57	17159.7	1.0	**0.1317**	0.003	2.3	mg/L	2535	Standard
> **Sc-1**	45	406441.3	2.4				mg/L	350981	Standard
Cl	35	11.3	13.5				ug/L	6	Standard
Kr	83	41.7	9.2				ug/L	39	Standard
Br	81	1250.9	6.8				ug/L	918	Standard
P	31	473.3	4.8				ug/L	338	Standard
S	34	8704.2	1.3				ug/L	6425	Standard
Sr	88	81.7	39.4				ug/L	28	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	7			
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		104.254	
As	75			
Se	82			
Se-1	77			
> Ga	71			
Rb	85			
Y	89			
> Rh	103			
Mo	98			
Ag	107			

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	Cd	111	
	Cd	114	
>	In	115	107.974
	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	103.640
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

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Method 6020 - Summary Report

Sample ID: L1207050413
Sample Date/Time: Friday, July 20, 2012 10:38:47
Number of Replicates: 3
Autosampler Position: 230
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	7	12692.0	1.5	**3084.9651**	582.345	18.9	ug/L	9660	Standard
	Be	9	13.3	94.4	**0.0017**	0.006	362.2	ug/L	7	Standard
	Al	27	61161.6	2.5	**3.2633**	0.122	3.7	ug/L	6610	Standard
>	**Sc**	45	403897.1	1.9				ug/L	350981	Standard
	Ti	47	446.7	6.2	**0.2845**	0.024	8.3	ug/L	63	Standard
	V	51	7225.6	4.0	**0.3996**	0.030	7.6	ug/L	2655	Standard
	Cr	52	12018.4	1.7	**0.3427**	0.030	8.6	ug/L	8417	Standard
	Cr	53	542.5	3.7	**0.2444**	0.010	4.1	ug/L	146	Standard
	Mn	55	176898.0	0.3	**10.9316**	0.128	1.2	ug/L	1081	Standard
	Co	59	363.0	2.8	**0.0221**	0.001	5.5	ug/L	84	Standard
	Ni	60	2913.3	1.1	**1.0615**	0.005	0.5	ug/L	55	Standard
	Cu	65	1737.4	1.8	**0.6713**	0.008	1.2	ug/L	78	Standard
	Zn	66	5329.9	1.2	**4.6624**	0.068	1.5	ug/L	99	Standard
>	**Ge**	72	306802.2	0.8				ug/L	289581	Standard
	As	75	275.4	14.7	**0.4079**	0.036	8.8	ug/L	-189	Standard
	Se	82	28.3	24.5	**0.0923**	0.059	64.2	ug/L	18	Standard
	Se-1	77	111.0	10.0	**0.1670**	0.151	90.5	ug/L	97	Standard
>	**Ga**	71	771.7	13.4				mg/L	628	Standard
	Rb	85	2111.8	8.2				ug/L	10	Standard
	Y	89	280235.0	1.8				ug/L	254546	Standard
>	**Rh**	103	426.7	18.2				ug/L	400	Standard
	Mo	98	390.8	5.9	**0.0905**	0.006	6.5	ug/L	8	Standard
	Ag	107	61.3	5.7	**-0.0011**	0.000	34.6	ug/L	76	Standard
	Cd	111	95.7	21.2	**0.0019**	0.004	235.6	mg/L	63	Standard
	Cd	114	306.0	2.1	**0.0072**	0.001	7.2	ug/L	201	Standard
>	**In**	115	913221.6	0.5				ug/L	847070	Standard
	Sn	118	868.7	6.2	**-0.0072**	0.002	32.2	ug/L	553	Standard
	Sb	123	149.0	5.8	**0.0110**	0.001	6.7	ug/L	25	Standard
	Ba	135	18037.4	0.9	**3.4845**	0.017	0.5	ug/L	25	Standard
	Ce	140	1671.4	0.8				ug/L	21	Standard
>	**Tb**	159	1226983.0	0.6				ug/L	1162405	Standard
	Ho	165	88.3	3.3				ug/L	12	Standard
	Tl	203	228.7	8.3	**0.0107**	0.001	9.1	ug/L	4	Standard
	Tl	205	530.3	5.6	**0.0127**	0.001	5.1	ug/L	4	Standard
	Pb	206	2043.1	1.9	**0.1132**	0.002	2.2	ug/L	380	Standard
	Pb	207	1711.8	2.8	**0.1089**	0.005	4.5	ug/L	306	Standard
	Pb	208	7934.8	0.6	**0.1108**	0.000	0.3	ug/L	1471	Standard
	U	238	651.0	2.0	**0.0360**	0.001	2.6	ug/L	0	Standard
>	**Bi**	209	615995.4	0.7				ug/L	592579	Standard

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Na	23	54820.7	1.5	**2.6636**	0.067	2.5	mg/L	327	Standard
Mg	24	1573071.5	2.0	**2.1348**	0.075	3.5	mg/L	50	Standard
K	39	321.7	5.0	**0.1535**	0.012	7.7	mg/L	125	Standard
Ca	43	36.7	41.7	**16.6656**	7.179	43.1	mg/L	0	Standard
Fe	54	1054.8	3.2	**0.0813**	0.003	3.6	mg/L	579	Standard
Fe	57	16837.7	2.4	**0.1297**	0.005	3.5	mg/L	2535	Standard
> **Sc-1**	45	403897.1	1.9				mg/L	350981	Standard
Cl	35	16.3	34.8				ug/L	6	Standard
Kr	83	45.6	5.1				ug/L	39	Standard
Br	81	1250.1	1.7				ug/L	918	Standard
P	31	482.5	0.5				ug/L	338	Standard
S	34	8738.4	0.5				ug/L	6425	Standard
Sr	88	85.0	11.8				ug/L	28	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	7			
Be	9			
Al	27			
> Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
> Ge	72		105.947	
As	75			
Se	82			
Se-1	77			
> Ga	71			
Rb	85			
Y	89			
> Rh	103			
Mo	98			
Ag	107			

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	Cd	111	
	Cd	114	
>	In	115	107.809
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	103.952
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

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Method 6020 - Summary Report

Sample ID: QC Std 6
Sample Date/Time: Friday, July 20, 2012 10:41:58
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	7	10301.8	1.2	**580.9814**	441.419	76.0	ug/L	9660	Standard
	Be	9	98611.6	1.2	**51.6739**	0.970	1.9	ug/L	7	Standard
	Al	27	772740.6	1.7	**49.5330**	1.295	2.6	ug/L	6610	Standard
>	**Sc**	45	380738.9	3.1				ug/L	350981	Standard
	Ti	47	132560.0	0.6	**100.4923**	0.833	0.8	ug/L	63	Standard
	V	51	559951.9	0.7	**50.2699**	0.216	0.4	ug/L	2655	Standard
	Cr	52	465935.9	0.7	**50.6728**	0.221	0.4	ug/L	8417	Standard
	Cr	53	76679.4	0.8	**50.2217**	0.295	0.6	ug/L	146	Standard
	Mn	55	829874.3	0.8	**51.6870**	0.366	0.7	ug/L	1081	Standard
	Co	59	548975.5	0.4	**50.7390**	0.474	0.9	ug/L	84	Standard
	Ni	60	132893.3	1.4	**49.5376**	0.694	1.4	ug/L	55	Standard
	Cu	65	124046.4	1.0	**50.3853**	0.693	1.4	ug/L	78	Standard
	Zn	66	55338.9	1.5	**49.5750**	1.128	2.3	ug/L	99	Standard
>	**Ge**	72	306027.9	1.0				ug/L	289581	Standard
	As	75	56617.1	0.5	**50.0015**	0.361	0.7	ug/L	-189	Standard
	Se	82	5801.9	1.8	**51.1451**	0.567	1.1	ug/L	18	Standard
	Se-1	77	4076.5	2.4	**50.0472**	1.780	3.6	ug/L	97	Standard
>	**Ga**	71	648.3	4.2				mg/L	628	Standard
	Rb	85	855.0	6.2				ug/L	10	Standard
	Y	89	276247.6	1.5				ug/L	254546	Standard
>	**Rh**	103	480.0	11.0				ug/L	400	Standard
	Mo	98	407537.6	0.6	**97.3099**	1.195	1.2	ug/L	8	Standard
	Ag	107	431451.8	0.5	**50.2463**	0.571	1.1	ug/L	76	Standard
	Cd	111	230984.0	0.4	**50.4738**	0.357	0.7	mg/L	63	Standard
	Cd	114	628391.3	0.9	**49.6481**	0.716	1.4	ug/L	201	Standard
>	**In**	115	906843.4	0.7				ug/L	847070	Standard
	Sn	118	1503039.7	0.8	**65.5569**	0.562	0.9	ug/L	553	Standard
	Sb	123	576426.2	0.7	**49.4903**	0.614	1.2	ug/L	25	Standard
	Ba	135	247121.3	0.5	**48.2154**	0.531	1.1	ug/L	25	Standard
	Ce	140	982.0	1.6				ug/L	21	Standard
>	**Tb**	159	1227817.2	0.2				ug/L	1162405	Standard
	Ho	165	22.0	15.7				ug/L	12	Standard
	Tl	203	916450.7	0.7	**49.7387**	0.176	0.4	ug/L	4	Standard
	Tl	205	2205131.8	0.6	**51.6673**	0.257	0.5	ug/L	4	Standard
	Pb	206	709169.6	0.1	**49.8252**	0.161	0.3	ug/L	380	Standard
	Pb	207	602498.3	0.3	**50.7480**	0.048	0.1	ug/L	306	Standard
	Pb	208	2781389.5	0.1	**50.0455**	0.209	0.4	ug/L	1471	Standard
	U	238	929709.0	0.6	**51.3628**	0.081	0.2	ug/L	0	Standard
>	**Bi**	209	599098.1	0.4				ug/L	592579	Standard

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Na	23	118842.7	1.4	**6.1704**	0.150	2.4	mg/L	327	Standard
Mg	24	3537181.5	1.4	**5.0924**	0.102	2.0	mg/L	50	Standard
K	39	6021.2	0.8	**4.6761**	0.117	2.5	mg/L	125	Standard
Ca	43	20.0	25.0	**9.3667**	2.864	30.6	mg/L	0	Standard
Fe	54	25259.3	1.3	**4.8774**	0.100	2.0	mg/L	579	Standard
Fe	57	507975.0	2.5	**5.0110**	0.131	2.6	mg/L	2535	Standard
Sc-1	45	380738.9	3.1				mg/L	350981	Standard
Cl	35	4.3	26.6				ug/L	6	Standard
Kr	83	41.3	0.8				ug/L	39	Standard
Br	81	1131.7	5.7				ug/L	918	Standard
P	31	476.7	5.8				ug/L	338	Standard
S	34	6677.3	2.2				ug/L	6425	Standard
Sr	88	40.0	62.5				ug/L	28	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	7			
Be	9			
Al	27	99.066		
Sc	45			
Ti	47	100.492		
V	51	100.540		
Cr	52	101.346		
Cr	53			
Mn	55	103.374		
Co	59	101.478		
Ni	60	99.075		
Cu	65	100.771		
Zn	66	99.150		
Ge	72		105.680	
As	75	100.003		
Se	82	102.290		
Se-1	77			
Ga	71			
Rb	85			
Y	89			
Rh	103			
Mo	98	97.310		
Ag	107	100.493		

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	Cd	111	100.948	
	Cd	114		
>	In	115		107.056
	Sn	118	131.114	
	Sb	123	98.981	
	Ba	135	96.431	
	Ce	140		
>	Tb	159		
	Ho	165		
	Tl	203	99.477	
	Tl	205		
	Pb	206	99.650	
	Pb	207	101.496	
	Pb	208	100.091	
	U	238	102.726	
>	Bi	209		101.100
	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		

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 6	Sn	118	

Sample ID: QC Std 6
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Method 6020 - Summary Report

Sample ID: QC Std 7
Sample Date/Time: Friday, July 20, 2012 10:45:08
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	7	10345.2	4.3	**602.1897**	483.691	80.3	ug/L	9660	Standard
	Be	9	18.3	15.7	**0.0047**	0.001	32.0	ug/L	7	Standard
	Al	27	6883.2	2.6	**-0.0221**	0.016	72.7	ug/L	6610	Standard
>	**Sc**	45	381538.1	1.5				ug/L	350981	Standard
	Ti	47	87.7	16.2	**0.0138**	0.011	77.4	ug/L	63	Standard
	V	51	2779.3	5.2	**0.0034**	0.013	398.9	ug/L	2655	Standard
	Cr	52	8516.4	0.8	**-0.0294**	0.014	46.8	ug/L	8417	Standard
	Cr	53	188.3	15.1	**0.0145**	0.018	126.8	ug/L	146	Standard
	Mn	55	1650.1	43.6	**0.0297**	0.045	152.6	ug/L	1081	Standard
	Co	59	175.3	78.0	**0.0050**	0.013	255.3	ug/L	84	Standard
	Ni	60	69.3	34.7	**0.0041**	0.009	221.8	ug/L	55	Standard
	Cu	65	104.0	17.8	**0.0098**	0.008	77.6	ug/L	78	Standard
	Zn	66	119.7	3.9	**-0.0016**	0.004	239.7	ug/L	99	Standard
>	**Ge**	72	301932.5	0.7				ug/L	289581	Standard
	As	75	-166.7	3.3	**0.0174**	0.005	28.9	ug/L	-189	Standard
	Se	82	24.2	12.6	**0.0592**	0.026	43.5	ug/L	18	Standard
	Se-1	77	98.7	5.9	**0.0317**	0.080	252.4	ug/L	97	Standard
>	**Ga**	71	618.3	21.0				mg/L	628	Standard
	Rb	85	25.0	20.0				ug/L	10	Standard
	Y	89	275460.0	1.2				ug/L	254546	Standard
>	**Rh**	103	430.0	10.3				ug/L	400	Standard
	Mo	98	89.1	48.2	**0.0190**	0.010	53.8	ug/L	8	Standard
	Ag	107	182.7	14.0	**0.0130**	0.003	22.8	ug/L	76	Standard
	Cd	111	81.8	20.8	**-0.0011**	0.004	326.4	mg/L	63	Standard
	Cd	114	249.4	17.0	**0.0028**	0.003	118.7	ug/L	201	Standard
>	**In**	115	912048.4	0.2				ug/L	847070	Standard
	Sn	118	1065.4	11.4	**0.0014**	0.005	374.8	ug/L	553	Standard
	Sb	123	1186.0	36.5	**0.0995**	0.037	37.2	ug/L	25	Standard
	Ba	135	88.3	85.0	**0.0064**	0.015	227.9	ug/L	25	Standard
	Ce	140	23.3	27.6				ug/L	21	Standard
>	**Tb**	159	1199595.4	0.7				ug/L	1162405	Standard
	Ho	165	12.0	52.0				ug/L	12	Standard
	Tl	203	254.7	143.3	**0.0122**	0.020	160.1	ug/L	4	Standard
	Tl	205	596.4	143.1	**0.0143**	0.020	138.0	ug/L	4	Standard
	Pb	206	601.3	46.9	**0.0148**	0.020	135.0	ug/L	380	Standard
	Pb	207	477.7	47.7	**0.0080**	0.019	243.1	ug/L	306	Standard
	Pb	208	2260.1	45.2	**0.0117**	0.019	158.5	ug/L	1471	Standard
	U	238	152.7	115.9	**0.0093**	0.010	104.3	ug/L	0	Standard
>	**Bi**	209	615075.8	1.4				ug/L	592579	Standard

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⌈	**Na**	23	783.4	38.1	**0.0072**	0.016	221.8	mg/L	327	Standard
|	**Mg**	24	1151.8	124.4	**0.0016**	0.002	134.4	mg/L	50	Standard
|	**K**	39	121.7	4.7	**0.0098**	0.004	37.4	mg/L	125	Standard
|	**Ca**	43	3.3	86.6	**0.8341**	1.479	177.3	mg/L	0	Standard
|	**Fe**	54	589.3	2.5	**0.0010**	0.003	252.0	mg/L	579	Standard
|	**Fe**	57	2953.6	3.3	**0.0015**	0.001	68.5	mg/L	2535	Standard
⌊>	**Sc-1**	45	381538.1	1.5				mg/L	350981	Standard
	Cl	35	5.3	10.8				ug/L	6	Standard
	Kr	83	41.6	2.8				ug/L	39	Standard
	Br	81	1091.7	5.9				ug/L	918	Standard
	P	31	492.5	4.6				ug/L	338	Standard
	S	34	6649.8	3.1				ug/L	6425	Standard
	Sr	88	36.7	15.7				ug/L	28	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈	Li	7			
|	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		104.265	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			
⌈	Mo	98			
|	Ag	107			

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Cd	111	
Cd	114	
> In	115	107.671
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	103.796
Na	23	
Mg	24	
K	39	
Ca	43	
Fe	54	
Fe	57	
> Sc-1	45	
Cl	35	
Kr	83	
Br	81	
P	31	
S	34	
Sr	88	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

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Method 6020 - Summary Report

Sample ID: L1207043403
Sample Date/Time: Friday, July 20, 2012 10:48:20
Number of Replicates: 3
Autosampler Position: 231
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	7	66336.6	2.3	**85652.6800**	2791.920	3.3	ug/L	9660	Standard
	Be	9	843.4	8.1	**0.4391**	0.025	5.6	ug/L	7	Standard
	Al	27	60760313.6	1.3	**3955.4289**	145.135	3.7	ug/L	6610	Standard
>	**Sc**	45	378462.4	2.7				ug/L	350981	Standard
	Ti	47	30678.0	1.8	**25.8337**	0.404	1.6	ug/L	63	Standard
	V	51	90890.6	0.4	**8.8728**	0.019	0.2	ug/L	2655	Standard
	Cr	52	86309.2	1.9	**9.6599**	0.180	1.9	ug/L	8417	Standard
	Cr	53	13296.7	2.3	**9.5994**	0.203	2.1	ug/L	146	Standard
	Mn	55	3004602.5	1.6	**208.4234**	2.946	1.4	ug/L	1081	Standard
	Co	59	31197.4	1.7	**3.1971**	0.046	1.5	ug/L	84	Standard
	Ni	60	27852.6	1.5	**11.5340**	0.151	1.3	ug/L	55	Standard
	Cu	65	14172.0	0.9	**6.3753**	0.059	0.9	ug/L	78	Standard
	Zn	66	52662.4	1.4	**52.4887**	0.689	1.3	ug/L	99	Standard
>	**Ge**	72	275055.9	0.3				ug/L	289581	Standard
	As	75	2078.0	0.9	**2.2011**	0.023	1.1	ug/L	-189	Standard
	Se	82	98.6	4.9	**0.8124**	0.050	6.2	ug/L	18	Standard
	Se-1	77	174.3	12.1	**1.2135**	0.301	24.8	ug/L	97	Standard
>	**Ga**	71	7546.9	1.2				mg/L	628	Standard
	Rb	85	157627.9	3.1				ug/L	10	Standard
	Y	89	617443.0	2.1				ug/L	254546	Standard
>	**Rh**	103	360.0	11.0				ug/L	400	Standard
	Mo	98	1432.9	1.3	**0.3827**	0.008	2.2	ug/L	8	Standard
	Ag	107	928.0	3.1	**0.1134**	0.004	3.7	ug/L	76	Standard
	Cd	111	5350.2	0.6	**1.2965**	0.005	0.4	mg/L	63	Standard
	Cd	114	14485.9	1.4	**1.2708**	0.006	0.5	ug/L	201	Standard
>	**In**	115	806277.2	1.0				ug/L	847070	Standard
	Sn	118	1444.1	3.9	**0.0260**	0.002	8.1	ug/L	553	Standard
	Sb	123	340.3	9.0	**0.0311**	0.003	8.4	ug/L	25	Standard
	Ba	135	299663.4	0.5	**65.7625**	0.358	0.5	ug/L	25	Standard
	Ce	140	1284036.8	0.6				ug/L	21	Standard
>	**Tb**	159	1153247.1	0.8				ug/L	1162405	Standard
	Ho	165	41589.7	0.4				ug/L	12	Standard
	Tl	203	1613.1	6.1	**0.0895**	0.005	5.9	ug/L	4	Standard
	Tl	205	3791.5	2.7	**0.0927**	0.001	1.4	ug/L	4	Standard
	Pb	206	76144.9	0.7	**5.5281**	0.053	1.0	ug/L	380	Standard
	Pb	207	57980.1	0.5	**5.0397**	0.047	0.9	ug/L	306	Standard
	Pb	208	278897.0	0.7	**5.1823**	0.041	0.8	ug/L	1471	Standard
	U	238	34095.0	1.9	**1.9555**	0.019	1.0	ug/L	0	Standard
>	**Bi**	209	577355.6	1.4				ug/L	592579	Standard

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Na	23	3627.1	3.3	**0.1567**	0.003	1.8	mg/L	327	Standard
Mg	24	595046.5	1.6	**0.8617**	0.021	2.4	mg/L	50	Standard
K	39	1115.0	1.6	**0.8008**	0.016	2.0	mg/L	125	Standard
Ca	43	15.0	33.3	**6.8420**	2.658	38.8	mg/L	0	Standard
Fe	54	22780.3	1.1	**4.4141**	0.077	1.7	mg/L	579	Standard
Fe	57	454586.6	4.3	**4.5064**	0.117	2.6	mg/L	2535	Standard
Sc-1	45	378462.4	2.7				mg/L	350981	Standard
Cl	35	4.0	50.0				ug/L	6	Standard
Kr	83	71.7	4.5				ug/L	39	Standard
Br	81	998.4	10.5				ug/L	918	Standard
P	31	45005.9	0.8				ug/L	338	Standard
S	34	6108.7	1.3				ug/L	6425	Standard
Sr	88	68.3	15.2				ug/L	28	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	7			
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		94.984	
As	75			
Se	82			
Se-1	77			
Ga	71			
Rb	85			
Y	89			
Rh	103			
Mo	98			
Ag	107			

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Cd	111	
Cd	114	
> In	115	95.184
Sn	118	
Sb	123	
Ba	135	
Ce	140	
> Tb	159	
Ho	165	
Tl	203	
Tl	205	
Pb	206	
Pb	207	
Pb	208	
U	238	
> Bi	209	97.431
Na	23	
Mg	24	
K	39	
Ca	43	
Fe	54	
Fe	57	
> Sc-1	45	
Cl	35	
Kr	83	
Br	81	
P	31	
S	34	
Sr	88	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Mn 55 Upper, S, EEE	Mn	55	

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Method 6020 - Summary Report

Sample ID: L1207043403PS WG403596-01
Sample Date/Time: Friday, July 20, 2012 10:51:30
Number of Replicates: 3
Autosampler Position: 232
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	7	80086.1	1.3	**88372.5145**	2992.611	3.4	ug/L	9660	Standard
	Be	9	88538.1	2.8	**39.6984**	1.326	3.3	ug/L	7	Standard
	Al	27	71414400.8	2.0	**3954.6319**	166.486	4.2	ug/L	6610	Standard
>	**Sc**	45	444908.0	2.2				ug/L	350981	Standard
	Ti	47	36429.1	1.7	**26.6725**	0.597	2.2	ug/L	63	Standard
	V	51	604286.9	2.2	**52.4784**	0.909	1.7	ug/L	2655	Standard
	Cr	52	510391.9	1.2	**53.7470**	0.799	1.5	ug/L	8417	Standard
	Cr	53	83648.6	0.7	**52.9959**	0.471	0.9	ug/L	146	Standard
	Mn	55	4359557.0	0.5	**262.9258**	2.024	0.8	ug/L	1081	Standard
	Co	59	525293.8	0.5	**46.9597**	0.819	1.7	ug/L	84	Standard
	Ni	60	152759.2	0.8	**55.0770**	0.465	0.8	ug/L	55	Standard
	Cu	65	127373.2	1.4	**50.0347**	0.303	0.6	ug/L	78	Standard
	Zn	66	101541.2	1.4	**88.0545**	0.861	1.0	ug/L	99	Standard
>	**Ge**	72	316414.1	1.2				ug/L	289581	Standard
	As	75	52280.9	0.7	**44.6751**	0.420	0.9	ug/L	-189	Standard
	Se	82	5207.9	0.8	**44.3845**	0.218	0.5	ug/L	18	Standard
	Se-1	77	3663.1	2.7	**43.3234**	1.022	2.4	ug/L	97	Standard
>	**Ga**	71	9397.9	1.1				mg/L	628	Standard
	Rb	85	187653.3	0.9				ug/L	10	Standard
	Y	89	724255.4	1.0				ug/L	254546	Standard
>	**Rh**	103	461.7	9.0				ug/L	400	Standard
	Mo	98	1824.5	3.6	**0.4215**	0.017	3.9	ug/L	8	Standard
	Ag	107	406672.0	0.2	**46.0529**	0.068	0.1	ug/L	76	Standard
	Cd	111	212612.0	0.4	**45.1761**	0.066	0.1	mg/L	63	Standard
	Cd	114	565876.0	0.3	**43.4729**	0.231	0.5	ug/L	201	Standard
>	**In**	115	932533.1	0.4				ug/L	847070	Standard
	Sn	118	3138.3	2.1	**0.0884**	0.003	3.7	ug/L	553	Standard
	Sb	123	514759.0	0.7	**42.9762**	0.333	0.8	ug/L	25	Standard
	Ba	135	561262.2	0.4	**106.4984**	0.293	0.3	ug/L	25	Standard
	Ce	140	1465665.0	0.2				ug/L	21	Standard
>	**Tb**	159	1297424.6	0.1				ug/L	1162405	Standard
	Ho	165	47791.6	0.4				ug/L	12	Standard
	Tl	203	812881.2	0.4	**42.3076**	0.564	1.3	ug/L	4	Standard
	Tl	205	1877551.1	0.4	**42.1875**	0.638	1.5	ug/L	4	Standard
	Pb	206	713177.6	0.5	**48.0496**	0.674	1.4	ug/L	380	Standard
	Pb	207	595650.2	0.6	**48.1120**	0.794	1.6	ug/L	306	Standard
	Pb	208	2775249.4	0.3	**47.8847**	0.664	1.4	ug/L	1471	Standard
	U	238	867263.9	0.6	**45.9469**	0.607	1.3	ug/L	0	Standard
>	**Bi**	209	624792.5	1.1				ug/L	592579	Standard

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Na	23	4113.9	3.3	**0.1500**	0.003	2.2	mg/L	327	Standard
Mg	24	655212.7	0.8	**0.8071**	0.016	2.0	mg/L	50	Standard
K	39	1300.1	3.1	**0.7932**	0.010	1.3	mg/L	125	Standard
Ca	43	16.7	75.5	**6.3986**	5.568	87.0	mg/L	0	Standard
Fe	54	28066.6	1.2	**4.6316**	0.104	2.3	mg/L	579	Standard
Fe	57	601408.4	2.1	**5.0770**	0.134	2.6	mg/L	2535	Standard
Sc-1	45	444908.0	2.2				mg/L	350981	Standard
Cl	35	4.3	35.3				ug/L	6	Standard
Kr	83	86.0	6.7				ug/L	39	Standard
Br	81	1345.9	7.4				ug/L	918	Standard
P	31	43667.8	0.6				ug/L	338	Standard
S	34	6571.4	3.2				ug/L	6425	Standard
Sr	88	116.7	13.1				ug/L	28	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	7			
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		109.266	
As	75			
Se	82			
Se-1	77			
Ga	71			
Rb	85			
Y	89			
Rh	103			
Mo	98			
Ag	107			

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	Cd	111	
	Cd	114	
>	In	115	110.089
	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	105.436
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Mn 55 Upper, S, EEE	Mn	55	
Ba 135 Upper, S, EEE	Ba	135	

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Method 6020 - Summary Report

Sample ID: L1207043403SDL WG403596-02
Sample Date/Time: Friday, July 20, 2012 10:56:34
Number of Replicates: 3
Autosampler Position: 233
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	7	23144.3	0.7	**20255.7225**	153.302	0.8	ug/L	9660	Standard
	Be	9	210.0	10.9	**0.1062**	0.013	12.3	ug/L	7	Standard
	Al	27	13281364.4	1.5	**866.5886**	8.210	0.9	ug/L	6610	Standard
>	**Sc**	45	377184.0	0.8				ug/L	350981	Standard
	Ti	47	6725.8	0.5	**5.1345**	0.078	1.5	ug/L	63	Standard
	V	51	21908.6	1.9	**1.7593**	0.034	1.9	ug/L	2655	Standard
	Cr	52	25359.2	1.5	**1.8730**	0.065	3.5	ug/L	8417	Standard
	Cr	53	3177.8	5.9	**2.0110**	0.137	6.8	ug/L	146	Standard
	Mn	55	629685.9	1.3	**39.8641**	0.378	0.9	ug/L	1081	Standard
	Co	59	6927.9	1.3	**0.6399**	0.009	1.4	ug/L	84	Standard
	Ni	60	6444.0	0.6	**2.4219**	0.037	1.5	ug/L	55	Standard
	Cu	65	3296.0	1.1	**1.3294**	0.028	2.1	ug/L	78	Standard
	Zn	66	11985.4	0.7	**10.8317**	0.130	1.2	ug/L	99	Standard
>	**Ge**	72	300940.2	1.1				ug/L	289581	Standard
	As	75	244.0	2.8	**0.3845**	0.007	1.8	ug/L	-189	Standard
	Se	82	35.8	4.8	**0.1641**	0.012	7.2	ug/L	18	Standard
	Se-1	77	105.7	6.8	**0.1246**	0.078	62.4	ug/L	97	Standard
>	**Ga**	71	2108.5	9.4				mg/L	628	Standard
	Rb	85	34804.9	1.9				ug/L	10	Standard
	Y	89	348818.6	1.6				ug/L	254546	Standard
>	**Rh**	103	415.0	6.7				ug/L	400	Standard
	Mo	98	352.2	4.6	**0.0826**	0.004	4.8	ug/L	8	Standard
	Ag	107	366.7	5.8	**0.0349**	0.002	6.5	ug/L	76	Standard
	Cd	111	1200.2	2.2	**0.2457**	0.006	2.3	mg/L	63	Standard
	Cd	114	3215.8	0.8	**0.2396**	0.002	0.8	ug/L	201	Standard
>	**In**	115	899069.7	0.6				ug/L	847070	Standard
	Sn	118	2034.5	1.7	**0.0447**	0.001	3.1	ug/L	553	Standard
	Sb	123	715.7	14.4	**0.0602**	0.009	14.6	ug/L	25	Standard
	Ba	135	64466.9	0.3	**12.6785**	0.066	0.5	ug/L	25	Standard
	Ce	140	273834.2	1.0				ug/L	21	Standard
>	**Tb**	159	1198004.4	0.4				ug/L	1162405	Standard
	Ho	165	8830.9	1.6				ug/L	12	Standard
	Tl	203	459.7	21.8	**0.0232**	0.005	23.4	ug/L	4	Standard
	Tl	205	1011.4	14.4	**0.0239**	0.003	14.3	ug/L	4	Standard
	Pb	206	16595.4	1.0	**1.1226**	0.017	1.5	ug/L	380	Standard
	Pb	207	12727.0	1.3	**1.0251**	0.009	0.9	ug/L	306	Standard
	Pb	208	60728.9	1.3	**1.0488**	0.015	1.4	ug/L	1471	Standard
	U	238	7376.1	0.6	**0.4024**	0.002	0.4	ug/L	0	Standard
>	**Bi**	209	608221.5	0.9				ug/L	592579	Standard

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⌈	**Na**	23	1406.7	2.9	**0.0405**	0.002	5.9	mg/L	327	Standard
|	**Mg**	24	136798.5	2.9	**0.1986**	0.005	2.7	mg/L	50	Standard
|	**K**	39	366.7	15.1	**0.2065**	0.044	21.5	mg/L	125	Standard
|	**Ca**	43	5.0	100.0	**1.7057**	2.592	152.0	mg/L	0	Standard
|	**Fe**	54	5649.5	1.6	**1.0117**	0.025	2.5	mg/L	579	Standard
|	**Fe**	57	107244.9	0.7	**1.0457**	0.001	0.1	mg/L	2535	Standard
⌊>	**Sc-1**	45	377184.0	0.8				mg/L	350981	Standard
	Cl	35	3.0	66.7				ug/L	6	Standard
	Kr	83	48.0	1.8				ug/L	39	Standard
	Br	81	1154.2	7.7				ug/L	918	Standard
	P	31	8640.0	2.7				ug/L	338	Standard
	S	34	6194.6	2.8				ug/L	6425	Standard
	Sr	88	43.3	13.3				ug/L	28	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈	Li	7			
|	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		103.923	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			
⌈	Mo	98			
|	Ag	107			

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	Cd	111	
	Cd	114	
>	In	115	106.139
	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	102.640
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: L1207043403SDL WG403596-02
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Method 6020 - Summary Report

Sample ID: QC Std 4
Sample Date/Time: Friday, July 20, 2012 10:59:45
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	7	8215.6	1.8	**-2.6349**	187.033	7098.4	ug/L	9660	Standard
	Be	9	8.3	69.3	**0.0004**	0.004	1008.9	ug/L	7	Standard
	Al	27	60300936.5	4.9	**4708.1366**	203.528	4.3	ug/L	6610	Standard
>	**Sc**	45	315305.4	0.6				ug/L	350981	Standard
	Ti	47	26307.2	1.6	**23.6730**	0.455	1.9	ug/L	63	Standard
	V	51	2516.0	2.7	**0.0192**	0.008	43.7	ug/L	2655	Standard
	Cr	52	7633.3	2.3	**0.0199**	0.027	133.8	ug/L	8417	Standard
	Cr	53	1541.7	9.9	**1.0926**	0.119	10.9	ug/L	146	Standard
	Mn	55	1198.0	5.9	**0.0143**	0.005	37.4	ug/L	1081	Standard
	Co	59	242.3	11.0	**0.0152**	0.003	19.4	ug/L	84	Standard
	Ni	60	778.7	1.0	**0.3232**	0.004	1.2	ug/L	55	Standard
	Cu	65	241.7	7.1	**0.0838**	0.009	10.3	ug/L	78	Standard
	Zn	66	1286.1	6.5	**1.2626**	0.094	7.5	ug/L	99	Standard
>	**Ge**	72	257365.4	0.4				ug/L	289581	Standard
	As	75	-151.3	28.4	**0.0078**	0.044	567.4	ug/L	-189	Standard
	Se	82	23.3	29.5	**0.0881**	0.073	82.7	ug/L	18	Standard
	Se-1	77	201.7	4.5	**1.7891**	0.129	7.2	ug/L	97	Standard
>	**Ga**	71	593.3	13.7				mg/L	628	Standard
	Rb	85	2545.2	7.5				ug/L	10	Standard
	Y	89	230776.4	2.1				ug/L	254546	Standard
>	**Rh**	103	345.0	15.3				ug/L	400	Standard
	Mo	98	307375.7	1.1	**87.0959**	0.316	0.4	ug/L	8	Standard
	Ag	107	100.0	9.8	**0.0057**	0.001	25.6	ug/L	76	Standard
	Cd	111	51.3	13.4	**-0.0056**	0.002	34.0	mg/L	63	Standard
	Cd	114	1580.3	4.1	**0.1314**	0.005	4.0	ug/L	201	Standard
>	**In**	115	764128.5	0.9				ug/L	847070	Standard
	Sn	118	402.0	2.9	**-0.0240**	0.000	1.8	ug/L	553	Standard
	Sb	123	458.3	3.1	**0.0450**	0.001	2.5	ug/L	25	Standard
	Ba	135	61.7	15.1	**0.0035**	0.002	57.1	ug/L	25	Standard
	Ce	140	1712.8	4.8				ug/L	21	Standard
>	**Tb**	159	1067874.9	0.9				ug/L	1162405	Standard
	Ho	165	19.0	41.1				ug/L	12	Standard
	Tl	203	91.0	3.3	**0.0041**	0.000	4.2	ug/L	4	Standard
	Tl	205	235.3	6.9	**0.0067**	0.000	5.7	ug/L	4	Standard
	Pb	206	459.0	4.2	**0.0094**	0.002	25.5	ug/L	380	Standard
	Pb	207	398.7	2.6	**0.0060**	0.002	32.2	ug/L	306	Standard
	Pb	208	1825.0	2.1	**0.0084**	0.002	19.9	ug/L	1471	Standard
	U	238	12.7	32.9	**0.0018**	0.000	14.7	ug/L	0	Standard
>	**Bi**	209	539178.7	2.5				ug/L	592579	Standard

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Na	23	141738.2	0.7	**8.8977**	0.114	1.3	mg/L	327	Standard
Mg	24	2844733.8	2.4	**4.9432**	0.088	1.8	mg/L	50	Standard
K	39	4904.1	4.7	**4.5962**	0.246	5.3	mg/L	125	Standard
Ca	43	31.7	18.2	**18.5961**	3.537	19.0	mg/L	0	Standard
Fe	54	16780.3	3.8	**3.8879**	0.136	3.5	mg/L	579	Standard
Fe	57	330444.6	0.6	**3.9290**	0.015	0.4	mg/L	2535	Standard
Sc-1	45	315305.4	0.6				mg/L	350981	Standard
Cl	35	240.7	6.0				ug/L	6	Standard
Kr	83	36.7	9.1				ug/L	39	Standard
Br	81	928.4	6.9				ug/L	918	Standard
P	31	29887.8	1.7				ug/L	338	Standard
S	34	12640.3	0.6				ug/L	6425	Standard
Sr	88	46.7	16.4				ug/L	28	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	7			
Be	9			
Al	27	94.163		
Sc	45			
Ti	47	23.673		
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		88.875	
As	75			
Se	82			
Se-1	77			
Ga	71			
Rb	85			
Y	89			
Rh	103			
Mo	98	87.096		
Ag	107			

Sample ID: QC Std 4
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	Cd	111		
	Cd	114		
>	In	115		90.208
	Sn	118		
	Sb	123		
	Ba	135		
	Ce	140		
>	Tb	159		
	Ho	165		
	Tl	203		
	Tl	205		
	Pb	206		
	Pb	207		
	Pb	208		
	U	238		
>	Bi	209		90.989
	Na	23	71.182	
	Mg	24	98.863	
	K	39	91.923	
	Ca	43	123.974	
	Fe	54	31.103	
	Fe	57	31.432	
>	Sc-1	45		
	Cl	35		
	Kr	83		
	Br	81		
	P	31		
	S	34		
	Sr	88		

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 4	Ti	47	
QC Std 4	Na	23	
QC Std 4	Ca	43	
QC Std 4	Fe	54	
QC Std 4	Fe	57	

Approved: July 23, 2012

Method 6020 - Summary Report

Sample ID: QC Std 5
Sample Date/Time: Friday, July 20, 2012 11:02:54
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	7	10630.4	5.3	**589.0565**	992.427	168.5	ug/L	9660	Standard
	Be	9	192930.6	0.2	**98.0096**	1.457	1.5	ug/L	7	Standard
	Al	27	73823855.2	0.8	**4629.8772**	82.326	1.8	ug/L	6610	Standard
>	**Sc**	45	392656.7	1.3				ug/L	350981	Standard
	Ti	47	136565.8	1.9	**103.4674**	1.726	1.7	ug/L	63	Standard
	V	51	1081813.1	0.8	**97.2981**	0.575	0.6	ug/L	2655	Standard
	Cr	52	882205.0	1.1	**96.7698**	0.948	1.0	ug/L	8417	Standard
	Cr	53	151784.8	0.3	**99.4646**	0.103	0.1	ug/L	146	Standard
	Mn	55	1633810.5	0.1	**101.7729**	0.177	0.2	ug/L	1081	Standard
	Co	59	1079094.9	0.3	**99.6867**	0.202	0.2	ug/L	84	Standard
	Ni	60	259792.4	1.6	**96.8040**	1.380	1.4	ug/L	55	Standard
	Cu	65	238284.1	1.8	**96.7562**	1.528	1.6	ug/L	78	Standard
	Zn	66	114326.4	0.7	**102.4671**	0.578	0.6	ug/L	99	Standard
>	**Ge**	72	306192.9	0.2				ug/L	289581	Standard
	As	75	113918.8	1.1	**100.3798**	0.880	0.9	ug/L	-189	Standard
	Se	82	11555.4	0.1	**101.9697**	0.303	0.3	ug/L	18	Standard
	Se-1	77	8254.2	0.5	**102.5117**	0.335	0.3	ug/L	97	Standard
>	**Ga**	71	881.7	5.8				mg/L	628	Standard
	Rb	85	3117.0	3.3				ug/L	10	Standard
	Y	89	278435.8	2.1				ug/L	254546	Standard
>	**Rh**	103	565.0	22.1				ug/L	400	Standard
	Mo	98	397777.8	0.5	**95.3641**	0.366	0.4	ug/L	8	Standard
	Ag	107	853887.7	1.7	**99.8503**	1.315	1.3	ug/L	76	Standard
	Cd	111	460435.1	1.3	**101.0413**	1.195	1.2	mg/L	63	Standard
	Cd	114	1226692.0	0.6	**97.3266**	0.302	0.3	ug/L	201	Standard
>	**In**	115	903136.7	0.4				ug/L	847070	Standard
	Sn	118	1151.4	2.3	**0.0056**	0.001	17.3	ug/L	553	Standard
	Sb	123	1156225.3	1.0	**99.6729**	0.594	0.6	ug/L	25	Standard
	Ba	135	479372.8	0.7	**93.9200**	0.718	0.8	ug/L	25	Standard
	Ce	140	2245.5	17.4				ug/L	21	Standard
>	**Tb**	159	1238951.5	0.9				ug/L	1162405	Standard
	Ho	165	24.7	45.6				ug/L	12	Standard
	Tl	203	1751121.7	1.1	**96.7089**	1.306	1.4	ug/L	4	Standard
	Tl	205	4224237.3	0.9	**100.7115**	1.147	1.1	ug/L	4	Standard
	Pb	206	1356243.9	0.7	**96.9833**	0.924	1.0	ug/L	380	Standard
	Pb	207	1156065.6	0.5	**99.1118**	0.745	0.8	ug/L	306	Standard
	Pb	208	5474649.3	0.4	**100.2597**	0.656	0.7	ug/L	1471	Standard
	U	238	1830484.5	0.5	**102.8996**	0.673	0.7	ug/L	0	Standard
>	**Bi**	209	588781.2	0.3				ug/L	592579	Standard

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Na	23	146481.4	0.7	**7.3787**	0.106	1.4	mg/L	327	Standard
Mg	24	3241827.4	1.5	**4.5244**	0.097	2.1	mg/L	50	Standard
K	39	5362.6	5.1	**4.0233**	0.165	4.1	mg/L	125	Standard
Ca	43	26.7	60.3	**12.3630**	8.164	66.0	mg/L	0	Standard
Fe	54	58482.3	0.8	**11.0893**	0.078	0.7	mg/L	579	Standard
Fe	57	1284363.9	2.3	**12.3233**	0.350	2.8	mg/L	2535	Standard
Sc-1	45	392656.7	1.3				mg/L	350981	Standard
Cl	35	253.7	2.9				ug/L	6	Standard
Kr	83	48.7	5.9				ug/L	39	Standard
Br	81	1318.4	8.6				ug/L	918	Standard
P	31	70579.8	0.6				ug/L	338	Standard
S	34	13487.7	2.4				ug/L	6425	Standard
Sr	88	35.0	51.5				ug/L	28	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	7			
Be	9			
Al	27	92.598		
Sc	45			
Ti	47	103.467		
V	51	97.298		
Cr	52	96.770		
Cr	53			
Mn	55	101.773		
Co	59	99.687		
Ni	60	96.804		
Cu	65	96.756		
Zn	66	102.467		
Ge	72		105.737	
As	75	100.380		
Se	82	101.970		
Se-1	77			
Ga	71			
Rb	85			
Y	89			
Rh	103			
Mo	98	95.364		
Ag	107	99.850		

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	Cd	111	101.041	
	Cd	114		
>	In	115		106.619
	Sn	118		
	Sb	123	99.673	
	Ba	135	93.920	
	Ce	140		
>	Tb	159		
	Ho	165		
	Tl	203	96.709	
	Tl	205		
	Pb	206	96.983	
	Pb	207	99.112	
	Pb	208	100.260	
	U	238	102.900	
>	Bi	209		99.359
	Na	23	59.030	
	Mg	24	90.488	
	K	39	80.466	
	Ca	43	82.420	
	Fe	54	88.715	
	Fe	57	98.587	
>	Sc-1	45		
	Cl	35		
	Kr	83		
	Br	81		
	P	31		
	S	34		
	Sr	88		

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 5	Na	23	
QC Std 5	Ca	43	

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Method 6020 - Summary Report

Sample ID: QC Std 6
Sample Date/Time: Friday, July 20, 2012 11:06:05
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	7	10373.6	1.6	**195.0116**	346.513	177.7	ug/L	9660	Standard
	Be	9	98207.4	2.7	**49.8467**	1.705	3.4	ug/L	7	Standard
	Al	27	779551.2	6.3	**48.3971**	3.447	7.1	ug/L	6610	Standard
>	**Sc**	45	392995.0	0.8				ug/L	350981	Standard
	Ti	47	131850.8	2.6	**99.7093**	0.988	1.0	ug/L	63	Standard
	V	51	557115.7	0.7	**49.9044**	0.776	1.6	ug/L	2655	Standard
	Cr	52	461031.7	0.8	**50.0144**	0.405	0.8	ug/L	8417	Standard
	Cr	53	76490.9	0.9	**49.9848**	0.378	0.8	ug/L	146	Standard
	Mn	55	834621.1	1.3	**51.8634**	0.211	0.4	ug/L	1081	Standard
	Co	59	550900.9	0.5	**50.8029**	0.578	1.1	ug/L	84	Standard
	Ni	60	131707.0	1.1	**48.9831**	0.277	0.6	ug/L	55	Standard
	Cu	65	123434.5	1.6	**50.0180**	0.235	0.5	ug/L	78	Standard
	Zn	66	55130.5	0.4	**49.2773**	0.951	1.9	ug/L	99	Standard
>	**Ge**	72	306733.2	1.6				ug/L	289581	Standard
	As	75	56989.7	0.3	**50.2187**	0.655	1.3	ug/L	-189	Standard
	Se	82	5838.7	0.6	**51.3594**	0.494	1.0	ug/L	18	Standard
	Se-1	77	4133.2	0.9	**50.6341**	0.683	1.3	ug/L	97	Standard
>	**Ga**	71	633.3	16.2				mg/L	628	Standard
	Rb	85	913.4	5.9				ug/L	10	Standard
	Y	89	276785.4	1.1				ug/L	254546	Standard
>	**Rh**	103	516.7	13.2				ug/L	400	Standard
	Mo	98	413081.9	0.5	**97.6091**	1.238	1.3	ug/L	8	Standard
	Ag	107	449268.6	1.1	**51.7740**	0.195	0.4	ug/L	76	Standard
	Cd	111	232679.4	0.7	**50.3156**	0.452	0.9	mg/L	63	Standard
	Cd	114	628610.2	0.0	**49.1502**	0.717	1.5	ug/L	201	Standard
>	**In**	115	916417.2	1.4				ug/L	847070	Standard
	Sn	118	1507316.8	0.7	**65.0619**	0.846	1.3	ug/L	553	Standard
	Sb	123	580810.2	0.2	**49.3494**	0.639	1.3	ug/L	25	Standard
	Ba	135	246326.9	0.3	**47.5613**	0.563	1.2	ug/L	25	Standard
	Ce	140	1515.1	59.9				ug/L	21	Standard
>	**Tb**	159	1223828.0	1.3				ug/L	1162405	Standard
	Ho	165	38.3	56.0				ug/L	12	Standard
	Tl	203	901357.6	0.6	**48.8772**	0.543	1.1	ug/L	4	Standard
	Tl	205	2209880.3	0.8	**51.7344**	0.750	1.4	ug/L	4	Standard
	Pb	206	698839.0	1.3	**49.0523**	0.257	0.5	ug/L	380	Standard
	Pb	207	593237.1	0.8	**49.9232**	0.536	1.1	ug/L	306	Standard
	Pb	208	2739611.3	1.0	**49.2485**	0.488	1.0	ug/L	1471	Standard
	U	238	923183.3	1.6	**50.9524**	0.087	0.2	ug/L	0	Standard
>	**Bi**	209	599699.4	1.8				ug/L	592579	Standard

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Na	23	119017.4	1.6	**5.9830**	0.065	1.1	mg/L	327	Standard
Mg	24	3404271.4	1.5	**4.7462**	0.039	0.8	mg/L	50	Standard
K	39	5656.1	3.9	**4.2451**	0.147	3.5	mg/L	125	Standard
Ca	43	18.3	83.3	**8.1411**	7.486	92.0	mg/L	0	Standard
Fe	54	25438.3	2.5	**4.7549**	0.158	3.3	mg/L	579	Standard
Fe	57	537216.9	1.0	**5.1335**	0.071	1.4	mg/L	2535	Standard
> **Sc-1**	45	392995.0	0.8				mg/L	350981	Standard
Cl	35	8.3	68.2				ug/L	6	Standard
Kr	83	42.9	4.3				ug/L	39	Standard
Br	81	1299.2	5.9				ug/L	918	Standard
P	31	467.5	0.5				ug/L	338	Standard
S	34	6154.6	1.1				ug/L	6425	Standard
Sr	88	43.3	37.1				ug/L	28	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	7			
Be	9			
Al	27	96.794		
> Sc	45			
Ti	47	99.709		
V	51	99.809		
Cr	52	100.029		
Cr	53			
Mn	55	103.727		
Co	59	101.606		
Ni	60	97.966		
Cu	65	100.036		
Zn	66	98.555		
> Ge	72		105.923	
As	75	100.437		
Se	82	102.719		
Se-1	77			
> Ga	71			
Rb	85			
Y	89			
> Rh	103			
Mo	98	97.609		
Ag	107	103.548		

Sample ID: QC Std 6
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	Cd	111	100.631	
	Cd	114		
>	In	115		108.187
	Sn	118	130.124	
	Sb	123	98.699	
	Ba	135	95.123	
	Ce	140		
>	Tb	159		
	Ho	165		
	Tl	203	97.754	
	Tl	205		
	Pb	206	98.105	
	Pb	207	99.846	
	Pb	208	98.497	
	U	238	101.905	
>	Bi	209		101.202
	Na	23		
	Mg	24		
	K	39		
	Ca	43		
	Fe	54		
	Fe	57		
>	Sc-1	45		
	Cl	35		
	Kr	83		
	Br	81		
	P	31		
	S	34		
	Sr	88		

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 6	Sn	118	

Sample ID: QC Std 6
Report Date/Time: Friday, July 20, 2012 11:08:36
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Approved: July 23, 2012

Method 6020 - Summary Report

Sample ID: QC Std 7
Sample Date/Time: Friday, July 20, 2012 11:09:15
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	7	10692.1	1.5	**942.1851**	454.845	48.3	ug/L	9660	Standard
	Be	9	28.3	88.8	**0.0096**	0.013	131.8	ug/L	7	Standard
	Al	27	13703.7	45.9	**0.4034**	0.383	95.0	ug/L	6610	Standard
>	**Sc**	45	386107.3	2.0				ug/L	350981	Standard
	Ti	47	95.0	28.5	**0.0191**	0.021	107.6	ug/L	63	Standard
	V	51	2728.4	5.1	**-0.0024**	0.012	511.3	ug/L	2655	Standard
	Cr	52	8426.0	1.2	**-0.0439**	0.012	26.4	ug/L	8417	Standard
	Cr	53	274.2	5.0	**0.0708**	0.010	13.8	ug/L	146	Standard
	Mn	55	1405.7	15.8	**0.0139**	0.014	99.6	ug/L	1081	Standard
	Co	59	199.0	49.4	**0.0071**	0.009	127.8	ug/L	84	Standard
	Ni	60	100.0	22.3	**0.0155**	0.008	53.5	ug/L	55	Standard
	Cu	65	124.0	38.5	**0.0178**	0.019	109.3	ug/L	78	Standard
	Zn	66	138.0	15.0	**0.0145**	0.018	127.2	ug/L	99	Standard
>	**Ge**	72	303302.7	0.4				ug/L	289581	Standard
	As	75	-199.0	9.5	**-0.0107**	0.017	158.8	ug/L	-189	Standard
	Se	82	24.7	16.9	**0.0629**	0.037	58.6	ug/L	18	Standard
	Se-1	77	107.7	9.3	**0.1400**	0.127	91.0	ug/L	97	Standard
>	**Ga**	71	606.7	7.8				mg/L	628	Standard
	Rb	85	38.3	32.8				ug/L	10	Standard
	Y	89	276452.8	1.2				ug/L	254546	Standard
>	**Rh**	103	480.0	6.3				ug/L	400	Standard
	Mo	98	158.3	48.4	**0.0358**	0.019	51.9	ug/L	8	Standard
	Ag	107	291.3	17.2	**0.0259**	0.006	23.3	ug/L	76	Standard
	Cd	111	112.6	33.8	**0.0058**	0.008	145.4	mg/L	63	Standard
	Cd	114	309.9	19.1	**0.0078**	0.005	60.2	ug/L	201	Standard
>	**In**	115	903137.8	1.4				ug/L	847070	Standard
	Sn	118	1010.4	10.9	**-0.0006**	0.005	863.3	ug/L	553	Standard
	Sb	123	1711.1	21.5	**0.1459**	0.032	22.1	ug/L	25	Standard
	Ba	135	64.0	67.7	**0.0018**	0.009	470.5	ug/L	25	Standard
	Ce	140	61.7	48.8				ug/L	21	Standard
>	**Tb**	159	1194809.2	1.0				ug/L	1162405	Standard
	Ho	165	14.7	25.8				ug/L	12	Standard
	Tl	203	166.7	77.5	**0.0075**	0.007	91.5	ug/L	4	Standard
	Tl	205	459.7	77.8	**0.0112**	0.008	73.7	ug/L	4	Standard
	Pb	206	540.3	24.7	**0.0109**	0.009	84.0	ug/L	380	Standard
	Pb	207	454.7	28.4	**0.0064**	0.011	166.7	ug/L	306	Standard
	Pb	208	2102.7	27.2	**0.0092**	0.010	108.9	ug/L	1471	Standard
	U	238	197.3	75.3	**0.0117**	0.008	68.7	ug/L	0	Standard
>	**Bi**	209	607345.7	0.8				ug/L	592579	Standard

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Na	23	811.7	22.0	**0.0080**	0.009	105.9	mg/L	327	Standard
Mg	24	650.0	77.8	**0.0008**	0.001	86.8	mg/L	50	Standard
K	39	146.7	12.0	**0.0281**	0.012	44.3	mg/L	125	Standard
Ca	43	0.0		**-0.8733**			mg/L	0	Standard
Fe	54	622.7	4.3	**0.0062**	0.006	100.3	mg/L	579	Standard
Fe	57	3177.0	2.9	**0.0033**	0.001	37.0	mg/L	2535	Standard
Sc-1	45	386107.3	2.0				mg/L	350981	Standard
Cl	35	8.0	57.3				ug/L	6	Standard
Kr	83	44.8	6.3				ug/L	39	Standard
Br	81	1187.5	6.6				ug/L	918	Standard
P	31	447.5	5.8				ug/L	338	Standard
S	34	6360.5	3.4				ug/L	6425	Standard
Sr	88	43.3	29.0				ug/L	28	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	7			
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		104.739	
As	75			
Se	82			
Se-1	77			
Ga	71			
Rb	85			
Y	89			
Rh	103			
Mo	98			
Ag	107			

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Cd	111	
Cd	114	
> In	115	106.619
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	102.492
Na	23	
Mg	24	
K	39	
Ca	43	
Fe	54	
Fe	57	
> Sc-1	45	
Cl	35	
Kr	83	
Br	81	
P	31	
S	34	
Sr	88	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: QC Std 7
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Method 6020 - Summary Report

Sample ID: PBW 64 WG403458-02
Sample Date/Time: Friday, July 20, 2012 11:17:04
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	7	9973.3	2.2	**67.7938**	54.289	80.1	ug/L	9660	Standard
	Be	9	13.3	108.3	**0.0020**	0.007	369.7	ug/L	7	Standard
	Al	27	11141.8	61.7	**0.2497**	0.431	172.5	ug/L	6610	Standard
>	**Sc**	45	380983.4	2.1				ug/L	350981	Standard
	Ti	47	70.7	16.4	**0.0005**	0.009	1917.9	ug/L	63	Standard
	V	51	2783.3	4.3	**0.0022**	0.012	556.6	ug/L	2655	Standard
	Cr	52	8577.1	1.6	**-0.0284**	0.021	74.1	ug/L	8417	Standard
	Cr	53	236.7	7.6	**0.0457**	0.011	24.4	ug/L	146	Standard
	Mn	55	1743.5	63.1	**0.0352**	0.070	198.7	ug/L	1081	Standard
	Co	59	149.7	75.0	**0.0026**	0.011	411.7	ug/L	84	Standard
	Ni	60	177.0	1.0	**0.0444**	0.000	0.9	ug/L	55	Standard
	Cu	65	103.7	18.7	**0.0095**	0.008	86.7	ug/L	78	Standard
	Zn	66	1386.1	3.8	**1.1430**	0.048	4.2	ug/L	99	Standard
>	**Ge**	72	303778.5	0.7				ug/L	289581	Standard
	As	75	-209.8	5.4	**-0.0199**	0.009	45.2	ug/L	-189	Standard
	Se	82	16.6	19.6	**-0.0095**	0.029	301.0	ug/L	18	Standard
	Se-1	77	98.7	13.0	**0.0232**	0.156	671.4	ug/L	97	Standard
>	**Ga**	71	641.7	4.7				mg/L	628	Standard
	Rb	85	38.3	39.8				ug/L	10	Standard
	Y	89	272520.7	0.2				ug/L	254546	Standard
>	**Rh**	103	413.3	9.1				ug/L	400	Standard
	Mo	98	62.8	36.2	**0.0129**	0.005	41.9	ug/L	8	Standard
	Ag	107	187.7	96.1	**0.0138**	0.021	152.5	ug/L	76	Standard
	Cd	111	149.5	94.2	**0.0139**	0.031	221.4	mg/L	63	Standard
	Cd	114	449.0	94.1	**0.0189**	0.033	177.1	ug/L	201	Standard
>	**In**	115	900405.8	0.9				ug/L	847070	Standard
	Sn	118	944.4	58.0	**-0.0034**	0.024	704.4	ug/L	553	Standard
	Sb	123	643.9	66.5	**0.0538**	0.037	68.2	ug/L	25	Standard
	Ba	135	210.3	148.1	**0.0304**	0.061	200.2	ug/L	25	Standard
	Ce	140	189.7	148.1				ug/L	21	Standard
>	**Tb**	159	1175760.6	0.8				ug/L	1162405	Standard
	Ho	165	17.7	65.6				ug/L	12	Standard
	Tl	203	220.7	154.0	**0.0105**	0.018	174.1	ug/L	4	Standard
	Tl	205	432.0	156.0	**0.0106**	0.016	147.4	ug/L	4	Standard
	Pb	206	545.3	50.0	**0.0115**	0.019	162.7	ug/L	380	Standard
	Pb	207	434.0	35.9	**0.0049**	0.013	260.3	ug/L	306	Standard
	Pb	208	2044.1	41.5	**0.0085**	0.015	176.7	ug/L	1471	Standard
	U	238	91.3	158.0	**0.0060**	0.008	131.4	ug/L	0	Standard
>	**Bi**	209	602254.2	0.7				ug/L	592579	Standard

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Na	23	615.0	18.5	**-0.0016**	0.005	330.6	mg/L	327	Standard
Mg	24	686.7	144.8	**0.0009**	0.001	163.3	mg/L	50	Standard
K	39	96.7	6.0	**-0.0098**	0.006	58.6	mg/L	125	Standard
Ca	43	5.0	100.0	**1.6992**	2.607	153.4	mg/L	0	Standard
Fe	54	566.0	10.3	**-0.0035**	0.009	264.1	mg/L	579	Standard
Fe	57	3310.4	5.0	**0.0050**	0.001	22.6	mg/L	2535	Standard
Sc-1	45	380983.4	2.1				mg/L	350981	Standard
Cl	35	6.3	18.2				ug/L	6	Standard
Kr	83	39.6	12.9				ug/L	39	Standard
Br	81	1132.5	5.7				ug/L	918	Standard
P	31	446.7	5.3				ug/L	338	Standard
S	34	6347.2	3.1				ug/L	6425	Standard
Sr	88	36.7	41.7				ug/L	28	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	7			
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		104.903	
As	75			
Se	82			
Se-1	77			
Ga	71			
Rb	85			
Y	89			
Rh	103			
Mo	98			
Ag	107			

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	Cd	111	
	Cd	114	
>	In	115	106.296
	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	101.633
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: PBW 64 WG403458-02
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Approved: July 23, 2012

Method 6020 - Summary Report

Sample ID: LCSW 64 WG403459-03
Sample Date/Time: Friday, July 20, 2012 11:20:14
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	7	11242.5	0.9	**538.8898**	330.180	61.3	ug/L	9660	Standard
	Be	9	50591.0	0.9	**24.2313**	0.736	3.0	ug/L	7	Standard
	Al	27	576239.7	3.8	**33.5985**	0.966	2.9	ug/L	6610	Standard
>	**Sc**	45	416531.2	2.2				ug/L	350981	Standard
	Ti	47	90.3	0.6	**0.0102**	0.000	0.3	ug/L	63	Standard
	V	51	296427.8	0.4	**24.6255**	0.131	0.5	ug/L	2655	Standard
	Cr	52	252993.4	0.3	**25.1046**	0.247	1.0	ug/L	8417	Standard
	Cr	53	41545.3	3.4	**25.2567**	0.957	3.8	ug/L	146	Standard
	Mn	55	448045.2	1.4	**25.9208**	0.533	2.1	ug/L	1081	Standard
	Co	59	291288.9	1.6	**25.0368**	0.559	2.2	ug/L	84	Standard
	Ni	60	72682.6	1.5	**25.1904**	0.459	1.8	ug/L	55	Standard
	Cu	65	67715.0	1.3	**25.5676**	0.513	2.0	ug/L	78	Standard
	Zn	66	29669.7	1.3	**24.6664**	0.488	2.0	ug/L	99	Standard
>	**Ge**	72	329009.9	0.7				ug/L	289581	Standard
	As	75	28430.1	1.0	**23.4436**	0.402	1.7	ug/L	-189	Standard
	Se	82	2872.8	2.4	**23.4733**	0.660	2.8	ug/L	18	Standard
	Se-1	77	2067.8	1.9	**22.9605**	0.508	2.2	ug/L	97	Standard
>	**Ga**	71	738.4	2.7				mg/L	628	Standard
	Rb	85	56.7	10.2				ug/L	10	Standard
	Y	89	300834.4	1.6				ug/L	254546	Standard
>	**Rh**	103	510.0	6.9				ug/L	400	Standard
	Mo	98	54.5	15.4	**0.0099**	0.002	17.2	ug/L	8	Standard
	Ag	107	246112.3	2.1	**26.6075**	0.305	1.1	ug/L	76	Standard
	Cd	111	120933.3	1.4	**24.5287**	0.347	1.4	mg/L	63	Standard
	Cd	114	320385.8	2.0	**23.4932**	0.232	1.0	ug/L	201	Standard
>	**In**	115	976687.1	1.9				ug/L	847070	Standard
	Sn	118	1103.0	4.8	**-0.0001**	0.002	1163.6	ug/L	553	Standard
	Sb	123	291564.4	1.9	**23.2414**	0.191	0.8	ug/L	25	Standard
	Ba	135	130330.8	0.9	**23.6073**	0.316	1.3	ug/L	25	Standard
	Ce	140	882.0	1.9				ug/L	21	Standard
>	**Tb**	159	1261609.3	1.5				ug/L	1162405	Standard
	Ho	165	24.7	16.4				ug/L	12	Standard
	Tl	203	476118.0	1.2	**24.4742**	0.346	1.4	ug/L	4	Standard
	Tl	205	1093397.6	1.4	**24.2638**	0.265	1.1	ug/L	4	Standard
	Pb	206	369605.8	1.1	**24.5808**	0.192	0.8	ug/L	380	Standard
	Pb	207	313588.3	1.4	**24.9999**	0.226	0.9	ug/L	306	Standard
	Pb	208	1451282.3	1.3	**24.7171**	0.232	0.9	ug/L	1471	Standard
	U	238	470660.5	1.2	**24.6273**	0.213	0.9	ug/L	0	Standard
>	**Bi**	209	632573.1	1.2				ug/L	592579	Standard

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Na	23	948.4	1.7	**0.0116**	0.001	9.9	mg/L	327	Standard
Mg	24	1325.1	5.3	**0.0016**	0.000	4.0	mg/L	50	Standard
K	39	131.7	25.3	**0.0087**	0.022	253.9	mg/L	125	Standard
Ca	43	5.0	100.0	**1.4711**	2.379	161.7	mg/L	0	Standard
Fe	54	951.9	6.3	**0.0568**	0.012	21.5	mg/L	579	Standard
Fe	57	3758.8	8.7	**0.0063**	0.002	35.7	mg/L	2535	Standard
Sc-1	45	416531.2	2.2				mg/L	350981	Standard
Cl	35	5.7	27.0				ug/L	6	Standard
Kr	83	43.2	5.1				ug/L	39	Standard
Br	81	1336.7	3.5				ug/L	918	Standard
P	31	584.2	1.9				ug/L	338	Standard
S	34	6442.2	2.6				ug/L	6425	Standard
Sr	88	35.0	14.3				ug/L	28	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	7			
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		113.616	
As	75			
Se	82			
Se-1	77			
Ga	71			
Rb	85			
Y	89			
Rh	103			
Mo	98			
Ag	107			

Sample ID: LCSW 64 WG403459-03
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	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

115.302

106.749

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: LCSW 64 WG403459-03
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Method 6020 - Summary Report

Sample ID: L1207035608
Sample Date/Time: Friday, July 20, 2012 11:23:24
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	7	10877.2	2.3	**977.6531**	311.820	31.9	ug/L	9660	Standard
	Be	9	36.7	56.8	**0.0138**	0.011	77.8	ug/L	7	Standard
	Al	27	171496.9	1.3	**10.3129**	0.147	1.4	ug/L	6610	Standard
>	**Sc**	45	391773.9	0.6				ug/L	350981	Standard
	Ti	47	183.3	6.3	**0.0842**	0.010	11.4	ug/L	63	Standard
	V	51	3128.1	3.2	**0.0286**	0.008	26.4	ug/L	2655	Standard
	Cr	52	9966.9	0.8	**0.1075**	0.001	1.0	ug/L	8417	Standard
	Cr	53	653.3	1.1	**0.3138**	0.008	2.4	ug/L	146	Standard
	Mn	55	6372.0	3.1	**0.3189**	0.015	4.6	ug/L	1081	Standard
	Co	59	295.0	13.0	**0.0156**	0.003	21.2	ug/L	84	Standard
	Ni	60	2096.8	11.1	**0.7525**	0.091	12.2	ug/L	55	Standard
	Cu	65	446.7	5.1	**0.1467**	0.008	5.4	ug/L	78	Standard
	Zn	66	3107.3	0.6	**2.6514**	0.036	1.4	ug/L	99	Standard
>	**Ge**	72	309112.1	0.7				ug/L	289581	Standard
	As	75	-172.8	5.4	**0.0155**	0.008	52.8	ug/L	-189	Standard
	Se	82	23.9	4.6	**0.0516**	0.010	18.9	ug/L	18	Standard
	Se-1	77	115.3	8.9	**0.2098**	0.129	61.6	ug/L	97	Standard
>	**Ga**	71	715.0	6.9				mg/L	628	Standard
	Rb	85	313.3	9.8				ug/L	10	Standard
	Y	89	278362.3	1.2				ug/L	254546	Standard
>	**Rh**	103	473.3	12.2				ug/L	400	Standard
	Mo	98	107.1	22.4	**0.0229**	0.006	24.2	ug/L	8	Standard
	Ag	107	296.3	23.1	**0.0257**	0.008	30.0	ug/L	76	Standard
	Cd	111	167.4	19.4	**0.0170**	0.007	40.7	mg/L	63	Standard
	Cd	114	472.2	29.2	**0.0199**	0.011	53.2	ug/L	201	Standard
>	**In**	115	922833.3	0.4				ug/L	847070	Standard
	Sn	118	6827.9	0.7	**0.2480**	0.002	0.8	ug/L	553	Standard
	Sb	123	843.3	28.7	**0.0694**	0.020	29.2	ug/L	25	Standard
	Ba	135	823.4	3.0	**0.1471**	0.005	3.1	ug/L	25	Standard
	Ce	140	1423.4	1.0				ug/L	21	Standard
>	**Tb**	159	1206953.9	0.9				ug/L	1162405	Standard
	Ho	165	32.0	22.5				ug/L	12	Standard
	Tl	203	587.7	14.7	**0.0300**	0.005	15.4	ug/L	4	Standard
	Tl	205	1401.4	10.1	**0.0328**	0.003	9.9	ug/L	4	Standard
	Pb	206	929.0	9.5	**0.0377**	0.006	16.1	ug/L	380	Standard
	Pb	207	806.0	4.3	**0.0354**	0.003	8.1	ug/L	306	Standard
	Pb	208	3662.5	6.8	**0.0367**	0.004	11.9	ug/L	1471	Standard
	U	238	251.7	36.9	**0.0147**	0.005	34.4	ug/L	0	Standard
>	**Bi**	209	609575.4	0.1				ug/L	592579	Standard

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Na	23	9579.7	6.7	**0.4521**	0.031	6.9	mg/L	327	Standard
Mg	24	10748.8	3.9	**0.0149**	0.001	4.5	mg/L	50	Standard
K	39	115.0	15.7	**0.0022**	0.014	644.0	mg/L	125	Standard
Ca	43	3.3	86.6	**0.7811**	1.433	183.4	mg/L	0	Standard
Fe	54	594.4	14.9	**-0.0011**	0.016	1487.2	mg/L	579	Standard
Fe	57	4038.9	0.6	**0.0112**	0.000	2.7	mg/L	2535	Standard
Sc-1	45	391773.9	0.6				mg/L	350981	Standard
Cl	35	10.3	24.4				ug/L	6	Standard
Kr	83	45.8	5.5				ug/L	39	Standard
Br	81	1490.1	3.1				ug/L	918	Standard
P	31	463.3	7.3				ug/L	338	Standard
S	34	6228.8	0.4				ug/L	6425	Standard
Sr	88	31.7	50.8				ug/L	28	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	7			
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		106.745	
As	75			
Se	82			
Se-1	77			
Ga	71			
Rb	85			
Y	89			
Rh	103			
Mo	98			
Ag	107			

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	Cd	111	
	Cd	114	
>	In	115	108.944
	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	102.868
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

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Method 6020 - Summary Report

Sample ID: L1207036002
Sample Date/Time: Friday, July 20, 2012 11:26:33
Number of Replicates: 3
Autosampler Position: 304
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
	Li	7	10628.7	3.2	**864.8472**	463.269	53.6	ug/L	9660	Standard
	Be	9	96.7	6.0	**0.0451**	0.004	8.1	ug/L	7	Standard
	Al	27	119822.1	2.4	**7.1904**	0.356	4.9	ug/L	6610	Standard
>	**Sc**	45	385697.9	3.5				ug/L	350981	Standard
	Ti	47	166.0	20.7	**0.0731**	0.026	36.1	ug/L	63	Standard
	V	51	3591.7	1.8	**0.0750**	0.004	5.3	ug/L	2655	Standard
	Cr	52	10273.1	0.9	**0.1587**	0.005	3.3	ug/L	8417	Standard
	Cr	53	715.9	2.3	**0.3616**	0.009	2.5	ug/L	146	Standard
	Mn	55	9323.5	0.3	**0.5101**	0.005	0.9	ug/L	1081	Standard
	Co	59	736.7	5.9	**0.0571**	0.004	6.6	ug/L	84	Standard
	Ni	60	708.0	5.8	**0.2434**	0.017	7.1	ug/L	55	Standard
	Cu	65	1342.7	4.6	**0.5157**	0.026	5.1	ug/L	78	Standard
	Zn	66	4463.0	1.5	**3.9177**	0.036	0.9	ug/L	99	Standard
>	**Ge**	72	304370.5	0.6				ug/L	289581	Standard
	As	75	-120.1	23.7	**0.0598**	0.025	42.6	ug/L	-189	Standard
	Se	82	40.6	7.2	**0.2037**	0.028	13.5	ug/L	18	Standard
	Se-1	77	113.0	5.4	**0.2026**	0.075	37.3	ug/L	97	Standard
>	**Ga**	71	651.7	3.8				mg/L	628	Standard
	Rb	85	196.7	23.5				ug/L	10	Standard
	Y	89	277537.2	0.6				ug/L	254546	Standard
>	**Rh**	103	456.7	4.4				ug/L	400	Standard
	Mo	98	65.5	5.4	**0.0133**	0.001	6.6	ug/L	8	Standard
	Ag	107	109.7	12.2	**0.0045**	0.002	36.1	ug/L	76	Standard
	Cd	111	332.5	6.2	**0.0529**	0.003	6.2	mg/L	63	Standard
	Cd	114	882.0	2.4	**0.0522**	0.003	4.9	ug/L	201	Standard
>	**In**	115	917107.9	1.6				ug/L	847070	Standard
	Sn	118	2611.2	1.1	**0.0679**	0.002	2.7	ug/L	553	Standard
	Sb	123	490.0	9.2	**0.0399**	0.004	9.5	ug/L	25	Standard
	Ba	135	807.4	2.3	**0.1451**	0.006	4.0	ug/L	25	Standard
	Ce	140	681.7	1.9				ug/L	21	Standard
>	**Tb**	159	1199644.5	0.7				ug/L	1162405	Standard
	Ho	165	16.7	28.4				ug/L	12	Standard
	Tl	203	1164.7	11.0	**0.0608**	0.007	10.7	ug/L	4	Standard
	Tl	205	2710.6	12.6	**0.0630**	0.007	11.9	ug/L	4	Standard
	Pb	206	1474.7	8.4	**0.0754**	0.008	10.5	ug/L	380	Standard
	Pb	207	1249.7	7.8	**0.0722**	0.008	10.4	ug/L	306	Standard
	Pb	208	5746.4	8.2	**0.0737**	0.008	10.8	ug/L	1471	Standard
	U	238	885.7	9.4	**0.0491**	0.004	8.7	ug/L	0	Standard
>	**Bi**	209	608900.3	0.9				ug/L	592579	Standard

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Na	23	8644.1	2.8	**0.4120**	0.023	5.5	mg/L	327	Standard
Mg	24	8850.9	4.4	**0.0125**	0.000	2.4	mg/L	50	Standard
K	39	120.0	29.2	**0.0069**	0.025	356.2	mg/L	125	Standard
Ca	43	1.7	173.2	**-0.0617**	1.406	2277.5	mg/L	0	Standard
Fe	54	683.7	5.5	**0.0184**	0.012	63.5	mg/L	579	Standard
Fe	57	3600.4	6.0	**0.0076**	0.003	40.2	mg/L	2535	Standard
Sc-1	45	385697.9	3.5				mg/L	350981	Standard
Cl	35	13.0	27.7				ug/L	6	Standard
Kr	83	39.0	5.1				ug/L	39	Standard
Br	81	2005.1	1.3				ug/L	918	Standard
P	31	434.2	6.0				ug/L	338	Standard
S	34	6284.6	0.8				ug/L	6425	Standard
Sr	88	30.0	50.0				ug/L	28	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	7			
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		105.107	
As	75			
Se	82			
Se-1	77			
Ga	71			
Rb	85			
Y	89			
Rh	103			
Mo	98			
Ag	107			

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	Cd	111	
	Cd	114	
>	In	115	108.268
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	102.754
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

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Method 6020 - Summary Report

Sample ID: L1207042502 WG403458-01
Sample Date/Time: Friday, July 20, 2012 11:29:43
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	7	65057.7	1.0	**70897.9413**	850.719	1.2	ug/L	9660	Standard
	Be	9	20.0	43.3	**0.0042**	0.004	90.8	ug/L	7	Standard
	Al	27	509055.0	1.6	**28.3648**	0.639	2.3	ug/L	6610	Standard
>	**Sc**	45	434831.8	1.1				ug/L	350981	Standard
	Ti	47	2685.9	2.8	**2.0215**	0.035	1.7	ug/L	63	Standard
	V	51	25611.8	1.8	**2.1033**	0.038	1.8	ug/L	2655	Standard
	Cr	52	23732.2	1.2	**1.6941**	0.032	1.9	ug/L	8417	Standard
	Cr	53	4008.9	7.1	**2.5726**	0.236	9.2	ug/L	146	Standard
	Mn	55	19235.5	0.7	**1.1479**	0.027	2.4	ug/L	1081	Standard
	Co	59	924.0	2.9	**0.0756**	0.003	4.1	ug/L	84	Standard
	Ni	60	3214.7	1.4	**1.1991**	0.006	0.5	ug/L	55	Standard
	Cu	65	1423.1	3.6	**0.5563**	0.026	4.6	ug/L	78	Standard
	Zn	66	3962.9	2.0	**3.5134**	0.021	0.6	ug/L	99	Standard
>	**Ge**	72	300418.3	1.8				ug/L	289581	Standard
	As	75	2562.3	1.3	**2.4641**	0.061	2.5	ug/L	-189	Standard
	Se	82	1179.5	1.7	**10.4710**	0.343	3.3	ug/L	18	Standard
	Se-1	77	170.7	8.7	**0.9586**	0.156	16.2	ug/L	97	Standard
>	**Ga**	71	666.7	5.5				mg/L	628	Standard
	Rb	85	13514.4	2.9				ug/L	10	Standard
	Y	89	279269.3	2.1				ug/L	254546	Standard
>	**Rh**	103	546.7	15.0				ug/L	400	Standard
	Mo	98	5356.0	0.6	**1.2849**	0.021	1.6	ug/L	8	Standard
	Ag	107	92.3	6.0	**0.0027**	0.001	28.2	ug/L	76	Standard
	Cd	111	117.8	6.6	**0.0070**	0.002	23.1	mg/L	63	Standard
	Cd	114	374.3	2.7	**0.0130**	0.001	6.1	ug/L	201	Standard
>	**In**	115	901139.3	1.0				ug/L	847070	Standard
	Sn	118	2534.5	3.6	**0.0665**	0.003	5.1	ug/L	553	Standard
	Sb	123	684.3	1.1	**0.0574**	0.000	0.8	ug/L	25	Standard
	Ba	135	195804.2	1.1	**38.4417**	0.351	0.9	ug/L	25	Standard
	Ce	140	6665.8	2.2				ug/L	21	Standard
>	**Tb**	159	1219730.0	0.4				ug/L	1162405	Standard
	Ho	165	122.3	3.1				ug/L	12	Standard
	Tl	203	607.0	1.7	**0.0326**	0.001	1.8	ug/L	4	Standard
	Tl	205	1357.1	2.1	**0.0334**	0.001	2.2	ug/L	4	Standard
	Pb	206	1455.7	2.6	**0.0791**	0.002	2.9	ug/L	380	Standard
	Pb	207	1227.0	2.1	**0.0754**	0.002	2.0	ug/L	306	Standard
	Pb	208	5687.4	1.5	**0.0776**	0.002	2.1	ug/L	1471	Standard
	U	238	14027.5	0.4	**0.8011**	0.006	0.8	ug/L	0	Standard
>	**Bi**	209	580261.4	0.7				ug/L	592579	Standard

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Na	23	150305.2	0.4	**6.8346**	0.103	1.5	mg/L	327	Standard
Mg	24	3351518.7	1.2	**4.2232**	0.009	0.2	mg/L	50	Standard
K	39	1618.4	6.9	**1.0337**	0.066	6.4	mg/L	125	Standard
Ca	43	75.0	13.3	**32.5385**	4.107	12.6	mg/L	0	Standard
Fe	54	992.3	2.6	**0.0565**	0.005	8.3	mg/L	579	Standard
Fe	57	20772.6	4.0	**0.1527**	0.009	6.0	mg/L	2535	Standard
Sc-1	45	434831.8	1.1				mg/L	350981	Standard
Cl	35	65.7	22.9				ug/L	6	Standard
Kr	83	51.9	8.6				ug/L	39	Standard
Br	81	98855.0	3.6				ug/L	918	Standard
P	31	537.5	12.9				ug/L	338	Standard
S	34	29906.2	0.8				ug/L	6425	Standard
Sr	88	700.0	5.2				ug/L	28	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	7			
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		103.742	
As	75			
Se	82			
Se-1	77			
Ga	71			
Rb	85			
Y	89			
Rh	103			
Mo	98			
Ag	107			

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	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

106.383

97.921

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

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Method 6020 - Summary Report

Sample ID: L1207042502S WG403458-04
Sample Date/Time: Friday, July 20, 2012 11:32:53
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	7	65139.7	0.6	**71776.4632**	747.146	1.0	ug/L	9660	Standard
	Be	9	50494.0	0.7	**23.3669**	0.433	1.9	ug/L	7	Standard
	Al	27	1073866.7	1.3	**60.8937**	0.845	1.4	ug/L	6610	Standard
>	**Sc**	45	430986.2	1.4				ug/L	350981	Standard
	Ti	47	2988.3	3.3	**2.2679**	0.065	2.8	ug/L	63	Standard
	V	51	290144.3	0.5	**26.5644**	0.116	0.4	ug/L	2655	Standard
	Cr	52	235599.3	0.3	**25.7721**	0.295	1.1	ug/L	8417	Standard
	Cr	53	40737.2	0.4	**27.2805**	0.126	0.5	ug/L	146	Standard
	Mn	55	426528.2	0.9	**27.1786**	0.449	1.7	ug/L	1081	Standard
	Co	59	271444.3	0.7	**25.6933**	0.274	1.1	ug/L	84	Standard
	Ni	60	66285.0	0.9	**25.2986**	0.050	0.2	ug/L	55	Standard
	Cu	65	59630.1	1.1	**24.7931**	0.334	1.3	ug/L	78	Standard
	Zn	66	30003.7	1.3	**27.4800**	0.198	0.7	ug/L	99	Standard
>	**Ge**	72	298751.0	0.8				ug/L	289581	Standard
	As	75	30749.3	1.1	**27.8900**	0.164	0.6	ug/L	-189	Standard
	Se	82	4086.1	0.6	**36.8556**	0.161	0.4	ug/L	18	Standard
	Se-1	77	2105.1	1.8	**25.8887**	0.285	1.1	ug/L	97	Standard
>	**Ga**	71	723.4	11.7				mg/L	628	Standard
	Rb	85	13966.4	4.0				ug/L	10	Standard
	Y	89	284280.8	1.4				ug/L	254546	Standard
>	**Rh**	103	616.7	9.8				ug/L	400	Standard
	Mo	98	5314.6	1.0	**1.2640**	0.008	0.6	ug/L	8	Standard
	Ag	107	122561.7	1.0	**14.2366**	0.250	1.8	ug/L	76	Standard
	Cd	111	118022.3	0.9	**25.7232**	0.196	0.8	mg/L	63	Standard
	Cd	114	309568.7	0.4	**24.3955**	0.224	0.9	ug/L	201	Standard
>	**In**	115	908885.4	1.3				ug/L	847070	Standard
	Sn	118	2681.2	1.8	**0.0719**	0.001	1.4	ug/L	553	Standard
	Sb	123	290764.2	0.4	**24.9080**	0.224	0.9	ug/L	25	Standard
	Ba	135	315507.3	1.0	**61.4247**	0.775	1.3	ug/L	25	Standard
	Ce	140	6903.9	2.7				ug/L	21	Standard
>	**Tb**	159	1224544.4	0.5				ug/L	1162405	Standard
	Ho	165	118.0	3.7				ug/L	12	Standard
	Tl	203	441788.6	1.2	**24.8003**	0.416	1.7	ug/L	4	Standard
	Tl	205	1022422.0	0.6	**24.7785**	0.279	1.1	ug/L	4	Standard
	Pb	206	338325.4	0.6	**24.5719**	0.147	0.6	ug/L	380	Standard
	Pb	207	287404.0	0.6	**25.0227**	0.253	1.0	ug/L	306	Standard
	Pb	208	1332114.2	0.7	**24.7768**	0.232	0.9	ug/L	1471	Standard
	U	238	478513.4	0.2	**27.3437**	0.164	0.6	ug/L	0	Standard
>	**Bi**	209	579238.0	0.6				ug/L	592579	Standard

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Na	23	152128.3	0.5	**6.9802**	0.127	1.8	mg/L	327	Standard
Mg	24	3228110.5	1.7	**4.1051**	0.125	3.0	mg/L	50	Standard
K	39	1525.1	7.5	**0.9797**	0.095	9.7	mg/L	125	Standard
Ca	43	73.3	30.7	**32.2126**	10.581	32.8	mg/L	0	Standard
Fe	54	1045.7	4.6	**0.0674**	0.011	16.0	mg/L	579	Standard
Fe	57	23132.7	6.4	**0.1750**	0.016	9.0	mg/L	2535	Standard
> **Sc-1**	45	430986.2	1.4				mg/L	350981	Standard
Cl	35	58.3	19.0				ug/L	6	Standard
Kr	83	51.9	15.6				ug/L	39	Standard
Br	81	98853.3	2.7				ug/L	918	Standard
P	31	508.3	3.3				ug/L	338	Standard
S	34	29287.5	2.1				ug/L	6425	Standard
Sr	88	658.3	9.1				ug/L	28	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	7			
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		103.167	
As	75			
Se	82			
Se-1	77			
> Ga	71			
Rb	85			
Y	89			
> Rh	103			
Mo	98			
Ag	107			

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Cd	111	
Cd	114	
> In	115	107.298
Sn	118	
Sb	123	
Ba	135	
Ce	140	
> Tb	159	
Ho	165	
Tl	203	
Tl	205	
Pb	206	
Pb	207	
Pb	208	
U	238	
> Bi	209	97.749
Na	23	
Mg	24	
K	39	
Ca	43	
Fe	54	
Fe	57	
> Sc-1	45	
Cl	35	
Kr	83	
Br	81	
P	31	
S	34	
Sr	88	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

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Method 6020 - Summary Report

Sample ID: L1207042502SD WG403458-05
Sample Date/Time: Friday, July 20, 2012 11:36:02
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	7	66450.4	0.9	**73502.1116**	1104.346	1.5	ug/L	9660	Standard
	Be	9	51387.0	1.0	**23.7752**	0.501	2.1	ug/L	7	Standard
	Al	27	867770.6	0.7	**49.1078**	0.680	1.4	ug/L	6610	Standard
>	**Sc**	45	431108.5	1.9				ug/L	350981	Standard
	Ti	47	2846.3	0.0	**2.1953**	0.008	0.4	ug/L	63	Standard
	V	51	293152.7	1.0	**27.3006**	0.189	0.7	ug/L	2655	Standard
	Cr	52	240545.9	1.0	**26.7957**	0.336	1.3	ug/L	8417	Standard
	Cr	53	40803.2	3.4	**27.7883**	0.923	3.3	ug/L	146	Standard
	Mn	55	434411.6	0.5	**28.1505**	0.169	0.6	ug/L	1081	Standard
	Co	59	277254.2	0.9	**26.6869**	0.198	0.7	ug/L	84	Standard
	Ni	60	66804.0	1.3	**25.9289**	0.293	1.1	ug/L	55	Standard
	Cu	65	60400.8	0.2	**25.5392**	0.098	0.4	ug/L	78	Standard
	Zn	66	30312.3	0.3	**28.2371**	0.199	0.7	ug/L	99	Standard
>	**Ge**	72	293774.0	0.4				ug/L	289581	Standard
	As	75	31487.7	0.1	**29.0373**	0.134	0.5	ug/L	-189	Standard
	Se	82	4162.8	1.7	**38.1894**	0.695	1.8	ug/L	18	Standard
	Se-1	77	2128.8	2.5	**26.6587**	0.640	2.4	ug/L	97	Standard
>	**Ga**	71	653.3	7.7				mg/L	628	Standard
	Rb	85	14034.8	3.1				ug/L	10	Standard
	Y	89	284558.5	2.7				ug/L	254546	Standard
>	**Rh**	103	553.3	18.3				ug/L	400	Standard
	Mo	98	5578.6	1.0	**1.3443**	0.024	1.8	ug/L	8	Standard
	Ag	107	141317.5	96.9	**16.5486**	15.923	96.2	ug/L	76	Standard
	Cd	111	122088.7	1.4	**26.9569**	0.363	1.3	mg/L	63	Standard
	Cd	114	318667.6	0.8	**25.4390**	0.019	0.1	ug/L	201	Standard
>	**In**	115	897173.3	0.8				ug/L	847070	Standard
	Sn	118	2593.9	3.5	**0.0696**	0.003	5.0	ug/L	553	Standard
	Sb	123	296101.3	0.9	**25.6951**	0.256	1.0	ug/L	25	Standard
	Ba	135	323999.1	1.5	**63.8948**	0.543	0.8	ug/L	25	Standard
	Ce	140	6648.8	2.0				ug/L	21	Standard
>	**Tb**	159	1231401.9	1.1				ug/L	1162405	Standard
	Ho	165	107.0	3.4				ug/L	12	Standard
	Tl	203	456183.7	0.5	**25.7164**	0.141	0.5	ug/L	4	Standard
	Tl	205	1053062.3	0.9	**25.6290**	0.260	1.0	ug/L	4	Standard
	Pb	206	350615.8	0.6	**25.5741**	0.174	0.7	ug/L	380	Standard
	Pb	207	296027.7	0.7	**25.8837**	0.176	0.7	ug/L	306	Standard
	Pb	208	1374732.8	0.4	**25.6790**	0.123	0.5	ug/L	1471	Standard
	U	238	496563.5	2.1	**28.4954**	0.602	2.1	ug/L	0	Standard
>	**Bi**	209	576776.5	0.2				ug/L	592579	Standard

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Na	23	155113.3	0.9	**7.1157**	0.084	1.2	mg/L	327	Standard
Mg	24	3337497.7	1.2	**4.2422**	0.028	0.7	mg/L	50	Standard
K	39	1616.8	4.9	**1.0421**	0.033	3.2	mg/L	125	Standard
Ca	43	55.0	24.1	**23.9024**	6.180	25.9	mg/L	0	Standard
Fe	54	972.4	4.5	**0.0546**	0.010	18.0	mg/L	579	Standard
Fe	57	22146.2	4.8	**0.1661**	0.007	4.0	mg/L	2535	Standard
Sc-1	45	431108.5	1.9				mg/L	350981	Standard
Cl	35	58.7	8.6				ug/L	6	Standard
Kr	83	49.4	13.8				ug/L	39	Standard
Br	81	96649.9	2.1				ug/L	918	Standard
P	31	484.2	6.0				ug/L	338	Standard
S	34	29803.5	1.0				ug/L	6425	Standard
Sr	88	775.0	7.4				ug/L	28	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	7			
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		101.448	
As	75			
Se	82			
Se-1	77			
Ga	71			
Rb	85			
Y	89			
Rh	103			
Mo	98			
Ag	107			

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	Cd	111	
	Cd	114	
>	In	115	105.915
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	97.333
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

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Method 6020 - Summary Report

Sample ID: L1207042501
Sample Date/Time: Friday, July 20, 2012 11:39:12
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	7	74770.8	2.0	**86366.2203**	2485.950	2.9	ug/L	9660	Standard
	Be	9	18.3	31.5	**0.0037**	0.003	67.8	ug/L	7	Standard
	Al	27	409816.8	0.4	**23.3689**	0.564	2.4	ug/L	6610	Standard
>	**Sc**	45	423529.6	2.2				ug/L	350981	Standard
	Ti	47	2334.8	8.3	**1.8234**	0.133	7.3	ug/L	63	Standard
	V	51	13350.0	2.1	**1.0264**	0.018	1.8	ug/L	2655	Standard
	Cr	52	14998.1	1.4	**0.7769**	0.014	1.8	ug/L	8417	Standard
	Cr	53	2744.4	3.8	**1.7990**	0.044	2.4	ug/L	146	Standard
	Mn	55	14214.0	2.2	**0.8655**	0.007	0.8	ug/L	1081	Standard
	Co	59	1096.0	0.5	**0.0961**	0.002	2.3	ug/L	84	Standard
	Ni	60	4038.2	1.8	**1.5752**	0.049	3.1	ug/L	55	Standard
	Cu	65	826.4	7.0	**0.3229**	0.019	6.0	ug/L	78	Standard
	Zn	66	3578.4	4.0	**3.2952**	0.084	2.6	ug/L	99	Standard
>	**Ge**	72	288590.9	1.6				ug/L	289581	Standard
	As	75	1925.8	1.9	**1.9640**	0.052	2.7	ug/L	-189	Standard
	Se	82	1009.5	3.0	**9.3112**	0.375	4.0	ug/L	18	Standard
	Se-1	77	161.0	14.9	**0.9178**	0.284	31.0	ug/L	97	Standard
>	**Ga**	71	613.3	6.0				mg/L	628	Standard
	Rb	85	8620.8	4.2				ug/L	10	Standard
	Y	89	279924.1	1.3				ug/L	254546	Standard
>	**Rh**	103	560.0	5.0				ug/L	400	Standard
	Mo	98	1629.9	2.3	**0.3926**	0.008	2.0	ug/L	8	Standard
	Ag	107	220.0	5.1	**0.0178**	0.001	7.0	ug/L	76	Standard
	Cd	111	113.8	11.1	**0.0063**	0.003	43.1	mg/L	63	Standard
	Cd	114	343.7	8.7	**0.0108**	0.002	20.9	ug/L	201	Standard
>	**In**	115	893946.2	0.7				ug/L	847070	Standard
	Sn	118	1277.1	2.6	**0.0117**	0.001	10.2	ug/L	553	Standard
	Sb	123	393.7	8.2	**0.0326**	0.003	8.7	ug/L	25	Standard
	Ba	135	94315.0	0.6	**18.6598**	0.069	0.4	ug/L	25	Standard
	Ce	140	4733.7	0.5				ug/L	21	Standard
>	**Tb**	159	1203213.3	1.3				ug/L	1162405	Standard
	Ho	165	72.3	5.6				ug/L	12	Standard
	Tl	203	593.3	1.1	**0.0322**	0.000	1.2	ug/L	4	Standard
	Tl	205	1370.1	0.5	**0.0340**	0.000	0.7	ug/L	4	Standard
	Pb	206	1034.7	3.9	**0.0493**	0.003	5.9	ug/L	380	Standard
	Pb	207	809.0	3.8	**0.0397**	0.003	6.7	ug/L	306	Standard
	Pb	208	3857.9	0.9	**0.0443**	0.001	1.2	ug/L	1471	Standard
	U	238	14545.3	1.5	**0.8387**	0.014	1.7	ug/L	0	Standard
>	**Bi**	209	574673.1	0.3				ug/L	592579	Standard

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Na	23	157437.1	0.6	**7.3540**	0.175	2.4	mg/L	327	Standard
Mg	24	3921123.1	2.3	**5.0734**	0.096	1.9	mg/L	50	Standard
K	39	1431.7	4.3	**0.9322**	0.065	7.0	mg/L	125	Standard
Ca	43	63.3	12.1	**28.0890**	3.052	10.9	mg/L	0	Standard
Fe	54	817.2	6.2	**0.0302**	0.012	39.5	mg/L	579	Standard
Fe	57	19661.1	3.8	**0.1476**	0.010	6.8	mg/L	2535	Standard
Sc-1	45	423529.6	2.2				mg/L	350981	Standard
Cl	35	60.3	9.7				ug/L	6	Standard
Kr	83	49.7	7.9				ug/L	39	Standard
Br	81	89446.6	1.5				ug/L	918	Standard
P	31	463.3	6.8				ug/L	338	Standard
S	34	31386.6	1.7				ug/L	6425	Standard
Sr	88	663.3	9.0				ug/L	28	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	7			
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		99.658	
As	75			
Se	82			
Se-1	77			
Ga	71			
Rb	85			
Y	89			
Rh	103			
Mo	98			
Ag	107			

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	Cd	111	
	Cd	114	
>	In	115	105.534
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	96.978
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Approved: July 23, 2012

Method 6020 - Summary Report

Sample ID: L1207042501PS WG403929-01
Sample Date/Time: Friday, July 20, 2012 11:42:22
Number of Replicates: 3
Autosampler Position: 309
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
	Li	7	82906.3	1.9	**89595.6519**	5041.295	5.6	ug/L	9660	Standard
	Be	9	97675.7	3.4	**42.8266**	2.785	6.5	ug/L	7	Standard
	Al	27	1096676.6	2.4	**58.8816**	2.936	5.0	ug/L	6610	Standard
>	**Sc**	45	455449.7	3.1				ug/L	350981	Standard
	Ti	47	2542.2	12.8	**1.9108**	0.234	12.2	ug/L	63	Standard
	V	51	525819.6	1.7	**48.1384**	2.311	4.8	ug/L	2655	Standard
	Cr	52	426832.2	2.2	**47.2879**	2.549	5.4	ug/L	8417	Standard
	Cr	53	74335.4	3.6	**49.6768**	3.324	6.7	ug/L	146	Standard
	Mn	55	809508.9	0.9	**51.4162**	2.011	3.9	ug/L	1081	Standard
	Co	59	521545.5	1.4	**49.1624**	2.202	4.5	ug/L	84	Standard
	Ni	60	124363.4	1.6	**47.2826**	2.236	4.7	ug/L	55	Standard
	Cu	65	110779.3	2.4	**45.8975**	2.518	5.5	ug/L	78	Standard
	Zn	66	53526.4	1.3	**48.8940**	1.964	4.0	ug/L	99	Standard
>	**Ge**	72	300314.8	3.1				ug/L	289581	Standard
	As	75	54982.5	2.5	**49.5376**	2.771	5.6	ug/L	-189	Standard
	Se	82	6650.9	1.9	**59.8353**	3.032	5.1	ug/L	18	Standard
	Se-1	77	3664.8	1.8	**45.7759**	2.151	4.7	ug/L	97	Standard
>	**Ga**	71	750.0	1.8				mg/L	628	Standard
	Rb	85	9416.3	3.2				ug/L	10	Standard
	Y	89	302877.1	2.7				ug/L	254546	Standard
>	**Rh**	103	628.3	11.2				ug/L	400	Standard
	Mo	98	1918.8	2.6	**0.4335**	0.008	1.9	ug/L	8	Standard
	Ag	107	492438.5	1.2	**54.5450**	1.100	2.0	ug/L	76	Standard
	Cd	111	226268.1	1.6	**47.0277**	1.220	2.6	mg/L	63	Standard
	Cd	114	585924.1	2.1	**44.0292**	1.302	3.0	ug/L	201	Standard
>	**In**	115	953541.9	1.1				ug/L	847070	Standard
	Sn	118	1794.1	2.5	**0.0297**	0.002	8.4	ug/L	553	Standard
	Sb	123	557805.8	1.4	**45.5503**	1.002	2.2	ug/L	25	Standard
	Ba	135	333318.3	0.9	**61.8566**	1.180	1.9	ug/L	25	Standard
	Ce	140	5251.6	1.3				ug/L	21	Standard
>	**Tb**	159	1266076.1	0.3				ug/L	1162405	Standard
	Ho	165	77.0	6.0				ug/L	12	Standard
	Tl	203	845628.5	2.0	**46.5301**	1.255	2.7	ug/L	4	Standard
	Tl	205	1932401.4	1.5	**45.9024**	1.048	2.3	ug/L	4	Standard
	Pb	206	647748.4	1.6	**46.1358**	1.037	2.2	ug/L	380	Standard
	Pb	207	548649.9	2.3	**46.8495**	1.401	3.0	ug/L	306	Standard
	Pb	208	2538208.5	1.8	**46.2990**	1.189	2.6	ug/L	1471	Standard
	U	238	946225.0	1.3	**52.9971**	1.094	2.1	ug/L	0	Standard
>	**Bi**	209	591002.6	0.8				ug/L	592579	Standard

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Na	23	160300.2	0.7	**6.9639**	0.250	3.6	mg/L	327	Standard
Mg	24	4328442.7	1.3	**5.2110**	0.190	3.6	mg/L	50	Standard
K	39	1393.4	3.7	**0.8358**	0.060	7.2	mg/L	125	Standard
Ca	43	45.0	33.3	**18.2439**	6.087	33.4	mg/L	0	Standard
Fe	54	1170.3	2.7	**0.0782**	0.008	9.7	mg/L	579	Standard
Fe	57	22107.8	4.9	**0.1558**	0.015	9.4	mg/L	2535	Standard
Sc-1	45	455449.7	3.1				mg/L	350981	Standard
Cl	35	76.7	7.2				ug/L	6	Standard
Kr	83	55.6	7.5				ug/L	39	Standard
Br	81	98108.4	1.9				ug/L	918	Standard
P	31	595.8	2.6				ug/L	338	Standard
S	34	32363.7	0.7				ug/L	6425	Standard
Sr	88	725.0	9.5				ug/L	28	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	7			
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		103.707	
As	75			
Se	82			
Se-1	77			
Ga	71			
Rb	85			
Y	89			
Rh	103			
Mo	98			
Ag	107			

Sample ID: L1207042501PS WG403929-01
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	Cd	111	
	Cd	114	
>	In	115	112.569
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	99.734
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: L1207042501PS WG403929-01
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Method 6020 - Summary Report

Sample ID: L1207042501SDL WG403929-02
Sample Date/Time: Friday, July 20, 2012 11:45:31
Number of Replicates: 3
Autosampler Position: 310
Sample Description: 5
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
	Li	7	22845.6	4.4	**19585.2724**	1661.041	8.5	ug/L	9660	Standard
	Be	9	30.0	16.7	**0.0108**	0.003	23.7	ug/L	7	Standard
	Al	27	125992.0	3.2	**7.7069**	0.259	3.4	ug/L	6610	Standard
>	**Sc**	45	379586.0	0.4				ug/L	350981	Standard
	Ti	47	531.3	5.4	**0.3753**	0.027	7.3	ug/L	63	Standard
	V	51	4840.8	0.4	**0.2138**	0.006	2.9	ug/L	2655	Standard
	Cr	52	9804.8	1.2	**0.1698**	0.014	8.3	ug/L	8417	Standard
	Cr	53	925.9	8.4	**0.5355**	0.051	9.5	ug/L	146	Standard
	Mn	55	25900.1	1.3	**1.6436**	0.009	0.5	ug/L	1081	Standard
	Co	59	350.0	6.5	**0.0230**	0.002	7.9	ug/L	84	Standard
	Ni	60	1269.1	4.7	**0.4811**	0.018	3.7	ug/L	55	Standard
	Cu	65	477.3	0.9	**0.1734**	0.004	2.1	ug/L	78	Standard
	Zn	66	47938.7	1.1	**45.6653**	0.425	0.9	ug/L	99	Standard
>	**Ge**	72	287718.7	1.2				ug/L	289581	Standard
	As	75	246.4	10.5	**0.3968**	0.025	6.3	ug/L	-189	Standard
	Se	82	220.9	2.4	**1.9209**	0.071	3.7	ug/L	18	Standard
	Se-1	77	112.7	15.1	**0.2805**	0.225	80.3	ug/L	97	Standard
>	**Ga**	71	581.7	11.5				mg/L	628	Standard
	Rb	85	1770.1	3.5				ug/L	10	Standard
	Y	89	275107.0	1.3				ug/L	254546	Standard
>	**Rh**	103	450.0	9.7				ug/L	400	Standard
	Mo	98	398.7	7.5	**0.0933**	0.006	6.7	ug/L	8	Standard
	Ag	107	225.3	3.7	**0.0182**	0.001	6.3	ug/L	76	Standard
	Cd	111	98.4	7.0	**0.0027**	0.002	60.0	mg/L	63	Standard
	Cd	114	263.1	3.9	**0.0041**	0.001	22.6	ug/L	201	Standard
>	**In**	115	903686.6	0.9				ug/L	847070	Standard
	Sn	118	1349.7	0.6	**0.0143**	0.001	4.2	ug/L	553	Standard
	Sb	123	1159.7	26.0	**0.0982**	0.026	26.7	ug/L	25	Standard
	Ba	135	19871.4	1.9	**3.8806**	0.073	1.9	ug/L	25	Standard
	Ce	140	1581.1	4.5				ug/L	21	Standard
>	**Tb**	159	1195572.4	1.3				ug/L	1162405	Standard
	Ho	165	41.3	22.0				ug/L	12	Standard
	Tl	203	369.3	5.6	**0.0187**	0.001	6.5	ug/L	4	Standard
	Tl	205	829.0	1.6	**0.0201**	0.000	1.8	ug/L	4	Standard
	Pb	206	1391.7	1.7	**0.0716**	0.001	2.0	ug/L	380	Standard
	Pb	207	1147.0	2.6	**0.0655**	0.002	3.3	ug/L	306	Standard
	Pb	208	5428.4	1.9	**0.0699**	0.001	2.1	ug/L	1471	Standard
	U	238	2963.0	1.9	**0.1652**	0.003	1.8	ug/L	0	Standard
>	**Bi**	209	597277.1	0.5				ug/L	592579	Standard

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	Na	23	103324.6	2.5	**5.3743**	0.132	2.5	mg/L	327	Standard
	Mg	24	643669.6	1.4	**0.9290**	0.010	1.1	mg/L	50	Standard
	K	39	396.7	8.9	**0.2283**	0.028	12.2	mg/L	125	Standard
	Ca	43	11.7	65.5	**5.0759**	3.872	76.3	mg/L	0	Standard
	Fe	54	643.7	9.1	**0.0124**	0.011	90.0	mg/L	579	Standard
	Fe	57	6828.2	1.1	**0.0402**	0.001	2.3	mg/L	2535	Standard
>	**Sc-1**	45	379586.0	0.4				mg/L	350981	Standard
	Cl	35	15.3	22.9				ug/L	6	Standard
	Kr	83	46.4	5.1				ug/L	39	Standard
	Br	81	17605.2	2.3				ug/L	918	Standard
	P	31	421.7	7.5				ug/L	338	Standard
	S	34	11190.8	1.6				ug/L	6425	Standard
	Sr	88	141.7	10.2				ug/L	28	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
	Li	7			
	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		99.357	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			
	Y	89			
>	Rh	103			
	Mo	98			
	Ag	107			

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	Cd	111	
	Cd	114	
>	In	115	106.684
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	100.793
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: L1207042501SDL WG403929-02
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Method 6020 - Summary Report

Sample ID: QC Std 6
Sample Date/Time: Friday, July 20, 2012 11:48:43
Number of Replicates: 3
Autosampler Position: 101
Sample Description:
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
	Li	7	10410.2	3.2	**1244.8702**	597.535	48.0	ug/L	9660	Standard
	Be	9	98007.8	2.6	**53.0067**	1.854	3.5	ug/L	7	Standard
	Al	27	684246.0	2.7	**45.2378**	2.081	4.6	ug/L	6610	Standard
>	**Sc**	45	368870.6	1.9				ug/L	350981	Standard
	Ti	47	122555.1	1.5	**99.5346**	0.961	1.0	ug/L	63	Standard
	V	51	508349.2	0.2	**48.8902**	0.397	0.8	ug/L	2655	Standard
	Cr	52	422479.9	1.1	**49.1996**	0.523	1.1	ug/L	8417	Standard
	Cr	53	70720.6	2.3	**49.6217**	0.874	1.8	ug/L	146	Standard
	Mn	55	793090.1	1.4	**52.9218**	0.255	0.5	ug/L	1081	Standard
	Co	59	528701.2	0.2	**52.3541**	0.393	0.7	ug/L	84	Standard
	Ni	60	122352.7	0.6	**48.8673**	0.705	1.4	ug/L	55	Standard
	Cu	65	113171.1	0.5	**49.2479**	0.292	0.6	ug/L	78	Standard
	Zn	66	51597.7	1.0	**49.5230**	0.938	1.9	ug/L	99	Standard
>	**Ge**	72	285632.0	0.9				ug/L	289581	Standard
	As	75	53435.2	0.1	**50.5602**	0.503	1.0	ug/L	-189	Standard
	Se	82	5710.6	0.1	**53.9486**	0.442	0.8	ug/L	18	Standard
	Se-1	77	3908.8	0.9	**51.4360**	0.064	0.1	ug/L	97	Standard
>	**Ga**	71	560.0	10.3				mg/L	628	Standard
	Rb	85	908.4	7.2				ug/L	10	Standard
	Y	89	271043.0	1.1				ug/L	254546	Standard
>	**Rh**	103	458.3	14.8				ug/L	400	Standard
	Mo	98	411470.4	0.6	**100.0332**	0.871	0.9	ug/L	8	Standard
	Ag	107	477391.5	1.2	**56.6085**	0.870	1.5	ug/L	76	Standard
	Cd	111	233564.8	1.9	**51.9690**	1.203	2.3	mg/L	63	Standard
	Cd	114	616925.4	0.1	**49.6268**	0.247	0.5	ug/L	201	Standard
>	**In**	115	890636.9	0.4				ug/L	847070	Standard
	Sn	118	1485589.9	1.1	**65.9765**	0.988	1.5	ug/L	553	Standard
	Sb	123	571689.1	0.5	**49.9755**	0.441	0.9	ug/L	25	Standard
	Ba	135	238277.4	0.9	**47.3352**	0.639	1.4	ug/L	25	Standard
	Ce	140	941.4	2.2				ug/L	21	Standard
>	**Tb**	159	1197606.3	0.2				ug/L	1162405	Standard
	Ho	165	21.3	7.2				ug/L	12	Standard
	Tl	203	886483.4	0.7	**49.1879**	0.290	0.6	ug/L	4	Standard
	Tl	205	2161597.7	0.4	**51.7799**	0.379	0.7	ug/L	4	Standard
	Pb	206	691404.1	1.0	**49.6620**	0.455	0.9	ug/L	380	Standard
	Pb	207	580906.7	0.6	**50.0219**	0.162	0.3	ug/L	306	Standard
	Pb	208	2704093.6	1.0	**49.7413**	0.491	1.0	ug/L	1471	Standard
	U	238	940574.0	0.7	**53.1246**	0.327	0.6	ug/L	0	Standard
>	**Bi**	209	586003.0	0.4				ug/L	592579	Standard

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Na	23	123560.1	1.1	**6.6239**	0.201	3.0	mg/L	327	Standard
Mg	24	3247780.5	0.7	**4.8253**	0.076	1.6	mg/L	50	Standard
K	39	5447.6	1.9	**4.3592**	0.059	1.4	mg/L	125	Standard
Ca	43	3.3	86.6	**0.8876**	1.526	171.9	mg/L	0	Standard
Fe	54	23172.7	2.0	**4.6124**	0.165	3.6	mg/L	579	Standard
Fe	57	508977.1	1.4	**5.1831**	0.130	2.5	mg/L	2535	Standard
Sc-1	45	368870.6	1.9				mg/L	350981	Standard
Cl	35	5.3	21.7				ug/L	6	Standard
Kr	83	45.2	5.6				ug/L	39	Standard
Br	81	1527.6	3.6				ug/L	918	Standard
P	31	416.7	4.3				ug/L	338	Standard
S	34	6113.7	2.4				ug/L	6425	Standard
Sr	88	35.0	28.6				ug/L	28	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	7			
Be	9			
Al	27	90.476		
Sc	45			
Ti	47	99.535		
V	51	97.780		
Cr	52	98.399		
Cr	53			
Mn	55	105.844		
Co	59	104.708		
Ni	60	97.735		
Cu	65	98.496		
Zn	66	99.046		
Ge	72		98.636	
As	75	101.120		
Se	82	107.897		
Se-1	77			
Ga	71			
Rb	85			
Y	89			
Rh	103			
Mo	98	100.033		
Ag	107	113.217		

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Cd	111	103.938	
Cd	114		
> In	115		105.143
Sn	118	131.953	
Sb	123	99.951	
Ba	135	94.670	
Ce	140		
> Tb	159		
Ho	165		
Tl	203	98.376	
Tl	205		
Pb	206	99.324	
Pb	207	100.044	
Pb	208	99.483	
U	238	106.249	
> Bi	209		98.890
Na	23		
Mg	24		
K	39		
Ca	43		
Fe	54		
Fe	57		
> Sc-1	45		
Cl	35		
Kr	83		
Br	81		
P	31		
S	34		
Sr	88		

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 6	Ag	107	
QC Std 6	Sn	118	

Sample ID: QC Std 6
Report Date/Time: Friday, July 20, 2012 11:51:14
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Approved: July 23, 2012

Method 6020 - Summary Report

Sample ID: QC Std 7
Sample Date/Time: Friday, July 20, 2012 11:51:53
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	7	9814.8	2.8	**553.5374**	199.690	36.1	ug/L	9660	Standard
	Be	9	51.7	77.6	**0.0232**	0.022	93.1	ug/L	7	Standard
	Al	27	6336.3	7.1	**-0.0366**	0.035	94.3	ug/L	6610	Standard
>	**Sc**	45	363144.3	1.6				ug/L	350981	Standard
	Ti	47	84.3	35.8	**0.0162**	0.024	148.9	ug/L	63	Standard
	V	51	2509.3	0.8	**-0.0032**	0.002	60.2	ug/L	2655	Standard
	Cr	52	7781.3	0.6	**-0.0429**	0.008	19.6	ug/L	8417	Standard
	Cr	53	280.0	17.8	**0.0900**	0.034	37.3	ug/L	146	Standard
	Mn	55	1182.4	2.1	**0.0061**	0.001	14.8	ug/L	1081	Standard
	Co	59	123.3	5.9	**0.0011**	0.001	58.8	ug/L	84	Standard
	Ni	60	75.3	47.1	**0.0085**	0.014	165.2	ug/L	55	Standard
	Cu	65	106.3	38.0	**0.0141**	0.017	123.2	ug/L	78	Standard
	Zn	66	119.7	14.2	**0.0069**	0.016	229.0	ug/L	99	Standard
>	**Ge**	72	279809.9	1.1				ug/L	289581	Standard
	As	75	-194.5	15.8	**-0.0213**	0.030	143.2	ug/L	-189	Standard
	Se	82	16.7	40.1	**0.0039**	0.064	1636.6	ug/L	18	Standard
	Se-1	77	96.3	9.6	**0.0986**	0.123	125.2	ug/L	97	Standard
>	**Ga**	71	673.3	3.8				mg/L	628	Standard
	Rb	85	26.7	28.6				ug/L	10	Standard
	Y	89	264142.8	1.1				ug/L	254546	Standard
>	**Rh**	103	440.0	12.3				ug/L	400	Standard
	Mo	98	95.4	35.1	**0.0211**	0.008	39.3	ug/L	8	Standard
	Ag	107	203.0	17.1	**0.0160**	0.004	27.2	ug/L	76	Standard
	Cd	111	92.1	18.4	**0.0017**	0.004	230.9	mg/L	63	Standard
	Cd	114	264.8	13.2	**0.0046**	0.003	65.1	ug/L	201	Standard
>	**In**	115	886497.5	1.2				ug/L	847070	Standard
	Sn	118	1064.0	9.2	**0.0027**	0.005	168.4	ug/L	553	Standard
	Sb	123	1250.4	29.9	**0.1079**	0.032	29.4	ug/L	25	Standard
	Ba	135	53.3	10.3	**-0.0001**	0.001	1055.7	ug/L	25	Standard
	Ce	140	27.7	17.1				ug/L	21	Standard
>	**Tb**	159	1169123.4	0.5				ug/L	1162405	Standard
	Ho	165	12.0	36.3				ug/L	12	Standard
	Tl	203	94.3	38.1	**0.0038**	0.002	51.6	ug/L	4	Standard
	Tl	205	221.0	28.9	**0.0058**	0.001	25.6	ug/L	4	Standard
	Pb	206	437.7	2.3	**0.0045**	0.001	14.1	ug/L	380	Standard
	Pb	207	372.0	5.4	**0.0002**	0.002	721.2	ug/L	306	Standard
	Pb	208	1730.4	4.4	**0.0033**	0.001	37.6	ug/L	1471	Standard
	U	238	89.0	36.6	**0.0060**	0.002	30.2	ug/L	0	Standard
>	**Bi**	209	593618.3	0.8				ug/L	592579	Standard

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Sheri L. Babcock

Na	23	560.0	7.3	**-0.0030**	0.002	58.6	mg/L	327	Standard
Mg	24	530.0	76.6	**0.0007**	0.001	88.0	mg/L	50	Standard
K	39	105.0	16.5	**0.0007**	0.013	1807.4	mg/L	125	Standard
Ca	43	5.0	0.0	**1.7965**	0.042	2.4	mg/L	0	Standard
Fe	54	539.5	18.0	**-0.0036**	0.019	527.6	mg/L	579	Standard
Fe	57	2992.0	5.3	**0.0034**	0.002	63.6	mg/L	2535	Standard
Sc-1	45	363144.3	1.6				mg/L	350981	Standard
Cl	35	2.0	86.6				ug/L	6	Standard
Kr	83	42.9	0.9				ug/L	39	Standard
Br	81	1352.6	0.8				ug/L	918	Standard
P	31	375.8	11.8				ug/L	338	Standard
S	34	5901.1	1.3				ug/L	6425	Standard
Sr	88	41.7	38.6				ug/L	28	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	7			
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		96.626	
As	75			
Se	82			
Se-1	77			
Ga	71			
Rb	85			
Y	89			
Rh	103			
Mo	98			
Ag	107			

Sample ID: QC Std 7
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	Cd	111	
	Cd	114	
>	In	115	104.655
	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	100.175
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: QC Std 7
Report Date/Time: Friday, July 20, 2012 11:54:24
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Method 6020 - Summary Report

Sample ID: L1207040101
Sample Date/Time: Friday, July 20, 2012 11:55:06
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	7	58455.9	3.0	**75358.5484**	1907.895	2.5	ug/L	9660	Standard
	Be	9	53.3	19.5	**0.0237**	0.006	23.7	ug/L	7	Standard
	Al	27	154911.4	1.8	**9.8074**	0.270	2.8	ug/L	6610	Standard
>	**Sc**	45	371349.3	1.0				ug/L	350981	Standard
	Ti	47	569.3	11.0	**0.4342**	0.055	12.6	ug/L	63	Standard
	V	51	3825.4	3.1	**0.1389**	0.011	8.2	ug/L	2655	Standard
	Cr	52	10486.0	1.3	**0.3264**	0.015	4.6	ug/L	8417	Standard
	Cr	53	4174.7	3.8	**2.9839**	0.123	4.1	ug/L	146	Standard
	Mn	55	44142.9	0.6	**3.0346**	0.026	0.8	ug/L	1081	Standard
	Co	59	463.7	2.9	**0.0370**	0.001	3.6	ug/L	84	Standard
	Ni	60	449.0	4.0	**0.1670**	0.008	4.9	ug/L	55	Standard
	Cu	65	1311.1	0.8	**0.5687**	0.005	0.8	ug/L	78	Standard
	Zn	66	3278.4	2.0	**3.2130**	0.063	2.0	ug/L	99	Standard
>	**Ge**	72	270992.6	0.3				ug/L	289581	Standard
	As	75	340.6	6.8	**0.5046**	0.022	4.4	ug/L	-189	Standard
	Se	82	183.8	1.2	**1.6778**	0.018	1.1	ug/L	18	Standard
	Se-1	77	201.3	12.6	**1.6323**	0.354	21.7	ug/L	97	Standard
>	**Ga**	71	626.7	14.3				mg/L	628	Standard
	Rb	85	3017.0	5.6				ug/L	10	Standard
	Y	89	260503.7	0.3				ug/L	254546	Standard
>	**Rh**	103	466.7	11.5				ug/L	400	Standard
	Mo	98	26571.0	0.3	**6.7689**	0.023	0.3	ug/L	8	Standard
	Ag	107	106.7	8.0	**0.0051**	0.001	21.8	ug/L	76	Standard
	Cd	111	173.9	8.0	**0.0217**	0.003	16.1	mg/L	63	Standard
	Cd	114	589.9	4.5	**0.0330**	0.003	7.7	ug/L	201	Standard
>	**In**	115	849702.9	0.7				ug/L	847070	Standard
	Sn	118	960.4	0.7	**-0.0001**	0.000	25.1	ug/L	553	Standard
	Sb	123	521.5	7.6	**0.0461**	0.004	8.5	ug/L	25	Standard
	Ba	135	104791.5	1.4	**21.8132**	0.184	0.8	ug/L	25	Standard
	Ce	140	584.3	4.5				ug/L	21	Standard
>	**Tb**	159	1154178.8	1.0				ug/L	1162405	Standard
	Ho	165	53.0	14.7				ug/L	12	Standard
	Tl	203	789.4	0.8	**0.0460**	0.000	0.8	ug/L	4	Standard
	Tl	205	1760.4	0.9	**0.0462**	0.000	0.9	ug/L	4	Standard
	Pb	206	977.0	3.2	**0.0495**	0.002	4.9	ug/L	380	Standard
	Pb	207	813.4	5.5	**0.0445**	0.004	9.2	ug/L	306	Standard
	Pb	208	3875.9	3.4	**0.0492**	0.003	5.3	ug/L	1471	Standard
	U	238	516.7	4.4	**0.0326**	0.001	4.2	ug/L	0	Standard
>	**Bi**	209	541156.2	0.1				ug/L	592579	Standard

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Na	23	298651.6	1.2	**15.9442**	0.039	0.2	mg/L	327	Standard
Mg	24	89260.5	1.1	**0.1316**	0.002	1.4	mg/L	50	Standard
K	39	326.7	11.9	**0.1787**	0.033	18.4	mg/L	125	Standard
Ca	43	1.7	173.2	**-0.0129**	1.490	11508.7	mg/L	0	Standard
Fe	54	578.6	12.4	**0.0021**	0.016	733.0	mg/L	579	Standard
Fe	57	3902.2	1.7	**0.0119**	0.001	8.9	mg/L	2535	Standard
Sc-1	45	371349.3	1.0				mg/L	350981	Standard
Cl	35	114.3	7.4				ug/L	6	Standard
Kr	83	43.9	1.6				ug/L	39	Standard
Br	81	14852.3	4.2				ug/L	918	Standard
P	31	530.8	4.6				ug/L	338	Standard
S	34	5870.3	2.4				ug/L	6425	Standard
Sr	88	133.3	2.2				ug/L	28	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	7			
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		93.581	
As	75			
Se	82			
Se-1	77			
Ga	71			
Rb	85			
Y	89			
Rh	103			
Mo	98			
Ag	107			

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	Cd	111	
	Cd	114	
>	In	115	100.311
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	91.322
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

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Method 6020 - Summary Report

Sample ID: L1207040103
Sample Date/Time: Friday, July 20, 2012 11:58:15
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	7	63698.7	2.9	**78373.9690**	1532.922	2.0	ug/L	9660	Standard
	Be	9	53.3	89.1	**0.0220**	0.024	108.6	ug/L	7	Standard
	Al	27	64576.9	42.2	**3.5822**	1.660	46.3	ug/L	6610	Standard
>	**Sc**	45	391614.5	2.1				ug/L	350981	Standard
	Ti	47	655.0	5.6	**0.4897**	0.025	5.1	ug/L	63	Standard
	V	51	3671.2	16.8	**0.1118**	0.064	57.3	ug/L	2655	Standard
	Cr	52	10500.0	3.9	**0.2871**	0.061	21.3	ug/L	8417	Standard
	Cr	53	530.0	14.2	**0.2693**	0.049	18.0	ug/L	146	Standard
	Mn	55	955494.8	0.6	**65.1207**	1.532	2.4	ug/L	1081	Standard
	Co	59	868.4	72.6	**0.0767**	0.065	84.3	ug/L	84	Standard
	Ni	60	1909.1	2.3	**0.7565**	0.008	1.1	ug/L	55	Standard
	Cu	65	3574.4	1.9	**1.5558**	0.014	0.9	ug/L	78	Standard
	Zn	66	6793.2	1.1	**6.5610**	0.169	2.6	ug/L	99	Standard
>	**Ge**	72	279821.2	1.9				ug/L	289581	Standard
	As	75	284.6	16.6	**0.4395**	0.041	9.3	ug/L	-189	Standard
	Se	82	35.5	11.3	**0.1860**	0.034	18.2	ug/L	18	Standard
	Se-1	77	95.0	6.4	**0.0802**	0.075	93.2	ug/L	97	Standard
>	**Ga**	71	546.7	16.9				mg/L	628	Standard
	Rb	85	15127.5	0.8				ug/L	10	Standard
	Y	89	266816.6	2.8				ug/L	254546	Standard
>	**Rh**	103	701.7	19.6				ug/L	400	Standard
	Mo	98	1283.2	4.4	**0.3181**	0.013	4.1	ug/L	8	Standard
	Ag	107	130.3	37.0	**0.0077**	0.006	75.4	ug/L	76	Standard
	Cd	111	119.9	8.7	**0.0085**	0.002	27.4	mg/L	63	Standard
	Cd	114	336.2	24.4	**0.0110**	0.007	60.7	ug/L	201	Standard
>	**In**	115	867436.6	0.4				ug/L	847070	Standard
	Sn	118	1086.4	5.1	**0.0047**	0.002	49.5	ug/L	553	Standard
	Sb	123	303.4	15.9	**0.0255**	0.004	16.5	ug/L	25	Standard
	Ba	135	514773.2	0.6	**105.0082**	0.753	0.7	ug/L	25	Standard
	Ce	140	293.7	12.6				ug/L	21	Standard
>	**Tb**	159	1185996.2	0.9				ug/L	1162405	Standard
	Ho	165	33.0	9.1				ug/L	12	Standard
	Tl	203	186.7	48.2	**0.0096**	0.005	55.5	ug/L	4	Standard
	Tl	205	432.7	40.5	**0.0116**	0.004	38.8	ug/L	4	Standard
	Pb	206	6586.8	3.6	**0.4752**	0.020	4.1	ug/L	380	Standard
	Pb	207	5493.7	10.2	**0.4704**	0.054	11.4	ug/L	306	Standard
	Pb	208	26111.0	9.3	**0.4813**	0.050	10.3	ug/L	1471	Standard
	U	238	3067.0	23.7	**0.1847**	0.044	23.9	ug/L	0	Standard
>	**Bi**	209	552962.0	0.5				ug/L	592579	Standard

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Sheri L. Babcock

Na	23	156943.7	0.6	**7.9311**	0.193	2.4	mg/L	327	Standard
Mg	24	2923848.3	2.4	**4.0924**	0.140	3.4	mg/L	50	Standard
K	39	765.0	6.8	**0.5023**	0.048	9.5	mg/L	125	Standard
Ca	43	35.0	14.3	**16.4601**	2.484	15.1	mg/L	0	Standard
Fe	54	872.0	14.7	**0.0526**	0.027	51.5	mg/L	579	Standard
Fe	57	15733.2	1.3	**0.1240**	0.003	2.6	mg/L	2535	Standard
Sc-1	45	391614.5	2.1				mg/L	350981	Standard
Cl	35	5.7	10.2				ug/L	6	Standard
Kr	83	47.4	5.7				ug/L	39	Standard
Br	81	2076.0	5.6				ug/L	918	Standard
P	31	426.7	1.5				ug/L	338	Standard
S	34	11324.2	2.5				ug/L	6425	Standard
Sr	88	1398.4	17.4				ug/L	28	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	7			
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			
Y	89			
Rh	103			
Mo	98			
Ag	107			

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Cd	111	
Cd	114	
> In	115	102.404
Sn	118	
Sb	123	
Ba	135	
Ce	140	
> Tb	159	
Ho	165	
Tl	203	
Tl	205	
Pb	206	
Pb	207	
Pb	208	
U	238	
> Bi	209	93.315
Na	23	
Mg	24	
K	39	
Ca	43	
Fe	54	
Fe	57	
> Sc-1	45	
Cl	35	
Kr	83	
Br	81	
P	31	
S	34	
Sr	88	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Ba 135 Upper, S, EEE	Ba	135	

Sample ID: L1207040103
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Method 6020 - Summary Report

Sample ID: L1207040105
Sample Date/Time: Friday, July 20, 2012 12:01:25
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	7	67486.6	0.8	**82693.1373**	617.776	0.7	ug/L	9660	Standard
	Be	9	65.0	48.0	**0.0278**	0.016	56.6	ug/L	7	Standard
	Al	27	529153.9	2.0	**32.3980**	1.042	3.2	ug/L	6610	Standard
>	**Sc**	45	396576.7	1.1				ug/L	350981	Standard
	Ti	47	1431.4	4.9	**1.1160**	0.055	4.9	ug/L	63	Standard
	V	51	4313.9	3.1	**0.1685**	0.014	8.3	ug/L	2655	Standard
	Cr	52	10294.5	0.9	**0.2432**	0.018	7.4	ug/L	8417	Standard
	Cr	53	723.4	9.2	**0.4007**	0.046	11.5	ug/L	146	Standard
	Mn	55	526792.4	0.4	**35.3228**	0.164	0.5	ug/L	1081	Standard
	Co	59	1010.0	13.6	**0.0892**	0.014	15.9	ug/L	84	Standard
	Ni	60	2213.2	2.8	**0.8669**	0.020	2.3	ug/L	55	Standard
	Cu	65	19569.6	1.0	**8.5356**	0.102	1.2	ug/L	78	Standard
	Zn	66	15914.0	0.5	**15.2810**	0.154	1.0	ug/L	99	Standard
>	**Ge**	72	284064.9	0.6				ug/L	289581	Standard
	As	75	1536.3	3.1	**1.6228**	0.042	2.6	ug/L	-189	Standard
	Se	82	45.5	8.1	**0.2757**	0.033	12.0	ug/L	18	Standard
	Se-1	77	101.7	5.0	**0.1511**	0.066	43.9	ug/L	97	Standard
>	**Ga**	71	613.3	7.9				mg/L	628	Standard
	Rb	85	12943.9	3.6				ug/L	10	Standard
	Y	89	278292.6	0.7				ug/L	254546	Standard
>	**Rh**	103	773.4	4.2				ug/L	400	Standard
	Mo	98	1542.3	38.5	**0.3740**	0.141	37.8	ug/L	8	Standard
	Ag	107	569.4	136.8	**0.0592**	0.092	155.1	ug/L	76	Standard
	Cd	111	412.0	89.3	**0.0728**	0.081	111.4	mg/L	63	Standard
	Cd	114	1074.1	83.1	**0.0697**	0.071	102.1	ug/L	201	Standard
>	**In**	115	885786.7	0.9				ug/L	847070	Standard
	Sn	118	1726.1	45.1	**0.0321**	0.034	105.8	ug/L	553	Standard
	Sb	123	705.7	79.3	**0.0600**	0.048	80.7	ug/L	25	Standard
	Ba	135	296889.9	0.6	**59.3066**	0.785	1.3	ug/L	25	Standard
	Ce	140	5338.6	3.2				ug/L	21	Standard
>	**Tb**	159	1209232.7	0.8				ug/L	1162405	Standard
	Ho	165	147.0	10.2				ug/L	12	Standard
	Tl	203	673.0	62.5	**0.0383**	0.025	65.7	ug/L	4	Standard
	Tl	205	1585.4	58.4	**0.0409**	0.024	58.5	ug/L	4	Standard
	Pb	206	7047.0	2.6	**0.5096**	0.019	3.6	ug/L	380	Standard
	Pb	207	5733.1	3.9	**0.4916**	0.025	5.1	ug/L	306	Standard
	Pb	208	26941.3	2.8	**0.4968**	0.020	3.9	ug/L	1471	Standard
	U	238	799.7	22.5	**0.0489**	0.011	22.8	ug/L	0	Standard
>	**Bi**	209	553686.4	0.9				ug/L	592579	Standard

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Na	23	161802.7	0.7	**8.0731**	0.127	1.6	mg/L	327	Standard
Mg	24	1405538.8	0.8	**1.9422**	0.037	1.9	mg/L	50	Standard
K	39	703.3	14.0	**0.4476**	0.074	16.6	mg/L	125	Standard
Ca	43	26.7	39.0	**12.1883**	5.185	42.5	mg/L	0	Standard
Fe	54	3377.4	0.9	**0.5255**	0.003	0.5	mg/L	579	Standard
Fe	57	67193.8	3.5	**0.6121**	0.026	4.3	mg/L	2535	Standard
> **Sc-1**	45	396576.7	1.1				mg/L	350981	Standard
Cl	35	10.3	55.0				ug/L	6	Standard
Kr	83	43.1	5.0				ug/L	39	Standard
Br	81	2435.2	7.8				ug/L	918	Standard
P	31	558.3	3.6				ug/L	338	Standard
S	34	11781.2	1.9				ug/L	6425	Standard
Sr	88	1601.8	15.9				ug/L	28	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	7			
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		98.095	
As	75			
Se	82			
Se-1	77			
> Ga	71			
Rb	85			
Y	89			
> Rh	103			
Mo	98			
Ag	107			

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	Cd	111	
	Cd	114	
>	In	115	104.571
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	93.437
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

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Method 6020 - Summary Report

Sample ID: L1207040107
Sample Date/Time: Friday, July 20, 2012 12:04:35
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	7	15165.9	3.7	**7004.1395**	1121.010	16.0	ug/L	9660	Standard
	Be	9	81.7	58.8	**0.0364**	0.025	67.5	ug/L	7	Standard
	Al	27	111422.0	4.1	**6.4581**	0.418	6.5	ug/L	6610	Standard
>	**Sc**	45	396552.0	2.0				ug/L	350981	Standard
	Ti	47	842.4	28.6	**0.6182**	0.189	30.5	ug/L	63	Standard
	V	51	3340.4	2.9	**0.0664**	0.010	14.9	ug/L	2655	Standard
	Cr	52	9890.2	0.8	**0.1675**	0.008	5.0	ug/L	8417	Standard
	Cr	53	527.5	5.7	**0.2537**	0.023	9.1	ug/L	146	Standard
	Mn	55	65027.3	1.6	**4.1938**	0.081	1.9	ug/L	1081	Standard
	Co	59	549.7	2.4	**0.0421**	0.001	2.5	ug/L	84	Standard
	Ni	60	1655.4	0.5	**0.6276**	0.007	1.1	ug/L	55	Standard
	Cu	65	2237.5	1.2	**0.9239**	0.006	0.7	ug/L	78	Standard
	Zn	66	2909.9	1.2	**2.6388**	0.048	1.8	ug/L	99	Standard
>	**Ge**	72	290800.2	0.6				ug/L	289581	Standard
	As	75	-65.5	36.4	**0.1054**	0.022	20.9	ug/L	-189	Standard
	Se	82	46.7	15.3	**0.2768**	0.066	23.7	ug/L	18	Standard
	Se-1	77	91.3	12.5	**-0.0179**	0.145	807.9	ug/L	97	Standard
>	**Ga**	71	640.0	6.3				mg/L	628	Standard
	Rb	85	4502.3	4.9				ug/L	10	Standard
	Y	89	274167.1	1.6				ug/L	254546	Standard
>	**Rh**	103	546.7	13.2				ug/L	400	Standard
	Mo	98	2560.6	0.4	**0.6128**	0.001	0.2	ug/L	8	Standard
	Ag	107	91.0	17.7	**0.0025**	0.002	77.4	ug/L	76	Standard
	Cd	111	189.5	10.4	**0.0228**	0.005	19.9	mg/L	63	Standard
	Cd	114	509.5	4.7	**0.0237**	0.002	7.8	ug/L	201	Standard
>	**In**	115	901552.4	0.5				ug/L	847070	Standard
	Sn	118	1185.7	2.2	**0.0072**	0.001	16.0	ug/L	553	Standard
	Sb	123	234.5	12.1	**0.0185**	0.003	13.8	ug/L	25	Standard
	Ba	135	76726.1	0.6	**15.0501**	0.148	1.0	ug/L	25	Standard
	Ce	140	861.4	7.0				ug/L	21	Standard
>	**Tb**	159	1203917.9	0.5				ug/L	1162405	Standard
	Ho	165	85.0	7.3				ug/L	12	Standard
	Tl	203	422.0	5.5	**0.0215**	0.001	5.6	ug/L	4	Standard
	Tl	205	996.7	7.6	**0.0239**	0.002	7.6	ug/L	4	Standard
	Pb	206	817.0	0.9	**0.0308**	0.001	1.8	ug/L	380	Standard
	Pb	207	679.7	2.8	**0.0258**	0.002	6.5	ug/L	306	Standard
	Pb	208	3217.1	1.2	**0.0298**	0.001	1.9	ug/L	1471	Standard
	U	238	5869.5	2.9	**0.3249**	0.010	3.2	ug/L	0	Standard
>	**Bi**	209	599805.9	0.3				ug/L	592579	Standard

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Na	23	79362.4	2.9	**3.9448**	0.185	4.7	mg/L	327	Standard
Mg	24	835261.2	1.4	**1.1545**	0.035	3.1	mg/L	50	Standard
K	39	1443.4	4.8	**1.0100**	0.066	6.5	mg/L	125	Standard
Ca	43	28.3	20.4	**12.9935**	2.923	22.5	mg/L	0	Standard
Fe	54	678.7	3.7	**0.0136**	0.006	42.3	mg/L	579	Standard
Fe	57	6916.6	4.7	**0.0381**	0.003	8.9	mg/L	2535	Standard
Sc-1	45	396552.0	2.0				mg/L	350981	Standard
Cl	35	7.7	32.8				ug/L	6	Standard
Kr	83	41.7	2.1				ug/L	39	Standard
Br	81	2280.2	2.5				ug/L	918	Standard
P	31	472.5	7.8				ug/L	338	Standard
S	34	9242.0	0.3				ug/L	6425	Standard
Sr	88	163.3	4.7				ug/L	28	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	7			
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		100.421	
As	75			
Se	82			
Se-1	77			
Ga	71			
Rb	85			
Y	89			
Rh	103			
Mo	98			
Ag	107			

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	Cd	111	
	Cd	114	
>	In	115	106.432
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	101.220
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

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Method 6020 - Summary Report

Sample ID: L1207040109
Sample Date/Time: Friday, July 20, 2012 12:07:45
Number of Replicates: 3
Autosampler Position: 315
Sample Description: 1
Method File: C:\NexION Data\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
	Li	7	20008.2	3.7	**14980.8055**	968.388	6.5	ug/L	9660	Standard
	Be	9	85.0	27.0	**0.0393**	0.012	30.4	ug/L	7	Standard
	Al	27	360553.1	3.6	**22.6793**	0.558	2.5	ug/L	6610	Standard
>	**Sc**	45	383515.2	1.2				ug/L	350981	Standard
	Ti	47	956.0	12.4	**0.7169**	0.085	11.9	ug/L	63	Standard
	V	51	3807.8	2.5	**0.1146**	0.008	7.4	ug/L	2655	Standard
	Cr	52	10187.8	2.2	**0.2148**	0.027	12.4	ug/L	8417	Standard
	Cr	53	787.5	7.2	**0.4387**	0.033	7.5	ug/L	146	Standard
	Mn	55	107300.6	0.7	**7.0435**	0.098	1.4	ug/L	1081	Standard
	Co	59	959.0	2.4	**0.0829**	0.003	4.0	ug/L	84	Standard
	Ni	60	3812.5	2.7	**1.4898**	0.032	2.2	ug/L	55	Standard
	Cu	65	1370.4	4.5	**0.5591**	0.019	3.5	ug/L	78	Standard
	Zn	66	6110.9	3.5	**5.7236**	0.184	3.2	ug/L	99	Standard
>	**Ge**	72	287756.8	1.2				ug/L	289581	Standard
	As	75	-135.6	35.1	**0.0388**	0.046	118.2	ug/L	-189	Standard
	Se	82	36.8	17.1	**0.1879**	0.055	29.2	ug/L	18	Standard
	Se-1	77	107.3	11.7	**0.2084**	0.155	74.3	ug/L	97	Standard
>	**Ga**	71	661.7	4.9				mg/L	628	Standard
	Rb	85	6303.0	3.2				ug/L	10	Standard
	Y	89	274556.1	2.3				ug/L	254546	Standard
>	**Rh**	103	451.7	17.9				ug/L	400	Standard
	Mo	98	45.3	7.7	**0.0088**	0.001	10.8	ug/L	8	Standard
	Ag	107	82.3	21.7	**0.0016**	0.002	140.8	ug/L	76	Standard
	Cd	111	148.9	6.4	**0.0141**	0.002	16.8	mg/L	63	Standard
	Cd	114	392.5	7.5	**0.0147**	0.002	16.9	ug/L	201	Standard
>	**In**	115	894321.1	1.0				ug/L	847070	Standard
	Sn	118	1931.8	2.9	**0.0406**	0.002	4.0	ug/L	553	Standard
	Sb	123	161.4	7.5	**0.0123**	0.001	8.7	ug/L	25	Standard
	Ba	135	122871.9	0.5	**24.3034**	0.129	0.5	ug/L	25	Standard
	Ce	140	4722.4	18.0				ug/L	21	Standard
>	**Tb**	159	1200056.9	0.6				ug/L	1162405	Standard
	Ho	165	210.0	11.3				ug/L	12	Standard
	Tl	203	265.7	1.4	**0.0129**	0.000	0.9	ug/L	4	Standard
	Tl	205	649.3	2.2	**0.0156**	0.000	2.6	ug/L	4	Standard
	Pb	206	955.4	2.7	**0.0398**	0.001	3.7	ug/L	380	Standard
	Pb	207	777.0	3.5	**0.0332**	0.002	6.9	ug/L	306	Standard
	Pb	208	3651.8	1.3	**0.0368**	0.000	1.4	ug/L	1471	Standard
	U	238	166.7	7.3	**0.0101**	0.001	5.9	ug/L	0	Standard
>	**Bi**	209	607016.8	0.8				ug/L	592579	Standard

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Na	23	73759.2	3.3	**3.7885**	0.166	4.4	mg/L	327	Standard
Mg	24	1080731.6	0.5	**1.5441**	0.017	1.1	mg/L	50	Standard
K	39	620.0	15.1	**0.4004**	0.073	18.3	mg/L	125	Standard
Ca	43	16.7	45.8	**7.5571**	3.856	51.0	mg/L	0	Standard
Fe	54	677.0	5.9	**0.0177**	0.009	50.7	mg/L	579	Standard
Fe	57	6818.2	5.9	**0.0394**	0.004	10.6	mg/L	2535	Standard
Sc-1	45	383515.2	1.2				mg/L	350981	Standard
Cl	35	12.0	16.7				ug/L	6	Standard
Kr	83	48.0	11.6				ug/L	39	Standard
Br	81	2654.4	3.6				ug/L	918	Standard
P	31	450.0	15.0				ug/L	338	Standard
S	34	9060.2	1.9				ug/L	6425	Standard
Sr	88	118.3	16.0				ug/L	28	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	7			
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		99.370	
As	75			
Se	82			
Se-1	77			
Ga	71			
Rb	85			
Y	89			
Rh	103			
Mo	98			
Ag	107			

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	Cd	111	
	Cd	114	
>	In	115	105.578
	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	102.436
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

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Method 6020 - Summary Report

Sample ID: L1207040111
Sample Date/Time: Friday, July 20, 2012 12:10:55
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	7	80350.9	2.9	**105297.3284**	4437.130	4.2	ug/L	9660	Standard
	Be	9	25.0	40.0	**0.0081**	0.005	62.9	ug/L	7	Standard
	Al	27	38011.0	3.2	**1.9755**	0.119	6.0	ug/L	6610	Standard
>	**Sc**	45	383521.1	1.9				ug/L	350981	Standard
	Ti	47	1004.7	2.5	**0.7818**	0.024	3.1	ug/L	63	Standard
	V	51	3583.6	1.5	**0.1036**	0.003	3.2	ug/L	2655	Standard
	Cr	52	10918.3	1.7	**0.3403**	0.015	4.3	ug/L	8417	Standard
	Cr	53	674.2	13.2	**0.3740**	0.061	16.2	ug/L	146	Standard
	Mn	55	1065865.7	0.5	**72.7953**	0.839	1.2	ug/L	1081	Standard
	Co	59	365.7	2.0	**0.0256**	0.001	2.0	ug/L	84	Standard
	Ni	60	990.0	5.0	**0.3825**	0.018	4.7	ug/L	55	Standard
	Cu	65	2005.8	3.0	**0.8604**	0.021	2.4	ug/L	78	Standard
	Zn	66	2998.3	0.7	**2.8399**	0.038	1.3	ug/L	99	Standard
>	**Ge**	72	279202.1	0.7				ug/L	289581	Standard
	As	75	4278.9	0.5	**4.2942**	0.021	0.5	ug/L	-189	Standard
	Se	82	67.0	6.5	**0.4926**	0.046	9.4	ug/L	18	Standard
	Se-1	77	112.7	10.1	**0.3264**	0.151	46.3	ug/L	97	Standard
>	**Ga**	71	628.3	4.9				mg/L	628	Standard
	Rb	85	18659.8	3.0				ug/L	10	Standard
	Y	89	271066.0	2.7				ug/L	254546	Standard
>	**Rh**	103	516.7	8.7				ug/L	400	Standard
	Mo	98	4194.9	1.5	**1.0360**	0.026	2.5	ug/L	8	Standard
	Ag	107	61.3	18.2	**-0.0008**	0.001	183.0	ug/L	76	Standard
	Cd	111	76.9	16.2	**-0.0015**	0.003	172.9	mg/L	63	Standard
	Cd	114	239.1	5.6	**0.0028**	0.001	46.2	ug/L	201	Standard
>	**In**	115	875081.9	1.1				ug/L	847070	Standard
	Sn	118	741.0	3.8	**-0.0113**	0.001	11.3	ug/L	553	Standard
	Sb	123	95.0	6.4	**0.0067**	0.001	8.6	ug/L	25	Standard
	Ba	135	1680029.1	1.3	**339.7352**	2.600	0.8	ug/L	25	Standard
	Ce	140	251.7	3.8				ug/L	21	Standard
>	**Tb**	159	1195184.5	0.6				ug/L	1162405	Standard
	Ho	165	48.0	7.5				ug/L	12	Standard
	Tl	203	280.0	9.4	**0.0149**	0.002	10.1	ug/L	4	Standard
	Tl	205	600.3	3.0	**0.0156**	0.000	3.2	ug/L	4	Standard
	Pb	206	583.0	9.7	**0.0174**	0.004	23.5	ug/L	380	Standard
	Pb	207	451.7	2.8	**0.0094**	0.001	12.0	ug/L	306	Standard
	Pb	208	2203.1	3.3	**0.0144**	0.001	8.5	ug/L	1471	Standard
	U	238	109.0	8.8	**0.0075**	0.001	7.2	ug/L	0	Standard
>	**Bi**	209	558981.9	0.4				ug/L	592579	Standard

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Na	23	171980.9	2.2	**8.8765**	0.193	2.2	mg/L	327	Standard
Mg	24	1129620.9	1.1	**1.6144**	0.050	3.1	mg/L	50	Standard
K	39	731.7	7.5	**0.4887**	0.054	11.1	mg/L	125	Standard
Ca	43	50.0	17.3	**24.3669**	3.994	16.4	mg/L	0	Standard
Fe	54	3710.3	4.7	**0.6126**	0.033	5.5	mg/L	579	Standard
Fe	57	74586.6	3.2	**0.7064**	0.015	2.1	mg/L	2535	Standard
Sc-1	45	383521.1	1.9				mg/L	350981	Standard
Cl	35	18.3	17.5				ug/L	6	Standard
Kr	83	47.3	6.7				ug/L	39	Standard
Br	81	4838.3	4.3				ug/L	918	Standard
P	31	2841.9	2.6				ug/L	338	Standard
S	34	6719.0	1.5				ug/L	6425	Standard
Sr	88	588.3	17.9				ug/L	28	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	7			
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		96.416	
As	75			
Se	82			
Se-1	77			
Ga	71			
Rb	85			
Y	89			
Rh	103			
Mo	98			
Ag	107			

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Cd	111	
Cd	114	
> In	115	103.307
Sn	118	
Sb	123	
Ba	135	
Ce	140	
> Tb	159	
Ho	165	
Tl	203	
Tl	205	
Pb	206	
Pb	207	
Pb	208	
U	238	
> Bi	209	94.330
Na	23	
Mg	24	
K	39	
Ca	43	
Fe	54	
Fe	57	
> Sc-1	45	
Cl	35	
Kr	83	
Br	81	
P	31	
S	34	
Sr	88	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Ba 135 Upper, S, EEE	Ba	135	

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Method 6020 - Summary Report

Sample ID: L1207040113
Sample Date/Time: Friday, July 20, 2012 12:14:05
Number of Replicates: 3
Autosampler Position: 317
Sample Description: 1
Method File: C:\NexION Data\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
	Li	7	57314.9	2.8	**70073.2140**	2122.128	3.0	ug/L	9660	Standard
	Be	9	16.7	45.8	**0.0037**	0.004	107.2	ug/L	7	Standard
	Al	27	191043.7	1.6	**11.6979**	0.263	2.2	ug/L	6610	Standard
>	**Sc**	45	386764.3	0.6				ug/L	350981	Standard
	Ti	47	1068.7	1.7	**0.8270**	0.006	0.7	ug/L	63	Standard
	V	51	3605.9	3.5	**0.1027**	0.015	15.0	ug/L	2655	Standard
	Cr	52	10306.5	1.5	**0.2551**	0.031	12.1	ug/L	8417	Standard
	Cr	53	526.7	3.1	**0.2648**	0.011	4.2	ug/L	146	Standard
	Mn	55	347792.8	0.7	**23.4930**	0.277	1.2	ug/L	1081	Standard
	Co	59	457.0	4.8	**0.0345**	0.003	7.6	ug/L	84	Standard
	Ni	60	1076.0	0.3	**0.4139**	0.004	1.0	ug/L	55	Standard
	Cu	65	1213.4	3.0	**0.5027**	0.011	2.2	ug/L	78	Standard
	Zn	66	14364.8	1.2	**13.9016**	0.327	2.3	ug/L	99	Standard
>	**Ge**	72	281695.4	1.2				ug/L	289581	Standard
	As	75	17564.1	0.5	**16.9623**	0.170	1.0	ug/L	-189	Standard
	Se	82	51.4	9.0	**0.3364**	0.050	14.8	ug/L	18	Standard
	Se-1	77	98.7	7.3	**0.1225**	0.111	91.0	ug/L	97	Standard
>	**Ga**	71	631.7	8.5				mg/L	628	Standard
	Rb	85	25741.9	3.4				ug/L	10	Standard
	Y	89	273296.4	1.4				ug/L	254546	Standard
>	**Rh**	103	550.0	7.9				ug/L	400	Standard
	Mo	98	4895.8	0.7	**1.1968**	0.022	1.9	ug/L	8	Standard
	Ag	107	67.3	10.9	**-0.0001**	0.001	827.4	ug/L	76	Standard
	Cd	111	98.2	5.6	**0.0031**	0.001	34.3	mg/L	63	Standard
	Cd	114	304.5	8.6	**0.0079**	0.002	24.1	ug/L	201	Standard
>	**In**	115	884246.1	1.3				ug/L	847070	Standard
	Sn	118	1076.0	1.4	**0.0033**	0.001	35.6	ug/L	553	Standard
	Sb	123	164.6	5.3	**0.0128**	0.001	5.1	ug/L	25	Standard
	Ba	135	896884.4	0.6	**179.5125**	3.414	1.9	ug/L	25	Standard
	Ce	140	1356.7	7.5				ug/L	21	Standard
>	**Tb**	159	1199657.5	0.3				ug/L	1162405	Standard
	Ho	165	46.7	8.9				ug/L	12	Standard
	Tl	203	270.7	2.6	**0.0141**	0.000	3.2	ug/L	4	Standard
	Tl	205	650.7	5.1	**0.0166**	0.001	5.2	ug/L	4	Standard
	Pb	206	1462.4	2.4	**0.0817**	0.003	3.7	ug/L	380	Standard
	Pb	207	1184.7	3.2	**0.0737**	0.003	4.5	ug/L	306	Standard
	Pb	208	5593.1	1.1	**0.0779**	0.001	1.6	ug/L	1471	Standard
	U	238	85.0	8.2	**0.0059**	0.000	6.6	ug/L	0	Standard
>	**Bi**	209	569016.2	0.4				ug/L	592579	Standard

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Na	23	160207.6	0.5	**8.1963**	0.086	1.0	mg/L	327	Standard
Mg	24	1283323.4	1.0	**1.8181**	0.021	1.2	mg/L	50	Standard
K	39	651.7	6.4	**0.4208**	0.030	7.0	mg/L	125	Standard
Ca	43	41.7	6.9	**20.0180**	1.550	7.7	mg/L	0	Standard
Fe	54	6727.1	3.9	**1.1933**	0.051	4.3	mg/L	579	Standard
Fe	57	142135.3	1.6	**1.3597**	0.014	1.1	mg/L	2535	Standard
Sc-1	45	386764.3	0.6				mg/L	350981	Standard
Cl	35	17.0	36.7				ug/L	6	Standard
Kr	83	46.4	7.9				ug/L	39	Standard
Br	81	3486.2	6.5				ug/L	918	Standard
P	31	2680.2	4.5				ug/L	338	Standard
S	34	6698.1	1.5				ug/L	6425	Standard
Sr	88	496.7	9.7				ug/L	28	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	7			
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		97.277	
As	75			
Se	82			
Se-1	77			
Ga	71			
Rb	85			
Y	89			
Rh	103			
Mo	98			
Ag	107			

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Cd	111	
Cd	114	
> In	115	104.389
Sn	118	
Sb	123	
Ba	135	
Ce	140	
> Tb	159	
Ho	165	
Tl	203	
Tl	205	
Pb	206	
Pb	207	
Pb	208	
U	238	
> Bi	209	96.024
Na	23	
Mg	24	
K	39	
Ca	43	
Fe	54	
Fe	57	
> Sc-1	45	
Cl	35	
Kr	83	
Br	81	
P	31	
S	34	
Sr	88	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Ba 135 Upper, S, EEE	Ba	135	

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Method 6020 - Summary Report

Sample ID: QC Std 4
Sample Date/Time: Friday, July 20, 2012 12:17:17
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	7	8055.5	6.3	**-37.3559**	774.209	2072.5	ug/L	9660	Standard
	Be	9	13.3	21.7	**0.0037**	0.002	48.9	ug/L	7	Standard
	Al	27	56182141.2	1.6	**4466.0417**	98.241	2.2	ug/L	6610	Standard
>	**Sc**	45	309778.3	1.1				ug/L	350981	Standard
	Ti	47	65857.5	1.2	**63.7741**	0.783	1.2	ug/L	63	Standard
	V	51	2407.0	9.0	**0.0265**	0.021	79.9	ug/L	2655	Standard
	Cr	52	7100.7	1.6	**0.0194**	0.005	25.1	ug/L	8417	Standard
	Cr	53	2466.0	7.4	**1.9564**	0.128	6.6	ug/L	146	Standard
	Mn	55	1814.8	0.9	**0.0701**	0.002	3.4	ug/L	1081	Standard
	Co	59	244.7	7.7	**0.0175**	0.002	9.8	ug/L	84	Standard
	Ni	60	670.0	3.8	**0.2971**	0.006	2.1	ug/L	55	Standard
	Cu	65	267.7	10.0	**0.1058**	0.012	11.0	ug/L	78	Standard
	Zn	66	1023.7	1.8	**1.0637**	0.012	1.2	ug/L	99	Standard
>	**Ge**	72	239519.1	1.9				ug/L	289581	Standard
	As	75	-176.0	14.7	**-0.0317**	0.027	86.4	ug/L	-189	Standard
	Se	82	24.0	28.7	**0.1140**	0.079	69.1	ug/L	18	Standard
	Se-1	77	183.0	14.0	**1.7112**	0.378	22.1	ug/L	97	Standard
>	**Ga**	71	563.3	15.1				mg/L	628	Standard
	Rb	85	2556.9	0.4				ug/L	10	Standard
	Y	89	224093.8	2.0				ug/L	254546	Standard
>	**Rh**	103	388.3	8.8				ug/L	400	Standard
	Mo	98	308089.4	0.2	**89.3031**	1.191	1.3	ug/L	8	Standard
	Ag	107	87.7	4.6	**0.0042**	0.000	9.7	ug/L	76	Standard
	Cd	111	22.6	43.7	**-0.0129**	0.003	19.6	mg/L	63	Standard
	Cd	114	1519.8	3.4	**0.1290**	0.003	2.3	ug/L	201	Standard
>	**In**	115	747068.4	1.4				ug/L	847070	Standard
	Sn	118	422.0	8.2	**-0.0225**	0.002	7.5	ug/L	553	Standard
	Sb	123	374.5	5.5	**0.0373**	0.002	4.3	ug/L	25	Standard
	Ba	135	156.3	28.2	**0.0264**	0.011	41.7	ug/L	25	Standard
	Ce	140	1580.7	1.3				ug/L	21	Standard
>	**Tb**	159	1059655.7	0.3				ug/L	1162405	Standard
	Ho	165	19.3	43.4				ug/L	12	Standard
	Tl	203	97.7	4.3	**0.0046**	0.000	6.3	ug/L	4	Standard
	Tl	205	206.0	4.0	**0.0060**	0.000	3.9	ug/L	4	Standard
	Pb	206	532.0	4.5	**0.0158**	0.001	9.2	ug/L	380	Standard
	Pb	207	474.0	0.6	**0.0138**	0.000	2.4	ug/L	306	Standard
	Pb	208	2082.1	1.2	**0.0143**	0.000	0.3	ug/L	1471	Standard
	U	238	3.3	62.4	**0.0012**	0.000	10.7	ug/L	0	Standard
>	**Bi**	209	529346.7	1.3				ug/L	592579	Standard

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Na	23	147592.1	1.0	**9.4323**	0.054	0.6	mg/L	327	Standard
Mg	24	2639357.6	2.3	**4.6690**	0.128	2.7	mg/L	50	Standard
K	39	4415.6	3.5	**4.2036**	0.119	2.8	mg/L	125	Standard
Ca	43	28.3	36.7	**16.8937**	6.693	39.6	mg/L	0	Standard
Fe	54	31428.7	2.6	**7.5167**	0.176	2.3	mg/L	579	Standard
Fe	57	599962.0	3.5	**7.2831**	0.183	2.5	mg/L	2535	Standard
Sc-1	45	309778.3	1.1				mg/L	350981	Standard
Cl	35	226.0	9.6				ug/L	6	Standard
Kr	83	38.3	11.1				ug/L	39	Standard
Br	81	1109.2	6.2				ug/L	918	Standard
P	31	49484.0	0.5				ug/L	338	Standard
S	34	12292.5	2.2				ug/L	6425	Standard
Sr	88	38.3	52.7				ug/L	28	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	7			
Be	9			
Al	27	89.321		
Sc	45			
Ti	47	63.774		
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		82.712	
As	75			
Se	82			
Se-1	77			
Ga	71			
Rb	85			
Y	89			
Rh	103			
Mo	98	89.303		
Ag	107			

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	Cd	111		
	Cd	114		
>	In	115		88.194
	Sn	118		
	Sb	123		
	Ba	135		
	Ce	140		
>	Tb	159		
	Ho	165		
	Tl	203		
	Tl	205		
	Pb	206		
	Pb	207		
	Pb	208		
	U	238		
>	Bi	209		89.329
	Na	23	75.458	
	Mg	24	93.379	
	K	39	84.071	
	Ca	43	112.625	
	Fe	54	60.133	
	Fe	57	58.265	
>	Sc-1	45		
	Cl	35		
	Kr	83		
	Br	81		
	P	31		
	S	34		
	Sr	88		

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 4	Ti	47	
QC Std 4	Na	23	
QC Std 4	Fe	54	
QC Std 4	Fe	57	

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Method 6020 - Summary Report

Sample ID: QC Std 5
Sample Date/Time: Friday, July 20, 2012 12:20:28
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	7	10500.3	1.2	**1492.9435**	360.075	24.1	ug/L	9660	Standard
	Be	9	189045.6	1.5	**102.9245**	2.920	2.8	ug/L	7	Standard
	Al	27	68230443.2	1.3	**4585.8490**	120.095	2.6	ug/L	6610	Standard
>	**Sc**	45	366423.4	1.3				ug/L	350981	Standard
	Ti	47	128000.5	1.2	**107.0570**	0.713	0.7	ug/L	63	Standard
	V	51	998144.6	0.9	**99.1088**	1.015	1.0	ug/L	2655	Standard
	Cr	52	817634.9	0.3	**99.0363**	1.262	1.3	ug/L	8417	Standard
	Cr	53	140633.8	0.4	**101.7425**	1.285	1.3	ug/L	146	Standard
	Mn	55	1579649.4	0.7	**108.6390**	1.853	1.7	ug/L	1081	Standard
	Co	59	1052300.4	0.4	**107.3276**	2.040	1.9	ug/L	84	Standard
	Ni	60	241192.9	1.6	**99.2131**	1.223	1.2	ug/L	55	Standard
	Cu	65	222031.0	0.6	**99.5312**	0.966	1.0	ug/L	78	Standard
	Zn	66	106754.1	0.9	**105.6268**	0.744	0.7	ug/L	99	Standard
>	**Ge**	72	277388.9	1.5				ug/L	289581	Standard
	As	75	107185.7	1.1	**104.2540**	0.580	0.6	ug/L	-189	Standard
	Se	82	11332.6	0.7	**110.4113**	1.114	1.0	ug/L	18	Standard
	Se-1	77	7552.2	1.0	**103.5518**	0.721	0.7	ug/L	97	Standard
>	**Ga**	71	938.4	10.4				mg/L	628	Standard
	Rb	85	3297.0	6.7				ug/L	10	Standard
	Y	89	294594.8	0.6				ug/L	254546	Standard
>	**Rh**	103	535.0	4.9				ug/L	400	Standard
	Mo	98	402636.6	0.1	**100.4711**	1.091	1.1	ug/L	8	Standard
	Ag	107	522190.6	1.0	**63.5522**	0.393	0.6	ug/L	76	Standard
	Cd	111	460954.9	1.5	**105.2976**	2.634	2.5	mg/L	63	Standard
	Cd	114	1202867.9	0.8	**99.3366**	1.560	1.6	ug/L	201	Standard
>	**In**	115	867770.7	1.1				ug/L	847070	Standard
	Sn	118	6676.1	1.9	**0.2597**	0.003	1.2	ug/L	553	Standard
	Sb	123	1165217.9	0.9	**104.5586**	2.039	1.9	ug/L	25	Standard
	Ba	135	468076.9	0.2	**95.4531**	1.253	1.3	ug/L	25	Standard
	Ce	140	2717.2	4.0				ug/L	21	Standard
>	**Tb**	159	1181687.3	0.9				ug/L	1162405	Standard
	Ho	165	36.3	16.6				ug/L	12	Standard
	Tl	203	1739363.1	0.3	**98.8139**	1.902	1.9	ug/L	4	Standard
	Tl	205	4221918.5	0.4	**103.5390**	1.685	1.6	ug/L	4	Standard
	Pb	206	1349811.9	0.2	**99.2908**	1.760	1.8	ug/L	380	Standard
	Pb	207	1150752.2	0.9	**101.4807**	1.648	1.6	ug/L	306	Standard
	Pb	208	5464665.4	0.3	**102.9424**	1.426	1.4	ug/L	1471	Standard
	U	238	1852783.4	0.3	**107.1397**	1.949	1.8	ug/L	0	Standard
>	**Bi**	209	572472.5	1.6				ug/L	592579	Standard

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Sheri L. Babczuk

Na	23	152623.2	0.3	**8.2423**	0.090	1.1	mg/L	327	Standard
Mg	24	3111756.2	1.3	**4.6543**	0.123	2.6	mg/L	50	Standard
K	39	5040.8	1.4	**4.0550**	0.086	2.1	mg/L	125	Standard
Ca	43	28.3	81.5	**14.1375**	12.269	86.8	mg/L	0	Standard
Fe	54	55387.3	0.9	**11.2562**	0.098	0.9	mg/L	579	Standard
Fe	57	1183607.2	2.3	**12.1693**	0.338	2.8	mg/L	2535	Standard
Sc-1	45	366423.4	1.3				mg/L	350981	Standard
Cl	35	226.7	11.4				ug/L	6	Standard
Kr	83	49.0	5.4				ug/L	39	Standard
Br	81	1405.1	2.3				ug/L	918	Standard
P	31	67631.5	1.4				ug/L	338	Standard
S	34	12890.5	0.7				ug/L	6425	Standard
Sr	88	41.7	36.7				ug/L	28	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	7			
Be	9			
Al	27	91.717		
Sc	45			
Ti	47	107.057		
V	51	99.109		
Cr	52	99.036		
Cr	53			
Mn	55	108.639		
Co	59	107.328		
Ni	60	99.213		
Cu	65	99.531		
Zn	66	105.627		
Ge	72		95.790	
As	75	104.254		
Se	82	110.411		
Se-1	77			
Ga	71			
Rb	85			
Y	89			
Rh	103			
Mo	98	100.471		
Ag	107	63.552		

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	Cd	111	105.298	
	Cd	114		
>	In	115		102.444
	Sn	118		
	Sb	123	104.559	
	Ba	135	95.453	
	Ce	140		
>	Tb	159		
	Ho	165		
	Tl	203	98.814	
	Tl	205		
	Pb	206	99.291	
	Pb	207	101.481	
	Pb	208	102.942	
	U	238	107.140	
>	Bi	209		96.607
	Na	23	65.939	
	Mg	24	93.085	
	K	39	81.100	
	Ca	43	94.250	
	Fe	54	90.049	
	Fe	57	97.354	
>	Sc-1	45		
	Cl	35		
	Kr	83		
	Br	81		
	P	31		
	S	34		
	Sr	88		

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 5	Ag	107	
QC Std 5	Na	23	
QC Std 5	Ca	43	

Sample ID: QC Std 5
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Method 6020 - Summary Report

Sample ID: QC Std 6
Sample Date/Time: Friday, July 20, 2012 12:23:39
Number of Replicates: 3
Autosampler Position: 101
Sample Description:
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
	Li	7	9846.5	3.6	**388.7603**	355.299	91.4	ug/L	9660	Standard
	Be	9	88673.7	1.2	**48.0515**	1.761	3.7	ug/L	7	Standard
	Al	27	667790.8	0.6	**44.2100**	1.381	3.1	ug/L	6610	Standard
>	**Sc**	45	368260.1	2.5				ug/L	350981	Standard
	Ti	47	118437.5	1.4	**97.5515**	1.821	1.9	ug/L	63	Standard
	V	51	498689.6	0.8	**48.6363**	0.761	1.6	ug/L	2655	Standard
	Cr	52	409605.9	1.1	**48.3556**	0.645	1.3	ug/L	8417	Standard
	Cr	53	68537.2	2.1	**48.7731**	1.382	2.8	ug/L	146	Standard
	Mn	55	770827.2	0.8	**52.1630**	0.641	1.2	ug/L	1081	Standard
	Co	59	509832.4	0.3	**51.1949**	0.267	0.5	ug/L	84	Standard
	Ni	60	118591.7	0.7	**48.0303**	0.665	1.4	ug/L	55	Standard
	Cu	65	110868.5	0.6	**48.9262**	0.645	1.3	ug/L	78	Standard
	Zn	66	50447.9	1.2	**49.0970**	0.766	1.6	ug/L	99	Standard
>	**Ge**	72	281668.5	0.8				ug/L	289581	Standard
	As	75	51464.9	0.2	**49.3841**	0.418	0.8	ug/L	-189	Standard
	Se	82	5448.8	0.9	**52.1954**	0.758	1.5	ug/L	18	Standard
	Se-1	77	3646.8	1.8	**48.5996**	1.056	2.2	ug/L	97	Standard
>	**Ga**	71	555.0	3.9				mg/L	628	Standard
	Rb	85	1808.4	4.5				ug/L	10	Standard
	Y	89	262900.0	1.7				ug/L	254546	Standard
>	**Rh**	103	500.0	9.5				ug/L	400	Standard
	Mo	98	390213.5	0.3	**95.5574**	0.611	0.6	ug/L	8	Standard
	Ag	107	457955.5	1.5	**54.6949**	0.432	0.8	ug/L	76	Standard
	Cd	111	223477.0	1.3	**50.0827**	0.498	1.0	mg/L	63	Standard
	Cd	114	589501.1	1.2	**47.7644**	0.326	0.7	ug/L	201	Standard
>	**In**	115	884200.0	0.9				ug/L	847070	Standard
	Sn	118	1118335.3	1.8	**50.0147**	0.740	1.5	ug/L	553	Standard
	Sb	123	555131.4	0.7	**48.8810**	0.226	0.5	ug/L	25	Standard
	Ba	135	230036.3	1.5	**46.0278**	0.417	0.9	ug/L	25	Standard
	Ce	140	573.0	2.3				ug/L	21	Standard
>	**Tb**	159	1188996.7	0.3				ug/L	1162405	Standard
	Ho	165	22.3	15.7				ug/L	12	Standard
	Tl	203	855946.7	0.6	**47.7980**	0.487	1.0	ug/L	4	Standard
	Tl	205	1967609.2	0.5	**47.4336**	0.320	0.7	ug/L	4	Standard
	Pb	206	665831.8	1.4	**48.1302**	0.685	1.4	ug/L	380	Standard
	Pb	207	561287.9	1.7	**48.6405**	0.789	1.6	ug/L	306	Standard
	Pb	208	2597058.9	1.1	**48.0760**	0.407	0.8	ug/L	1471	Standard
	U	238	892682.2	0.6	**50.7433**	0.582	1.1	ug/L	0	Standard
>	**Bi**	209	582289.3	0.6				ug/L	592579	Standard

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	Na	23	121381.0	1.5	**6.5178**	0.205	3.1	mg/L	327	Standard
	Mg	24	3157034.9	2.7	**4.7014**	0.245	5.2	mg/L	50	Standard
	K	39	5269.2	2.7	**4.2226**	0.171	4.0	mg/L	125	Standard
	Ca	43	11.7	24.7	**5.2961**	1.693	32.0	mg/L	0	Standard
	Fe	54	22569.3	1.0	**4.4978**	0.162	3.6	mg/L	579	Standard
	Fe	57	497604.2	0.5	**5.0758**	0.126	2.5	mg/L	2535	Standard
>	**Sc-1**	45	368260.1	2.5				mg/L	350981	Standard
	Cl	35	5.0	20.0				ug/L	6	Standard
	Kr	83	46.2	13.8				ug/L	39	Standard
	Br	81	1375.1	4.1				ug/L	918	Standard
	P	31	386.7	3.3				ug/L	338	Standard
	S	34	5656.1	3.6				ug/L	6425	Standard
	Sr	88	21.7	13.3				ug/L	28	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
	Li	7			
	Be	9			
	Al	27	88.420		
>	Sc	45			
	Ti	47	97.552		
	V	51	97.273		
	Cr	52	96.711		
	Cr	53			
	Mn	55	104.326		
	Co	59	102.390		
	Ni	60	96.061		
	Cu	65	97.852		
	Zn	66	98.194		
>	Ge	72		97.268	
	As	75	98.768		
	Se	82	104.391		
	Se-1	77			
>	Ga	71			
	Rb	85			
	Y	89			
>	Rh	103			
	Mo	98	95.557		
	Ag	107	109.390		

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	Cd	111	100.165	
	Cd	114		
>	In	115		104.383
	Sn	118	100.029	
	Sb	123	97.762	
	Ba	135	92.056	
	Ce	140		
>	Tb	159		
	Ho	165		
	Tl	203	95.596	
	Tl	205		
	Pb	206	96.260	
	Pb	207	97.281	
	Pb	208	96.152	
	U	238	101.487	
>	Bi	209		98.264
	Na	23		
	Mg	24		
	K	39		
	Ca	43		
	Fe	54		
	Fe	57		
>	Sc-1	45		
	Cl	35		
	Kr	83		
	Br	81		
	P	31		
	S	34		
	Sr	88		

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 6	Al	27	

Sample ID: QC Std 6
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Method 6020 - Summary Report

Sample ID: QC Std 7
Sample Date/Time: Friday, July 20, 2012 12:26:50
Number of Replicates: 3
Autosampler Position: 102
Sample Description:
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
	Li	7	9561.3	1.3	**242.2196**	214.111	88.4	ug/L	9660	Standard
	Be	9	33.3	43.3	**0.0135**	0.008	59.6	ug/L	7	Standard
	Al	27	8285.6	9.1	**0.0987**	0.054	54.3	ug/L	6610	Standard
>	**Sc**	45	361063.2	0.4				ug/L	350981	Standard
	Ti	47	85.7	15.8	**0.0183**	0.010	56.1	ug/L	63	Standard
	V	51	2521.2	1.0	**0.0013**	0.007	574.2	ug/L	2655	Standard
	Cr	52	7700.3	1.3	**-0.0405**	0.028	69.2	ug/L	8417	Standard
	Cr	53	284.2	5.9	**0.0959**	0.013	13.6	ug/L	146	Standard
	Mn	55	1206.7	8.8	**0.0087**	0.006	70.8	ug/L	1081	Standard
	Co	59	147.7	26.4	**0.0037**	0.004	105.6	ug/L	84	Standard
	Ni	60	72.7	6.2	**0.0079**	0.001	16.6	ug/L	55	Standard
	Cu	65	112.7	15.9	**0.0176**	0.007	41.1	ug/L	78	Standard
	Zn	66	97.7	4.1	**-0.0134**	0.002	17.4	ug/L	99	Standard
>	**Ge**	72	276276.0	1.9				ug/L	289581	Standard
	As	75	-172.5	11.7	**-0.0019**	0.017	856.8	ug/L	-189	Standard
	Se	82	19.0	16.3	**0.0296**	0.034	114.6	ug/L	18	Standard
	Se-1	77	93.3	7.0	**0.0731**	0.067	91.5	ug/L	97	Standard
>	**Ga**	71	505.0	1.7				mg/L	628	Standard
	Rb	85	20.0	43.3				ug/L	10	Standard
	Y	89	260846.8	2.0				ug/L	254546	Standard
>	**Rh**	103	446.7	15.1				ug/L	400	Standard
	Mo	98	149.5	22.9	**0.0349**	0.008	23.1	ug/L	8	Standard
	Ag	107	313.0	9.7	**0.0297**	0.004	11.9	ug/L	76	Standard
	Cd	111	96.0	20.0	**0.0029**	0.004	141.2	mg/L	63	Standard
	Cd	114	279.8	20.2	**0.0061**	0.004	69.2	ug/L	201	Standard
>	**In**	115	872455.9	1.5				ug/L	847070	Standard
	Sn	118	853.7	10.0	**-0.0061**	0.003	56.5	ug/L	553	Standard
	Sb	123	1096.2	30.8	**0.0959**	0.029	29.9	ug/L	25	Standard
	Ba	135	77.0	6.0	**0.0049**	0.001	14.9	ug/L	25	Standard
	Ce	140	20.0	10.0				ug/L	21	Standard
>	**Tb**	159	1147756.1	1.8				ug/L	1162405	Standard
	Ho	165	12.7	12.1				ug/L	12	Standard
	Tl	203	127.3	38.5	**0.0057**	0.003	47.4	ug/L	4	Standard
	Tl	205	333.0	41.2	**0.0085**	0.003	38.1	ug/L	4	Standard
	Pb	206	463.7	8.2	**0.0067**	0.003	39.1	ug/L	380	Standard
	Pb	207	387.0	15.6	**0.0018**	0.005	275.6	ug/L	306	Standard
	Pb	208	1800.7	11.1	**0.0050**	0.004	71.4	ug/L	1471	Standard
	U	238	133.3	43.9	**0.0085**	0.003	38.4	ug/L	0	Standard
>	**Bi**	209	587473.7	0.4				ug/L	592579	Standard

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	Na	23	781.7	5.5	**0.0094**	0.002	25.4	mg/L	327	Standard
	Mg	24	438.3	19.4	**0.0006**	0.000	23.8	mg/L	50	Standard
	K	39	126.7	28.6	**0.0193**	0.030	154.3	mg/L	125	Standard
	Ca	43	1.7	173.2	**0.0256**	1.557	6071.2	mg/L	0	Standard
	Fe	54	594.8	12.1	**0.0088**	0.015	175.5	mg/L	579	Standard
	Fe	57	2885.3	2.0	**0.0024**	0.001	28.2	mg/L	2535	Standard
>	**Sc-1**	45	361063.2	0.4				mg/L	350981	Standard
	Cl	35	4.7	32.7				ug/L	6	Standard
	Kr	83	41.2	15.8				ug/L	39	Standard
	Br	81	1270.9	11.0				ug/L	918	Standard
	P	31	416.7	8.7				ug/L	338	Standard
	S	34	5854.5	1.0				ug/L	6425	Standard
	Sr	88	40.0	62.5				ug/L	28	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
	Li	7			
	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		95.405	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			
	Y	89			
>	Rh	103			
	Mo	98			
	Ag	107			

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	Cd	111	
	Cd	114	
>	In	115	102.997
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	99.139
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: QC Std 7
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Method 6020 - Summary Report

Sample ID: QC Std 8
Sample Date/Time: Friday, July 20, 2012 12:30:02
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	7	9754.8	1.6	**461.5983**	261.894	56.7	ug/L	9660	Standard
	Be	9	13.3	43.3	**0.0024**	0.003	131.4	ug/L	7	Standard
	Al	27	5611.0	5.7	**-0.0860**	0.022	25.8	ug/L	6610	Standard
>	**Sc**	45	363126.6	0.2				ug/L	350981	Standard
	Ti	47	73.7	10.5	**0.0083**	0.008	93.2	ug/L	63	Standard
	V	51	6360.6	0.9	**0.3831**	0.011	2.8	ug/L	2655	Standard
	Cr	52	14220.7	0.2	**0.7551**	0.034	4.5	ug/L	8417	Standard
	Cr	53	1302.6	2.3	**0.8335**	0.018	2.2	ug/L	146	Standard
	Mn	55	8716.8	1.3	**0.5259**	0.010	2.0	ug/L	1081	Standard
	Co	59	4102.9	0.3	**0.4076**	0.010	2.4	ug/L	84	Standard
	Ni	60	3783.1	0.5	**1.5363**	0.028	1.8	ug/L	55	Standard
	Cu	65	1869.4	2.1	**0.8065**	0.034	4.3	ug/L	78	Standard
	Zn	66	7260.4	1.0	**7.0894**	0.157	2.2	ug/L	99	Standard
>	**Ge**	72	277115.3	2.2				ug/L	289581	Standard
	As	75	210.3	15.6	**0.3701**	0.027	7.3	ug/L	-189	Standard
	Se	82	56.0	7.9	**0.3893**	0.031	8.1	ug/L	18	Standard
	Se-1	77	132.0	16.0	**0.6033**	0.251	41.6	ug/L	97	Standard
>	**Ga**	71	580.0	7.5				mg/L	628	Standard
	Rb	85	20.0	43.3				ug/L	10	Standard
	Y	89	264375.7	2.3				ug/L	254546	Standard
>	**Rh**	103	480.0	14.6				ug/L	400	Standard
	Mo	98	55.8	23.6	**0.0117**	0.003	27.0	ug/L	8	Standard
	Ag	107	3614.4	0.6	**0.4297**	0.006	1.5	ug/L	76	Standard
	Cd	111	1158.9	1.4	**0.2446**	0.006	2.5	mg/L	63	Standard
	Cd	114	3127.2	2.8	**0.2402**	0.005	1.9	ug/L	201	Standard
>	**In**	115	871922.0	1.7				ug/L	847070	Standard
	Sn	118	699.3	4.0	**-0.0131**	0.001	10.0	ug/L	553	Standard
	Sb	123	4660.1	1.9	**0.4144**	0.006	1.3	ug/L	25	Standard
	Ba	135	3428.7	3.3	**0.6850**	0.012	1.7	ug/L	25	Standard
	Ce	140	19.0	18.2				ug/L	21	Standard
>	**Tb**	159	1151061.8	0.4				ug/L	1162405	Standard
	Ho	165	12.0	16.7				ug/L	12	Standard
	Tl	203	1407.1	2.5	**0.0763**	0.002	2.0	ug/L	4	Standard
	Tl	205	3289.0	3.3	**0.0789**	0.003	3.3	ug/L	4	Standard
	Pb	206	3067.3	0.8	**0.1927**	0.002	0.8	ug/L	380	Standard
	Pb	207	2455.2	3.9	**0.1790**	0.007	4.0	ug/L	306	Standard
	Pb	208	11864.2	1.5	**0.1891**	0.002	1.1	ug/L	1471	Standard
	U	238	7014.0	2.5	**0.3950**	0.008	2.0	ug/L	0	Standard
>	**Bi**	209	589167.3	0.5				ug/L	592579	Standard

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Na	23	745.0	17.6	**0.0071**	0.007	100.6	mg/L	327	Standard
Mg	24	155.0	19.4	**0.0001**	0.000	37.8	mg/L	50	Standard
K	39	123.3	12.4	**0.0160**	0.013	78.4	mg/L	125	Standard
Ca	43	5.0	100.0	**1.7980**	2.674	148.7	mg/L	0	Standard
Fe	54	552.7	2.8	**-0.0007**	0.003	465.6	mg/L	579	Standard
Fe	57	2983.6	5.6	**0.0033**	0.002	54.7	mg/L	2535	Standard
Sc-1	45	363126.6	0.2				mg/L	350981	Standard
Cl	35	5.0	72.1				ug/L	6	Standard
Kr	83	45.9	7.8				ug/L	39	Standard
Br	81	1283.4	5.3				ug/L	918	Standard
P	31	414.2	6.4				ug/L	338	Standard
S	34	5746.9	2.4				ug/L	6425	Standard
Sr	88	35.0	37.8				ug/L	28	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	7			
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51	95.771		
Cr	52	94.393		
Cr	53			
Mn	55	105.187		
Co	59	101.894		
Ni	60	96.017		
Cu	65	100.814		
Zn	66	113.431		
Ge	72		95.695	
As	75	92.527		
Se	82	97.317		
Se-1	77			
Ga	71			
Rb	85			
Y	89			
Rh	103			
Mo	98			
Ag	107	107.435		

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	Cd	111	101.923	
	Cd	114		
>	In	115		102.934
	Sn	118		
	Sb	123	103.605	
	Ba	135	91.336	
	Ce	140		
>	Tb	159		
	Ho	165		
	Tl	203	95.338	
	Tl	205		
	Pb	206		
	Pb	207		
	Pb	208	94.545	
	U	238	98.750	
>	Bi	209		99.424
	Na	23		
	Mg	24		
	K	39		
	Ca	43		
	Fe	54		
	Fe	57		
>	Sc-1	45		
	Cl	35		
	Kr	83		
	Br	81		
	P	31		
	S	34		
	Sr	88		

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: QC Std 8
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Method 6020 - Summary Report

Sample ID: PBW 15 WG403843-03
Sample Date/Time: Friday, July 20, 2012 12:39:50
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	7	9483.0	4.5	**186.1161**	669.952	360.0	ug/L	9660	Standard
	Be	9	28.3	127.7	**0.0108**	0.020	186.0	ug/L	7	Standard
	Al	27	9592.3	66.2	**0.1904**	0.434	228.1	ug/L	6610	Standard
>	**Sc**	45	359456.4	1.8				ug/L	350981	Standard
	Ti	47	91.0	40.0	**0.0234**	0.031	131.2	ug/L	63	Standard
	V	51	2533.7	1.9	**0.0041**	0.005	113.7	ug/L	2655	Standard
	Cr	52	7920.1	1.2	**-0.0074**	0.011	146.5	ug/L	8417	Standard
	Cr	53	230.0	4.3	**0.0576**	0.007	12.4	ug/L	146	Standard
	Mn	55	1175.7	1.3	**0.0072**	0.001	14.0	ug/L	1081	Standard
	Co	59	102.7	43.8	**-0.0008**	0.005	557.4	ug/L	84	Standard
	Ni	60	76.7	36.8	**0.0098**	0.012	119.9	ug/L	55	Standard
	Cu	65	92.7	34.7	**0.0090**	0.015	162.0	ug/L	78	Standard
	Zn	66	320.7	16.8	**0.2105**	0.054	25.4	ug/L	99	Standard
>	**Ge**	72	274449.0	0.1				ug/L	289581	Standard
	As	75	-205.8	11.3	**-0.0359**	0.023	62.8	ug/L	-189	Standard
	Se	82	14.4	8.9	**-0.0154**	0.012	81.0	ug/L	18	Standard
	Se-1	77	88.3	2.6	**0.0125**	0.032	257.2	ug/L	97	Standard
>	**Ga**	71	608.3	5.5				mg/L	628	Standard
	Rb	85	23.3	53.9				ug/L	10	Standard
	Y	89	258924.0	1.7				ug/L	254546	Standard
>	**Rh**	103	446.7	12.5				ug/L	400	Standard
	Mo	98	56.6	40.9	**0.0120**	0.006	48.3	ug/L	8	Standard
	Ag	107	130.0	32.2	**0.0077**	0.005	66.6	ug/L	76	Standard
	Cd	111	73.5	29.2	**-0.0021**	0.005	234.6	mg/L	63	Standard
	Cd	114	206.7	25.8	**0.0003**	0.004	1453.9	ug/L	201	Standard
>	**In**	115	866471.4	0.2				ug/L	847070	Standard
	Sn	118	634.3	4.9	**-0.0159**	0.001	9.0	ug/L	553	Standard
	Sb	123	221.5	17.5	**0.0182**	0.003	19.2	ug/L	25	Standard
	Ba	135	43.0	78.6	**-0.0020**	0.007	351.5	ug/L	25	Standard
	Ce	140	21.0	12.6				ug/L	21	Standard
>	**Tb**	159	1142542.7	0.3				ug/L	1162405	Standard
	Ho	165	11.3	5.1				ug/L	12	Standard
	Tl	203	51.7	113.1	**0.0015**	0.003	216.0	ug/L	4	Standard
	Tl	205	121.0	134.6	**0.0035**	0.004	112.7	ug/L	4	Standard
	Pb	206	410.7	8.2	**0.0033**	0.003	78.0	ug/L	380	Standard
	Pb	207	334.3	10.7	**-0.0023**	0.003	134.4	ug/L	306	Standard
	Pb	208	1590.0	8.8	**0.0015**	0.003	180.0	ug/L	1471	Standard
	U	238	174.0	162.8	**0.0109**	0.016	147.8	ug/L	0	Standard
>	**Bi**	209	580147.4	0.5				ug/L	592579	Standard

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	Na	23	745.0	44.8	**0.0075**	0.018	244.5	mg/L	327	Standard
	Mg	24	590.0	157.1	**0.0008**	0.001	180.0	mg/L	50	Standard
	K	39	136.7	18.8	**0.0282**	0.021	74.4	mg/L	125	Standard
	Ca	43	3.3	173.2	**0.9225**	3.110	337.2	mg/L	0	Standard
	Fe	54	587.5	5.9	**0.0079**	0.009	113.6	mg/L	579	Standard
	Fe	57	2985.3	5.6	**0.0036**	0.001	40.2	mg/L	2535	Standard
>	**Sc-1**	45	359456.4	1.8				mg/L	350981	Standard
	Cl	35	4.0	66.1				ug/L	6	Standard
	Kr	83	48.2	6.2				ug/L	39	Standard
	Br	81	1230.0	1.1				ug/L	918	Standard
	P	31	400.8	8.1				ug/L	338	Standard
	S	34	5845.3	1.3				ug/L	6425	Standard
	Sr	88	28.3	44.4				ug/L	28	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
	Li	7			
	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		94.775	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			
	Y	89			
>	Rh	103			
	Mo	98			
	Ag	107			

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Cd	111	
Cd	114	
> In	115	102.290
Sn	118	
Sb	123	
Ba	135	
Ce	140	
> Tb	159	
Ho	165	
Tl	203	
Tl	205	
Pb	206	
Pb	207	
Pb	208	
U	238	
> Bi	209	97.902
Na	23	
Mg	24	
K	39	
Ca	43	
Fe	54	
Fe	57	
> Sc-1	45	
Cl	35	
Kr	83	
Br	81	
P	31	
S	34	
Sr	88	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: PBW 15 WG403843-03
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Method 6020 - Summary Report

Sample ID: LCSW 15 WG403843-04
Sample Date/Time: Friday, July 20, 2012 12:43:00
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	7	10938.9	2.8	**866.8817**	487.647	56.3	ug/L	9660	Standard
	Be	9	52781.8	0.8	**26.5274**	0.300	1.1	ug/L	7	Standard
	Al	27	459183.4	1.4	**28.0301**	0.423	1.5	ug/L	6610	Standard
>	**Sc**	45	396798.8	0.6				ug/L	350981	Standard
	Ti	47	96.7	13.8	**0.0200**	0.009	46.9	ug/L	63	Standard
	V	51	296007.9	1.0	**26.5544**	0.605	2.3	ug/L	2655	Standard
	Cr	52	254228.1	0.1	**27.3018**	0.355	1.3	ug/L	8417	Standard
	Cr	53	41734.9	0.6	**27.3818**	0.263	1.0	ug/L	146	Standard
	Mn	55	464782.4	0.3	**29.0189**	0.311	1.1	ug/L	1081	Standard
	Co	59	305933.8	0.3	**28.3724**	0.436	1.5	ug/L	84	Standard
	Ni	60	71778.3	0.2	**26.8427**	0.407	1.5	ug/L	55	Standard
	Cu	65	67358.1	0.2	**27.4415**	0.303	1.1	ug/L	78	Standard
	Zn	66	29839.0	0.6	**26.7746**	0.455	1.7	ug/L	99	Standard
>	**Ge**	72	304956.7	1.3				ug/L	289581	Standard
	As	75	29196.8	0.6	**25.9587**	0.461	1.8	ug/L	-189	Standard
	Se	82	2991.7	2.1	**26.3976**	0.847	3.2	ug/L	18	Standard
	Se-1	77	2117.5	1.1	**25.4946**	0.111	0.4	ug/L	97	Standard
>	**Ga**	71	618.3	18.1				mg/L	628	Standard
	Rb	85	31.7	18.2				ug/L	10	Standard
	Y	89	285803.7	3.1				ug/L	254546	Standard
>	**Rh**	103	535.0	7.3				ug/L	400	Standard
	Mo	98	64.6	45.0	**0.0126**	0.007	53.3	ug/L	8	Standard
	Ag	107	271058.4	1.4	**30.1019**	0.267	0.9	ug/L	76	Standard
	Cd	111	131426.4	1.0	**27.3813**	0.168	0.6	mg/L	63	Standard
	Cd	114	344437.9	1.3	**25.9448**	0.206	0.8	ug/L	201	Standard
>	**In**	115	950805.8	0.5				ug/L	847070	Standard
	Sn	118	773.7	4.7	**-0.0126**	0.002	13.3	ug/L	553	Standard
	Sb	123	315273.1	0.8	**25.8148**	0.157	0.6	ug/L	25	Standard
	Ba	135	136951.5	0.9	**25.4794**	0.307	1.2	ug/L	25	Standard
	Ce	140	337.7	6.1				ug/L	21	Standard
>	**Tb**	159	1229486.4	0.8				ug/L	1162405	Standard
	Ho	165	17.7	36.4				ug/L	12	Standard
	Tl	203	505746.7	0.6	**26.6975**	0.148	0.6	ug/L	4	Standard
	Tl	205	1166150.4	1.0	**26.5764**	0.238	0.9	ug/L	4	Standard
	Pb	206	392836.6	0.8	**26.8329**	0.194	0.7	ug/L	380	Standard
	Pb	207	335717.1	1.1	**27.4894**	0.270	1.0	ug/L	306	Standard
	Pb	208	1546646.2	0.8	**27.0546**	0.194	0.7	ug/L	1471	Standard
	U	238	514160.8	0.4	**27.6293**	0.113	0.4	ug/L	0	Standard
>	**Bi**	209	615939.5	0.1				ug/L	592579	Standard

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Na	23	816.7	3.9	**0.0072**	0.001	19.7	mg/L	327	Standard
Mg	24	496.7	10.5	**0.0006**	0.000	12.4	mg/L	50	Standard
K	39	118.3	12.9	**0.0035**	0.011	316.2	mg/L	125	Standard
Ca	43	5.0	0.0	**1.5697**	0.015	1.0	mg/L	0	Standard
Fe	54	761.1	7.3	**0.0291**	0.010	33.7	mg/L	579	Standard
Fe	57	3450.4	2.2	**0.0051**	0.001	13.9	mg/L	2535	Standard
Sc-1	45	396798.8	0.6				mg/L	350981	Standard
Cl	35	4.0	25.0				ug/L	6	Standard
Kr	83	51.1	4.4				ug/L	39	Standard
Br	81	1415.1	2.5				ug/L	918	Standard
P	31	615.8	3.5				ug/L	338	Standard
S	34	5902.0	0.5				ug/L	6425	Standard
Sr	88	35.0	51.5				ug/L	28	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	7			
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		105.310	
As	75			
Se	82			
Se-1	77			
Ga	71			
Rb	85			
Y	89			
Rh	103			
Mo	98			
Ag	107			

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	Cd	111	
	Cd	114	
>	In	115	112.246
	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	103.942
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

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Method 6020 - Summary Report

Sample ID: L1207051502
Sample Date/Time: Friday, July 20, 2012 12:46:10
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	7	85272.7	2.6	**106651.4883**	3571.690	3.3	ug/L	9660	Standard
	Be	9	15.0	57.7	**0.0025**	0.004	170.0	ug/L	7	Standard
	Al	27	61678.8	4.6	**3.3062**	0.096	2.9	ug/L	6610	Standard
>	**Sc**	45	402442.9	2.1				ug/L	350981	Standard
	Ti	47	1101.7	4.9	**0.8725**	0.054	6.2	ug/L	63	Standard
	V	51	40820.8	0.4	**3.8295**	0.033	0.9	ug/L	2655	Standard
	Cr	52	12841.1	2.5	**0.5907**	0.030	5.1	ug/L	8417	Standard
	Cr	53	1123.4	10.1	**0.7064**	0.086	12.2	ug/L	146	Standard
	Mn	55	72545.6	0.8	**4.9384**	0.045	0.9	ug/L	1081	Standard
	Co	59	1060.0	4.9	**0.0971**	0.005	5.1	ug/L	84	Standard
	Ni	60	2987.6	1.3	**1.2122**	0.006	0.5	ug/L	55	Standard
	Cu	65	1583.7	8.8	**0.6798**	0.058	8.6	ug/L	78	Standard
	Zn	66	2535.5	3.9	**2.4108**	0.077	3.2	ug/L	99	Standard
>	**Ge**	72	276232.4	1.0				ug/L	289581	Standard
	As	75	581.2	12.1	**0.7324**	0.064	8.7	ug/L	-189	Standard
	Se	82	247.1	8.0	**2.2622**	0.172	7.6	ug/L	18	Standard
	Se-1	77	168.7	10.0	**1.1234**	0.230	20.5	ug/L	97	Standard
>	**Ga**	71	638.3	9.7				mg/L	628	Standard
	Rb	85	4412.3	2.9				ug/L	10	Standard
	Y	89	272284.9	0.9				ug/L	254546	Standard
>	**Rh**	103	480.0	8.5				ug/L	400	Standard
	Mo	98	813.0	13.4	**0.2010**	0.026	13.0	ug/L	8	Standard
	Ag	107	269.7	44.3	**0.0247**	0.014	57.9	ug/L	76	Standard
	Cd	111	130.0	48.4	**0.0108**	0.014	131.0	mg/L	63	Standard
	Cd	114	351.2	48.2	**0.0122**	0.014	112.7	ug/L	201	Standard
>	**In**	115	865944.1	1.1				ug/L	847070	Standard
	Sn	118	888.0	7.7	**-0.0043**	0.003	64.9	ug/L	553	Standard
	Sb	123	786.7	27.1	**0.0689**	0.019	27.1	ug/L	25	Standard
	Ba	135	200482.7	0.1	**40.9626**	0.399	1.0	ug/L	25	Standard
	Ce	140	388.0	8.5				ug/L	21	Standard
>	**Tb**	159	1179658.6	0.5				ug/L	1162405	Standard
	Ho	165	16.3	34.8				ug/L	12	Standard
	Tl	203	552.3	26.7	**0.0304**	0.008	27.5	ug/L	4	Standard
	Tl	205	1263.4	28.0	**0.0320**	0.009	27.1	ug/L	4	Standard
	Pb	206	786.7	15.5	**0.0322**	0.009	27.6	ug/L	380	Standard
	Pb	207	659.7	13.8	**0.0276**	0.008	28.8	ug/L	306	Standard
	Pb	208	3033.5	14.4	**0.0299**	0.008	27.3	ug/L	1471	Standard
	U	238	5711.7	1.5	**0.3359**	0.004	1.1	ug/L	0	Standard
>	**Bi**	209	564446.3	0.4				ug/L	592579	Standard

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Na	23	159133.0	1.0	**7.8253**	0.218	2.8	mg/L	327	Standard
Mg	24	1247922.6	0.5	**1.6996**	0.044	2.6	mg/L	50	Standard
K	39	1081.7	8.4	**0.7240**	0.085	11.7	mg/L	125	Standard
Ca	43	100.0	8.7	**47.3699**	5.085	10.7	mg/L	0	Standard
Fe	54	569.9	3.4	**-0.0086**	0.005	53.2	mg/L	579	Standard
Fe	57	14598.7	4.9	**0.1093**	0.010	8.8	mg/L	2535	Standard
Sc-1	45	402442.9	2.1				mg/L	350981	Standard
Cl	35	31.7	18.2				ug/L	6	Standard
Kr	83	48.6	10.0				ug/L	39	Standard
Br	81	13362.6	2.6				ug/L	918	Standard
P	31	491.7	7.4				ug/L	338	Standard
S	34	14264.2	0.6				ug/L	6425	Standard
Sr	88	313.3	10.6				ug/L	28	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	7			
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		95.390	
As	75			
Se	82			
Se-1	77			
Ga	71			
Rb	85			
Y	89			
Rh	103			
Mo	98			
Ag	107			

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Cd	111	
Cd	114	
> In	115	102.228
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	95.253
Na	23	
Mg	24	
K	39	
Ca	43	
Fe	54	
Fe	57	
> Sc-1	45	
Cl	35	
Kr	83	
Br	81	
P	31	
S	34	
Sr	88	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: L1207051502
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Approved: July 23, 2012

Method 6020 - Summary Report

Sample ID: L1207051503
Sample Date/Time: Friday, July 20, 2012 12:49:19
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	7	134777.1	2.9	**177906.5943**	6741.743	3.8	ug/L	9660	Standard
	Be	9	11.7	89.2	**0.0009**	0.005	597.7	ug/L	7	Standard
	Al	27	110023.2	2.7	**6.2910**	0.260	4.1	ug/L	6610	Standard
>	**Sc**	45	401050.7	1.3				ug/L	350981	Standard
	Ti	47	926.7	2.6	**0.7274**	0.023	3.2	ug/L	63	Standard
	V	51	7071.3	3.3	**0.4581**	0.025	5.4	ug/L	2655	Standard
	Cr	52	15078.5	2.4	**0.8708**	0.034	3.9	ug/L	8417	Standard
	Cr	53	1389.2	5.5	**0.9033**	0.075	8.4	ug/L	146	Standard
	Mn	55	985095.9	0.5	**68.1967**	1.026	1.5	ug/L	1081	Standard
	Co	59	909.0	4.3	**0.0819**	0.003	3.5	ug/L	84	Standard
	Ni	60	3316.0	3.9	**1.3516**	0.042	3.1	ug/L	55	Standard
	Cu	65	2275.8	4.6	**0.9942**	0.029	2.9	ug/L	78	Standard
	Zn	66	4804.1	2.2	**4.6814**	0.109	2.3	ug/L	99	Standard
>	**Ge**	72	275465.5	2.0				ug/L	289581	Standard
	As	75	3045.4	1.6	**3.1441**	0.024	0.8	ug/L	-189	Standard
	Se	82	229.3	2.8	**2.0969**	0.104	5.0	ug/L	18	Standard
	Se-1	77	119.0	9.1	**0.4375**	0.168	38.3	ug/L	97	Standard
>	**Ga**	71	573.3	3.5				mg/L	628	Standard
	Rb	85	7430.2	3.5				ug/L	10	Standard
	Y	89	262055.4	1.5				ug/L	254546	Standard
>	**Rh**	103	540.0	10.7				ug/L	400	Standard
	Mo	98	3545.0	1.0	**0.8851**	0.003	0.4	ug/L	8	Standard
	Ag	107	94.3	30.9	**0.0033**	0.003	103.8	ug/L	76	Standard
	Cd	111	110.8	26.2	**0.0065**	0.006	100.5	mg/L	63	Standard
	Cd	114	308.0	16.5	**0.0087**	0.004	46.0	ug/L	201	Standard
>	**In**	115	865063.3	1.0				ug/L	847070	Standard
	Sn	118	1528.7	1.8	**0.0251**	0.002	6.6	ug/L	553	Standard
	Sb	123	542.9	3.9	**0.0471**	0.002	3.7	ug/L	25	Standard
	Ba	135	388077.8	0.5	**79.3813**	0.643	0.8	ug/L	25	Standard
	Ce	140	878.4	3.6				ug/L	21	Standard
>	**Tb**	159	1188867.6	0.4				ug/L	1162405	Standard
	Ho	165	28.0	25.0				ug/L	12	Standard
	Tl	203	547.0	8.7	**0.0305**	0.003	8.4	ug/L	4	Standard
	Tl	205	1231.4	5.5	**0.0316**	0.001	4.7	ug/L	4	Standard
	Pb	206	782.4	2.8	**0.0326**	0.001	4.1	ug/L	380	Standard
	Pb	207	631.0	5.8	**0.0258**	0.003	11.7	ug/L	306	Standard
	Pb	208	3053.1	5.3	**0.0310**	0.003	8.7	ug/L	1471	Standard
	U	238	6997.3	1.4	**0.4166**	0.005	1.1	ug/L	0	Standard
>	**Bi**	209	557231.4	0.7				ug/L	592579	Standard

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Na	23	162464.8	0.9	**8.0160**	0.171	2.1	mg/L	327	Standard
Mg	24	3992256.7	2.0	**5.4546**	0.109	2.0	mg/L	50	Standard
K	39	1420.1	4.7	**0.9793**	0.038	3.9	mg/L	125	Standard
Ca	43	71.7	4.0	**33.7822**	1.702	5.0	mg/L	0	Standard
Fe	54	545.4	5.9	**-0.0129**	0.006	46.2	mg/L	579	Standard
Fe	57	12782.1	4.7	**0.0926**	0.007	7.6	mg/L	2535	Standard
Sc-1	45	401050.7	1.3				mg/L	350981	Standard
Cl	35	35.7	8.1				ug/L	6	Standard
Kr	83	47.8	8.7				ug/L	39	Standard
Br	81	16909.5	6.2				ug/L	918	Standard
P	31	445.0	11.2				ug/L	338	Standard
S	34	15514.6	0.5				ug/L	6425	Standard
Sr	88	701.7	3.5				ug/L	28	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	7			
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		95.126	
As	75			
Se	82			
Se-1	77			
Ga	71			
Rb	85			
Y	89			
Rh	103			
Mo	98			
Ag	107			

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	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

102.124

94.035

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: L1207051503
Report Date/Time: Friday, July 20, 2012 12:51:50
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Method 6020 - Summary Report

Sample ID: L1207053402 WG403843-01
Sample Date/Time: Friday, July 20, 2012 12:52:29
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	7	50999.0	2.3	**70625.8992**	1576.240	2.2	ug/L	9660	Standard
	Be	9	23.3	24.7	**0.0087**	0.003	39.9	ug/L	7	Standard
	Al	27	37447.9	3.2	**2.2298**	0.044	2.0	ug/L	6610	Standard
>	**Sc**	45	341991.5	2.6				ug/L	350981	Standard
	Ti	47	364.7	6.9	**0.2904**	0.022	7.5	ug/L	63	Standard
	V	51	9343.4	2.2	**0.7977**	0.018	2.3	ug/L	2655	Standard
	Cr	52	15343.1	1.9	**1.1293**	0.031	2.7	ug/L	8417	Standard
	Cr	53	2161.0	3.9	**1.6537**	0.075	4.5	ug/L	146	Standard
	Mn	55	9775.8	2.0	**0.6838**	0.011	1.7	ug/L	1081	Standard
	Co	59	368.7	8.7	**0.0310**	0.004	11.4	ug/L	84	Standard
	Ni	60	940.0	1.4	**0.4139**	0.005	1.2	ug/L	55	Standard
	Cu	65	637.0	6.7	**0.2889**	0.020	6.9	ug/L	78	Standard
	Zn	66	4568.7	3.3	**4.9905**	0.143	2.9	ug/L	99	Standard
>	**Ge**	72	246038.3	0.5				ug/L	289581	Standard
	As	75	6569.0	1.5	**7.3576**	0.081	1.1	ug/L	-189	Standard
	Se	82	2714.4	1.2	**29.6966**	0.235	0.8	ug/L	18	Standard
	Se-1	77	159.7	2.0	**1.2711**	0.041	3.2	ug/L	97	Standard
>	**Ga**	71	510.0	12.5				mg/L	628	Standard
	Rb	85	12415.1	4.6				ug/L	10	Standard
	Y	89	242356.9	2.2				ug/L	254546	Standard
>	**Rh**	103	536.7	3.8				ug/L	400	Standard
	Mo	98	17019.9	2.0	**4.7966**	0.021	0.4	ug/L	8	Standard
	Ag	107	111.3	72.5	**0.0070**	0.011	153.2	ug/L	76	Standard
	Cd	111	87.8	66.5	**0.0036**	0.015	404.9	mg/L	63	Standard
	Cd	114	328.8	29.6	**0.0138**	0.009	61.9	ug/L	201	Standard
>	**In**	115	767911.3	1.6				ug/L	847070	Standard
	Sn	118	705.0	5.6	**-0.0085**	0.001	17.2	ug/L	553	Standard
	Sb	123	946.9	9.5	**0.0942**	0.008	8.0	ug/L	25	Standard
	Ba	135	202010.8	1.0	**46.5472**	0.609	1.3	ug/L	25	Standard
	Ce	140	249.7	2.4				ug/L	21	Standard
>	**Tb**	159	1106646.4	0.6				ug/L	1162405	Standard
	Ho	165	46.0	15.7				ug/L	12	Standard
	Tl	203	538.3	20.4	**0.0392**	0.008	20.1	ug/L	4	Standard
	Tl	205	1196.0	16.3	**0.0395**	0.006	15.4	ug/L	4	Standard
	Pb	206	447.0	14.6	**0.0172**	0.006	35.9	ug/L	380	Standard
	Pb	207	365.0	13.3	**0.0113**	0.005	47.0	ug/L	306	Standard
	Pb	208	1667.4	12.5	**0.0136**	0.005	35.6	ug/L	1471	Standard
	U	238	36601.2	1.0	**2.8127**	0.027	1.0	ug/L	0	Standard
>	**Bi**	209	430870.2	1.3				ug/L	592579	Standard

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Na	23	400395.4	1.4	**23.2385**	0.756	3.3	mg/L	327	Standard
Mg	24	767467.9	0.8	**1.2299**	0.024	1.9	mg/L	50	Standard
K	39	861.7	1.5	**0.6723**	0.009	1.3	mg/L	125	Standard
Ca	43	8.3	69.3	**3.8664**	3.316	85.8	mg/L	0	Standard
Fe	54	552.3	9.0	**0.0065**	0.014	208.5	mg/L	579	Standard
Fe	57	3562.1	1.3	**0.0116**	0.001	12.7	mg/L	2535	Standard
Sc-1	45	341991.5	2.6				mg/L	350981	Standard
Cl	35	84.3	11.9				ug/L	6	Standard
Kr	83	48.3	5.4				ug/L	39	Standard
Br	81	240516.9	1.8				ug/L	918	Standard
P	31	725.0	7.8				ug/L	338	Standard
S	34	17631.9	1.7				ug/L	6425	Standard
Sr	88	306.7	10.6				ug/L	28	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	7			
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		84.964	
As	75			
Se	82			
Se-1	77			
Ga	71			
Rb	85			
Y	89			
Rh	103			
Mo	98			
Ag	107			

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	Cd	111	
	Cd	114	
>	In	115	90.655
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	72.711
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

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Method 6020 - Summary Report

Sample ID: L1207053414S WG403843-05
Sample Date/Time: Friday, July 20, 2012 12:55:39
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	7	53900.8	3.7	**73766.0682**	930.022	1.3	ug/L	9660	Standard
	Be	9	44147.6	0.3	**25.2710**	0.652	2.6	ug/L	7	Standard
	Al	27	394186.7	2.2	**27.3869**	0.312	1.1	ug/L	6610	Standard
>	**Sc**	45	348543.8	2.8				ug/L	350981	Standard
	Ti	47	459.0	19.4	**0.3715**	0.082	22.2	ug/L	63	Standard
	V	51	248009.5	1.0	**27.0660**	0.149	0.5	ug/L	2655	Standard
	Cr	52	203909.3	0.5	**26.6145**	0.287	1.1	ug/L	8417	Standard
	Cr	53	33760.1	1.4	**26.9463**	0.654	2.4	ug/L	146	Standard
	Mn	55	364521.7	1.4	**27.6804**	0.113	0.4	ug/L	1081	Standard
	Co	59	237129.3	0.9	**26.7494**	0.043	0.2	ug/L	84	Standard
	Ni	60	54032.8	0.8	**24.5784**	0.307	1.2	ug/L	55	Standard
	Cu	65	49290.1	1.3	**24.4245**	0.406	1.7	ug/L	78	Standard
	Zn	66	24902.1	1.8	**27.1807**	0.390	1.4	ug/L	99	Standard
>	**Ge**	72	250676.1	1.0				ug/L	289581	Standard
	As	75	31789.2	2.1	**34.3233**	0.498	1.4	ug/L	-189	Standard
	Se	82	5417.4	2.5	**58.3249**	1.279	2.2	ug/L	18	Standard
	Se-1	77	1866.8	1.0	**27.4327**	0.332	1.2	ug/L	97	Standard
>	**Ga**	71	538.3	3.8				mg/L	628	Standard
	Rb	85	9381.2	0.9				ug/L	10	Standard
	Y	89	242960.8	0.4				ug/L	254546	Standard
>	**Rh**	103	548.3	15.5				ug/L	400	Standard
	Mo	98	16763.1	0.5	**4.6632**	0.085	1.8	ug/L	8	Standard
	Ag	107	185267.2	1.1	**25.1408**	0.125	0.5	ug/L	76	Standard
	Cd	111	101102.6	2.1	**25.7358**	0.148	0.6	mg/L	63	Standard
	Cd	114	266880.8	0.3	**24.5684**	0.447	1.8	ug/L	201	Standard
>	**In**	115	778133.6	1.6				ug/L	847070	Standard
	Sn	118	725.7	6.0	**-0.0079**	0.002	21.0	ug/L	553	Standard
	Sb	123	254408.3	1.2	**25.4550**	0.155	0.6	ug/L	25	Standard
	Ba	135	285669.6	0.5	**64.9643**	0.727	1.1	ug/L	25	Standard
	Ce	140	459.0	2.1				ug/L	21	Standard
>	**Tb**	159	1114994.2	1.1				ug/L	1162405	Standard
	Ho	165	57.0	12.3				ug/L	12	Standard
	Tl	203	365744.3	0.8	**27.7716**	0.023	0.1	ug/L	4	Standard
	Tl	205	823500.2	0.4	**26.9968**	0.262	1.0	ug/L	4	Standard
	Pb	206	272595.8	0.9	**26.7830**	0.046	0.2	ug/L	380	Standard
	Pb	207	225580.9	0.4	**26.5689**	0.111	0.4	ug/L	306	Standard
	Pb	208	1047832.6	0.9	**26.3643**	0.093	0.4	ug/L	1471	Standard
	U	238	446031.9	1.2	**34.4756**	0.244	0.7	ug/L	0	Standard
>	**Bi**	209	428205.8	0.7				ug/L	592579	Standard

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Na	23	408717.7	0.5	**23.2769**	0.701	3.0	mg/L	327	Standard
Mg	24	598032.1	1.5	**0.9406**	0.033	3.5	mg/L	50	Standard
K	39	740.0	7.1	**0.5535**	0.054	9.8	mg/L	125	Standard
Ca	43	13.3	21.7	**6.5645**	1.723	26.2	mg/L	0	Standard
Fe	54	543.0	1.4	**0.0021**	0.005	240.0	mg/L	579	Standard
Fe	57	3748.8	2.5	**0.0129**	0.002	14.3	mg/L	2535	Standard
Sc-1	45	348543.8	2.8				mg/L	350981	Standard
Cl	35	89.3	19.6				ug/L	6	Standard
Kr	83	50.9	2.1				ug/L	39	Standard
Br	81	238883.1	2.1				ug/L	918	Standard
P	31	755.9	8.9				ug/L	338	Standard
S	34	18296.9	0.7				ug/L	6425	Standard
Sr	88	276.7	7.3				ug/L	28	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	7			
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		86.565	
As	75			
Se	82			
Se-1	77			
Ga	71			
Rb	85			
Y	89			
Rh	103			
Mo	98			
Ag	107			

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	Cd	111	
	Cd	114	
>	In	115	91.862
	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	72.261
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: L1207053414S WG403843-05
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Method 6020 - Summary Report

Sample ID: L1207053416SD WG403843-06
Sample Date/Time: Friday, July 20, 2012 12:58:50
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	7	54849.1	1.1	**75140.0697**	639.762	0.9	ug/L	9660	Standard
	Be	9	46133.5	1.2	**26.3394**	0.561	2.1	ug/L	7	Standard
	Al	27	536393.0	0.5	**37.3482**	0.559	1.5	ug/L	6610	Standard
>	**Sc**	45	349352.4	1.8				ug/L	350981	Standard
	Ti	47	517.0	8.8	**0.4175**	0.038	9.1	ug/L	63	Standard
	V	51	256393.3	2.0	**27.5464**	0.432	1.6	ug/L	2655	Standard
	Cr	52	209165.3	1.3	**26.8824**	0.427	1.6	ug/L	8417	Standard
	Cr	53	35415.5	2.0	**27.8254**	0.594	2.1	ug/L	146	Standard
	Mn	55	380627.1	0.7	**28.4552**	0.295	1.0	ug/L	1081	Standard
	Co	59	245420.1	1.1	**27.2526**	0.367	1.3	ug/L	84	Standard
	Ni	60	55823.3	0.9	**24.9943**	0.121	0.5	ug/L	55	Standard
	Cu	65	51363.9	0.1	**25.0551**	0.344	1.4	ug/L	78	Standard
	Zn	66	27471.2	1.3	**29.5253**	0.255	0.9	ug/L	99	Standard
>	**Ge**	72	254667.9	1.2				ug/L	289581	Standard
	As	75	32091.9	0.6	**34.1117**	0.321	0.9	ug/L	-189	Standard
	Se	82	5286.1	2.1	**56.0104**	0.672	1.2	ug/L	18	Standard
	Se-1	77	1952.8	2.3	**28.2867**	0.880	3.1	ug/L	97	Standard
>	**Ga**	71	580.0	12.7				mg/L	628	Standard
	Rb	85	8705.8	2.6				ug/L	10	Standard
	Y	89	238640.1	1.9				ug/L	254546	Standard
>	**Rh**	103	671.7	7.5				ug/L	400	Standard
	Mo	98	16820.6	1.0	**4.6354**	0.100	2.2	ug/L	8	Standard
	Ag	107	185873.2	0.9	**24.9897**	0.468	1.9	ug/L	76	Standard
	Cd	111	102957.6	1.4	**25.9648**	0.212	0.8	mg/L	63	Standard
	Cd	114	274385.1	1.3	**25.0195**	0.260	1.0	ug/L	201	Standard
>	**In**	115	785550.4	2.2				ug/L	847070	Standard
	Sn	118	822.7	2.6	**-0.0034**	0.002	55.3	ug/L	553	Standard
	Sb	123	259925.6	0.3	**25.7674**	0.499	1.9	ug/L	25	Standard
	Ba	135	280987.3	0.7	**63.3052**	1.233	1.9	ug/L	25	Standard
	Ce	140	1017.7	2.7				ug/L	21	Standard
>	**Tb**	159	1109135.0	0.9				ug/L	1162405	Standard
	Ho	165	62.7	6.4				ug/L	12	Standard
	Tl	203	372487.7	0.3	**27.9287**	0.247	0.9	ug/L	4	Standard
	Tl	205	847686.2	0.4	**27.4391**	0.147	0.5	ug/L	4	Standard
	Pb	206	282245.3	0.6	**27.3833**	0.231	0.8	ug/L	380	Standard
	Pb	207	235228.7	0.9	**27.3570**	0.222	0.8	ug/L	306	Standard
	Pb	208	1090263.8	0.5	**27.0881**	0.207	0.8	ug/L	1471	Standard
	U	238	446957.9	0.8	**34.1129**	0.166	0.5	ug/L	0	Standard
>	**Bi**	209	433666.8	0.7				ug/L	592579	Standard

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Na	23	410477.6	0.4	**23.3140**	0.352	1.5	mg/L	327	Standard
Mg	24	541459.5	1.4	**0.8495**	0.026	3.1	mg/L	50	Standard
K	39	698.3	7.0	**0.5160**	0.052	10.0	mg/L	125	Standard
Ca	43	8.3	124.9	**3.8147**	5.878	154.1	mg/L	0	Standard
Fe	54	613.1	6.4	**0.0168**	0.007	44.5	mg/L	579	Standard
Fe	57	4544.0	3.6	**0.0214**	0.003	12.2	mg/L	2535	Standard
Sc-1	45	349352.4	1.8				mg/L	350981	Standard
Cl	35	84.7	13.0				ug/L	6	Standard
Kr	83	50.7	6.3				ug/L	39	Standard
Br	81	215686.7	2.6				ug/L	918	Standard
P	31	760.0	5.2				ug/L	338	Standard
S	34	18375.3	0.8				ug/L	6425	Standard
Sr	88	250.0	24.2				ug/L	28	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	7			
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		87.944	
As	75			
Se	82			
Se-1	77			
Ga	71			
Rb	85			
Y	89			
Rh	103			
Mo	98			
Ag	107			

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	Cd	111	
	Cd	114	
>	In	115	92.737
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	73.183
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: L1207053416SD WG403843-06
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Method 6020 - Summary Report

Sample ID: L1207053406
Sample Date/Time: Friday, July 20, 2012 13:02:00
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	7	39600.0	2.4	**45905.1369**	2459.267	5.4	ug/L	9660	Standard
	Be	9	31.7	39.7	**0.0121**	0.007	57.7	ug/L	7	Standard
	Al	27	311760.2	5.9	**20.0942**	1.367	6.8	ug/L	6610	Standard
>	**Sc**	45	373539.5	1.9				ug/L	350981	Standard
	Ti	47	944.4	7.9	**0.7366**	0.066	8.9	ug/L	63	Standard
	V	51	11943.7	1.3	**0.9378**	0.022	2.4	ug/L	2655	Standard
	Cr	52	12809.4	0.6	**0.5799**	0.011	1.8	ug/L	8417	Standard
	Cr	53	620.0	8.8	**0.3380**	0.037	10.8	ug/L	146	Standard
	Mn	55	40694.3	2.0	**2.7252**	0.072	2.7	ug/L	1081	Standard
	Co	59	454.3	27.4	**0.0350**	0.013	37.2	ug/L	84	Standard
	Ni	60	716.0	5.2	**0.2724**	0.017	6.2	ug/L	55	Standard
	Cu	65	991.7	1.9	**0.4115**	0.008	1.9	ug/L	78	Standard
	Zn	66	2203.2	2.3	**2.0711**	0.055	2.6	ug/L	99	Standard
>	**Ge**	72	277460.8	0.6				ug/L	289581	Standard
	As	75	2606.6	3.0	**2.6965**	0.068	2.5	ug/L	-189	Standard
	Se	82	103.7	18.8	**0.8535**	0.187	21.9	ug/L	18	Standard
	Se-1	77	126.0	11.3	**0.5214**	0.195	37.3	ug/L	97	Standard
>	**Ga**	71	628.3	4.4				mg/L	628	Standard
	Rb	85	2140.2	5.4				ug/L	10	Standard
	Y	89	248635.2	0.6				ug/L	254546	Standard
>	**Rh**	103	673.3	3.3				ug/L	400	Standard
	Mo	98	3043.4	6.6	**0.7912**	0.050	6.3	ug/L	8	Standard
	Ag	107	265.7	86.5	**0.0255**	0.029	113.7	ug/L	76	Standard
	Cd	111	169.4	88.9	**0.0214**	0.036	166.6	mg/L	63	Standard
	Cd	114	499.2	77.1	**0.0262**	0.033	125.8	ug/L	201	Standard
>	**In**	115	830545.4	1.6				ug/L	847070	Standard
	Sn	118	976.0	14.1	**0.0017**	0.006	384.4	ug/L	553	Standard
	Sb	123	1366.5	21.3	**0.1263**	0.027	21.1	ug/L	25	Standard
	Ba	135	73920.6	2.1	**15.7406**	0.308	2.0	ug/L	25	Standard
	Ce	140	4188.9	3.0				ug/L	21	Standard
>	**Tb**	159	1156419.6	0.4				ug/L	1162405	Standard
	Ho	165	274.3	4.0				ug/L	12	Standard
	Tl	203	289.7	76.1	**0.0163**	0.013	82.5	ug/L	4	Standard
	Tl	205	662.4	68.4	**0.0180**	0.012	66.2	ug/L	4	Standard
	Pb	206	753.7	21.1	**0.0329**	0.013	38.1	ug/L	380	Standard
	Pb	207	645.7	14.7	**0.0296**	0.009	30.1	ug/L	306	Standard
	Pb	208	2975.8	17.2	**0.0320**	0.010	32.3	ug/L	1471	Standard
	U	238	42763.6	1.5	**2.6520**	0.040	1.5	ug/L	0	Standard
>	**Bi**	209	533900.0	0.6				ug/L	592579	Standard

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Na	23	322969.3	0.4	**17.1480**	0.318	1.9	mg/L	327	Standard
Mg	24	688440.2	1.5	**1.0098**	0.010	1.0	mg/L	50	Standard
K	39	340.0	10.6	**0.1881**	0.033	17.4	mg/L	125	Standard
Ca	43	6.7	43.3	**2.5965**	1.537	59.2	mg/L	0	Standard
Fe	54	679.9	3.2	**0.0217**	0.002	8.0	mg/L	579	Standard
Fe	57	4594.0	5.7	**0.0187**	0.002	10.8	mg/L	2535	Standard
Sc-1	45	373539.5	1.9				mg/L	350981	Standard
Cl	35	7.0	14.3				ug/L	6	Standard
Kr	83	41.1	8.0				ug/L	39	Standard
Br	81	3985.6	30.5				ug/L	918	Standard
P	31	615.0	1.1				ug/L	338	Standard
S	34	14149.1	1.0				ug/L	6425	Standard
Sr	88	200.0	26.1				ug/L	28	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	7			
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		95.815	
As	75			
Se	82			
Se-1	77			
Ga	71			
Rb	85			
Y	89			
Rh	103			
Mo	98			
Ag	107			

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	Cd	111	
	Cd	114	
>	In	115	98.049
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	90.098
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

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Method 6020 - Summary Report

Sample ID: L1207053406PS WG403863-01
Sample Date/Time: Friday, July 20, 2012 13:05:09
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	7	41826.0	3.3	**46233.6754**	2370.559	5.1	ug/L	9660	Standard
	Be	9	92879.0	3.3	**47.2166**	1.442	3.1	ug/L	7	Standard
	Al	27	1076625.5	5.9	**67.1306**	4.362	6.5	ug/L	6610	Standard
>	**Sc**	45	392290.3	0.6				ug/L	350981	Standard
	Ti	47	1042.0	9.4	**0.7732**	0.077	9.9	ug/L	63	Standard
	V	51	532467.0	1.3	**50.0105**	1.047	2.1	ug/L	2655	Standard
	Cr	52	428484.6	1.2	**48.7153**	0.940	1.9	ug/L	8417	Standard
	Cr	53	70276.8	1.5	**48.1444**	0.377	0.8	ug/L	146	Standard
	Mn	55	804405.8	1.2	**52.4112**	0.386	0.7	ug/L	1081	Standard
	Co	59	507803.6	0.1	**49.0984**	0.501	1.0	ug/L	84	Standard
	Ni	60	119676.5	0.4	**46.6677**	0.396	0.8	ug/L	55	Standard
	Cu	65	108881.5	0.6	**46.2612**	0.349	0.8	ug/L	78	Standard
	Zn	66	49928.8	1.8	**46.7778**	0.601	1.3	ug/L	99	Standard
>	**Ge**	72	292535.2	0.9				ug/L	289581	Standard
	As	75	53593.7	1.6	**49.5145**	0.705	1.4	ug/L	-189	Standard
	Se	82	5123.9	1.7	**47.2405**	0.467	1.0	ug/L	18	Standard
	Se-1	77	3549.7	2.5	**45.4651**	0.711	1.6	ug/L	97	Standard
>	**Ga**	71	830.0	2.2				mg/L	628	Standard
	Rb	85	2231.8	4.1				ug/L	10	Standard
	Y	89	275858.9	1.4				ug/L	254546	Standard
>	**Rh**	103	711.7	5.2				ug/L	400	Standard
	Mo	98	3127.9	3.8	**0.7620**	0.024	3.2	ug/L	8	Standard
	Ag	107	397502.2	0.6	**47.3704**	0.063	0.1	ug/L	76	Standard
	Cd	111	210366.9	1.9	**47.0396**	0.890	1.9	mg/L	63	Standard
	Cd	114	555769.8	1.2	**44.9320**	0.563	1.3	ug/L	201	Standard
>	**In**	115	886161.9	0.7				ug/L	847070	Standard
	Sn	118	1336.7	8.0	**0.0149**	0.005	32.3	ug/L	553	Standard
	Sb	123	524230.5	0.5	**46.0585**	0.386	0.8	ug/L	25	Standard
	Ba	135	305230.2	0.7	**60.9441**	0.459	0.8	ug/L	25	Standard
	Ce	140	4709.7	0.7				ug/L	21	Standard
>	**Tb**	159	1209563.9	0.8				ug/L	1162405	Standard
	Ho	165	291.0	4.5				ug/L	12	Standard
	Tl	203	808996.6	0.6	**47.4280**	0.203	0.4	ug/L	4	Standard
	Tl	205	1864368.7	1.3	**47.1849**	0.446	0.9	ug/L	4	Standard
	Pb	206	625149.3	0.8	**47.4436**	0.508	1.1	ug/L	380	Standard
	Pb	207	532486.9	0.7	**48.4470**	0.444	0.9	ug/L	306	Standard
	Pb	208	2464230.2	0.7	**47.8932**	0.381	0.8	ug/L	1471	Standard
	U	238	909063.3	1.1	**54.2490**	0.406	0.7	ug/L	0	Standard
>	**Bi**	209	554625.5	0.6				ug/L	592579	Standard

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Na	23	322642.4	0.5	**16.3070**	0.148	0.9	mg/L	327	Standard
Mg	24	706464.9	0.3	**0.9867**	0.005	0.5	mg/L	50	Standard
K	39	380.0	4.7	**0.2054**	0.015	7.5	mg/L	125	Standard
Ca	43	11.7	24.7	**4.8981**	1.465	29.9	mg/L	0	Standard
Fe	54	925.6	6.1	**0.0623**	0.011	18.1	mg/L	579	Standard
Fe	57	5372.6	6.7	**0.0240**	0.004	15.7	mg/L	2535	Standard
Sc-1	45	392290.3	0.6				mg/L	350981	Standard
Cl	35	7.7	19.9				ug/L	6	Standard
Kr	83	42.1	2.4				ug/L	39	Standard
Br	81	2935.3	3.6				ug/L	918	Standard
P	31	815.0	3.5				ug/L	338	Standard
S	34	14595.4	1.9				ug/L	6425	Standard
Sr	88	190.0	11.5				ug/L	28	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	7			
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		101.020	
As	75			
Se	82			
Se-1	77			
Ga	71			
Rb	85			
Y	89			
Rh	103			
Mo	98			
Ag	107			

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	Cd	111	
	Cd	114	
>	In	115	104.615
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	93.595
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: L1207053406PS WG403863-01
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Method 6020 - Summary Report

Sample ID: L1207053406SDL WG403863-02
Sample Date/Time: Friday, July 20, 2012 13:10:44
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	7	16388.9	2.2	**10280.0576**	525.306	5.1	ug/L	9660	Standard
	Be	9	11.7	49.5	**0.0013**	0.003	231.9	ug/L	7	Standard
	Al	27	67962.2	3.5	**4.0242**	0.163	4.0	ug/L	6610	Standard
>	**Sc**	45	372674.2	0.2				ug/L	350981	Standard
	Ti	47	228.0	19.6	**0.1325**	0.033	25.3	ug/L	63	Standard
	V	51	4551.5	1.6	**0.1918**	0.008	4.2	ug/L	2655	Standard
	Cr	52	9504.6	0.7	**0.1492**	0.011	7.5	ug/L	8417	Standard
	Cr	53	285.0	7.0	**0.0909**	0.015	16.3	ug/L	146	Standard
	Mn	55	9462.3	0.5	**0.5615**	0.009	1.7	ug/L	1081	Standard
	Co	59	146.7	6.5	**0.0032**	0.001	35.0	ug/L	84	Standard
	Ni	60	289.7	5.4	**0.0943**	0.004	4.6	ug/L	55	Standard
	Cu	65	299.0	4.9	**0.0980**	0.007	7.2	ug/L	78	Standard
	Zn	66	3569.1	2.4	**3.3438**	0.138	4.1	ug/L	99	Standard
>	**Ge**	72	283976.9	1.6				ug/L	289581	Standard
	As	75	360.1	6.1	**0.5079**	0.026	5.0	ug/L	-189	Standard
	Se	82	34.0	10.5	**0.1672**	0.036	21.8	ug/L	18	Standard
	Se-1	77	103.3	6.4	**0.1750**	0.106	60.4	ug/L	97	Standard
>	**Ga**	71	616.7	8.7				mg/L	628	Standard
	Rb	85	435.0	12.0				ug/L	10	Standard
	Y	89	263613.8	1.4				ug/L	254546	Standard
>	**Rh**	103	531.7	5.2				ug/L	400	Standard
	Mo	98	532.1	2.9	**0.1318**	0.004	2.8	ug/L	8	Standard
	Ag	107	134.3	9.7	**0.0083**	0.001	17.3	ug/L	76	Standard
	Cd	111	85.7	8.1	**0.0008**	0.002	203.0	mg/L	63	Standard
	Cd	114	226.3	5.6	**0.0021**	0.001	58.9	ug/L	201	Standard
>	**In**	115	860075.3	1.1				ug/L	847070	Standard
	Sn	118	636.3	3.9	**-0.0156**	0.001	6.3	ug/L	553	Standard
	Sb	123	716.6	4.8	**0.0632**	0.004	6.0	ug/L	25	Standard
	Ba	135	14085.2	1.5	**2.8873**	0.019	0.7	ug/L	25	Standard
	Ce	140	808.4	3.5				ug/L	21	Standard
>	**Tb**	159	1176066.1	0.6				ug/L	1162405	Standard
	Ho	165	62.3	12.1				ug/L	12	Standard
	Tl	203	60.7	15.3	**0.0021**	0.001	25.5	ug/L	4	Standard
	Tl	205	135.7	7.1	**0.0039**	0.000	6.5	ug/L	4	Standard
	Pb	206	504.3	7.7	**0.0105**	0.003	27.6	ug/L	380	Standard
	Pb	207	422.7	3.6	**0.0057**	0.001	18.2	ug/L	306	Standard
	Pb	208	1939.0	3.7	**0.0083**	0.001	15.7	ug/L	1471	Standard
	U	238	8230.9	0.6	**0.4752**	0.002	0.5	ug/L	0	Standard
>	**Bi**	209	574451.7	1.1				ug/L	592579	Standard

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Na	23	154968.5	0.6	**8.2278**	0.034	0.4	mg/L	327	Standard
Mg	24	143742.0	1.1	**0.2112**	0.003	1.2	mg/L	50	Standard
K	39	155.0	17.1	**0.0390**	0.022	55.3	mg/L	125	Standard
Ca	43	3.3	86.6	**0.8617**	1.503	174.4	mg/L	0	Standard
Fe	54	534.3	7.3	**-0.0073**	0.008	107.1	mg/L	579	Standard
Fe	57	3170.3	1.5	**0.0044**	0.000	10.1	mg/L	2535	Standard
Sc-1	45	372674.2	0.2				mg/L	350981	Standard
Cl	35	6.7	8.7				ug/L	6	Standard
Kr	83	39.6	22.0				ug/L	39	Standard
Br	81	1310.1	7.4				ug/L	918	Standard
P	31	459.2	4.6				ug/L	338	Standard
S	34	8187.2	1.6				ug/L	6425	Standard
Sr	88	50.0	26.5				ug/L	28	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	7			
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		98.065	
As	75			
Se	82			
Se-1	77			
Ga	71			
Rb	85			
Y	89			
Rh	103			
Mo	98			
Ag	107			

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Cd	111	
Cd	114	
> In	115	101.535
Sn	118	
Sb	123	
Ba	135	
Ce	140	
> Tb	159	
Ho	165	
Tl	203	
Tl	205	
Pb	206	
Pb	207	
Pb	208	
U	238	
> Bi	209	96.941
Na	23	
Mg	24	
K	39	
Ca	43	
Fe	54	
Fe	57	
> Sc-1	45	
Cl	35	
Kr	83	
Br	81	
P	31	
S	34	
Sr	88	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: L1207053406SDL WG403863-02
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Method 6020 - Summary Report

Sample ID: QC Std 6
Sample Date/Time: Friday, July 20, 2012 13:13:57
Number of Replicates: 3
Autosampler Position: 101
Sample Description:
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
	Li	7	10492.0	3.3	**914.0606**	541.081	59.2	ug/L	9660	Standard
	Be	9	97418.9	0.6	**51.2056**	0.359	0.7	ug/L	7	Standard
	Al	27	722856.0	1.0	**46.4462**	0.532	1.1	ug/L	6610	Standard
>	**Sc**	45	379432.2	0.3				ug/L	350981	Standard
	Ti	47	127181.6	0.4	**99.9018**	2.291	2.3	ug/L	63	Standard
	V	51	532391.1	0.5	**49.5206**	1.084	2.2	ug/L	2655	Standard
	Cr	52	445183.6	0.9	**50.1553**	1.049	2.1	ug/L	8417	Standard
	Cr	53	71541.8	0.9	**48.5440**	0.831	1.7	ug/L	146	Standard
	Mn	55	805436.9	1.4	**51.9822**	1.467	2.8	ug/L	1081	Standard
	Co	59	529531.6	0.5	**50.7096**	1.043	2.1	ug/L	84	Standard
	Ni	60	125750.0	0.4	**48.5696**	1.065	2.2	ug/L	55	Standard
	Cu	65	114966.6	1.0	**48.3856**	1.305	2.7	ug/L	78	Standard
	Zn	66	52191.7	1.4	**48.4464**	1.613	3.3	ug/L	99	Standard
>	**Ge**	72	295417.5	1.9				ug/L	289581	Standard
	As	75	52800.6	1.3	**48.3270**	1.457	3.0	ug/L	-189	Standard
	Se	82	5383.1	2.5	**49.1779**	2.072	4.2	ug/L	18	Standard
	Se-1	77	3774.1	0.8	**47.9534**	1.308	2.7	ug/L	97	Standard
>	**Ga**	71	643.3	7.5				mg/L	628	Standard
	Rb	85	1861.8	5.4				ug/L	10	Standard
	Y	89	270250.8	1.4				ug/L	254546	Standard
>	**Rh**	103	595.0	10.3				ug/L	400	Standard
	Mo	98	391383.9	0.5	**93.5001**	1.544	1.7	ug/L	8	Standard
	Ag	107	422861.2	0.8	**49.2696**	0.761	1.5	ug/L	76	Standard
	Cd	111	222991.4	0.7	**48.7521**	0.775	1.6	mg/L	63	Standard
	Cd	114	599881.1	1.0	**47.4146**	0.458	1.0	ug/L	201	Standard
>	**In**	115	906485.4	1.6				ug/L	847070	Standard
	Sn	118	1136554.0	0.4	**49.5872**	0.718	1.4	ug/L	553	Standard
	Sb	123	549418.3	1.1	**47.1908**	0.352	0.7	ug/L	25	Standard
	Ba	135	238604.8	0.9	**46.5747**	0.555	1.2	ug/L	25	Standard
	Ce	140	626.7	4.7				ug/L	21	Standard
>	**Tb**	159	1220547.7	0.4				ug/L	1162405	Standard
	Ho	165	22.0	19.8				ug/L	12	Standard
	Tl	203	880899.5	0.7	**48.3684**	0.174	0.4	ug/L	4	Standard
	Tl	205	2163192.8	0.9	**51.2766**	0.294	0.6	ug/L	4	Standard
	Pb	206	677441.9	0.7	**48.1513**	0.236	0.5	ug/L	380	Standard
	Pb	207	568823.1	0.2	**48.4709**	0.241	0.5	ug/L	306	Standard
	Pb	208	2644824.9	0.2	**48.1438**	0.221	0.5	ug/L	1471	Standard
	U	238	898000.4	0.8	**50.1926**	0.525	1.0	ug/L	0	Standard
>	**Bi**	209	592172.3	0.3				ug/L	592579	Standard

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Na	23	121859.8	0.7	**6.3471**	0.052	0.8	mg/L	327	Standard
Mg	24	3444132.9	1.6	**4.9736**	0.075	1.5	mg/L	50	Standard
K	39	5726.1	2.4	**4.4559**	0.098	2.2	mg/L	125	Standard
Ca	43	11.7	24.7	**5.0905**	1.493	29.3	mg/L	0	Standard
Fe	54	24041.4	2.2	**4.6511**	0.101	2.2	mg/L	579	Standard
Fe	57	491208.2	1.5	**4.8599**	0.075	1.6	mg/L	2535	Standard
> **Sc-1**	45	379432.2	0.3				mg/L	350981	Standard
Cl	35	5.3	43.3				ug/L	6	Standard
Kr	83	38.6	13.2				ug/L	39	Standard
Br	81	1190.9	4.6				ug/L	918	Standard
P	31	543.3	10.9				ug/L	338	Standard
S	34	6649.8	4.3				ug/L	6425	Standard
Sr	88	30.0	44.1				ug/L	28	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	7			
Be	9			
Al	27	92.892		
> Sc	45			
Ti	47	99.902		
V	51	99.041		
Cr	52	100.311		
Cr	53			
Mn	55	103.964		
Co	59	101.419		
Ni	60	97.139		
Cu	65	96.771		
Zn	66	96.893		
> Ge	72		102.016	
As	75	96.654		
Se	82	98.356		
Se-1	77			
> Ga	71			
Rb	85			
Y	89			
> Rh	103			
Mo	98	93.500		
Ag	107	98.539		

Sample ID: QC Std 6
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	Cd	111	97.504	
	Cd	114		
>	In	115		107.014
	Sn	118	99.174	
	Sb	123	94.382	
	Ba	135	93.149	
	Ce	140		
>	Tb	159		
	Ho	165		
	Tl	203	96.737	
	Tl	205		
	Pb	206	96.303	
	Pb	207	96.942	
	Pb	208	96.288	
	U	238	100.385	
>	Bi	209		99.931
	Na	23		
	Mg	24		
	K	39		
	Ca	43		
	Fe	54		
	Fe	57		
>	Sc-1	45		
	Cl	35		
	Kr	83		
	Br	81		
	P	31		
	S	34		
	Sr	88		

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: QC Std 6
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Method 6020 - Summary Report

Sample ID: QC Std 7
Sample Date/Time: Friday, July 20, 2012 13:17:08
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	7	10000.0	1.0	**813.4447**	61.461	7.6	ug/L	9660	Standard
	Be	9	21.7	81.0	**0.0069**	0.010	137.5	ug/L	7	Standard
	Al	27	7601.9	0.3	**0.0479**	0.004	9.1	ug/L	6610	Standard
>	**Sc**	45	363935.8	0.7				ug/L	350981	Standard
	Ti	47	102.3	12.7	**0.0292**	0.010	34.7	ug/L	63	Standard
	V	51	2639.5	2.9	**0.0033**	0.006	188.8	ug/L	2655	Standard
	Cr	52	8144.5	0.7	**-0.0230**	0.002	9.5	ug/L	8417	Standard
	Cr	53	207.5	12.5	**0.0346**	0.018	53.5	ug/L	146	Standard
	Mn	55	1246.1	4.1	**0.0083**	0.003	38.3	ug/L	1081	Standard
	Co	59	126.0	17.6	**0.0010**	0.002	210.4	ug/L	84	Standard
	Ni	60	64.3	21.4	**0.0035**	0.005	155.8	ug/L	55	Standard
	Cu	65	123.7	7.5	**0.0206**	0.004	18.2	ug/L	78	Standard
	Zn	66	126.0	16.7	**0.0103**	0.021	201.9	ug/L	99	Standard
>	**Ge**	72	286821.4	0.5				ug/L	289581	Standard
	As	75	-180.9	10.6	**-0.0039**	0.019	481.6	ug/L	-189	Standard
	Se	82	22.5	14.6	**0.0551**	0.030	54.7	ug/L	18	Standard
	Se-1	77	87.3	4.0	**-0.0544**	0.046	84.9	ug/L	97	Standard
>	**Ga**	71	645.0	5.4				mg/L	628	Standard
	Rb	85	33.3	96.4				ug/L	10	Standard
	Y	89	261536.4	3.5				ug/L	254546	Standard
>	**Rh**	103	426.7	11.6				ug/L	400	Standard
	Mo	98	79.8	21.1	**0.0175**	0.004	22.9	ug/L	8	Standard
	Ag	107	178.0	18.5	**0.0133**	0.004	31.2	ug/L	76	Standard
	Cd	111	85.8	7.0	**0.0005**	0.001	263.4	mg/L	63	Standard
	Cd	114	268.9	2.1	**0.0052**	0.001	9.9	ug/L	201	Standard
>	**In**	115	876429.5	0.8				ug/L	847070	Standard
	Sn	118	946.4	6.5	**-0.0021**	0.002	118.6	ug/L	553	Standard
	Sb	123	817.7	26.5	**0.0708**	0.019	26.4	ug/L	25	Standard
	Ba	135	44.7	32.6	**-0.0017**	0.003	166.3	ug/L	25	Standard
	Ce	140	20.0	22.9				ug/L	21	Standard
>	**Tb**	159	1157109.0	0.7				ug/L	1162405	Standard
	Ho	165	15.0	17.6				ug/L	12	Standard
	Tl	203	84.0	33.2	**0.0032**	0.002	46.8	ug/L	4	Standard
	Tl	205	214.0	27.0	**0.0057**	0.001	24.1	ug/L	4	Standard
	Pb	206	429.3	4.5	**0.0041**	0.001	35.1	ug/L	380	Standard
	Pb	207	360.7	2.6	**-0.0006**	0.001	170.2	ug/L	306	Standard
	Pb	208	1716.7	4.2	**0.0032**	0.001	36.1	ug/L	1471	Standard
	U	238	91.3	32.0	**0.0061**	0.002	26.7	ug/L	0	Standard
>	**Bi**	209	590845.7	0.8				ug/L	592579	Standard

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Na	23	1333.4	11.8	**0.0391**	0.008	21.5	mg/L	327	Standard
Mg	24	326.7	36.2	**0.0004**	0.000	47.3	mg/L	50	Standard
K	39	140.0	12.9	**0.0297**	0.016	52.5	mg/L	125	Standard
Ca	43	5.0	100.0	**1.8018**	2.677	148.6	mg/L	0	Standard
Fe	54	547.9	5.4	**-0.0019**	0.006	285.4	mg/L	579	Standard
Fe	57	2815.3	9.9	**0.0015**	0.003	202.5	mg/L	2535	Standard
Sc-1	45	363935.8	0.7				mg/L	350981	Standard
Cl	35	2.0	50.0				ug/L	6	Standard
Kr	83	40.8	12.7				ug/L	39	Standard
Br	81	1209.2	4.7				ug/L	918	Standard
P	31	408.3	8.8				ug/L	338	Standard
S	34	6435.5	1.0				ug/L	6425	Standard
Sr	88	48.3	21.5				ug/L	28	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	7			
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		99.047	
As	75			
Se	82			
Se-1	77			
Ga	71			
Rb	85			
Y	89			
Rh	103			
Mo	98			
Ag	107			

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	Cd	111	
	Cd	114	
>	In	115	103.466
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	99.708
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: QC Std 7
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Method 6020 - Summary Report

Sample ID: L1207052801
Sample Date/Time: Friday, July 20, 2012 13:20:21
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	7	591563.4	5.0	**257155.6161**	9038.623	3.5	ug/L	9660	Standard
	Be	9	12968.9	3.0	**2.0692**	0.028	1.3	ug/L	7	Standard
	Al	27	S	S	**S**	S	S	ug/L	6610	Standard
>	**Sc**	45	1247120.1	2.6				ug/L	350981	Standard
	Ti	47	12951.2	1.4	**9.9017**	0.132	1.3	ug/L	63	Standard
	V	51	889833.8	1.2	**81.1152**	1.281	1.6	ug/L	2655	Standard
	Cr	52	5578539.1	1.7	**625.8414**	11.316	1.8	ug/L	8417	Standard
	Cr	53	949501.0	1.2	**631.5015**	4.433	0.7	ug/L	146	Standard
	Mn	55	105745658.7	3.3	**6684.6801**	239.937	3.6	ug/L	1081	Standard
	Co	59	16863919.8	3.0	**1580.1079**	56.692	3.6	ug/L	84	Standard
	Ni	60	10494258.7	0.5	**3966.1809**	23.138	0.6	ug/L	55	Standard
	Cu	65	1956443.6	1.3	**805.7842**	5.670	0.7	ug/L	78	Standard
	Zn	66	1945737.5	0.7	**1770.2187**	22.766	1.3	ug/L	99	Standard
>	**Ge**	72	301970.7	1.0				ug/L	289581	Standard
	As	75	3166040.8	1.9	**2824.2530**	39.584	1.4	ug/L	-189	Standard
	Se	82	255.6	7.6	**2.1325**	0.156	7.3	ug/L	18	Standard
	Se-1	77	452.0	2.4	**4.5336**	0.081	1.8	ug/L	97	Standard
>	**Ga**	71	132807.9	0.4				mg/L	628	Standard
	Rb	85	37763.7	4.3				ug/L	10	Standard
	Y	89	1471452.6	1.5				ug/L	254546	Standard
>	**Rh**	103	885.0	9.3				ug/L	400	Standard
	Mo	98	2094.9	2.4	**0.6335**	0.037	5.9	ug/L	8	Standard
	Ag	107	104.7	8.9	**0.0073**	0.001	10.8	ug/L	76	Standard
	Cd	111	112396.4	1.2	**31.1830**	0.941	3.0	mg/L	63	Standard
	Cd	114	307996.4	2.2	**30.8852**	0.464	1.5	ug/L	201	Standard
>	**In**	115	714571.4	3.7				ug/L	847070	Standard
	Sn	118	843.4	3.5	**0.0019**	0.000	7.9	ug/L	553	Standard
	Sb	123	324.2	4.2	**0.0336**	0.001	2.0	ug/L	25	Standard
	Ba	135	2864.9	3.1	**0.6989**	0.012	1.8	ug/L	25	Standard
	Ce	140	6069778.4	1.6				ug/L	21	Standard
>	**Tb**	159	1257025.1	2.9				ug/L	1162405	Standard
	Ho	165	195518.1	2.9				ug/L	12	Standard
	Tl	203	344425.1	1.2	**24.9604**	0.313	1.3	ug/L	4	Standard
	Tl	205	799518.3	2.5	**25.0094**	0.128	0.5	ug/L	4	Standard
	Pb	206	3874.2	3.7	**0.3370**	0.009	2.6	ug/L	380	Standard
	Pb	207	3104.0	2.7	**0.3178**	0.005	1.7	ug/L	306	Standard
	Pb	208	14646.1	2.3	**0.3239**	0.003	1.0	ug/L	1471	Standard
	U	238	190675.3	0.8	**14.0711**	0.434	3.1	ug/L	0	Standard
>	**Bi**	209	448746.8	2.4				ug/L	592579	Standard

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Na	23	168721.0	1.3	**2.6555**	0.086	3.2	mg/L	327	Standard
Mg	24	16153168.5	9.6	**7.0929**	0.578	8.1	mg/L	50	Standard
K	39	636.7	15.0	**0.0676**	0.024	35.1	mg/L	125	Standard
Ca	43	281.7	14.5	**42.9750**	6.790	15.8	mg/L	0	Standard
Fe	54	1312310.9	1.7	**79.0714**	2.154	2.7	mg/L	579	Standard
Fe	57	39415135.9	1.4	**119.3696**	4.494	3.8	mg/L	2535	Standard
> **Sc-1**	45	1247120.1	2.6				mg/L	350981	Standard
Cl	35	7.7	19.9				ug/L	6	Standard
Kr	83	403.4	5.8				ug/L	39	Standard
Br	81	2671.1	6.5				ug/L	918	Standard
P	31	9819.9	9.0				ug/L	338	Standard
S	34	897701.0	6.5				ug/L	6425	Standard
Sr	88	2728.6	7.1				ug/L	28	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	7			
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		104.279	
As	75			
Se	82			
Se-1	77			
> Ga	71			
Rb	85			
Y	89			
> Rh	103			
Mo	98			
Ag	107			

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	Cd	111	
	Cd	114	
>	In	115	84.358
	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	75.728
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Cr 52 Upper, S, EEE	Cr	52	
Cr 53 Upper, S, EEE	Cr	53	
Mn 55 Upper, S, EEE	Mn	55	
Co 59 Upper, S, EEE	Co	59	
Ni 60 Upper, S, EEE	Ni	60	
Cu 65 Upper, S, EEE	Cu	65	
Zn 66 Upper, S, EEE	Zn	66	
As 75 Upper, S, EEE	As	75	

Approved: July 23, 2012

Method 6020 - Summary Report

Sample ID: L1207052802
Sample Date/Time: Friday, July 20, 2012 13:23:30
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	7	550411.7	2.6	**242335.6636**	7039.704	2.9	ug/L	9660	Standard
	Be	9	13042.3	2.9	**2.1142**	0.058	2.7	ug/L	7	Standard
	Al	27	S	S	**S**	S	S	ug/L	6610	Standard
>	**Sc**	45	1227566.5	1.2				ug/L	350981	Standard
	Ti	47	13405.6	1.2	**10.1847**	0.106	1.0	ug/L	63	Standard
	V	51	923042.6	0.6	**83.6089**	0.811	1.0	ug/L	2655	Standard
	Cr	52	5629991.6	0.8	**627.5738**	7.509	1.2	ug/L	8417	Standard
	Cr	53	945855.4	1.9	**625.0893**	14.117	2.3	ug/L	146	Standard
	Mn	55	105526006.2	0.6	**6627.5969**	51.334	0.8	ug/L	1081	Standard
	Co	59	16899086.3	1.3	**1573.0547**	23.622	1.5	ug/L	84	Standard
	Ni	60	10629369.4	0.8	**3991.5556**	49.770	1.2	ug/L	55	Standard
	Cu	65	2001067.3	0.2	**818.9064**	1.662	0.2	ug/L	78	Standard
	Zn	66	1044935.0	0.2	**944.4908**	3.888	0.4	ug/L	99	Standard
>	**Ge**	72	303912.1	0.4				ug/L	289581	Standard
	As	75	3310688.8	0.3	**2934.4635**	3.581	0.1	ug/L	-189	Standard
	Se	82	262.6	5.0	**2.1813**	0.123	5.6	ug/L	18	Standard
	Se-1	77	464.0	4.7	**4.6501**	0.297	6.4	ug/L	97	Standard
>	**Ga**	71	131560.6	2.7				mg/L	628	Standard
	Rb	85	39700.3	1.4				ug/L	10	Standard
	Y	89	1513465.4	1.1				ug/L	254546	Standard
>	**Rh**	103	918.4	4.9				ug/L	400	Standard
	Mo	98	2143.4	2.3	**0.6656**	0.006	0.9	ug/L	8	Standard
	Ag	107	108.0	7.0	**0.0082**	0.001	12.7	ug/L	76	Standard
	Cd	111	112476.2	0.9	**32.0680**	0.276	0.9	mg/L	63	Standard
	Cd	114	305466.0	1.0	**31.4887**	0.273	0.9	ug/L	201	Standard
>	**In**	115	694914.1	1.5				ug/L	847070	Standard
	Sn	118	876.0	6.4	**0.0050**	0.003	49.7	ug/L	553	Standard
	Sb	123	255.3	11.4	**0.0269**	0.003	12.4	ug/L	25	Standard
	Ba	135	4468.0	3.4	**1.1271**	0.035	3.1	ug/L	25	Standard
	Ce	140	6026668.0	0.7				ug/L	21	Standard
>	**Tb**	159	1215142.7	0.9				ug/L	1162405	Standard
	Ho	165	193350.2	0.7				ug/L	12	Standard
	Tl	203	345514.2	0.4	**25.9382**	0.175	0.7	ug/L	4	Standard
	Tl	205	799894.6	0.8	**25.9240**	0.121	0.5	ug/L	4	Standard
	Pb	206	3800.5	3.8	**0.3430**	0.013	3.7	ug/L	380	Standard
	Pb	207	3173.7	0.5	**0.3386**	0.001	0.4	ug/L	306	Standard
	Pb	208	14612.1	1.3	**0.3358**	0.002	0.7	ug/L	1471	Standard
	U	238	193630.1	0.9	**14.7974**	0.096	0.6	ug/L	0	Standard
>	**Bi**	209	433123.2	0.6				ug/L	592579	Standard

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Sheri L. Babczuk

Na	23	171434.4	0.4	**2.7412**	0.038	1.4	mg/L	327	Standard
Mg	24	15318135.1	1.5	**6.8373**	0.036	0.5	mg/L	50	Standard
K	39	555.0	5.0	**0.0499**	0.006	12.7	mg/L	125	Standard
Ca	43	226.7	9.2	**34.9358**	3.419	9.8	mg/L	0	Standard
Fe	54	1301945.8	0.8	**79.6704**	0.556	0.7	mg/L	579	Standard
Fe	57	40949441.3	0.8	**125.9336**	2.451	1.9	mg/L	2535	Standard
> **Sc-1**	45	1227566.5	1.2				mg/L	350981	Standard
Cl	35	11.0	24.1				ug/L	6	Standard
Kr	83	428.2	2.0				ug/L	39	Standard
Br	81	2889.4	1.5				ug/L	918	Standard
P	31	9586.4	2.5				ug/L	338	Standard
S	34	827399.6	0.4				ug/L	6425	Standard
Sr	88	3167.0	7.0				ug/L	28	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	7			
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		104.949	
As	75			
Se	82			
Se-1	77			
> Ga	71			
Rb	85			
Y	89			
> Rh	103			
Mo	98			
Ag	107			

Sample ID: L1207052802
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	Cd	111	
	Cd	114	
>	In	115	82.037
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	73.091
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Cr 52 Upper, S, EEE	Cr	52	
Cr 53 Upper, S, EEE	Cr	53	
Mn 55 Upper, S, EEE	Mn	55	
Co 59 Upper, S, EEE	Co	59	
Ni 60 Upper, S, EEE	Ni	60	
Cu 65 Upper, S, EEE	Cu	65	
Zn 66 Upper, S, EEE	Zn	66	
As 75 Upper, S, EEE	As	75	

Approved: July 23, 2012

Method 6020 - Summary Report

Sample ID: L1207053404DP WG403843-07
Sample Date/Time: Friday, July 20, 2012 13:26:40
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	7	48654.7	3.6	**62952.9329**	1221.051	1.9	ug/L	9660	Standard
	Be	9	20.0	43.3	**0.0062**	0.005	77.5	ug/L	7	Standard
	Al	27	304652.3	47.1	**20.2767**	9.072	44.7	ug/L	6610	Standard
>	**Sc**	45	358351.1	3.3				ug/L	350981	Standard
	Ti	47	440.3	15.3	**0.3266**	0.065	19.9	ug/L	63	Standard
	V	51	9206.0	4.4	**0.6925**	0.015	2.2	ug/L	2655	Standard
	Cr	52	13860.0	6.2	**0.7582**	0.059	7.8	ug/L	8417	Standard
	Cr	53	1540.9	10.3	**1.0409**	0.149	14.3	ug/L	146	Standard
	Mn	55	21220.8	35.4	**1.4207**	0.487	34.3	ug/L	1081	Standard
	Co	59	2194.5	50.2	**0.2172**	0.108	49.9	ug/L	84	Standard
	Ni	60	2120.8	19.1	**0.8752**	0.159	18.1	ug/L	55	Standard
	Cu	65	1187.7	9.9	**0.5158**	0.060	11.5	ug/L	78	Standard
	Zn	66	2839.9	4.5	**2.7859**	0.099	3.5	ug/L	99	Standard
>	**Ge**	72	269373.7	2.8				ug/L	289581	Standard
	As	75	8294.6	3.4	**8.4610**	0.210	2.5	ug/L	-189	Standard
	Se	82	3276.2	3.9	**32.7488**	0.363	1.1	ug/L	18	Standard
	Se-1	77	162.0	9.3	**1.0923**	0.269	24.6	ug/L	97	Standard
>	**Ga**	71	541.7	9.2				mg/L	628	Standard
	Rb	85	13869.7	4.9				ug/L	10	Standard
	Y	89	299231.5	5.4				ug/L	254546	Standard
>	**Rh**	103	756.7	10.7				ug/L	400	Standard
	Mo	98	21530.0	7.3	**5.6800**	0.282	5.0	ug/L	8	Standard
	Ag	107	113.7	19.1	**0.0064**	0.002	37.9	ug/L	76	Standard
	Cd	111	74.3	44.0	**-0.0011**	0.007	699.5	mg/L	63	Standard
	Cd	114	326.6	19.4	**0.0117**	0.005	41.2	ug/L	201	Standard
>	**In**	115	819783.3	2.4				ug/L	847070	Standard
	Sn	118	796.4	0.1	**-0.0064**	0.001	13.6	ug/L	553	Standard
	Sb	123	987.9	1.5	**0.0921**	0.002	2.3	ug/L	25	Standard
	Ba	135	186765.1	1.0	**40.3141**	0.545	1.4	ug/L	25	Standard
	Ce	140	1378.1	65.6				ug/L	21	Standard
>	**Tb**	159	1142391.8	2.3				ug/L	1162405	Standard
	Ho	165	79.3	27.4				ug/L	12	Standard
	Tl	203	575.3	8.8	**0.0416**	0.002	4.6	ug/L	4	Standard
	Tl	205	1245.7	12.1	**0.0407**	0.003	7.8	ug/L	4	Standard
	Pb	206	421.3	7.4	**0.0143**	0.001	10.2	ug/L	380	Standard
	Pb	207	330.0	4.5	**0.0069**	0.001	19.7	ug/L	306	Standard
	Pb	208	1592.4	4.6	**0.0114**	0.000	2.4	ug/L	1471	Standard
	U	238	40109.7	3.4	**3.0559**	0.035	1.1	ug/L	0	Standard
>	**Bi**	209	434663.0	4.3				ug/L	592579	Standard

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Na	23	377669.2	0.8	**20.9193**	0.687	3.3	mg/L	327	Standard
Mg	24	583445.7	2.5	**0.8930**	0.047	5.3	mg/L	50	Standard
K	39	603.3	8.5	**0.4217**	0.057	13.4	mg/L	125	Standard
Ca	43	6.7	43.3	**2.7051**	1.430	52.9	mg/L	0	Standard
Fe	54	609.2	14.5	**0.0124**	0.014	116.0	mg/L	579	Standard
Fe	57	8110.6	28.0	**0.0573**	0.021	36.6	mg/L	2535	Standard
Sc-1	45	358351.1	3.3				mg/L	350981	Standard
Cl	35	66.0	14.9				ug/L	6	Standard
Kr	83	58.0	7.2				ug/L	39	Standard
Br	81	311762.6	2.3				ug/L	918	Standard
P	31	591.7	7.2				ug/L	338	Standard
S	34	14497.8	5.4				ug/L	6425	Standard
Sr	88	418.3	13.9				ug/L	28	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	7			
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		93.022	
As	75			
Se	82			
Se-1	77			
Ga	71			
Rb	85			
Y	89			
Rh	103			
Mo	98			
Ag	107			

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	Cd	111	
	Cd	114	
>	In	115	96.779
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	73.351
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

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Method 6020 - Summary Report

Sample ID: L1207053408
Sample Date/Time: Friday, July 20, 2012 13:29:50
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	7	43029.4	1.9	**53449.9320**	1753.953	3.3	ug/L	9660	Standard
	Be	9	18.3	63.0	**0.0052**	0.006	122.1	ug/L	7	Standard
	Al	27	170421.8	17.3	**11.1532**	1.963	17.6	ug/L	6610	Standard
>	**Sc**	45	360986.5	0.7				ug/L	350981	Standard
	Ti	47	1919.1	4.8	**1.6212**	0.067	4.1	ug/L	63	Standard
	V	51	8078.0	2.5	**0.5878**	0.014	2.4	ug/L	2655	Standard
	Cr	52	10987.3	3.7	**0.4152**	0.039	9.5	ug/L	8417	Standard
	Cr	53	597.5	14.2	**0.3402**	0.060	17.7	ug/L	146	Standard
	Mn	55	15285.4	9.6	**1.0220**	0.095	9.3	ug/L	1081	Standard
	Co	59	792.4	25.8	**0.0728**	0.021	28.9	ug/L	84	Standard
	Ni	60	719.0	12.6	**0.2863**	0.036	12.6	ug/L	55	Standard
	Cu	65	767.4	6.1	**0.3258**	0.020	6.2	ug/L	78	Standard
	Zn	66	30371.1	2.5	**31.2634**	0.523	1.7	ug/L	99	Standard
>	**Ge**	72	265924.4	0.9				ug/L	289581	Standard
	As	75	9449.3	2.5	**9.7366**	0.153	1.6	ug/L	-189	Standard
	Se	82	104.4	18.7	**0.9042**	0.189	20.9	ug/L	18	Standard
	Se-1	77	96.0	13.1	**0.1622**	0.170	104.7	ug/L	97	Standard
>	**Ga**	71	638.3	2.5				mg/L	628	Standard
	Rb	85	3265.4	0.5				ug/L	10	Standard
	Y	89	278686.1	3.0				ug/L	254546	Standard
>	**Rh**	103	643.3	4.6				ug/L	400	Standard
	Mo	98	5843.2	1.6	**1.5156**	0.017	1.1	ug/L	8	Standard
	Ag	107	153.7	13.1	**0.0113**	0.002	19.9	ug/L	76	Standard
	Cd	111	92.3	16.7	**0.0030**	0.003	110.7	mg/L	63	Standard
	Cd	114	284.8	4.5	**0.0077**	0.001	10.6	ug/L	201	Standard
>	**In**	115	833593.9	1.6				ug/L	847070	Standard
	Sn	118	1100.0	2.9	**0.0074**	0.002	30.6	ug/L	553	Standard
	Sb	123	764.7	1.7	**0.0697**	0.001	0.8	ug/L	25	Standard
	Ba	135	55302.8	1.6	**11.7302**	0.165	1.4	ug/L	25	Standard
	Ce	140	547.3	26.4				ug/L	21	Standard
>	**Tb**	159	1173786.7	1.4				ug/L	1162405	Standard
	Ho	165	25.3	26.3				ug/L	12	Standard
	Tl	203	183.7	16.3	**0.0098**	0.002	16.8	ug/L	4	Standard
	Tl	205	455.0	13.8	**0.0126**	0.001	11.7	ug/L	4	Standard
	Pb	206	940.7	3.3	**0.0479**	0.002	3.5	ug/L	380	Standard
	Pb	207	760.4	5.0	**0.0407**	0.005	11.5	ug/L	306	Standard
	Pb	208	3580.2	0.4	**0.0444**	0.001	2.8	ug/L	1471	Standard
	U	238	5214.2	0.3	**0.3252**	0.004	1.4	ug/L	0	Standard
>	**Bi**	209	532414.8	1.6				ug/L	592579	Standard

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Na	23	303027.6	1.8	**16.6444**	0.324	1.9	mg/L	327	Standard
Mg	24	115596.1	2.1	**0.1753**	0.003	1.4	mg/L	50	Standard
K	39	270.0	18.5	**0.1387**	0.040	28.9	mg/L	125	Standard
Ca	43	0.0		**-0.8733**			mg/L	0	Standard
Fe	54	555.1	4.5	**0.0005**	0.005	975.9	mg/L	579	Standard
Fe	57	4607.4	10.3	**0.0204**	0.005	23.5	mg/L	2535	Standard
Sc-1	45	360986.5	0.7				mg/L	350981	Standard
Cl	35	8.3	42.1				ug/L	6	Standard
Kr	83	44.7	7.5				ug/L	39	Standard
Br	81	6804.1	25.7				ug/L	918	Standard
P	31	13452.6	0.9				ug/L	338	Standard
S	34	8194.7	0.8				ug/L	6425	Standard
Sr	88	125.0	22.3				ug/L	28	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	7			
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		91.831	
As	75			
Se	82			
Se-1	77			
Ga	71			
Rb	85			
Y	89			
Rh	103			
Mo	98			
Ag	107			

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	Cd	111	
	Cd	114	
>	In	115	98.409
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	89.847
	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	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: L1207053408
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Method 6020 - Summary Report

Sample ID: L1207053410
Sample Date/Time: Friday, July 20, 2012 13:32:59
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	7	30829.7	2.5	**36480.8367**	1331.601	3.7	ug/L	9660	Standard
	Be	9	21.7	13.3	**0.0077**	0.002	21.4	ug/L	7	Standard
	Al	27	338840.7	90.7	**23.7690**	21.909	92.2	ug/L	6610	Standard
>	**Sc**	45	343936.5	0.4				ug/L	350981	Standard
	Ti	47	290.3	8.1	**0.2119**	0.020	9.6	ug/L	63	Standard
	V	51	7726.9	8.8	**0.5896**	0.073	12.4	ug/L	2655	Standard
	Cr	52	13339.9	4.7	**0.7962**	0.073	9.1	ug/L	8417	Standard
	Cr	53	545.8	15.8	**0.3210**	0.066	20.5	ug/L	146	Standard
	Mn	55	22297.5	80.7	**1.5977**	1.341	83.9	ug/L	1081	Standard
	Co	59	2110.9	104.4	**0.2231**	0.244	109.2	ug/L	84	Standard
	Ni	60	1106.7	54.0	**0.4748**	0.266	56.0	ug/L	55	Standard
	Cu	65	1119.7	9.8	**0.5155**	0.052	10.1	ug/L	78	Standard
	Zn	66	2371.2	4.2	**2.4553**	0.093	3.8	ug/L	99	Standard
>	**Ge**	72	253858.4	0.7				ug/L	289581	Standard
	As	75	1956.4	6.1	**2.2419**	0.124	5.5	ug/L	-189	Standard
	Se	82	246.9	8.8	**2.4755**	0.243	9.8	ug/L	18	Standard
	Se-1	77	205.3	3.1	**1.8863**	0.078	4.1	ug/L	97	Standard
>	**Ga**	71	655.0	9.6				mg/L	628	Standard
	Rb	85	3213.7	4.9				ug/L	10	Standard
	Y	89	262686.0	0.8				ug/L	254546	Standard
>	**Rh**	103	701.7	6.7				ug/L	400	Standard
	Mo	98	91928.2	1.5	**24.7741**	0.223	0.9	ug/L	8	Standard
	Ag	107	90.0	9.1	**0.0037**	0.001	31.1	ug/L	76	Standard
	Cd	111	-11.6	157.5	**-0.0218**	0.005	20.9	mg/L	63	Standard
	Cd	114	483.6	6.3	**0.0264**	0.003	11.1	ug/L	201	Standard
>	**In**	115	803351.5	0.6				ug/L	847070	Standard
	Sn	118	996.4	9.3	**0.0043**	0.005	107.6	ug/L	553	Standard
	Sb	123	990.0	7.4	**0.0942**	0.007	7.7	ug/L	25	Standard
	Ba	135	128566.5	1.1	**28.3105**	0.317	1.1	ug/L	25	Standard
	Ce	140	2316.6	89.9				ug/L	21	Standard
>	**Tb**	159	1118250.9	1.6				ug/L	1162405	Standard
	Ho	165	60.0	84.5				ug/L	12	Standard
	Tl	203	221.3	72.6	**0.0128**	0.010	80.2	ug/L	4	Standard
	Tl	205	488.7	64.1	**0.0141**	0.009	61.3	ug/L	4	Standard
	Pb	206	600.3	8.9	**0.0233**	0.004	18.8	ug/L	380	Standard
	Pb	207	482.7	7.8	**0.0166**	0.004	21.7	ug/L	306	Standard
	Pb	208	2278.7	7.6	**0.0204**	0.004	18.1	ug/L	1471	Standard
	U	238	46660.7	1.2	**3.0467**	0.040	1.3	ug/L	0	Standard
>	**Bi**	209	507065.6	0.5				ug/L	592579	Standard

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Na	23	332996.5	1.2	**19.2022**	0.265	1.4	mg/L	327	Standard
Mg	24	193098.1	2.3	**0.3075**	0.007	2.2	mg/L	50	Standard
K	39	410.0	7.6	**0.2727**	0.028	10.3	mg/L	125	Standard
Ca	43	1.7	173.2	**0.0634**	1.622	2560.2	mg/L	0	Standard
Fe	54	621.6	15.7	**0.0208**	0.021	103.2	mg/L	579	Standard
Fe	57	5814.6	41.2	**0.0361**	0.026	72.6	mg/L	2535	Standard
Sc-1	45	343936.5	0.4				mg/L	350981	Standard
Cl	35	7.0					ug/L	6	Standard
Kr	83	42.6	8.4				ug/L	39	Standard
Br	81	2955.3	6.0				ug/L	918	Standard
P	31	535.0	7.4				ug/L	338	Standard
S	34	13767.9	4.1				ug/L	6425	Standard
Sr	88	301.7	10.0				ug/L	28	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	7			
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		87.664	
As	75			
Se	82			
Se-1	77			
Ga	71			
Rb	85			
Y	89			
Rh	103			
Mo	98			
Ag	107			

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	Cd	111	
	Cd	114	
>	In	115	94.839
	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	85.569
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: L1207053410
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Method 6020 - Summary Report

Sample ID: L1207053412
Sample Date/Time: Friday, July 20, 2012 13:36:09
Number of Replicates: 3
Autosampler Position: 416
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	7	10161.7	3.3	**1248.4076**	357.117	28.6	ug/L	9660	Standard
	Be	9	13.3	21.7	**0.0025**	0.002	65.6	ug/L	7	Standard
	Al	27	61837.9	28.9	**3.7563**	1.173	31.2	ug/L	6610	Standard
>	**Sc**	45	359846.8	1.3				ug/L	350981	Standard
	Ti	47	101.3	5.8	**0.0310**	0.005	14.6	ug/L	63	Standard
	V	51	2871.6	1.6	**0.0341**	0.004	11.8	ug/L	2655	Standard
	Cr	52	9450.9	1.3	**0.1657**	0.016	9.6	ug/L	8417	Standard
	Cr	53	328.3	7.4	**0.1261**	0.016	12.4	ug/L	146	Standard
	Mn	55	4472.3	16.1	**0.2318**	0.046	20.0	ug/L	1081	Standard
	Co	59	408.3	22.0	**0.0300**	0.009	29.1	ug/L	84	Standard
	Ni	60	335.3	20.3	**0.1152**	0.026	22.9	ug/L	55	Standard
	Cu	65	365.3	8.6	**0.1303**	0.015	11.4	ug/L	78	Standard
	Zn	66	1821.8	1.4	**1.6877**	0.010	0.6	ug/L	99	Standard
>	**Ge**	72	278325.7	1.2				ug/L	289581	Standard
	As	75	-126.0	19.6	**0.0439**	0.025	57.9	ug/L	-189	Standard
	Se	82	25.1	14.3	**0.0861**	0.032	37.5	ug/L	18	Standard
	Se-1	77	92.3	12.8	**0.0500**	0.157	313.0	ug/L	97	Standard
>	**Ga**	71	553.3	3.7				mg/L	628	Standard
	Rb	85	51.7	56.7				ug/L	10	Standard
	Y	89	281419.7	1.1				ug/L	254546	Standard
>	**Rh**	103	551.7	9.2				ug/L	400	Standard
	Mo	98	51.0	25.7	**0.0101**	0.003	31.1	ug/L	8	Standard
	Ag	107	69.3	10.2	**-0.0000**	0.001	5075.4	ug/L	76	Standard
	Cd	111	83.9	10.9	**-0.0004**	0.002	478.9	mg/L	63	Standard
	Cd	114	235.4	13.1	**0.0020**	0.002	124.8	ug/L	201	Standard
>	**In**	115	898647.9	0.2				ug/L	847070	Standard
	Sn	118	805.0	6.2	**-0.0094**	0.002	23.8	ug/L	553	Standard
	Sb	123	43.7	7.9	**0.0021**	0.000	14.4	ug/L	25	Standard
	Ba	135	171.0	13.6	**0.0229**	0.005	19.9	ug/L	25	Standard
	Ce	140	745.4	7.4				ug/L	21	Standard
>	**Tb**	159	1199736.9	0.7				ug/L	1162405	Standard
	Ho	165	12.7	24.1				ug/L	12	Standard
	Tl	203	37.7	24.7	**0.0007**	0.001	71.6	ug/L	4	Standard
	Tl	205	89.7	21.6	**0.0027**	0.000	16.4	ug/L	4	Standard
	Pb	206	420.0	4.2	**0.0036**	0.002	45.8	ug/L	380	Standard
	Pb	207	349.7	5.8	**-0.0014**	0.002	115.1	ug/L	306	Standard
	Pb	208	1636.0	2.2	**0.0019**	0.001	44.7	ug/L	1471	Standard
	U	238	28.3	8.2	**0.0026**	0.000	4.7	ug/L	0	Standard
>	**Bi**	209	588020.9	1.2				ug/L	592579	Standard

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Na	23	3077.0	18.8	**0.1360**	0.030	22.0	mg/L	327	Standard
Mg	24	801.7	30.1	**0.0011**	0.000	32.0	mg/L	50	Standard
K	39	130.0	26.9	**0.0225**	0.029	128.5	mg/L	125	Standard
Ca	43	3.3	86.6	**0.9317**	1.563	167.8	mg/L	0	Standard
Fe	54	549.1	9.1	**-0.0003**	0.011	3699.0	mg/L	579	Standard
Fe	57	3650.4	9.7	**0.0105**	0.003	32.0	mg/L	2535	Standard
> **Sc-1**	45	359846.8	1.3				mg/L	350981	Standard
Cl	35	5.0	52.9				ug/L	6	Standard
Kr	83	46.0	6.3				ug/L	39	Standard
Br	81	1412.6	5.8				ug/L	918	Standard
P	31	316.7	2.8				ug/L	338	Standard
S	34	5227.6	2.4				ug/L	6425	Standard
Sr	88	43.3	33.3				ug/L	28	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	7			
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		96.113	
As	75			
Se	82			
Se-1	77			
> Ga	71			
Rb	85			
Y	89			
> Rh	103			
Mo	98			
Ag	107			

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	Cd	111	
	Cd	114	
>	In	115	106.089
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	99.231
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

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Method 6020 - Summary Report

Sample ID: QC Std 6
Sample Date/Time: Friday, July 20, 2012 13:39:20
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	7	10792.2	0.4	**885.7178**	327.040	36.9	ug/L	9660	Standard
	Be	9	102099.6	2.2	**52.0936**	2.123	4.1	ug/L	7	Standard
	Al	27	766131.8	21.4	**47.9110**	11.316	23.6	ug/L	6610	Standard
>	**Sc**	45	391078.9	1.9				ug/L	350981	Standard
	Ti	47	128980.0	0.9	**99.9649**	1.366	1.4	ug/L	63	Standard
	V	51	540957.3	1.0	**49.6475**	0.582	1.2	ug/L	2655	Standard
	Cr	52	441682.2	0.8	**49.0801**	0.645	1.3	ug/L	8417	Standard
	Cr	53	73778.4	0.6	**49.4044**	0.870	1.8	ug/L	146	Standard
	Mn	55	854783.6	0.6	**54.4437**	1.423	2.6	ug/L	1081	Standard
	Co	59	560819.2	0.2	**52.9997**	1.187	2.2	ug/L	84	Standard
	Ni	60	126387.3	0.7	**48.1715**	1.084	2.3	ug/L	55	Standard
	Cu	65	116665.5	1.1	**48.4449**	0.729	1.5	ug/L	78	Standard
	Zn	66	52592.5	1.2	**48.1580**	0.397	0.8	ug/L	99	Standard
>	**Ge**	72	299371.1	2.0				ug/L	289581	Standard
	As	75	55762.6	0.9	**50.3474**	0.691	1.4	ug/L	-189	Standard
	Se	82	6167.8	0.7	**55.6102**	1.131	2.0	ug/L	18	Standard
	Se-1	77	3860.8	2.1	**48.4022**	0.306	0.6	ug/L	97	Standard
>	**Ga**	71	635.0	6.2				mg/L	628	Standard
	Rb	85	2231.8	0.6				ug/L	10	Standard
	Y	89	300070.0	3.8				ug/L	254546	Standard
>	**Rh**	103	578.3	13.5				ug/L	400	Standard
	Mo	98	456205.2	1.7	**104.6093**	3.302	3.2	ug/L	8	Standard
	Ag	107	553828.1	1.6	**61.9394**	1.802	2.9	ug/L	76	Standard
	Cd	111	244786.9	0.8	**51.3766**	1.768	3.4	mg/L	63	Standard
	Cd	114	639116.1	1.3	**48.4905**	1.393	2.9	ug/L	201	Standard
>	**In**	115	945005.4	4.1				ug/L	847070	Standard
	Sn	118	1224103.9	1.0	**51.2694**	1.698	3.3	ug/L	553	Standard
	Sb	123	594556.0	1.5	**49.0249**	1.626	3.3	ug/L	25	Standard
	Ba	135	242881.6	0.6	**45.5180**	1.711	3.8	ug/L	25	Standard
	Ce	140	1318.1	83.6				ug/L	21	Standard
>	**Tb**	159	1263248.1	2.2				ug/L	1162405	Standard
	Ho	165	37.7	69.8				ug/L	12	Standard
	Tl	203	898831.5	0.9	**48.4690**	0.836	1.7	ug/L	4	Standard
	Tl	205	2244447.8	0.3	**52.2492**	0.716	1.4	ug/L	4	Standard
	Pb	206	695169.1	0.9	**48.5234**	0.546	1.1	ug/L	380	Standard
	Pb	207	584692.2	0.5	**48.9290**	0.662	1.4	ug/L	306	Standard
	Pb	208	2719269.9	0.3	**48.6100**	0.548	1.1	ug/L	1471	Standard
	U	238	978572.3	0.6	**53.7121**	0.553	1.0	ug/L	0	Standard
>	**Bi**	209	603062.6	1.4				ug/L	592579	Standard

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Na	23	129741.5	1.2	**6.5591**	0.153	2.3	mg/L	327	Standard
Mg	24	3258180.4	3.2	**4.5658**	0.162	3.6	mg/L	50	Standard
K	39	5224.2	6.6	**3.9365**	0.294	7.5	mg/L	125	Standard
Ca	43	13.3	43.3	**5.7720**	3.010	52.1	mg/L	0	Standard
Fe	54	23068.1	3.2	**4.3236**	0.187	4.3	mg/L	579	Standard
Fe	57	561141.3	1.1	**5.3904**	0.099	1.8	mg/L	2535	Standard
> **Sc-1**	45	391078.9	1.9				mg/L	350981	Standard
Cl	35	5.0	20.0				ug/L	6	Standard
Kr	83	47.8	11.3				ug/L	39	Standard
Br	81	1711.8	7.0				ug/L	918	Standard
P	31	446.7	9.1				ug/L	338	Standard
S	34	5741.9	2.0				ug/L	6425	Standard
Sr	88	23.3	75.3				ug/L	28	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	7			
Be	9			
Al	27	95.822		
> Sc	45			
Ti	47	99.965		
V	51	99.295		
Cr	52	98.160		
Cr	53			
Mn	55	108.887		
Co	59	105.999		
Ni	60	96.343		
Cu	65	96.890		
Zn	66	96.316		
> Ge	72		103.381	
As	75	100.695		
Se	82	111.220		
Se-1	77			
> Ga	71			
Rb	85			
Y	89			
> Rh	103			
Mo	98	104.609		
Ag	107	123.879		

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	Cd	111	102.753	
	Cd	114		
>	In	115		111.562
	Sn	118	102.539	
	Sb	123	98.050	
	Ba	135	91.036	
	Ce	140		
>	Tb	159		
	Ho	165		
	Tl	203	96.938	
	Tl	205		
	Pb	206	97.047	
	Pb	207	97.858	
	Pb	208	97.220	
	U	238	107.424	
>	Bi	209		101.769
	Na	23		
	Mg	24		
	K	39		
	Ca	43		
	Fe	54		
	Fe	57		
>	Sc-1	45		
	Cl	35		
	Kr	83		
	Br	81		
	P	31		
	S	34		
	Sr	88		

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 6	Al	27	
QC Std 6	Se	82	
QC Std 6	Ag	107	

Sample ID: QC Std 6
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Method 6020 - Summary Report

Sample ID: QC Std 7
Sample Date/Time: Friday, July 20, 2012 13:42:30
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	7	10386.9	3.1	**462.6334**	223.387	48.3	ug/L	9660	Standard
	Be	9	55.0	141.7	**0.0240**	0.041	171.8	ug/L	7	Standard
	Al	27	11813.0	13.9	**0.2875**	0.120	41.6	ug/L	6610	Standard
>	**Sc**	45	386575.6	1.9				ug/L	350981	Standard
	Ti	47	135.7	51.3	**0.0529**	0.055	103.9	ug/L	63	Standard
	V	51	2591.2	1.0	**-0.0092**	0.002	24.9	ug/L	2655	Standard
	Cr	52	8069.8	2.0	**-0.0621**	0.018	29.3	ug/L	8417	Standard
	Cr	53	214.2	21.5	**0.0345**	0.032	91.5	ug/L	146	Standard
	Mn	55	1513.7	12.1	**0.0230**	0.012	52.3	ug/L	1081	Standard
	Co	59	185.3	39.7	**0.0063**	0.007	112.2	ug/L	84	Standard
	Ni	60	146.3	48.9	**0.0343**	0.028	80.9	ug/L	55	Standard
	Cu	65	166.3	38.9	**0.0369**	0.027	74.2	ug/L	78	Standard
	Zn	66	152.0	37.6	**0.0306**	0.053	174.7	ug/L	99	Standard
>	**Ge**	72	296190.0	0.3				ug/L	289581	Standard
	As	75	-165.6	20.1	**0.0155**	0.030	192.3	ug/L	-189	Standard
	Se	82	25.5	24.6	**0.0758**	0.058	76.4	ug/L	18	Standard
	Se-1	77	87.3	7.5	**-0.0915**	0.083	91.0	ug/L	97	Standard
>	**Ga**	71	676.7	3.1				mg/L	628	Standard
	Rb	85	38.3	30.1				ug/L	10	Standard
	Y	89	298535.8	0.7				ug/L	254546	Standard
>	**Rh**	103	620.0	8.1				ug/L	400	Standard
	Mo	98	146.0	55.0	**0.0311**	0.018	58.9	ug/L	8	Standard
	Ag	107	293.3	33.3	**0.0244**	0.011	44.4	ug/L	76	Standard
	Cd	111	120.6	21.8	**0.0063**	0.006	88.0	mg/L	63	Standard
	Cd	114	336.0	27.4	**0.0086**	0.007	81.3	ug/L	201	Standard
>	**In**	115	950081.7	0.5				ug/L	847070	Standard
	Sn	118	1105.7	13.3	**0.0012**	0.006	498.7	ug/L	553	Standard
	Sb	123	864.8	29.5	**0.0692**	0.021	30.8	ug/L	25	Standard
	Ba	135	72.7	37.7	**0.0028**	0.005	183.0	ug/L	25	Standard
	Ce	140	31.0	26.4				ug/L	21	Standard
>	**Tb**	159	1246918.3	0.8				ug/L	1162405	Standard
	Ho	165	12.7	16.4				ug/L	12	Standard
	Tl	203	157.7	70.1	**0.0069**	0.006	85.0	ug/L	4	Standard
	Tl	205	324.7	54.7	**0.0079**	0.004	51.4	ug/L	4	Standard
	Pb	206	490.0	13.1	**0.0067**	0.005	68.6	ug/L	380	Standard
	Pb	207	426.7	10.7	**0.0033**	0.004	122.2	ug/L	306	Standard
	Pb	208	1944.4	15.1	**0.0057**	0.005	94.4	ug/L	1471	Standard
	U	238	157.7	72.4	**0.0094**	0.006	65.3	ug/L	0	Standard
>	**Bi**	209	621819.6	0.7				ug/L	592579	Standard

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	Na	23	1130.0	12.9	**0.0245**	0.009	35.3	mg/L	327	Standard
	Mg	24	561.7	60.9	**0.0007**	0.001	73.1	mg/L	50	Standard
	K	39	105.0	9.5	**-0.0045**	0.006	138.1	mg/L	125	Standard
	Ca	43	8.3	69.3	**3.2785**	2.810	85.7	mg/L	0	Standard
	Fe	54	584.5	11.4	**-0.0013**	0.015	1187.3	mg/L	579	Standard
	Fe	57	3578.8	6.4	**0.0072**	0.003	35.1	mg/L	2535	Standard
>	**Sc-1**	45	386575.6	1.9				mg/L	350981	Standard
	Cl	35	3.3	62.4				ug/L	6	Standard
	Kr	83	43.8	6.5				ug/L	39	Standard
	Br	81	1510.9	5.2				ug/L	918	Standard
	P	31	374.2	7.3				ug/L	338	Standard
	S	34	5723.6	2.3				ug/L	6425	Standard
	Sr	88	33.3	45.8				ug/L	28	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
	Li	7			
	Be	9			
	Al	27			
>	Sc	45			
	Ti	47			
	V	51			
	Cr	52			
	Cr	53			
	Mn	55			
	Co	59			
	Ni	60			
	Cu	65			
	Zn	66			
>	Ge	72		102.282	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			
	Y	89			
>	Rh	103			
	Mo	98			
	Ag	107			

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	Cd	111	
	Cd	114	
>	In	115	112.161
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	104.935
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: QC Std 7
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Method 6020 - Summary Report

Sample ID: QC Std 8
Sample Date/Time: Friday, July 20, 2012 13:45:43
Number of Replicates: 3
Autosampler Position: 202
Sample Description:
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	7	10637.1	6.0	**547.1641**	638.089	116.6	ug/L	9660	Standard
	Be	9	20.0	86.6	**0.0052**	0.009	168.3	ug/L	7	Standard
	Al	27	364495.8	170.2	**22.4312**	38.973	173.7	ug/L	6610	Standard
>	**Sc**	45	393618.1	2.7				ug/L	350981	Standard
	Ti	47	85.7	11.1	**0.0132**	0.007	56.6	ug/L	63	Standard
	V	51	6997.6	5.9	**0.3981**	0.038	9.6	ug/L	2655	Standard
	Cr	52	16009.8	9.7	**0.8377**	0.175	20.9	ug/L	8417	Standard
	Cr	53	1447.6	12.3	**0.8659**	0.121	14.0	ug/L	146	Standard
	Mn	55	29495.9	115.7	**1.8157**	2.186	120.4	ug/L	1081	Standard
	Co	59	7238.6	68.2	**0.6762**	0.469	69.3	ug/L	84	Standard
	Ni	60	5044.9	25.3	**1.9114**	0.489	25.6	ug/L	55	Standard
	Cu	65	2166.2	12.7	**0.8718**	0.114	13.1	ug/L	78	Standard
	Zn	66	7302.1	3.4	**6.6271**	0.241	3.6	ug/L	99	Standard
>	**Ge**	72	297761.7	0.3				ug/L	289581	Standard
	As	75	443.6	61.1	**0.5673**	0.245	43.2	ug/L	-189	Standard
	Se	82	73.4	13.0	**0.5094**	0.085	16.7	ug/L	18	Standard
	Se-1	77	122.7	3.3	**0.3593**	0.056	15.6	ug/L	97	Standard
>	**Ga**	71	638.3	15.8				mg/L	628	Standard
	Rb	85	21.7	53.3				ug/L	10	Standard
	Y	89	296064.9	1.2				ug/L	254546	Standard
>	**Rh**	103	611.7	8.0				ug/L	400	Standard
	Mo	98	45.6	51.4	**0.0082**	0.005	65.0	ug/L	8	Standard
	Ag	107	4445.3	1.5	**0.4843**	0.007	1.4	ug/L	76	Standard
	Cd	111	1310.9	3.3	**0.2537**	0.009	3.6	mg/L	63	Standard
	Cd	114	3384.9	2.3	**0.2377**	0.006	2.4	ug/L	201	Standard
>	**In**	115	953321.6	0.1				ug/L	847070	Standard
	Sn	118	1000.4	42.0	**-0.0033**	0.017	526.8	ug/L	553	Standard
	Sb	123	5164.7	7.3	**0.4201**	0.031	7.3	ug/L	25	Standard
	Ba	135	3904.8	12.3	**0.7141**	0.089	12.5	ug/L	25	Standard
	Ce	140	3077.3	171.7				ug/L	21	Standard
>	**Tb**	159	1245797.7	0.7				ug/L	1162405	Standard
	Ho	165	86.7	138.3				ug/L	12	Standard
	Tl	203	1923.1	41.5	**0.1007**	0.043	42.3	ug/L	4	Standard
	Tl	205	4400.7	37.1	**0.1014**	0.038	37.1	ug/L	4	Standard
	Pb	206	3529.4	10.5	**0.2161**	0.026	11.9	ug/L	380	Standard
	Pb	207	2884.6	9.8	**0.2063**	0.024	11.4	ug/L	306	Standard
	Pb	208	13459.0	10.3	**0.2088**	0.025	11.9	ug/L	1471	Standard
	U	238	7934.7	2.1	**0.4296**	0.010	2.2	ug/L	0	Standard
>	**Bi**	209	612794.4	0.1				ug/L	592579	Standard

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Na	23	2235.3	96.9	**0.0795**	0.110	138.3	mg/L	327	Standard
Mg	24	2472.2	162.5	**0.0033**	0.006	168.1	mg/L	50	Standard
K	39	125.0	14.4	**0.0093**	0.013	138.6	mg/L	125	Standard
Ca	43	1.7	173.2	**-0.0489**	1.428	2918.9	mg/L	0	Standard
Fe	54	690.4	38.0	**0.0170**	0.051	299.7	mg/L	579	Standard
Fe	57	6817.2	80.1	**0.0378**	0.053	139.5	mg/L	2535	Standard
Sc-1	45	393618.1	2.7				mg/L	350981	Standard
Cl	35	3.7	15.7				ug/L	6	Standard
Kr	83	41.2	0.5				ug/L	39	Standard
Br	81	1547.6	2.3				ug/L	918	Standard
P	31	357.5	7.7				ug/L	338	Standard
S	34	5678.6	2.8				ug/L	6425	Standard
Sr	88	40.0	21.7				ug/L	28	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	7			
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51	99.514		
Cr	52	104.718		
Cr	53			
Mn	55	363.133		
Co	59	169.049		
Ni	60	119.460		
Cu	65	108.969		
Zn	66	106.033		
Ge	72		102.825	
As	75	141.814		
Se	82	127.338		
Se-1	77			
Ga	71			
Rb	85			
Y	89			
Rh	103			
Mo	98			
Ag	107	121.085		

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	Cd	111	105.698	
	Cd	114		
>	In	115		112.543
	Sn	118		
	Sb	123	105.016	
	Ba	135	95.210	
	Ce	140		
>	Tb	159		
	Ho	165		
	Tl	203	125.875	
	Tl	205		
	Pb	206		
	Pb	207		
	Pb	208	104.407	
	U	238	107.393	
>	Bi	209		103.411
	Na	23		
	Mg	24		
	K	39		
	Ca	43		
	Fe	54		
	Fe	57		
>	Sc-1	45		
	Cl	35		
	Kr	83		
	Br	81		
	P	31		
	S	34		
	Sr	88		

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 8	Mn	55	
QC Std 8	Co	59	
QC Std 8	As	75	

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Method 6020 - Summary Report

Sample ID: QC Std 6
Sample Date/Time: Friday, July 20, 2012 13:54:18
Number of Replicates: 3
Autosampler Position: 101
Sample Description:
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	7	10845.6	3.4	**746.2046**	648.139	86.9	ug/L	9660	Standard
	Be	9	102329.4	1.1	**51.4772**	0.834	1.6	ug/L	7	Standard
	Al	27	677075.8	1.3	**41.5952**	1.184	2.8	ug/L	6610	Standard
>	**Sc**	45	396512.4	1.8				ug/L	350981	Standard
	Ti	47	129891.7	0.6	**98.1282**	0.522	0.5	ug/L	63	Standard
	V	51	539528.5	0.6	**48.2599**	0.171	0.4	ug/L	2655	Standard
	Cr	52	441642.6	0.5	**47.8115**	0.212	0.4	ug/L	8417	Standard
	Cr	53	74633.4	1.5	**48.7078**	0.365	0.7	ug/L	146	Standard
	Mn	55	841299.3	0.2	**52.2202**	0.364	0.7	ug/L	1081	Standard
	Co	59	552905.3	1.4	**50.9229**	0.320	0.6	ug/L	84	Standard
	Ni	60	127495.2	0.3	**47.3615**	0.303	0.6	ug/L	55	Standard
	Cu	65	117889.6	1.9	**47.7138**	0.614	1.3	ug/L	78	Standard
	Zn	66	52986.2	0.1	**47.2954**	0.367	0.8	ug/L	99	Standard
>	**Ge**	72	307080.8	0.9				ug/L	289581	Standard
	As	75	55696.8	0.6	**49.0221**	0.185	0.4	ug/L	-189	Standard
	Se	82	5979.9	0.6	**52.5430**	0.656	1.2	ug/L	18	Standard
	Se-1	77	3863.2	2.3	**47.1945**	1.568	3.3	ug/L	97	Standard
>	**Ga**	71	678.3	3.8				mg/L	628	Standard
	Rb	85	2148.5	3.6				ug/L	10	Standard
	Y	89	298824.8	0.9				ug/L	254546	Standard
>	**Rh**	103	683.3	8.8				ug/L	400	Standard
	Mo	98	441085.4	0.8	**99.7281**	0.702	0.7	ug/L	8	Standard
	Ag	107	529253.6	0.2	**58.3660**	0.332	0.6	ug/L	76	Standard
	Cd	111	244442.4	0.6	**50.5804**	0.307	0.6	mg/L	63	Standard
	Cd	114	633810.5	0.9	**47.4162**	0.321	0.7	ug/L	201	Standard
>	**In**	115	957641.3	0.5				ug/L	847070	Standard
	Sn	118	1214277.5	1.9	**50.1403**	0.838	1.7	ug/L	553	Standard
	Sb	123	590720.3	0.9	**48.0243**	0.203	0.4	ug/L	25	Standard
	Ba	135	242856.5	0.4	**44.8671**	0.038	0.1	ug/L	25	Standard
	Ce	140	638.0	2.5				ug/L	21	Standard
>	**Tb**	159	1275464.7	0.5				ug/L	1162405	Standard
	Ho	165	20.3	20.5				ug/L	12	Standard
	Tl	203	899476.8	0.9	**48.1723**	0.182	0.4	ug/L	4	Standard
	Tl	205	2223620.1	0.8	**51.4118**	0.273	0.5	ug/L	4	Standard
	Pb	206	695880.5	0.1	**48.2451**	0.192	0.4	ug/L	380	Standard
	Pb	207	581401.7	0.8	**48.3223**	0.266	0.5	ug/L	306	Standard
	Pb	208	2709755.0	0.7	**48.1106**	0.191	0.4	ug/L	1471	Standard
	U	238	967656.1	0.5	**52.7532**	0.010	0.0	ug/L	0	Standard
>	**Bi**	209	607118.5	0.5				ug/L	592579	Standard

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Na	23	128255.6	0.8	**6.3937**	0.093	1.5	mg/L	327	Standard
Mg	24	3298172.2	1.3	**4.5580**	0.029	0.6	mg/L	50	Standard
K	39	5312.6	1.7	**3.9475**	0.108	2.7	mg/L	125	Standard
Ca	43	18.3	41.7	**8.0999**	3.794	46.8	mg/L	0	Standard
Fe	54	23301.2	2.0	**4.3074**	0.164	3.8	mg/L	579	Standard
Fe	57	557258.7	2.0	**5.2781**	0.018	0.3	mg/L	2535	Standard
Sc-1	45	396512.4	1.8				mg/L	350981	Standard
Cl	35	5.0	87.2				ug/L	6	Standard
Kr	83	48.9	4.2				ug/L	39	Standard
Br	81	1520.9	3.4				ug/L	918	Standard
P	31	425.0	4.7				ug/L	338	Standard
S	34	5882.0	2.8				ug/L	6425	Standard
Sr	88	30.0	66.7				ug/L	28	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	7			
Be	9			
Al	27	83.190		
Sc	45			
Ti	47	98.128		
V	51	96.520		
Cr	52	95.623		
Cr	53			
Mn	55	104.440		
Co	59	101.846		
Ni	60	94.723		
Cu	65	95.428		
Zn	66	94.591		
Ge	72		106.043	
As	75	98.044		
Se	82	105.086		
Se-1	77			
Ga	71			
Rb	85			
Y	89			
Rh	103			
Mo	98	99.728		
Ag	107	116.732		

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	Cd	111	101.161	
	Cd	114		
>	In	115		113.053
	Sn	118	100.281	
	Sb	123	96.049	
	Ba	135	89.734	
	Ce	140		
>	Tb	159		
	Ho	165		
	Tl	203	96.345	
	Tl	205		
	Pb	206	96.490	
	Pb	207	96.645	
	Pb	208	96.221	
	U	238	105.506	
>	Bi	209		102.454
	Na	23		
	Mg	24		
	K	39		
	Ca	43		
	Fe	54		
	Fe	57		
>	Sc-1	45		
	Cl	35		
	Kr	83		
	Br	81		
	P	31		
	S	34		
	Sr	88		

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 6	Al	27	
QC Std 6	Ag	107	
QC Std 6	Ba	135	

Sample ID: QC Std 6
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Method 6020 - Summary Report

Sample ID: QC Std 7
Sample Date/Time: Friday, July 20, 2012 13:57:33
Number of Replicates: 3
Autosampler Position: 102
Sample Description:
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
	Li	7	10176.8	1.7	**416.2708**	622.400	149.5	ug/L	9660	Standard
	Be	9	15.0	57.7	**0.0031**	0.005	154.2	ug/L	7	Standard
	Al	27	8347.3	6.2	**0.0753**	0.053	70.1	ug/L	6610	Standard
>	**Sc**	45	380299.7	3.8				ug/L	350981	Standard
	Ti	47	88.3	14.3	**0.0176**	0.011	63.7	ug/L	63	Standard
	V	51	2494.9	3.2	**-0.0123**	0.003	27.1	ug/L	2655	Standard
	Cr	52	7854.4	1.7	**-0.0636**	0.011	16.5	ug/L	8417	Standard
	Cr	53	179.2	9.3	**0.0137**	0.009	66.6	ug/L	146	Standard
	Mn	55	1268.1	6.4	**0.0092**	0.006	61.0	ug/L	1081	Standard
	Co	59	140.3	24.6	**0.0024**	0.004	148.1	ug/L	84	Standard
	Ni	60	69.0	19.5	**0.0052**	0.005	105.8	ug/L	55	Standard
	Cu	65	119.3	0.5	**0.0184**	0.001	5.6	ug/L	78	Standard
	Zn	66	123.3	3.7	**0.0069**	0.007	94.4	ug/L	99	Standard
>	**Ge**	72	288795.0	1.9				ug/L	289581	Standard
	As	75	-208.9	9.3	**-0.0286**	0.015	53.8	ug/L	-189	Standard
	Se	82	21.6	20.2	**0.0455**	0.043	95.4	ug/L	18	Standard
	Se-1	77	84.3	12.2	**-0.1003**	0.157	156.9	ug/L	97	Standard
>	**Ga**	71	551.7	9.1				mg/L	628	Standard
	Rb	85	41.7	27.7				ug/L	10	Standard
	Y	89	286029.8	1.0				ug/L	254546	Standard
>	**Rh**	103	506.7	12.4				ug/L	400	Standard
	Mo	98	139.8	65.1	**0.0308**	0.022	70.2	ug/L	8	Standard
	Ag	107	263.0	43.6	**0.0220**	0.013	60.5	ug/L	76	Standard
	Cd	111	98.0	34.0	**0.0022**	0.007	334.0	mg/L	63	Standard
	Cd	114	284.6	33.2	**0.0054**	0.008	139.7	ug/L	201	Standard
>	**In**	115	921871.7	1.5				ug/L	847070	Standard
	Sn	118	1132.7	12.6	**0.0038**	0.006	160.9	ug/L	553	Standard
	Sb	123	867.9	29.5	**0.0718**	0.023	31.4	ug/L	25	Standard
	Ba	135	51.3	38.3	**-0.0009**	0.004	434.2	ug/L	25	Standard
	Ce	140	22.0	15.7				ug/L	21	Standard
>	**Tb**	159	1202436.2	0.9				ug/L	1162405	Standard
	Ho	165	16.0	33.1				ug/L	12	Standard
	Tl	203	114.0	66.6	**0.0047**	0.004	84.4	ug/L	4	Standard
	Tl	205	237.3	71.1	**0.0061**	0.004	63.3	ug/L	4	Standard
	Pb	206	470.7	11.4	**0.0063**	0.004	55.7	ug/L	380	Standard
	Pb	207	383.7	15.9	**0.0006**	0.005	736.9	ug/L	306	Standard
	Pb	208	1778.4	14.5	**0.0036**	0.004	114.9	ug/L	1471	Standard
	U	238	105.3	50.1	**0.0068**	0.003	41.6	ug/L	0	Standard
>	**Bi**	209	603814.9	2.0				ug/L	592579	Standard

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⌈	**Na**	23	881.7	2.7	**0.0124**	0.002	12.7	mg/L	327	Standard
|	**Mg**	24	365.0	65.5	**0.0004**	0.000	86.3	mg/L	50	Standard
|	**K**	39	135.0	42.7	**0.0219**	0.049	224.8	mg/L	125	Standard
|	**Ca**	43	1.7	173.2	**0.0021**	1.516	70996.2	mg/L	0	Standard
|	**Fe**	54	543.1	4.2	**-0.0076**	0.006	81.6	mg/L	579	Standard
|	**Fe**	57	3262.0	4.7	**0.0047**	0.003	56.0	mg/L	2535	Standard
⌊>	**Sc-1**	45	380299.7	3.8				mg/L	350981	Standard
	Cl	35	4.0	50.0				ug/L	6	Standard
	Kr	83	44.9	5.6				ug/L	39	Standard
	Br	81	1390.9	3.1				ug/L	918	Standard
	P	31	384.2	5.5				ug/L	338	Standard
	S	34	5611.0	3.1				ug/L	6425	Standard
	Sr	88	20.0	66.1				ug/L	28	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈	Li	7			
|	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		99.729	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			
⌈	Mo	98			
|	Ag	107			

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	Cd	111	
	Cd	114	
>	In	115	108.831
	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	101.896
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: QC Std 7
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Method 6020 - Summary Report

Sample ID: L1207052801
Sample Date/Time: Friday, July 20, 2012 14:05:28
Number of Replicates: 3
Autosampler Position: 411
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	7	16322.2	7.9	**12278.2130**	2250.216	18.3	ug/L	9660	Standard
	Be	9	253.3	13.1	**0.1420**	0.020	13.9	ug/L	7	Standard
	Al	27	32700160.4	2.7	**2340.4911**	72.272	3.1	ug/L	6610	Standard
>	**Sc**	45	344001.3	0.4				ug/L	350981	Standard
	Ti	47	209.3	7.5	**0.1302**	0.011	8.3	ug/L	63	Standard
	V	51	10503.4	2.7	**0.8462**	0.012	1.4	ug/L	2655	Standard
	Cr	52	62904.4	3.1	**7.0873**	0.153	2.2	ug/L	8417	Standard
	Cr	53	9679.8	2.5	**7.2450**	0.101	1.4	ug/L	146	Standard
	Mn	55	1130123.0	3.2	**81.5256**	1.669	2.0	ug/L	1081	Standard
	Co	59	174444.6	2.5	**18.6576**	0.252	1.4	ug/L	84	Standard
	Ni	60	102999.5	3.2	**44.4432**	0.851	1.9	ug/L	55	Standard
	Cu	65	25727.5	2.6	**12.0721**	0.154	1.3	ug/L	78	Standard
	Zn	66	32640.2	3.7	**33.8100**	0.871	2.6	ug/L	99	Standard
>	**Ge**	72	264320.0	1.7				ug/L	289581	Standard
	As	75	30964.4	3.7	**31.7163**	0.831	2.6	ug/L	-189	Standard
	Se	82	22.5	33.4	**0.0729**	0.077	106.0	ug/L	18	Standard
	Se-1	77	81.7	9.4	**-0.0372**	0.109	292.1	ug/L	97	Standard
>	**Ga**	71	1918.5	3.3				mg/L	628	Standard
	Rb	85	495.0	23.5				ug/L	10	Standard
	Y	89	266695.4	3.6				ug/L	254546	Standard
>	**Rh**	103	520.0	17.4				ug/L	400	Standard
	Mo	98	65.6	63.1	**0.0149**	0.011	73.9	ug/L	8	Standard
	Ag	107	109.0	57.5	**0.0057**	0.008	143.3	ug/L	76	Standard
	Cd	111	1924.6	3.8	**0.4384**	0.019	4.4	mg/L	63	Standard
	Cd	114	4922.0	1.7	**0.4060**	0.008	1.9	ug/L	201	Standard
>	**In**	115	834437.7	1.7				ug/L	847070	Standard
	Sn	118	613.3	29.6	**-0.0157**	0.009	57.5	ug/L	553	Standard
	Sb	123	138.1	56.6	**0.0112**	0.008	66.8	ug/L	25	Standard
	Ba	135	87.7	40.9	**0.0079**	0.008	99.7	ug/L	25	Standard
	Ce	140	85887.1	1.5				ug/L	21	Standard
>	**Tb**	159	1119561.1	1.5				ug/L	1162405	Standard
	Ho	165	2239.8	2.4				ug/L	12	Standard
	Tl	203	4346.6	1.9	**0.2456**	0.004	1.8	ug/L	4	Standard
	Tl	205	10122.0	0.5	**0.2489**	0.007	2.8	ug/L	4	Standard
	Pb	206	469.7	14.1	**0.0081**	0.006	70.0	ug/L	380	Standard
	Pb	207	390.3	10.9	**0.0031**	0.005	147.1	ug/L	306	Standard
	Pb	208	1822.0	11.7	**0.0063**	0.005	76.8	ug/L	1471	Standard
	U	238	1989.5	2.3	**0.1161**	0.005	4.6	ug/L	0	Standard
>	**Bi**	209	572281.8	2.2				ug/L	592579	Standard

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Na	23	9806.5	0.6	**0.5327**	0.005	0.9	mg/L	327	Standard
Mg	24	198809.3	1.1	**0.3166**	0.004	1.4	mg/L	50	Standard
K	39	126.7	14.9	**0.0246**	0.016	65.8	mg/L	125	Standard
Ca	43	3.3	173.2	**1.0130**	3.267	322.5	mg/L	0	Standard
Fe	54	14054.0	5.3	**2.9584**	0.169	5.7	mg/L	579	Standard
Fe	57	303241.7	4.5	**3.3007**	0.159	4.8	mg/L	2535	Standard
Sc-1	45	344001.3	0.4				mg/L	350981	Standard
Cl	35	1.7	91.7				ug/L	6	Standard
Kr	83	44.0	12.2				ug/L	39	Standard
Br	81	1185.0	6.0				ug/L	918	Standard
P	31	276.7	10.4				ug/L	338	Standard
S	34	18694.0	3.4				ug/L	6425	Standard
Sr	88	46.7	40.6				ug/L	28	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	7			
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		91.277	
As	75			
Se	82			
Se-1	77			
Ga	71			
Rb	85			
Y	89			
Rh	103			
Mo	98			
Ag	107			

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	Cd	111	
	Cd	114	
>	In	115	98.509
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	96.575
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Approved: July 23, 2012

Method 6020 - Summary Report

Sample ID: L1207052802
Sample Date/Time: Friday, July 20, 2012 14:11:56
Number of Replicates: 3
Autosampler Position: 412
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	7	16227.0	3.2	**12348.1200**	632.673	5.1	ug/L	9660	Standard
	Be	9	175.0	4.9	**0.0975**	0.006	6.1	ug/L	7	Standard
	Al	27	33069019.1	1.5	**2387.6819**	46.099	1.9	ug/L	6610	Standard
>	**Sc**	45	341017.1	1.4				ug/L	350981	Standard
	Ti	47	194.0	1.4	**0.1157**	0.001	0.6	ug/L	63	Standard
	V	51	10532.1	4.3	**0.8422**	0.049	5.9	ug/L	2655	Standard
	Cr	52	62820.7	3.4	**7.0233**	0.204	2.9	ug/L	8417	Standard
	Cr	53	9676.4	4.8	**7.1914**	0.222	3.1	ug/L	146	Standard
	Mn	55	1139777.6	2.2	**81.6907**	1.649	2.0	ug/L	1081	Standard
	Co	59	172288.2	1.7	**18.3076**	0.335	1.8	ug/L	84	Standard
	Ni	60	101455.7	2.8	**43.4887**	0.772	1.8	ug/L	55	Standard
	Cu	65	25495.4	3.0	**11.8840**	0.290	2.4	ug/L	78	Standard
	Zn	66	15606.0	2.6	**16.0033**	0.378	2.4	ug/L	99	Standard
>	**Ge**	72	266088.3	1.8				ug/L	289581	Standard
	As	75	31009.1	2.2	**31.5577**	0.550	1.7	ug/L	-189	Standard
	Se	82	20.9	20.4	**0.0549**	0.044	79.9	ug/L	18	Standard
	Se-1	77	89.3	9.0	**0.0674**	0.137	203.3	ug/L	97	Standard
>	**Ga**	71	1960.1	5.7				mg/L	628	Standard
	Rb	85	571.7	7.1				ug/L	10	Standard
	Y	89	265101.2	1.6				ug/L	254546	Standard
>	**Rh**	103	463.3	12.1				ug/L	400	Standard
	Mo	98	28.9	7.8	**0.0054**	0.001	12.9	ug/L	8	Standard
	Ag	107	59.0	24.6	**-0.0007**	0.002	250.9	ug/L	76	Standard
	Cd	111	1829.4	1.6	**0.4201**	0.007	1.6	mg/L	63	Standard
	Cd	114	4875.3	0.8	**0.4063**	0.011	2.8	ug/L	201	Standard
>	**In**	115	826302.3	2.9				ug/L	847070	Standard
	Sn	118	850.4	3.2	**-0.0041**	0.002	60.2	ug/L	553	Standard
	Sb	123	58.2	10.6	**0.0038**	0.000	11.5	ug/L	25	Standard
	Ba	135	84.7	4.9	**0.0074**	0.001	17.8	ug/L	25	Standard
	Ce	140	84758.1	1.9				ug/L	21	Standard
>	**Tb**	159	1117345.9	1.4				ug/L	1162405	Standard
	Ho	165	2225.8	2.8				ug/L	12	Standard
	Tl	203	4283.3	2.8	**0.2406**	0.001	0.5	ug/L	4	Standard
	Tl	205	10078.4	2.1	**0.2464**	0.002	0.7	ug/L	4	Standard
	Pb	206	408.3	3.2	**0.0034**	0.002	48.7	ug/L	380	Standard
	Pb	207	331.7	4.6	**-0.0023**	0.001	31.3	ug/L	306	Standard
	Pb	208	1582.0	2.6	**0.0016**	0.001	75.2	ug/L	1471	Standard
	U	238	1922.1	1.4	**0.1116**	0.003	2.8	ug/L	0	Standard
>	**Bi**	209	575613.9	2.3				ug/L	592579	Standard

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	Na	23	9904.9	3.6	**0.5437**	0.028	5.2	mg/L	327	Standard
	Mg	24	195308.2	3.0	**0.3137**	0.008	2.5	mg/L	50	Standard
	K	39	103.3	7.4	**0.0050**	0.007	138.4	mg/L	125	Standard
	Ca	43	5.0	100.0	**1.9912**	2.888	145.0	mg/L	0	Standard
	Fe	54	13668.4	2.1	**2.9005**	0.086	3.0	mg/L	579	Standard
	Fe	57	310489.4	1.3	**3.4098**	0.024	0.7	mg/L	2535	Standard
>	**Sc-1**	45	341017.1	1.4				mg/L	350981	Standard
	Cl	35	2.7	86.6				ug/L	6	Standard
	Kr	83	45.8	6.1				ug/L	39	Standard
	Br	81	1180.9	2.5				ug/L	918	Standard
	P	31	259.2	9.0				ug/L	338	Standard
	S	34	18397.8	1.9				ug/L	6425	Standard
	Sr	88	60.0					ug/L	28	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
	Li	7			
	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		91.887	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			
	Y	89			
>	Rh	103			
	Mo	98			
	Ag	107			

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	Cd	111	
	Cd	114	
>	In	115	97.548
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	97.137
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

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Method 6020 - Summary Report

Sample ID: QC Std 6
Sample Date/Time: Friday, July 20, 2012 14:15:08
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	7	11214.2	6.1	**680.4918**	918.888	135.0	ug/L	9660	Standard
	Be	9	105633.6	0.8	**51.1907**	0.621	1.2	ug/L	7	Standard
	Al	27	700084.4	1.5	**41.4203**	0.491	1.2	ug/L	6610	Standard
>	**Sc**	45	411558.1	0.5				ug/L	350981	Standard
	Ti	47	134003.1	1.8	**99.0658**	1.679	1.7	ug/L	63	Standard
	V	51	555066.1	0.6	**48.5894**	0.484	1.0	ug/L	2655	Standard
	Cr	52	462491.0	0.6	**49.0225**	0.608	1.2	ug/L	8417	Standard
	Cr	53	76684.6	4.1	**48.9750**	1.923	3.9	ug/L	146	Standard
	Mn	55	869420.9	2.3	**52.8074**	1.017	1.9	ug/L	1081	Standard
	Co	59	567479.8	1.4	**51.1454**	0.279	0.5	ug/L	84	Standard
	Ni	60	131866.1	1.6	**47.9353**	0.740	1.5	ug/L	55	Standard
	Cu	65	122488.5	1.4	**48.5151**	0.498	1.0	ug/L	78	Standard
	Zn	66	55349.9	0.9	**48.3513**	0.738	1.5	ug/L	99	Standard
>	**Ge**	72	313815.0	1.4				ug/L	289581	Standard
	As	75	57993.8	1.2	**49.9489**	0.727	1.5	ug/L	-189	Standard
	Se	82	6161.0	1.8	**52.9719**	0.707	1.3	ug/L	18	Standard
	Se-1	77	4071.9	2.0	**48.7038**	0.470	1.0	ug/L	97	Standard
>	**Ga**	71	683.3	8.6				mg/L	628	Standard
	Rb	85	2785.3	2.2				ug/L	10	Standard
	Y	89	311295.1	2.6				ug/L	254546	Standard
>	**Rh**	103	546.7	7.3				ug/L	400	Standard
	Mo	98	459063.1	0.4	**100.4775**	0.638	0.6	ug/L	8	Standard
	Ag	107	543564.8	1.3	**58.0292**	0.859	1.5	ug/L	76	Standard
	Cd	111	253999.6	1.0	**50.8797**	0.654	1.3	mg/L	63	Standard
	Cd	114	653907.6	0.8	**47.3574**	0.445	0.9	ug/L	201	Standard
>	**In**	115	989250.0	0.3				ug/L	847070	Standard
	Sn	118	1077406.4	0.9	**43.0620**	0.425	1.0	ug/L	553	Standard
	Sb	123	613217.8	1.3	**48.2621**	0.723	1.5	ug/L	25	Standard
	Ba	135	248860.9	1.0	**44.5076**	0.485	1.1	ug/L	25	Standard
	Ce	140	487.7	4.8				ug/L	21	Standard
>	**Tb**	159	1279049.5	2.7				ug/L	1162405	Standard
	Ho	165	22.3	26.2				ug/L	12	Standard
	Tl	203	920947.6	1.4	**48.3243**	0.305	0.6	ug/L	4	Standard
	Tl	205	2278238.2	1.0	**51.6125**	0.684	1.3	ug/L	4	Standard
	Pb	206	717097.1	1.5	**48.7120**	0.776	1.6	ug/L	380	Standard
	Pb	207	598267.2	1.2	**48.7230**	0.860	1.8	ug/L	306	Standard
	Pb	208	2790343.7	1.4	**48.5410**	0.623	1.3	ug/L	1471	Standard
	U	238	997656.6	1.2	**53.2914**	0.735	1.4	ug/L	0	Standard
>	**Bi**	209	619685.5	1.6				ug/L	592579	Standard

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Na	23	127813.5	0.9	**6.1367**	0.087	1.4	mg/L	327	Standard
Mg	24	3334398.0	0.6	**4.4393**	0.011	0.3	mg/L	50	Standard
K	39	5232.6	0.4	**3.7406**	0.017	0.4	mg/L	125	Standard
Ca	43	16.7	17.3	**6.9807**	1.386	19.9	mg/L	0	Standard
Fe	54	24408.9	2.7	**4.3467**	0.140	3.2	mg/L	579	Standard
Fe	57	587826.9	1.2	**5.3647**	0.067	1.2	mg/L	2535	Standard
Sc-1	45	411558.1	0.5				mg/L	350981	Standard
Cl	35	3.7	41.7				ug/L	6	Standard
Kr	83	48.2	5.9				ug/L	39	Standard
Br	81	1609.3	7.5				ug/L	918	Standard
P	31	472.5	6.0				ug/L	338	Standard
S	34	5649.4	1.2				ug/L	6425	Standard
Sr	88	36.7	34.3				ug/L	28	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	7			
Be	9			
Al	27	82.841		
Sc	45			
Ti	47	99.066		
V	51	97.179		
Cr	52	98.045		
Cr	53			
Mn	55	105.615		
Co	59	102.291		
Ni	60	95.871		
Cu	65	97.030		
Zn	66	96.703		
Ge	72		108.369	
As	75	99.898		
Se	82	105.944		
Se-1	77			
Ga	71			
Rb	85			
Y	89			
Rh	103			
Mo	98	100.478		
Ag	107	116.058		

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	Cd	111	101.759	
	Cd	114		
>	In	115		116.785
	Sn	118	86.124	
	Sb	123	96.524	
	Ba	135	89.015	
	Ce	140		
>	Tb	159		
	Ho	165		
	Tl	203	96.649	
	Tl	205		
	Pb	206	97.424	
	Pb	207	97.446	
	Pb	208	97.082	
	U	238	106.583	
>	Bi	209		104.574
	Na	23		
	Mg	24		
	K	39		
	Ca	43		
	Fe	54		
	Fe	57		
>	Sc-1	45		
	Cl	35		
	Kr	83		
	Br	81		
	P	31		
	S	34		
	Sr	88		

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 6	Al	27	
QC Std 6	Ag	107	
QC Std 6	Sn	118	
QC Std 6	Ba	135	

Sample ID: QC Std 6
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Method 6020 - Summary Report

Sample ID: QC Std 7
Sample Date/Time: Friday, July 20, 2012 14:18:18
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	7	10473.6	4.5	**201.5324**	583.626	289.6	ug/L	9660	Standard
	Be	9	26.7	78.1	**0.0085**	0.011	123.9	ug/L	7	Standard
	Al	27	9107.7	1.2	**0.0991**	0.004	3.7	ug/L	6610	Standard
>	**Sc**	45	396501.2	0.7				ug/L	350981	Standard
	Ti	47	82.0	6.1	**0.0094**	0.005	50.8	ug/L	63	Standard
	V	51	2583.2	2.5	**-0.0151**	0.008	55.0	ug/L	2655	Standard
	Cr	52	8095.8	1.1	**-0.0787**	0.017	21.7	ug/L	8417	Standard
	Cr	53	197.5	16.6	**0.0203**	0.022	106.5	ug/L	146	Standard
	Mn	55	1261.1	4.0	**0.0050**	0.003	67.1	ug/L	1081	Standard
	Co	59	132.7	7.8	**0.0010**	0.001	106.1	ug/L	84	Standard
	Ni	60	69.3	18.8	**0.0040**	0.005	115.9	ug/L	55	Standard
	Cu	65	117.7	7.6	**0.0153**	0.003	20.2	ug/L	78	Standard
	Zn	66	124.7	2.3	**0.0027**	0.003	108.0	ug/L	99	Standard
>	**Ge**	72	302632.6	1.5				ug/L	289581	Standard
	As	75	-195.5	1.6	**-0.0080**	0.004	54.7	ug/L	-189	Standard
	Se	82	25.3	12.8	**0.0688**	0.031	45.7	ug/L	18	Standard
	Se-1	77	102.7	2.8	**0.0793**	0.024	30.3	ug/L	97	Standard
>	**Ga**	71	681.7	5.0				mg/L	628	Standard
	Rb	85	30.0	60.1				ug/L	10	Standard
	Y	89	294796.9	0.5				ug/L	254546	Standard
>	**Rh**	103	546.7	7.4				ug/L	400	Standard
	Mo	98	101.1	14.0	**0.0206**	0.003	15.9	ug/L	8	Standard
	Ag	107	252.7	15.7	**0.0196**	0.004	20.6	ug/L	76	Standard
	Cd	111	111.8	1.5	**0.0041**	0.001	16.2	mg/L	63	Standard
	Cd	114	300.3	6.3	**0.0056**	0.001	21.1	ug/L	201	Standard
>	**In**	115	961670.2	1.3				ug/L	847070	Standard
	Sn	118	872.4	4.4	**-0.0089**	0.002	17.0	ug/L	553	Standard
	Sb	123	626.6	30.1	**0.0491**	0.016	32.5	ug/L	25	Standard
	Ba	135	49.7	10.1	**-0.0016**	0.001	56.4	ug/L	25	Standard
	Ce	140	29.0	21.5				ug/L	21	Standard
>	**Tb**	159	1232453.1	1.1				ug/L	1162405	Standard
	Ho	165	13.0	27.7				ug/L	12	Standard
	Tl	203	84.7	14.8	**0.0030**	0.001	21.5	ug/L	4	Standard
	Tl	205	190.7	13.3	**0.0049**	0.001	12.0	ug/L	4	Standard
	Pb	206	486.3	4.9	**0.0064**	0.002	24.6	ug/L	380	Standard
	Pb	207	383.0	4.8	**-0.0003**	0.002	561.6	ug/L	306	Standard
	Pb	208	1837.7	3.7	**0.0038**	0.001	31.5	ug/L	1471	Standard
	U	238	90.7	5.0	**0.0058**	0.000	4.7	ug/L	0	Standard
>	**Bi**	209	621590.1	0.7				ug/L	592579	Standard

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Na	23	778.4	4.9	**0.0054**	0.002	39.8	mg/L	327	Standard
Mg	24	323.3	13.2	**0.0003**	0.000	17.3	mg/L	50	Standard
K	39	91.7	25.8	**-0.0166**	0.018	109.4	mg/L	125	Standard
Ca	43	0.0		**-0.8733**			mg/L	0	Standard
Fe	54	564.3	10.0	**-0.0081**	0.010	126.5	mg/L	579	Standard
Fe	57	3348.7	4.3	**0.0041**	0.001	29.2	mg/L	2535	Standard
Sc-1	45	396501.2	0.7				mg/L	350981	Standard
Cl	35	4.0	50.0				ug/L	6	Standard
Kr	83	47.3	5.5				ug/L	39	Standard
Br	81	1540.1	3.0				ug/L	918	Standard
P	31	392.5	3.5				ug/L	338	Standard
S	34	5559.4	2.1				ug/L	6425	Standard
Sr	88	33.3	8.7				ug/L	28	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	7			
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		104.507	
As	75			
Se	82			
Se-1	77			
Ga	71			
Rb	85			
Y	89			
Rh	103			
Mo	98			
Ag	107			

Sample ID: QC Std 7
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	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

113.529

104.896

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: QC Std 7
Report Date/Time: Friday, July 20, 2012 14:20:48
Page 3

Approved: July 23, 2012

2.1.3 Metals CVAA Data (Mercury)

2.1.3.1 Summary Data

Login Number: L12070507
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: WG404314 - All acceptance criteria were met.

Matrix Spikes: All acceptance criteria were met.

SAMPLES

Samples: All acceptance criteria were met.

Narrative ID: 50474
Approved By: Sheri Pfalzgraf

Microbac

Lab Report #: L12070507
Lab Project #: 3005.011
Project Name: White Sands MR
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L12070507-01	**PrePrep Method:**	N/A	**Instrument:**	HYDRA
Client ID:	MPL23-0712-1	**Prep Method:**	7470A	**Prep Date:**	07/19/2012 08:16
Matrix:	Water	**Analytical Method:**	7470A	**Cal Date:**	07/24/2012 13:01
Workgroup #:	WG404314	**Analyst:**	PDM	**Run Date:**	07/24/2012 13:18
Collect Date:	07/17/2012 12:42	**Dilution:**	1	**File ID:**	HY.072412.131840
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 #: L12070507
Lab Project #: 3005.011
Project Name: White Sands MR
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L12070507-02	**PrePrep Method:**	N/A	**Instrument:**	HYDRA
Client ID:	MPL23-0712-2	**Prep Method:**	7470A	**Prep Date:**	07/19/2012 08:16
Matrix:	Water	**Analytical Method:**	7470A	**Cal Date:**	07/24/2012 13:01
Workgroup #:	WG404314	**Analyst:**	PDM	**Run Date:**	07/24/2012 13:23
Collect Date:	07/17/2012 12:42	**Dilution:**	1	**File ID:**	HY.072412.132352
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

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: WG403797
Analyst: BRG
Spike Analyst: BRG
Method: 7470A
Run Date: 07/19/2012 08:16
Hotblock Start Temp: 93.9 @ 08:05
Hotblock End Temp: 95 @ 10:05

SOP: ME404 Revison 13
Spike Solution: STD52865
Spike Witness: VC
H2SO4 Lot #: COA16153
HNO3 Lot #: COA16174
Digestion Tubes Lot #: COA16262
K2S2O8 1:1 Lot #: RGT16987
KMnO4 1:1 Lot #: RGT17508
Mercury Water ICV Lot #: STD52867
HG H2O STDS 10PPM Lot #: STD52873

	SAMPLE #	Type	Matrix	Initial Amount	Final Volume	Spike Amount	Due Date
1	WG403797-02	BLANK	1	40 mL	40 mL		
2	WG403797-03	LCS	1	40 mL	40 mL	4 mL	
3	WG403797-01	REF	1	40 mL	40 mL		
4	L12070507-01	SAMP	1	40 mL	40 mL		07/27/12
5	L12070507-02	SAMP	1	40 mL	40 mL		07/27/12
6	L12070537-01	SAMP	1	40 mL	40 mL		07/27/12
7	L12070537-02	SAMP	1	40 mL	40 mL		07/27/12
8	L12070537-03	SAMP	1	40 mL	40 mL		07/27/12
9	L12070537-04	SAMP	1	40 mL	40 mL		07/27/12
10	L12070537-05	SAMP	1	40 mL	40 mL		07/27/12
11	L12070537-06	SAMP	1	40 mL	40 mL		07/27/12
12	L12070537-07	SAMP	1	40 mL	40 mL		07/27/12
13	L12070537-08	SAMP	1	40 mL	40 mL		07/27/12
14	L12070537-09	SAMP	1	40 mL	40 mL		07/27/12
15	L12070537-10	SAMP	1	40 mL	40 mL		07/27/12
16	L12070537-11	RS01	1	40 mL	40 mL		07/27/12
17	L12070537-12	SAMP	1	40 mL	40 mL		07/27/12
18	L12070538-01	SAMP	1	40 mL	40 mL		07/25/12
19	WG403797-04	MS	1	36 mL	40 mL	4 mL	
20	WG403797-05	MSD	1	36 mL	40 mL	4 mL	

L12070538-01	SAMP IS BRINE

Analyst: Brenda Gregory

Reviewer: Erin Potter

HB_DIG - Modified 09/30/2009
PDF ID: 2503987
Report generated: 07/19/2012 10:51

Microbac Laboratories Inc.

Instrument Run Log

Instrument: HYDRA Dataset: 072412D.PRN
Analyst1: PDM Analyst2: LMK
Method: 7470 SOP: ME404 Rev: 13
Maintenance Log ID: 42580

Calibration Std: STD52873 ICV Std: STD52867 Post Spike: STD52873
ICSA: N/A ICSAB: N/A Int. Std:
CCV: LLCCV:

Workgroups: WG404314

Comments:

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
1	HY.072412.125329	WG404331-01	Calibration Point		1		07/24/12 12:53
2	HY.072412.125506	WG404331-02	Calibration Point		1		07/24/12 12:55
3	HY.072412.125644	WG404331-03	Calibration Point		1		07/24/12 12:56
4	HY.072412.125837	WG404331-04	Calibration Point		1		07/24/12 12:58
5	HY.072412.130019	WG404331-05	Calibration Point		1		07/24/12 13:00
6	HY.072412.130159	WG404331-06	Calibration Point		1		07/24/12 13:01
7	HY.072412.130802	WG404331-07	Initial Calibration Verification		1		07/24/12 13:08
8	HY.072412.130942	WG404331-08	Initial Calib Blank		1		07/24/12 13:09
9	HY.072412.131134	WG404331-09	CCV		1		07/24/12 13:11
10	HY.072412.131315	WG404331-10	CCB		1		07/24/12 13:13
11	HY.072412.131453	WG403797-02	Method/Prep Blank	40/40	1		07/24/12 13:14
12	HY.072412.131629	WG403797-03	Laboratory Control S	40/40	1		07/24/12 13:16
13	HY.072412.131840	WG403797-01	Reference Sample	40/40	1	L12070507-01	07/24/12 13:18
14	HY.072412.132017	WG403797-04	Matrix Spike	36/40	1	L12070507-01	07/24/12 13:20
15	HY.072412.132214	WG403797-05	Matrix Spike Duplica	36/40	1	L12070507-01	07/24/12 13:22
16	HY.072412.132352	L12070507-02	MPL23-0712-2	40/40	1		07/24/12 13:23
17	HY.072412.132532	WG404314-01	Post Digestion Spike		1	L12070507-02	07/24/12 13:25
18	HY.072412.132713	L12070537-01	TC-GW-02	40/40	1		07/24/12 13:27
19	HY.072412.132915	L12070537-02	TC-GW-02F		1		07/24/12 13:29
20	HY.072412.133113	L12070537-03	TC-GW-03	40/40	1		07/24/12 13:31
21	HY.072412.133252	WG404331-11	CCV		1		07/24/12 13:32
22	HY.072412.133431	WG404331-12	CCB		1		07/24/12 13:34
23	HY.072412.133609	L12070537-04	TC-GW-03F		1		07/24/12 13:36
24	HY.072412.133745	L12070537-05	TC-GW01		1		07/24/12 13:37
25	HY.072412.133922	L12070537-06	TC-GW01F		1		07/24/12 13:39
26	HY.072412.134104	L12070537-07	TC-GW-07	40/40	1		07/24/12 13:41
27	HY.072412.134251	L12070537-08	TC-GW-07F	40/40	1		07/24/12 13:42
28	HY.072412.134430	L12070537-09	TC-GW-08	40/40	1		07/24/12 13:44
29	HY.072412.134618	L12070537-10	TC-GW-08F	40/40	1		07/24/12 13:46
30	HY.072412.134817	L12070537-11	TC-GW11	40/40	1		07/24/12 13:48
31	HY.072412.135015	L12070537-12	TC-GW11F	40/40	1		07/24/12 13:50
32	HY.072412.135153	L12070538-01	BRINE WELL	40/40	1		07/24/12 13:51
33	HY.072412.135351	WG404331-13	CCV		1		07/24/12 13:53
34	HY.072412.135542	WG404331-14	CCB		1		07/24/12 13:55

Page: 1 Approved: July 24, 2012

Microbac Laboratories Inc.

Instrument Run Log

Instrument: HYDRA
Dataset: 072412D.PRN
Analyst1: PDM
Analyst2: LMK
Method: 7470
SOP: ME404
Rev: 13
Maintenance Log ID: 42580

Calibration Std: STD52873
ICV Std: STD52867
Post Spike: STD52873
ICSA: N/A
ICSAB: N/A
Int. Std:
CCV:
LLCCV:

Workgroups: WG404314

Comments:

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
35	HY.072412.135842	L12070537-02	TC-GW-02F	40/40	1		07/24/12 13:58
36	HY.072412.140019	L12070537-04	TC-GW-03F	40/40	1		07/24/12 14:00
37	HY.072412.140156	L12070537-05	TC-GW01	40/40	1		07/24/12 14:01
38	HY.072412.140344	L12070537-06	TC-GW01F	40/40	1		07/24/12 14:03
39	HY.072412.140533	WG404331-15	CCV		1		07/24/12 14:05
40	HY.072412.140743	WG404331-16	CCB		1		07/24/12 14:07

Comments

Seq.	Rerun	Dil.	Reason	Analytes
19			Reanalyzed due to failure to meet DOD4 requirements.	
23			Reanalyzed due to failure to meet DOD4 requirements.	
24			Reanalyzed due to failure to meet DOD4 requirements.	
25			Reanalyzed due to failure to meet DOD4 requirements.	

Page: 2 Approved: July 24, 2012

Microbac Laboratories Inc.

Data Checklist

Date: 24-JUL-2012
Analyst: PDM
Analyst: LMK
Method: 7470
Instrument: HYDRA
Curve Workgroup: 404331
Runlog ID: 48023
Analytical Workgroups: 404314

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	507,537
Client Forms	X
Level X	
Level 3	
Level 4	507,537
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: 24-JUL-2012 Pierce Morris

Secondary Reviewer: 24-JUL-2012 Sheri L. Pabgrat

CHECKLIST1 - Modified 03/05/2008
Generated: JUL-24-2012 16:08:29

Microbac Laboratories Inc.

HOLDING TIMES
EQUIVALENT TO AFCEE FORM 9

Analytical Method: 7470A

AAB#: WG404314

Login Number: L12070507

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
MPL23-0712-1	01	07/17/12					07/19/2012	1.8	28		07/24/12	7	28	
MPL23-0712-2	02	07/17/12					07/19/2012	1.8	28		07/24/12	7	28	

* = SEE PROJECT QAPP REQUIREMENTS

HOLD_TIMES - Modified 03/06/2008
PDF File ID: 2513941
Report generated 07/24/2012 14:51

Microbac Laboratories Inc.

METHOD BLANK SUMMARY

Login Number: L12070507
Blank File ID: HY.072412.131453
Prep Date: 07/19/12 08:16
Analyzed Date: 07/24/12 13:14
Analyst: PDM

Work Group: WG404314
Blank Sample ID: WG403797-02
Instrument ID: HYDRA
Method: 7470A

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG403797-03	HY.072412.131629	07/24/12 13:16	01
MPL23-0712-1	L12070507-01	HY.072412.131840	07/24/12 13:18	01
MPL23-0712-2	L12070507-02	HY.072412.132352	07/24/12 13:23	01

Report Name: BLANK_SUMMARY
PDF File ID: 2513942
Report generated 07/24/2012 14:51

Microbac Laboratories Inc.

METHOD BLANK REPORT

Login Number: L12070507 Prep Date: 07/19/12 08:16 Sample ID: WG403797-02
Instrument ID: HYDRA Run Date: 07/24/12 13:14 Prep Method: 7470A
File ID: HY.072412.131453 Analyst: PDM Method: 7470A
Workgroup (AAB#): WG404314 Matrix: Water Units: mg/L
Contract #: Cal ID: HYDRA-24-JUL-12

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: 2513943
24-JUL-2012 14:51

Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L12070507 Run Date: 07/24/2012 Sample ID: WG403797-03
Instrument ID: HYDRA Run Time: 13:16 Prep Method: 7470A
File ID: HY.072412.131629 Analyst: PDM Method: 7470A
Workgroup (AAB#): WG404314 Matrix: Water Units: mg/L
QC Key: DOD4 Lot#: STD52865 Cal ID: HYDRA-24-JUL-12

Analytes	Expected	Found	% Rec	LCS Limits	Q
Mercury	0.00400	0.00419	105	80 - 120	

LCS - Modified 03/06/2008
PDF File ID: 2513944
Report generated: 07/24/2012 14:51

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

Loginnum: L12070507 Cal ID: HYDRA- Worknum: WG404314
Instrument ID: HYDRA Contract #: Method: 7470A
Parent ID: WG403797-01 File ID: HY.072412.131840 Dil: 1 Matrix: WATER
Sample ID: WG403797-04 MS File ID: HY.072412.132017 Dil: 1 Units: mg/L
Sample ID: WG403797-05 MSD File ID: HY.072412.132214 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	0.00449	101	0.00444	0.00449	101	0	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: 2513950
Report generated 07/24/2012 14:52

Microbac Laboratories Inc.
POST SPIKE REPORT

Sample Login ID: L12070507 **Worknum:** WG404314
Instrument ID: HYDRA **Method:** 7470A
Post Spike ID: WG404314-01 **File ID:** HY.072412.132532 **Dil:** 1 **Units:** ug/L
Sample ID: L12070507-02 **File ID:** HY.072412.132352 **Dil:** 1 **Matrix:** Water

Analyte	Post Spike Result	C	Sample Result	C	Spike Added(SA)	% R	Control Limit %R	Q
MERCURY	0.945		0	U	1	94.5	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: 2513940
Report generated: 07/24/2012 14:51

Microbac Laboratories Inc.

INITIAL CALIBRATION SUMMARY

Login Number: L12070507
Analytical Method: 7470A
ICAL Worknum: WG404331

Workgroup (AAB#): WG404314
Instrument ID: HYDRA
Initial Calibration Date: 07/24/2012 13:01

Analyte	WG404331-01		WG404331-02		WG404331-03		WG404331-04		WG404331-05		WG404331-06	
	STD	INT	STD	INT	STD	INT	STD	INT	STD	INT	STD	INT
Mercury	0	1916	0.200	15077	1.00	71432	2.00	131256	5.00	322236	10.0	637790

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: 2513954
Report generated 07/24/2012 14:52

Microbac Laboratories Inc.

INITIAL CALIBRATION SUMMARY

Login Number: L12070507
Analytical Method: 7470A
ICAL Worknum: WG404331

Workgroup (AAB#): WG404314
Instrument ID: HYDRA
Initial Calibration Date: 07/24/2012 13:01

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: 2513954
Report generated 07/24/2012 14:52

Microbac Laboratories Inc.
INITIAL CALIBRATION BLANK (ICB)

Login Number: L12070507
Run Date: 07/24/2012
Sample ID: WG404331-08
Instrument ID: HYDRA
Run Time: 13:09
Method: 7470A
File ID: HY.072412.130942
Analyst: PDM
Units: ug/L
Workgroup (AAB#): WG404314
Cal ID: HYDRA - 24-JUL-12
Matrix: WATER

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: 2513947
Report generated 07/24/2012 14:52

Microbac Laboratories Inc.

CONTINUING CALIBRATION BLANK (CCB)

Login Number: L12070507 Run Date: 07/24/2012 Sample ID: WG404331-10

Instrument ID: HYDRA Run Time: 13:13 Method: 7470A

File ID: HY.072412.131315 Analyst: PDM Units: ug/L

Workgroup (AAB#): WG404314 Cal ID: HYDRA - 24-JUL-12

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: 2513949
Report generated 07/24/2012 14:52

Microbac Laboratories Inc.

CONTINUING CALIBRATION BLANK (CCB)

Login Number: L12070507 Run Date: 07/24/2012 Sample ID: WG404331-12

Instrument ID: HYDRA Run Time: 13:34 Method: 7470A

File ID: HY.072412.133431 Analyst: PDM Units: ug/L

Workgroup (AAB#): WG404314 Cal ID: HYDRA - 24-JUL-12

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: 2513949
Report generated 07/24/2012 14:52

Microbac Laboratories Inc.

INITIAL CALIBRATION VERIFICATION (ICV)

(Alternate Source)

Login Number: L12070507 Run Date: 07/24/2012 Sample ID: WG404331-07

Instrument ID: HYDRA Run Time: 13:08 Method: 7470A

File ID: HY.072412.130802 Analyst: PDM Units: ug/L

Workgroup (AAB#): WG404314 Cal ID: HYDRA - 24-JUL-12

QC Key: DOD4

Analyte		Expected	Found	%REC	LIMITS	Q
Mercury		2	2.13	107	90 - 110	

* Exceeds LIMITS Limit

ICV - Modified 03/06/2008

PDF File ID: 2513946

Report generated 07/24/2012 14:52

Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12070507
Run Date: 07/24/2012
Sample ID: WG404331-09
Instrument ID: HYDRA
Run Time: 13:11
Method: 7470A
File ID: HY.072412.131134
Analyst: PDM
QC Key: DOD4
Workgroup (AAB#): WG404314
Cal ID: HYDRA - 24-JUL-12
Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Mercury, Total		0.00200	0.00213	mg/L	107	80 - 120		

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008
PDF File ID: 2513948
Report generated 07/24/2012 14:52

Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12070507
Run Date: 07/24/2012
Sample ID: WG404331-11
Instrument ID: HYDRA
Run Time: 13:32
Method: 7470A
File ID: HY.072412.133252
Analyst: PDM
QC Key: DOD4
Workgroup (AAB#): WG404314
Cal ID: HYDRA - 24-JUL-12
Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Mercury, Total		0.00200	0.00187	mg/L	93.5	80 - 120		

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008
PDF File ID: 2513948
Report generated 07/24/2012 14:52

2.1.3.3 Raw Data

POST-RUN REPORT

```
Line   Conc.  Units     SD/RSD      1       2       3       4       5
--------------------------------------------------------------------------------

*** Standard: 1 Rep: 1              Seq:  1       12:53:29 24 Jul 12   HG

Hg    .000    ppb      1916
                                                                              =
*** Standard: 2 Rep: 1              Seq:  2       12:55:06 24 Jul 12   HG

Hg    .200    ppb      15077
                                                                              =
*** Standard: 3 Rep: 1              Seq:  3       12:56:44 24 Jul 12   HG

Hg    1.00    ppb      71432
                                                                              =
*** Standard: 4 Rep: 1              Seq:  4       12:58:37 24 Jul 12   HG

Hg    2.00    ppb      131256
                                                                              =
*** Standard: 5 Rep: 1              Seq:  5       13:00:19 24 Jul 12   HG

Hg    5.00    ppb      322236
                                                                              =
*** Standard: 6 Rep: 1              Seq:  6       13:01:59 24 Jul 12   HG

Hg    10.0    ppb      637790
                                                                              =
*** Check Standard: 2  Ck2ICV       Seq:  7       13:08:02 24 Jul 12   HG
Line  Flag  %Rcv.   Found    True  Units      SD/RSD
Hg          107.     2.13    2.00   ppb        .000
                                                                              =
*** Check Standard: 3  Ck3ICB       Seq:  8       13:09:42 24 Jul 12   HG
Line  Flag  %Rcv.   Found    True  Units      SD/RSD
Hg         -.929    -.002    .200   ppb        .000
                                                                              =
*** Check Standard: 4  Ck4CCV       Seq:  9       13:11:34 24 Jul 12   HG
Line  Flag  %Rcv.   Found    True  Units      SD/RSD
Hg          106.     2.13    2.00   ppb        .000
                                                                              =
*** Check Standard: 5  Ck5CCB       Seq:  10      13:13:15 24 Jul 12   HG
Line  Flag  %Rcv.   Found    True  Units      SD/RSD
Hg         -3.68    -.007    .200   ppb        .000
                                                                              =
*** Sample ID: WG40379702            Seq:  11     13:14:53 24 Jul 12   HG
                           PBW 06
Hg   -.057    ppb       .000     -.057
                                                                              =
==============================================================================
*** Sample ID: WG40379703            Seq:  12     13:16:29 24 Jul 12   HG
                           LCSW 06
Hg    4.19    ppb       .000      4.19
                                                                              =
==============================================================================
```

Approved: 07/24/2012 15:04

Pierce Morris

POST-RUN REPORT

```
Line   Conc.  Units     SD/RSD      1       2       3       4       5
--------------------------------------------------------------------------------

*** Sample ID: 1207050701            Seq:  13     13:18:40 24 Jul 12   HG
                          WG40379701
Hg   -.051    ppb       .000     -.051
                                                                                =
================================================================================
*** Sample ID: WG40379704            Seq:  14     13:20:17 24 Jul 12   HG
                          1207050701S
Hg    4.04    ppb       .000      4.04
                                                                                =
================================================================================
*** Sample ID: WG40379705            Seq:  15     13:22:14 24 Jul 12   HG
                          1207050701SD
Hg    4.04    ppb       .000      4.04
                                                                                =
================================================================================
*** Sample ID: 1207050702            Seq:  16     13:23:52 24 Jul 12   HG

Hg   -.050    ppb       .000     -.050
                                                                                =
================================================================================
*** Sample ID: WG40431401            Seq:  17     13:25:32 24 Jul 12   HG
                          1207050702PS.9
Hg    .945    ppb       .000      .945
                                                                                =
================================================================================
*** Sample ID: 1207053701            Seq:  18     13:27:13 24 Jul 12   HG

Hg   -.090    ppb       .000     -.090
                                                                                =
================================================================================
*** Sample ID: 1207053702            Seq:  19     13:29:15 24 Jul 12   HG

Hg   -.114    ppb       .000     -.114
                                                                                =
================================================================================
*** Sample ID: 1207053703            Seq:  20     13:31:13 24 Jul 12   HG

Hg   -.098    ppb       .000     -.098
                                                                                =
*** Check Standard: 4  Ck4CCV        Seq:  21     13:32:52 24 Jul 12   HG
Line  Flag  %Rcv.   Found    True  Units      SD/RSD
Hg          93.6     1.87    2.00   ppb        .000
                                                                                =
*** Check Standard: 5  Ck5CCB        Seq:  22     13:34:31 24 Jul 12   HG
Line  Flag  %Rcv.   Found    True  Units      SD/RSD
Hg         -31.4    -.063    .200   ppb        .000
                                                                                =
```

Approved: 07/24/2012 15:04

Pierce Morris

POST-RUN REPORT

Line	Conc.	Units	SD/RSD	1	2	3	4	5

*** Sample ID: 1207053704 Seq: 23 13:36:09 24 Jul 12 HG

Hg -.157 ppb .000 -.157

*** Sample ID: 1207053705 Seq: 24 13:37:45 24 Jul 12 HG

Hg -.156 ppb .000 -.156

*** Sample ID: 1207053706 Seq: 25 13:39:22 24 Jul 12 HG

Hg -.121 ppb .000 -.121

*** Sample ID: 1207053707 Seq: 26 13:41:04 24 Jul 12 HG

Hg -.063 ppb .000 -.063

*** Sample ID: 1207053708 Seq: 27 13:42:51 24 Jul 12 HG

Hg -.007 ppb .000 -.007

*** Sample ID: 1207053709 Seq: 28 13:44:30 24 Jul 12 HG

Hg -.071 ppb .000 -.071

*** Sample ID: 1207053710 Seq: 29 13:46:18 24 Jul 12 HG

Hg -.082 ppb .000 -.082

*** Sample ID: 1207053711 Seq: 30 13:48:17 24 Jul 12 HG

Hg -.010 ppb .000 -.010

*** Sample ID: 1207053712 Seq: 31 13:50:15 24 Jul 12 HG

Hg -.082 ppb .000 -.082

*** Sample ID: 1207053801 Seq: 32 13:51:53 24 Jul 12 HG

Hg -.060 ppb .000 -.060

Approved: 07/24/2012 15:04
Pierce Morris

POST-RUN REPORT

```
Line   Conc.  Units     SD/RSD      1       2       3       4       5
--------------------------------------------------------------------------------

*** Check Standard: 4  Ck4CCV       Seq:  33      13:53:51 24 Jul 12   HG
Line  Flag  %Rcv.   Found    True  Units      SD/RSD
Hg          105.     2.09    2.00   ppb        .000
                                                                                =
*** Check Standard: 5  Ck5CCB       Seq:  34      13:55:42 24 Jul 12   HG
Line  Flag  %Rcv.   Found    True  Units      SD/RSD
Hg         -12.2    -.024    .200   ppb        .000
                                                                                =
*** Sample ID: 1207053702            Seq:  35     13:58:42 24 Jul 12   HG

Hg   -.014    ppb       .000     -.014
                                                                                =
================================================================================
*** Sample ID: 1207053704            Seq:  36     14:00:19 24 Jul 12   HG

Hg   -.026    ppb       .000     -.026
                                                                                =
================================================================================
*** Sample ID: 1207053705            Seq:  37     14:01:56 24 Jul 12   HG

Hg   -.038    ppb       .000     -.038
                                                                                =
================================================================================
*** Sample ID: 1207053706            Seq:  38     14:03:44 24 Jul 12   HG

Hg    .014    ppb       .000      .014
                                                                                =
*** Check Standard: 4  Ck4CCV       Seq:  39      14:05:33 24 Jul 12   HG
Line  Flag  %Rcv.   Found    True  Units      SD/RSD
Hg          100.     2.00    2.00   ppb        .000
                                                                                =
*** Check Standard: 5  Ck5CCB       Seq:  40      14:07:43 24 Jul 12   HG
Line  Flag  %Rcv.   Found    True  Units      SD/RSD
Hg         -32.7    -.065    .200   ppb        .000
                                                                                =
```

Approved: 07/24/2012 15:04

Pierce Morris

2.2 General Chemistry Data

2.2.1 Method 9056

2.2.1.1 Summary Data

Login Number: L12070507
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 client did not specify an MS/MSD for this sample delivery group.

SAMPLES

Samples: All acceptance criteria were met.

MANUAL INTEGRATION: No manual integration 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: 50569
Approved By: Mike Cochran

Microbac

Lab Report #: L12070507
Lab Project #: 3005.011
Project Name: White Sands MR
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L12070507-01	**PrePrep Method:**	N/A	**Instrument:**	IC1
Client ID:	MPL23-0712-1	**Prep Method:**	300.0	**Prep Date:**	07/19/2012 15:30
Matrix:	Water	**Analytical Method:**	300.0	**Cal Date:**	04/26/2012 14:46
Workgroup #:	WG403873	**Analyst:**	JBK	**Run Date:**	07/19/2012 20:44
Collect Date:	07/17/2012 12:42	**Dilution:**	1	**File ID:**	I10719122044.21
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Chloride	16887-00-6	13.4		0.200	0.100
Fluoride	16984-48-8	0.327		0.200	0.100
Sulfate	14808-79-8	54.7		1.00	0.500

Sample #:	L12070507-02	**PrePrep Method:**	N/A	**Instrument:**	IC1
Client ID:	MPL23-0712-2	**Prep Method:**	300.0	**Prep Date:**	07/19/2012 15:30
Matrix:	Water	**Analytical Method:**	300.0	**Cal Date:**	04/26/2012 14:46
Workgroup #:	WG403873	**Analyst:**	JBK	**Run Date:**	07/19/2012 21:01
Collect Date:	07/17/2012 12:42	**Dilution:**	1	**File ID:**	I10719122101.22
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Chloride	16887-00-6	13.3		0.200	0.100
Fluoride	16984-48-8	0.317		0.200	0.100
Sulfate	14808-79-8	54.1		1.00	0.500

2.2.1.2 QC Summary Data

Example Calculations - Ion Chromatography

A. Methods 9056/300.0 (Quadratic with Offset)

1. Retrieve Curve Data from the ICAL Curve

c2 = the value of curve constant
c1= the curve slope
c0 = the curve offset

2. Obtain the area, y , from the instrument raw data

3. Calculate the concentration of the analyte, f(y), where:

$$f(y) = \frac{1}{2 * c_2} * \left(- c_1 \pm \sqrt{c_1^2 - 4 * c_2 * (c_0 - y)}\right)$$

Example Calculation:

Value of constant, c2, (curve):	0.0003
Value of curve constant, c1, (slope):	0.0869
Value of curve constant, c0, (offset):	-0.0103
Area of target analyte, y, (uS*min):	2.993
Calculated concentration, f(y), (mg/L):	31.1998864
or:	-40.1161215 *
Dilution factor (D):	1.00
Concentration of analyte in sample (mg/L):	31.200

* There are two possible solutions, but only one is valid.

B. Method 314.0 - Perchlorate (Linear)

Retrieve Curve Data from Linear Plot

c1 = the curve slope

Obtain the area, y , from the quantitation report

Calculate the concentration of the analyte, f(y), where:

f (y) = y / c1

Example Calculation:

Value of c1, slope:	0.0034
Area of target analyte, y:	0.083
Calculated concentration:	24.4117647
Dilution Factor:	1
Concentration in sample:	24.4117647

Microbac Laboratories Inc.

Instrument Run Log

Instrument: IC1 Dataset: 042612 ICAL IC1.SEQ
Analyst1: JBK Analyst2: NA
Method: 300/9056 SOP: IC01 Rev: 12

Maintenance Log ID: Syringe Filter Lot#:

Column 1 ID: AG14A Column 2 ID: AS14A
Workgroups: WG396330
Internal STD: NA Surrogate STD: NA Calibration STD
CCV STD: STD48131 LCS STD: STD48131 MS/MSD STD: NA

Comments: ICAL. New suppressor installed on 04/25/2012.

Seq.	File ID	Sample Information	Mat	Dil	Reference	Date/Time
1	I10426121244.01	DI WATER	1	1		04/26/12 12:44
2	I10426121301.02	DI WATER	1	1		04/26/12 13:01
3	I10426121319.03	WG396330-01 STD \#6	1	1		04/26/12 13:19
4	I10426121336.04	WG396330-02 STD \#5	1	1		04/26/12 13:36
5	I10426121353.05	WG396330-03 STD \#4	1	1		04/26/12 13:53
6	I10426121411.06	WG396330-04 STD \#3	1	1		04/26/12 14:11
7	I10426121428.07	WG396330-05 STD \#2	1	1		04/26/12 14:28
8	I10426121446.08	WG396330-06 STD \#1	1	1		04/26/12 14:46
9	I10426121503.09	WG396330-07 ALT STD	1	1		04/26/12 15:03
10	I10426121520.10	LCR TEST LEVEL \#6	1	1		04/26/12 15:20
11	I10426121538.11	LCR TEST LEVEL \#2	1	1		04/26/12 15:38
12	I10426121555.12	LCR TEST LEVEL \#0	1	1		04/26/12 15:55
13	I10426121613.13	END	1	1		04/26/12 16:13

Comments

Seq.	Rerun	Dil.	Reason	Analytes

Page: 1 Approved: 01-MAY-12

Microbac Laboratories Inc.

Instrument Run Log

Instrument: IC1 Dataset: 071912 IC1.SEQ
Analyst1: JBK Analyst2: NA
Method: 9056/300 SOP: IC01 Rev: 13

Maintenance Log ID: 42610 Syringe Filter Lot#: 00144403

Column 1 ID: AG14A-4MM Column 2 ID: AS14A-4MM
Workgroups: WG403873
Internal STD: NA Surrogate STD: NA Calibration STD NA
CCV STD: STD48131 LCS STD: STD48131 MS/MSD STD: STD48131

Comments: L123070538-01; L12070491 (ALL); and L12070541 (ALL) were analyzed at dilutions only due to analyte concentrations (Cl and/or SO4) greater than 200 ppm.

Seq.	File ID	Sample Information	Mat	Dil	Reference	Date/Time
1	I10719121455.01	ELUENT	1	1		07/19/12 14:55
2	I10719121513.02	DI WATER	1	1		07/19/12 15:13
3	I10719121530.03	WG403875-01 ANION CCV	1	1		07/19/12 15:30
4	I10719121548.04	WG403875-02 ANION CCB	1	1		07/19/12 15:48
5	I10719121605.05	WG403873-01 ANION BLANK	1	1		07/19/12 16:05
6	I10719121622.06	WG403873-02 ANION LCS	1	1		07/19/12 16:22
7	I10719121640.07	L12070538-01 1/1000 (ALL)	1	1000		07/19/12 16:40
8	I10719121657.08	L12070538-01 1/10000 RR CL	1	10000		07/19/12 16:57
9	I10719121715.09	L12070538-01 1/100000 NR	1	100000		07/19/12 17:15
10	I10719121732.10	DI WATER	1	1		07/19/12 17:32
11	I10719121749.11	DI WATER	1	1		07/19/12 17:49
12	I10719121807.12	L12070491-08 1/20 (F,CL,NO3,SO4)	1	20		07/19/12 18:07
13	I10719121824.13	L12070491-10 1/20 (F,CL,NO3,SO4)	1	20		07/19/12 18:24
14	I10719121842.14	L12070491-12 1/20 (F,CL,NO3,SO4)	1	20		07/19/12 18:42
15	I10719121859.15	WG403875-03 ANION CCV	1	1		07/19/12 18:59
16	I10719121916.16	WG403875-04 ANION CCB	1	1		07/19/12 19:16
17	I10719121934.17	L12070425-01 (F,CL,SO4)	1	1		07/19/12 19:34
18	I10719121951.18	L12070425-01 1/5 RR CL,SO4	1	5		07/19/12 19:51
19	I10719122009.19	L12070425-02 (F,CL,SO4)	1	1		07/19/12 20:09
20	I10719122026.20	L12070425-02 1/5 RR CL,SO4	1	5		07/19/12 20:26
21	I10719122044.21	L12070507-01 (F,CL,SO4)	1	1		07/19/12 20:44
22	I10719122101.22	L12070507-02 (F,CL,SO4)	1	1		07/19/12 21:01
23	I10719122118.23	WG403873-04 DUP 507-02	1	1		07/19/12 21:18
24	I10719122136.24	WG403873-05 MS 507-02	1	1		07/19/12 21:36
25	I10719122153.25	WG403873-06 SD 507-02	1	1		07/19/12 21:53
26	I10719122211.26	L12070541-01 1/4 (CL,SO4)	1	4		07/19/12 22:11
27	I10719122228.27	WG403875-05 ANION CCV	1	1		07/19/12 22:28
28	I10719122245.28	WG403875-06 ANION CCB	1	1		07/19/12 22:45
29	I10719122303.29	L12070541-01 1/40 RR CL	1	40		07/19/12 23:03
30	I10719122320.30	L12070541-02 1/4 (CL,SO4)	1	4		07/19/12 23:20
31	I10719122338.31	L12070541-02 1/40 RR CL	1	40		07/19/12 23:38
32	I10719122355.32	L12070541-03 1/4 (CL,SO4)	1	4		07/19/12 23:55
33	I10720120012.33	L12070541-03 1/40 RR CL	1	40		07/20/12 00:12

Page: 1 Approved: 26-JUL-12

Microbac Laboratories Inc.

Instrument Run Log

Instrument: IC1 Dataset: 071912 IC1.SEQ
Analyst1: JBK Analyst2: NA
Method: 9056/300 SOP: IC01 Rev: 13

Maintenance Log ID: 42610 Syringe Filter Lot#: 00144403

Column 1 ID: AG14A-4MM Column 2 ID: AS14A-4MM
Workgroups: WG403873
Internal STD: NA Surrogate STD: NA NA
CCV STD: STD48131 LCS STD: STD48131 STD48131

Seq.	File ID	Sample Information	Mat	Dil	Reference	Date/Time
34	I10720120030.34	L12070541-04 1/4 (CL,SO4)	1	4		07/20/12 00:30
35	I10720120047.35	L12070541-04 1/40 RR CL	1	40		07/20/12 00:47
36	I10720120105.36	WG403875-07 ANION CCV	1	1		07/20/12 01:05
37	I10720120122.37	WG403875-08 ANION CCB	1	1		07/20/12 01:22
38	I10720120139.38	END	1	1		07/20/12 01:39

Comments

Seq.	Rerun	Dil.	Reason	Analytes

Page: 2 Approved: 26-JUL-12

Microbac Laboratories Inc.

Data Checklist

Date: 26-APR-2012
Analyst: JBK
Analyst: NA
Method: 300/9056
Instrument: IC1
Curve Workgroup: NA
Runlog ID: 46418
Analytical Workgroups: WG396330 (ICAL)

ANALYTICAL	
System Performance Check	X
Initial Calibration	X
Average RF	X
Linear regression or higher order curve	X
Alternate source standard (ICV) % Difference	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:
27-APR-2012

Secondary Reviewer:
01-MAY-2012

CHECKLIST1 - Modified 03/05/2008
Generated: MAY-01-2012 11:43:43

Microbac Laboratories Inc.

Data Checklist

Date: 19-JUL-2012
Analyst: JBK
Analyst: NA
Method: 300/9056
Instrument: IC1
Curve Workgroup: NA
Runlog ID: 48043
Analytical Workgroups: WG403873 (07-425, 491, 507, 538, 541)

ANALYTICAL	
System Performance Check	X
DFTPP (MS)	NA
Endrin/DDT breakdown (8081/MS)	NA
Pentachlorophenol/benzidine tailing (MS)	NA
Eluent check (IC)/system pressure (HPLC)	X
Window standard (FID)	NA
Initial Calibration	NA
Average RF	NA
Linear regression or higher order curve	NA
Alternate source standard (ICV) % Difference	NA
Continuing Calibration (CCV)	X
% D/% Drift	X
Minimum response factors (MS)	NA
Continuing calibration blank (CCB) (IC)	X
Special standards	NA
Blanks	X
TCL hits	X
Surrogate recoveries	NA
LCS/LCSD (Laboratory Control Sample)	X
Recoveries	X
Surrogate recoveries	NA
MS/MSD/Sample duplicates	X
Recoveries	X
%RPD	X
Samples	X
TCL hits	X
Mass spectra (MS/HPLC)/2nd column confirmations (ECD/FID/HPLC)	NA
Surrogate recoveries	NA
Internal standard areas (MS)	NA
Library searches (MS)	NA
Calculations & correct factors	X
Compounds above calibration range	X
Reruns	NA
Manual Integrations	NA
Project/client specific requirements	X
REPORTING	
Upload batch form	X
KOBRA workgroup data/forms/bench sheets	X
Case narratives	X
Check for completeness	X
Primary Reviewer	JBK
SUPERVISORY/SECONDARY REVIEW	
Check for compliance with method and project specific requirements	X
Check the completeness/accuracy of reported information	X
Data qualifiers	X
Secondary Reviewer	MDC

Primary Reviewer:
25-JUL-2012

Secondary Reviewer:
26-JUL-2012

CHECKLIST1 - Modified 03/05/2008
Generated: JUL-26-2012 09:36:17

Microbac Laboratories Inc.

HOLDING TIMES
EQUIVALENT TO AFCEE FORM 9

Analytical Method: 300.0 AAB#: WG403873

Login Number: L12070507

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
MPL23-0712-1	01	07/17/12					07/19/2012	2.1	2	*	07/19/12	2.3	2	*
MPL23-0712-2	02	07/17/12					07/19/2012	2.1	2	*	07/19/12	2.3	2	*

* = SEE PROJECT QAPP REQUIREMENTS

HOLD_TIMES - Modified 03/06/2008
PDF File ID: 2516723
Report generated 07/27/2012 10:58

Microbac Laboratories Inc.

METHOD BLANK SUMMARY

Login Number: L12070507
Blank File ID: I10719121605.05
Prep Date: 07/19/12 15:30
Analyzed Date: 07/19/12 16:05
Analyst: JBK

Work Group: WG403873
Blank Sample ID: WG403873-01
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	WG403873-02	I10719121622.06	07/19/12 16:22	01
MPL23-0712-1	L12070507-01	I10719122044.21	07/19/12 20:44	01
MPL23-0712-2	L12070507-02	I10719122101.22	07/19/12 21:01	01
DUP	WG403873-04	I10719122118.23	07/19/12 21:18	01

Report Name: BLANK_SUMMARY
PDF File ID: 2516724
Report generated 07/27/2012 10:58

Microbac Laboratories Inc.

METHOD BLANK REPORT

Login Number: L12070507 Prep Date: 07/19/12 15:30 Sample ID: WG403873-01
Instrument ID: IC1 Run Date: 07/19/12 16:05 Prep Method: 300.0
File ID: I10719121605.05 Analyst: JBK Method: 300.0
Workgroup (AAB#): WG403873 Matrix: Water Units: mg/L
Contract #: Cal ID: IC1-26-APR-12

Analytes	LOD	LOQ	Concentration	Dilution	Qualifier
Chloride	0.100	0.200	0.100	1	U
Fluoride	0.100	0.200	0.100	1	U
Sulfate	0.500	1.00	0.500	1	U

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

Report Name:BLANK
PDF ID: 2516725
27-JUL-2012 10:58

Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L12070507 Run Date: 07/19/2012 Sample ID: WG403873-02
Instrument ID: IC1 Run Time: 16:22 Prep Method: 300.0
File ID: I10719121622.06 Analyst: JBK Method: 300.0
Workgroup (AAB#): WG403873 Matrix: Water Units: mg/L
QC Key: DOD4 Lot#: STD48131 Cal ID: IC1-26-APR-12

Analytes	Expected	Found	% Rec	LCS Limits	Q
Chloride	8.00	8.39	105	90 - 110	
Fluoride	8.00	8.34	104	90 - 110	
Sulfate	40.0	42.3	106	90 - 110	

LCS - Modified 03/06/2008
PDF File ID: 2516726
Report generated: 07/27/2012 10:58

Microbac Laboratories Inc.

INITIAL CALIBRATION SUMMARY

Login Number: L12070507
Analytical Method: 300.0
ICAL Workgroup: WG396330

Instrument ID: IC1
Initial Calibration Date: 26-APR-12 14:46
Column ID: F

Analyte		AVG RF	% RSD	LINEAR (R)	QUAD (R^2)
Chloride		5.670	20.9	0.99500	
Fluoride		4.225	6.89	0.99800	
Sulfate		8.072	9.49	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: 2516727
Report generated 07/27/2012 10:58

Microbac Laboratories Inc.

INITIAL CALIBRATION DATA

Login Number: L12070507

Analytical Method: 300.0

Instrument ID: IC1

Initial Calibration Date: 26-APR-12 14:46

Column ID: F

Analyte	WG396330-01			WG396330-02			WG396330-03		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
Chloride	24.0	4.55700000	5.267	12.0	1.87000000	6.417	8.00	1.32900000	6.020
Fluoride	24.0	6.30800000	3.805	12.0	2.79900000	4.287	8.00	2.01500000	3.970
Sulfate	120	17.6960000	6.781	60.0	7.19300000	8.341	40.0	5.09800000	7.846

INT_CAL - Modified 03/06/2008
PDF File ID: 2516727
Report generated 07/27/2012 10:58

Microbac Laboratories Inc.

INITIAL CALIBRATION DATA

Login Number: L12070507

Analytical Method: 300.0

Instrument ID: IC1

Initial Calibration Date: 26-APR-12 14:46

Column ID: F

Analyte	WG396330-04			WG396330-05			WG396330-06		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
Chloride	4.00	0.628000000	6.369	1.00	0.166000000	6.024	0.200	0.0510000000	3.922
Fluoride	4.00	0.926000000	4.320	1.00	0.226000000	4.425	0.200	0.0440000000	4.545
Sulfate	20.0	2.36300000	8.464	5.00	0.577000000	8.666	1.00	0.120000000	8.333

INT_CAL - Modified 03/06/2008
PDF File ID: 2516727
Report generated 07/27/2012 10:58

Microbac Laboratories Inc.
ALTERNATE SOURCE CALIBRATION REPORT

Login Number: L12070507 Run Date: 04/26/2012 Sample ID: WG396330-07
Instrument ID: IC1 Run Time: 15:03 Method: 300.0
File ID: I10426121503.09 Analyst: JBK QC Key: DOD4
ICal Workgroup: WG396330 Cal ID: IC1 - 26-APR-12

Analyte		Expected	Found	Units	RF	%D	UCL	Q
Chloride		8.00	8.26	mg/L	5.89	3.30	10	
Fluoride		8.00	8.29	mg/L	3.98	3.60	10	
Sulfate		40.0	40.0	mg/L	7.92	0.100	10	

* Exceeds %D Limit

ALT - Modified 09/06/2007
Version 1.5 PDF File ID: 2516728
Report generated 07/27/2012 10:58

Microbac Laboratories Inc.

CONTINUING CALIBRATION BLANK (CCB)

Login Number: L12070507
Run Date: 07/19/2012
Sample ID: WG403875-02
Instrument ID: IC1
Run Time: 15:48
Method: 300.0
File ID: I10719121548.04
Analyst: JBK
Units: mg/L
Workgroup (AAB#): WG403873
Cal ID: IC1 - 26-APR-12
Matrix: WATER
QAPP: DOD4

Analytes	MDL	RDL	Concentration	Qualifier
Chloride	0.100	0.200	0.100	U
Fluoride	0.100	0.200	0.100	U
Sulfate	0.500	1.00	0.500	U

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

CCB - Modified 03/05/2008
PDF File ID: 2516730
Report generated 07/27/2012 10:58

Microbac Laboratories Inc.

CONTINUING CALIBRATION BLANK (CCB)

Login Number: L12070507
Run Date: 07/19/2012
Sample ID: WG403875-04
Instrument ID: IC1
Run Time: 19:16
Method: 300.0
File ID: I10719121916.16
Analyst: JBK
Units: mg/L
Workgroup (AAB#): WG403873
Cal ID: IC1 - 26-APR-12
Matrix: WATER
QAPP: DOD4

Analytes	MDL	RDL	Concentration	Qualifier
Chloride	0.100	0.200	0.100	U
Fluoride	0.100	0.200	0.100	U
Sulfate	0.500	1.00	0.500	U

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

CCB - Modified 03/05/2008
PDF File ID: 2516730
Report generated 07/27/2012 10:58

Microbac Laboratories Inc.

CONTINUING CALIBRATION BLANK (CCB)

Login Number: L12070507
Run Date: 07/19/2012
Sample ID: WG403875-06
Instrument ID: IC1
Run Time: 22:45
Method: 300.0
File ID: I10719122245.28
Analyst: JBK
Units: mg/L
Workgroup (AAB#): WG403873
Cal ID: IC1 - 26-APR-12
Matrix: WATER
QAPP: DOD4

Analytes	MDL	RDL	Concentration	Qualifier
Chloride	0.100	0.200	0.100	U
Fluoride	0.100	0.200	0.100	U
Sulfate	0.500	1.00	0.500	U

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

CCB - Modified 03/05/2008
PDF File ID: 2516730
Report generated 07/27/2012 10:58

Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12070507
Run Date: 07/19/2012
Sample ID: WG403875-01
Instrument ID: IC1
Run Time: 15:30
Method: 300.0
File ID: I10719121530.03
Analyst: JBK
QC Key: DOD4
Workgroup (AAB#): WG403873
Cal ID: IC1 - 26-APR-12
Matrix: WATER

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
Chloride		8.00	8.38	mg/L	5.81	4.75	10	
Fluoride		8.00	8.30	mg/L	3.97	3.76	10	
Sulfate		40.0	42.1	mg/L	7.51	5.33	10	

* Exceeds %D Criteria

CCV - Modified 03/05/2008
PDF File ID: 2516729
Report generated 07/27/2012 10:58

Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12070507
Run Date: 07/19/2012
Sample ID: WG403875-03
Instrument ID: IC1
Run Time: 18:59
Method: 300.0
File ID: I10719121859.15
Analyst: JBK
QC Key: DOD4
Workgroup (AAB#): WG403873
Cal ID: IC1 - 26-APR-12
Matrix: WATER

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
Chloride		8.00	8.40	mg/L	5.79	5.00	10	
Fluoride		8.00	8.39	mg/L	3.93	4.86	10	
Sulfate		40.0	42.4	mg/L	7.46	5.99	10	

* Exceeds %D Criteria

CCV - Modified 03/05/2008
PDF File ID: 2516729
Report generated 07/27/2012 10:58

Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12070507
Run Date: 07/19/2012
Sample ID: WG403875-05
Instrument ID: IC1
Run Time: 22:28
Method: 300.0
File ID: I10719122228.27
Analyst: JBK
QC Key: DOD4
Workgroup (AAB#): WG403873
Cal ID: IC1 - 26-APR-12
Matrix: WATER

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
Chloride		8.00	8.50	mg/L	5.72	6.29	10	
Fluoride		8.00	8.44	mg/L	3.91	5.48	10	
Sulfate		40.0	42.4	mg/L	7.45	6.11	10	

* Exceeds %D Criteria

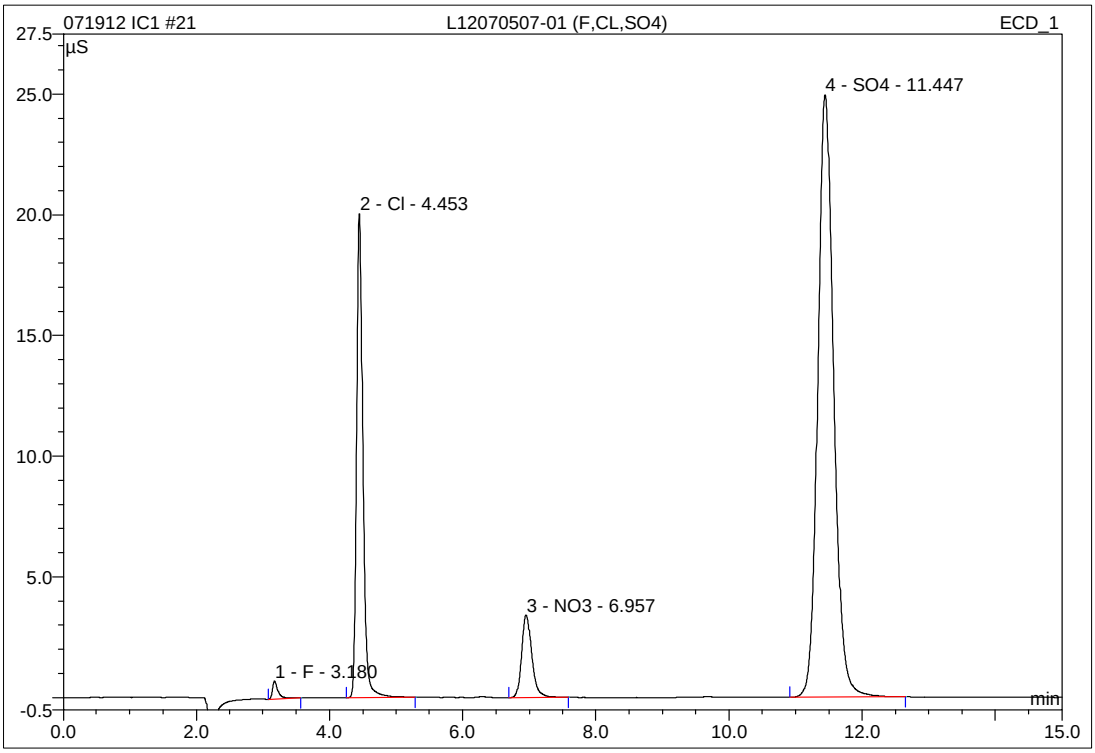
CCV - Modified 03/05/2008
PDF File ID: 2516729
Report generated 07/27/2012 10:58

2.2.1.3 Sample Data

21 L12070507-01 (F,CL,SO4)

1,1 JBK

Sample Name:	**L12070507-01 (F,CL,SO4)**	*Injection Volume:*	**20.0**
Vial Number:	**16**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**9056**	*Dilution Factor:*	**1.0000**
Recording Time:	**7/19/2012 20:44**	*Sample Weight:*	**1.0000**
Run Time (min):	**15.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	3.18	F	0.756	0.074	0.76	0.327	BMB
2	4.45	Cl	20.057	2.187	22.36	13.367	BMB
3	6.96	NO3	3.421	0.608	6.21	1.498	BMB
4	11.45	SO4	24.968	6.913	70.67	54.660	BMB
Total:			49.203	9.782	100.00	69.852	

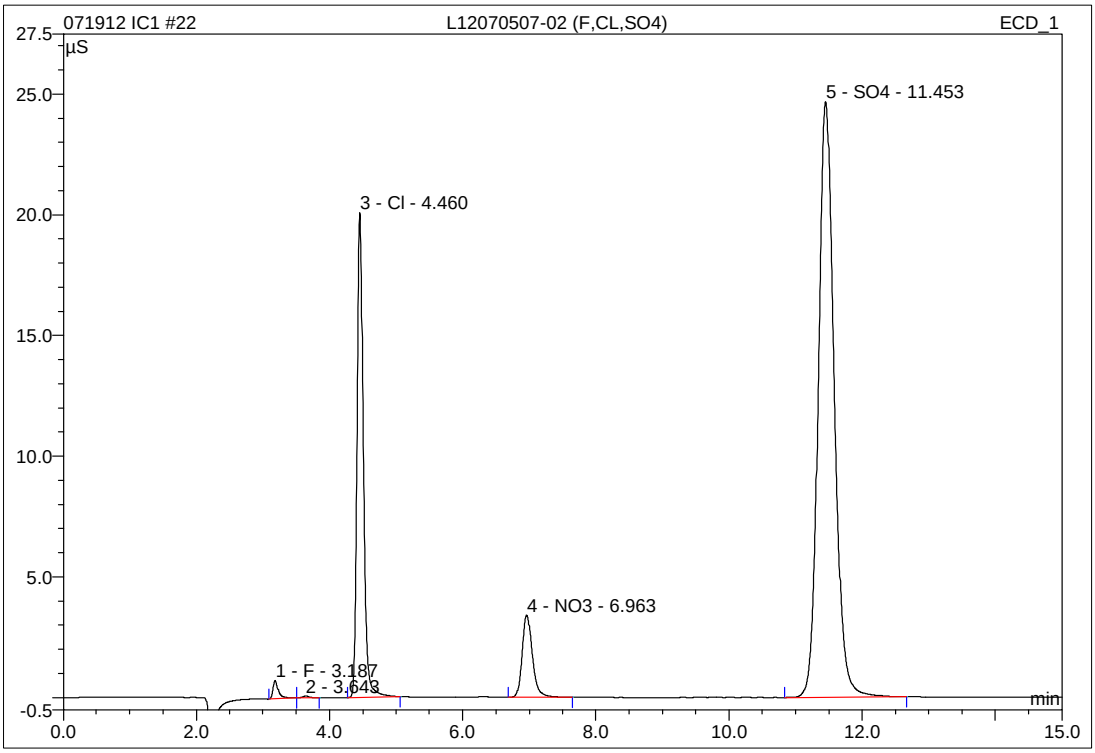
IC/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.80 SP1 Build 2238

22 L12070507-02 (F,CL,SO4)

1,1 JBK WG403875-03 REF

Sample Name:	**L12070507-02 (F,CL,SO4)**	*Injection Volume:*	**20.0**
Vial Number:	**16**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**9056**	*Dilution Factor:*	**1.0000**
Recording Time:	**7/19/2012 21:01**	*Sample Weight:*	**1.0000**
Run Time (min):	**15.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	3.19	F	0.752	0.071	0.74	0.317	BMB
2	3.64	n.a.	0.077	0.008	0.08	n.a.	bMB
3	4.46	Cl	20.079	2.175	22.41	13.294	BMB
4	6.96	NO3	3.413	0.610	6.29	1.504	BMB
5	11.45	SO4	24.671	6.842	70.49	54.099	BMB
Total:			48.991	9.707	100.00	69.214	

IC/Integration

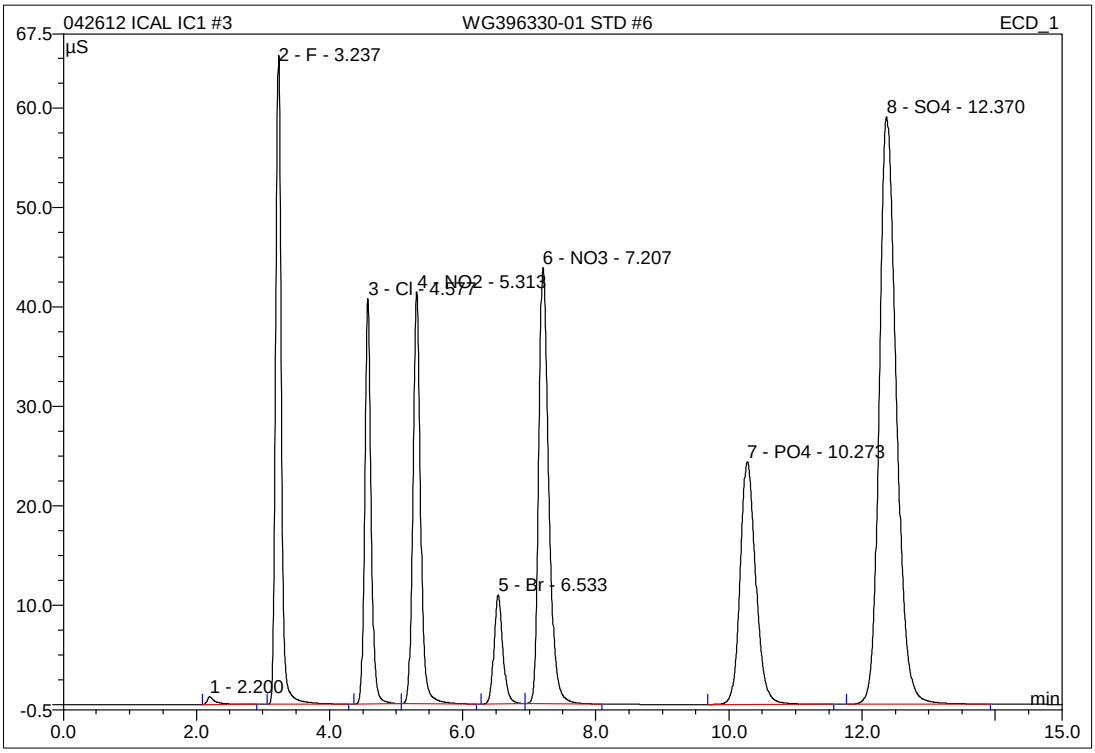
Chromeleon (c) Dionex 1996-2001
Version 6.80 SP1 Build 2238

2.2.1.4 Standards Data

3 WG396330-01 STD #6

1,1 JBK STD48131

Sample Name:	**WG396330-01 STD #6**	*Injection Volume:*	**20.0**
Vial Number:	**11**	*Channel:*	**ECD_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**9056**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/26/2012 13:19**	*Sample Weight:*	**1.0000**
Run Time (min):	**15.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	2.20	n.a.	0.788	0.118	0.23	n.a.	BMB
2	3.24	F	65.274	6.308	12.54	25.959	BMB
3	4.58	Cl	40.765	4.557	9.06	27.966	BMb
4	5.31	NO2	41.461	5.569	11.08	15.874	bMB
5	6.53	Br	10.956	1.705	3.39	26.239	BMb
6	7.21	NO3	43.863	7.687	15.29	18.817	bMB
7	10.27	PO4	24.418	6.645	13.21	45.017	BMB
8	12.37	SO4	59.093	17.696	35.19	139.805	BMB
Total:			286.619	50.284	100.00	299.677	

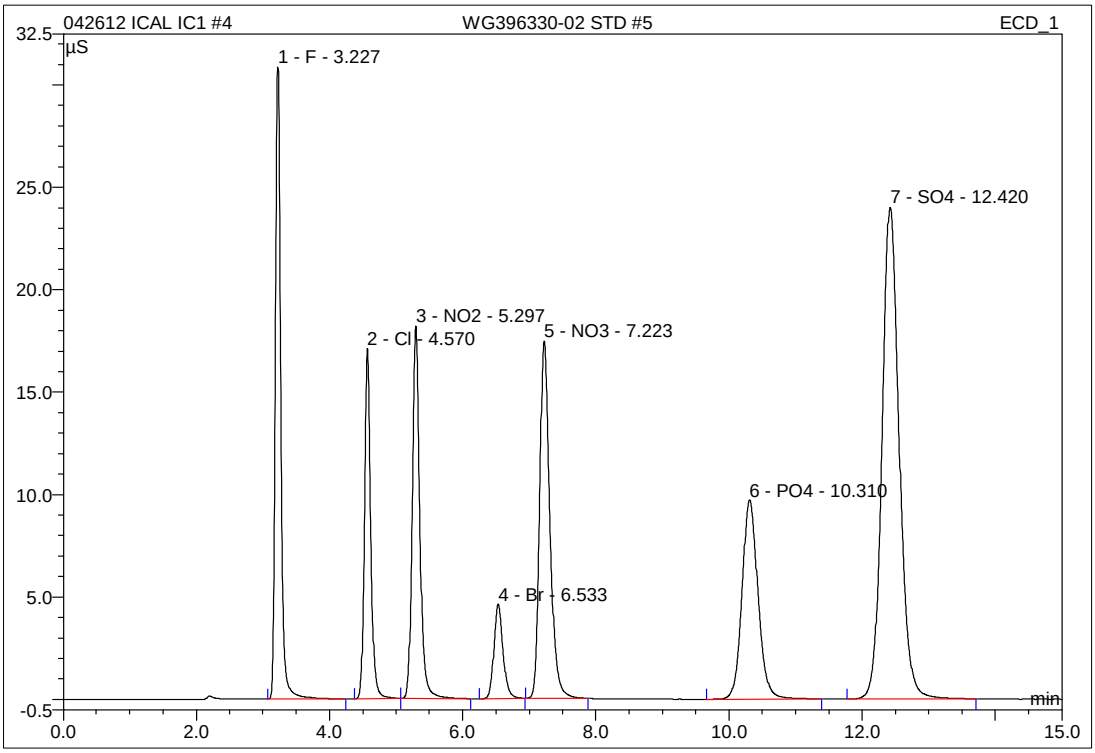
IC/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.80 SP1 Build 2238

4 WG396330-02 STD #5

1,1 JBK STD48131

Sample Name:	**WG396330-02 STD #5**	*Injection Volume:*	**20.0**
Vial Number:	**12**	*Channel:*	**ECD_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**9056**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/26/2012 13:36**	*Sample Weight:*	**1.0000**
Run Time (min):	**15.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	3.23	F	30.855	2.799	13.44	11.533	BMB
2	4.57	Cl	17.101	1.870	8.98	11.416	BMb
3	5.30	NO2	18.195	2.411	11.57	6.874	bMB
4	6.53	Br	4.618	0.736	3.53	11.322	BMB
5	7.22	NO3	17.440	3.110	14.93	7.620	BMB
6	10.31	PO4	9.737	2.713	13.02	18.406	BMB
7	12.42	SO4	24.012	7.193	34.53	56.874	BMB
Total:			121.957	20.834	100.00	124.044	

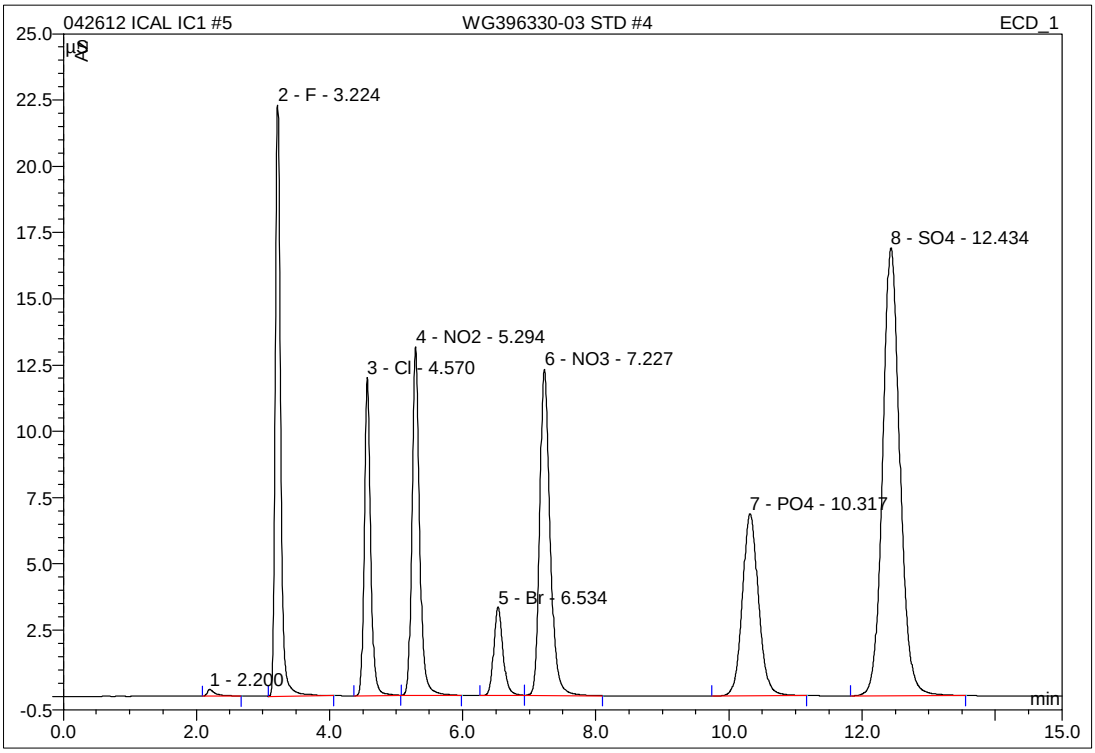
IC/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.80 SP1 Build 2238

5 WG396330-03 STD #4

1,1 JBK STD48131

Sample Name:	**WG396330-03 STD #4**	*Injection Volume:*	**20.0**
Vial Number:	**13**	*Channel:*	**ECD_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**9056**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/26/2012 13:53**	*Sample Weight:*	**1.0000**
Run Time (min):	**15.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	2.20	n.a.	0.256	0.036	0.24	n.a.	BMB
2	3.22	F	22.303	2.015	13.51	8.308	BMB
3	4.57	Cl	12.004	1.329	8.91	8.080	BMB
4	5.29	NO2	13.136	1.744	11.70	4.974	BMB
5	6.53	Br	3.342	0.537	3.60	8.250	BMb
6	7.23	NO3	12.296	2.223	14.91	5.449	bMB
7	10.32	PO4	6.874	1.930	12.94	13.102	BMB
8	12.43	SO4	16.900	5.098	34.19	40.328	BMB
Total:			87.112	14.912	100.00	88.492	

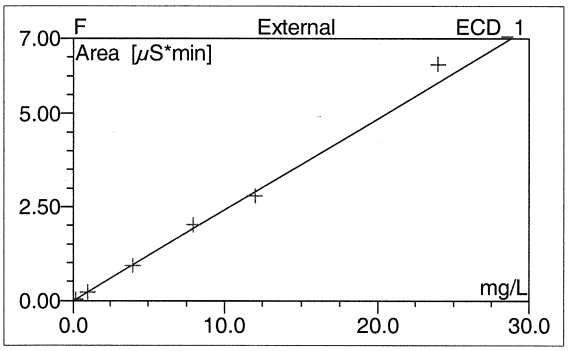
IC/Integration

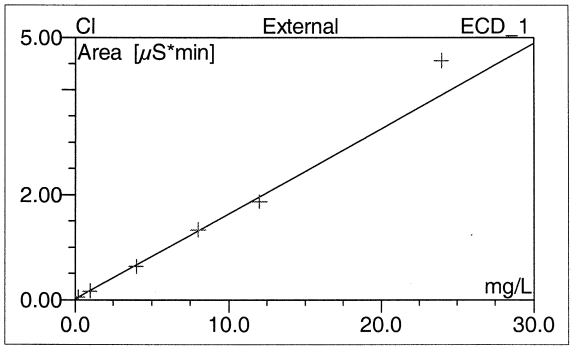
Chromeleon (c) Dionex 1996-2001
Version 6.80 SP1 Build 2238

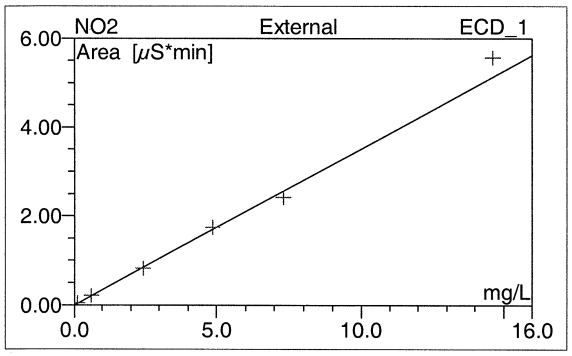
5 WG396330-03 STD #4

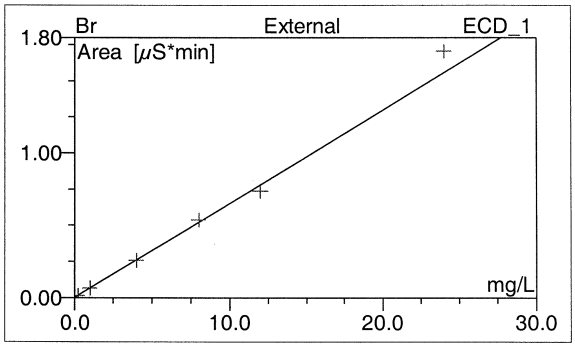
1,1 JBK STD48131

Sample Name:	**WG396330-03 STD #4**	*Injection Volume:*	**20.0**
Vial Number:	**13**	*Channel:*	**ECD_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**9056**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/26/2012 13:53**	*Sample Weight:*	**1.0000**
Run Time (min):	**15.00**	*Sample Amount:*	**1.0000**









No.	Ret.Time min	Peak Name	Cal.Type	Points	Corr.Coeff. %	Offset	Slope	Curve
1	2.20	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
2	3.22	F	XXLOff	6	99.8400	-0.0056	0.2432	0.0000
3	4.57	Cl	XXLOff	6	99.5340	0.0176	0.1623	0.0000
4	5.29	NO2	XXLOff	6	99.8518	-0.0014	0.3509	0.0000
5	6.53	Br	XXLOff	6	99.8657	0.0010	0.0649	0.0000
6	7.23	NO3	XXLOff	6	99.6016	-0.0045	0.4088	0.0000
7	10.32	PO4	XXLOff	6	99.6355	-0.0059	0.1477	0.0000
8	12.43	SO4	XXLOff	6	99.5464	-0.0090	0.1266	0.0000
Average:					99.6964	-0.0011	0.2149	0.0000

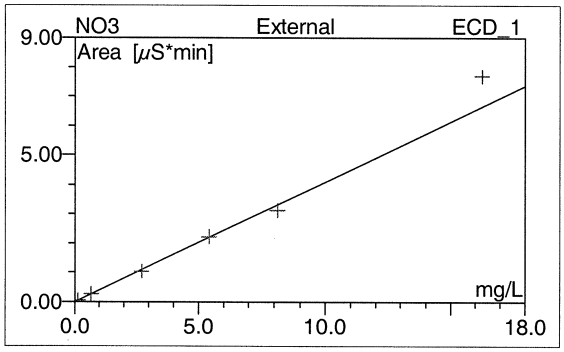
IC/Calibration(Batch)

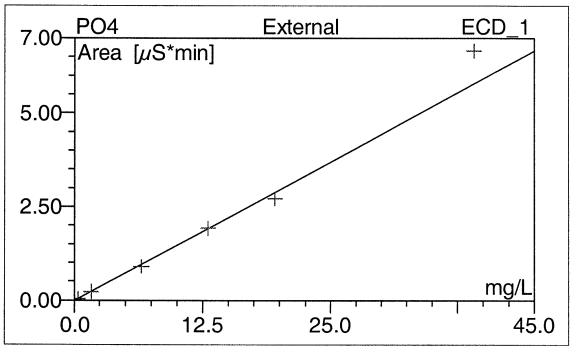
Chromeleon (c) Dionex 1996-2001
Version 6.80 SP1 Build 2238

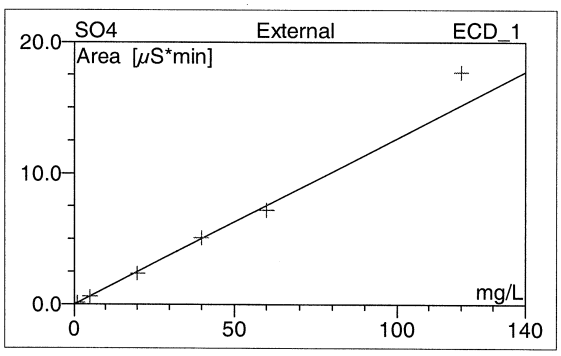
5 WG396330-03 STD #4

1,1 JBK STD48131

Sample Name:	**WG396330-03 STD #4**	*Injection Volume:*	**20.0**
Vial Number:	**13**	*Channel:*	**ECD_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**9056**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/26/2012 13:53**	*Sample Weight:*	**1.0000**
Run Time (min):	**15.00**	*Sample Amount:*	**1.0000**





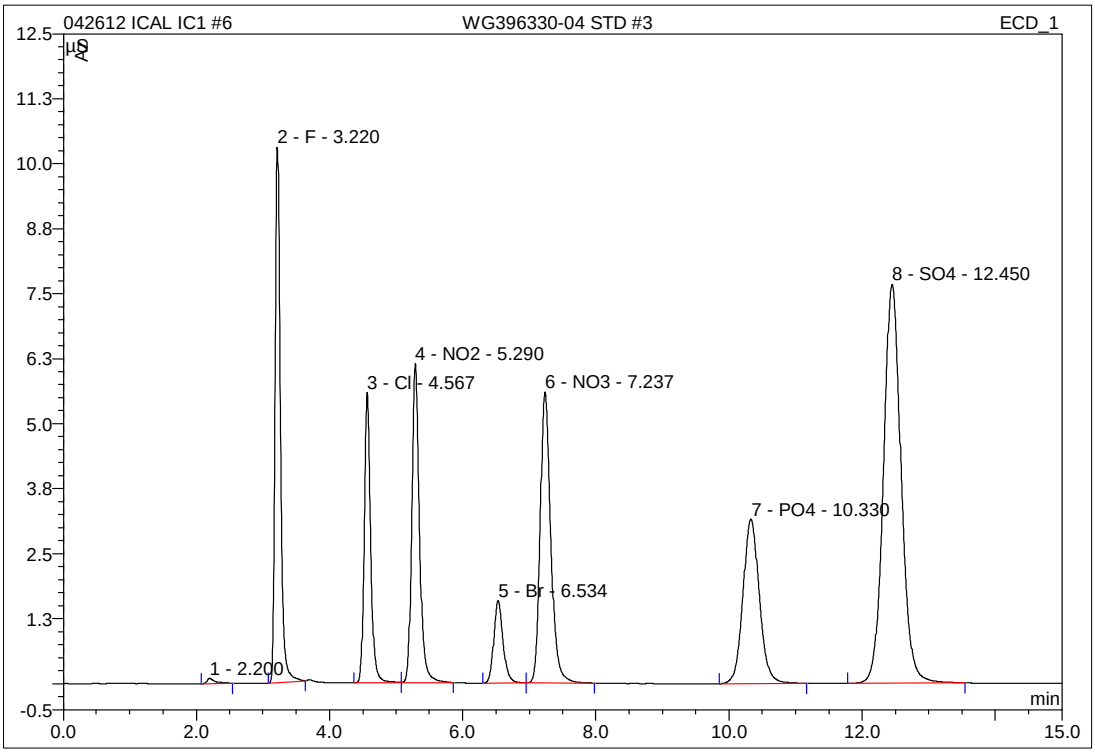


No.	Ret.Time min	Peak Name	Cal.Type	Points	Corr.Coeff. %	Offset	Slope	Curve
1	2.20	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
2	3.22	F	XXLOff	6	99.8400	-0.0056	0.2432	0.0000
3	4.57	Cl	XXLOff	6	99.5340	0.0176	0.1623	0.0000
4	5.29	NO2	XXLOff	6	99.8518	-0.0014	0.3509	0.0000
5	6.53	Br	XXLOff	6	99.8657	0.0010	0.0649	0.0000
6	7.23	NO3	XXLOff	6	99.6016	-0.0045	0.4088	0.0000
7	10.32	PO4	XXLOff	6	99.6355	-0.0059	0.1477	0.0000
8	12.43	SO4	XXLOff	6	99.5464	-0.0090	0.1266	0.0000
Average:					99.6964	-0.0011	0.2149	0.0000

6 WG396330-04 STD #3

1,1 JBK STD48131

Sample Name:	**WG396330-04 STD #3**	*Injection Volume:*	**20.0**
Vial Number:	**14**	*Channel:*	**ECD_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**9056**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/26/2012 14:11**	*Sample Weight:*	**1.0000**
Run Time (min):	**15.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	2.20	n.a.	0.102	0.014	0.21	n.a.	BMB
2	3.22	F	10.301	0.926	13.33	3.829	BMB
3	4.57	Cl	5.587	0.628	9.03	3.758	BMB
4	5.29	NO2	6.130	0.823	11.84	2.348	BMB
5	6.53	Br	1.592	0.259	3.72	3.967	BMB
6	7.24	NO3	5.594	1.032	14.86	2.536	BMB
7	10.33	PO4	3.160	0.902	12.99	6.148	BMB
8	12.45	SO4	7.676	2.363	34.02	18.732	BMB
Total:			40.143	6.946	100.00	41.319	

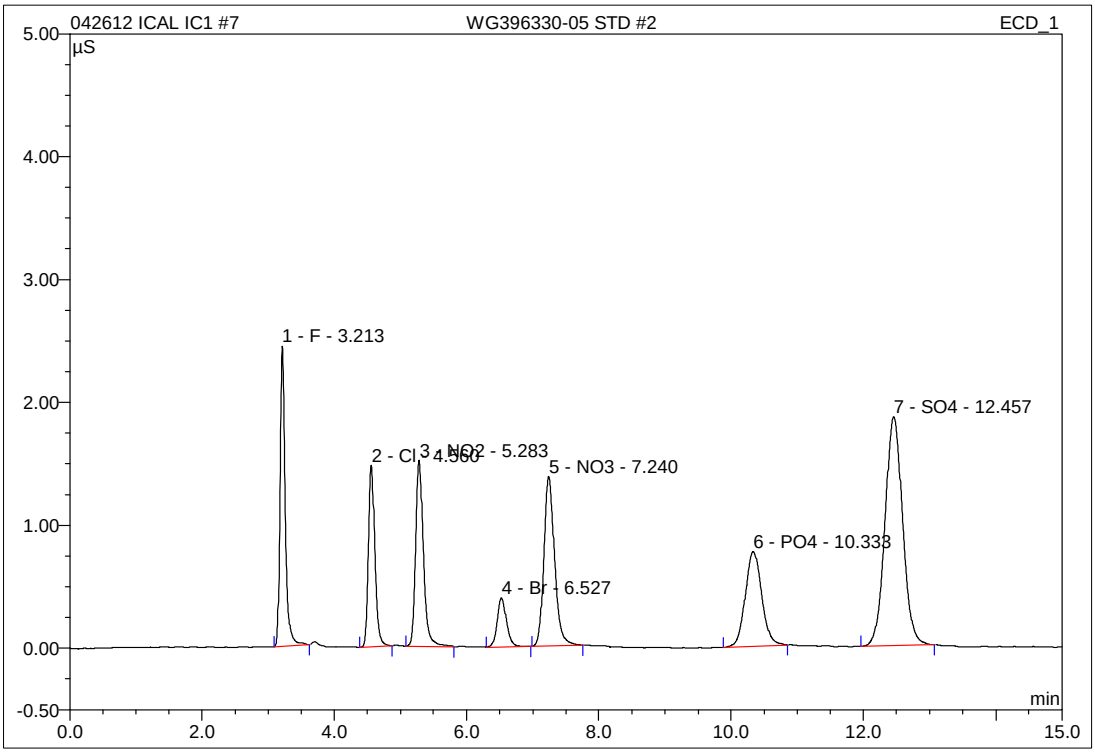
IC/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.80 SP1 Build 2238

7 WG396330-05 STD #2

1,1 JBK STD48131

Sample Name:	**WG396330-05 STD #2**	*Injection Volume:*	**20.0**
Vial Number:	**15**	*Channel:*	**ECD_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**9056**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/26/2012 14:28**	*Sample Weight:*	**1.0000**
Run Time (min):	**15.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	3.21	F	2.439	0.226	13.07	0.950	BMB
2	4.56	Cl	1.476	0.166	9.62	0.914	BMB
3	5.28	NO2	1.514	0.209	12.09	0.598	BMB
4	6.53	Br	0.400	0.066	3.83	1.004	BMB
5	7.24	NO3	1.379	0.260	15.04	0.646	BMB
6	10.33	PO4	0.771	0.223	12.92	1.549	BMB
7	12.46	SO4	1.864	0.577	33.42	4.624	BMB
Total:			9.842	1.725	100.00	10.286	

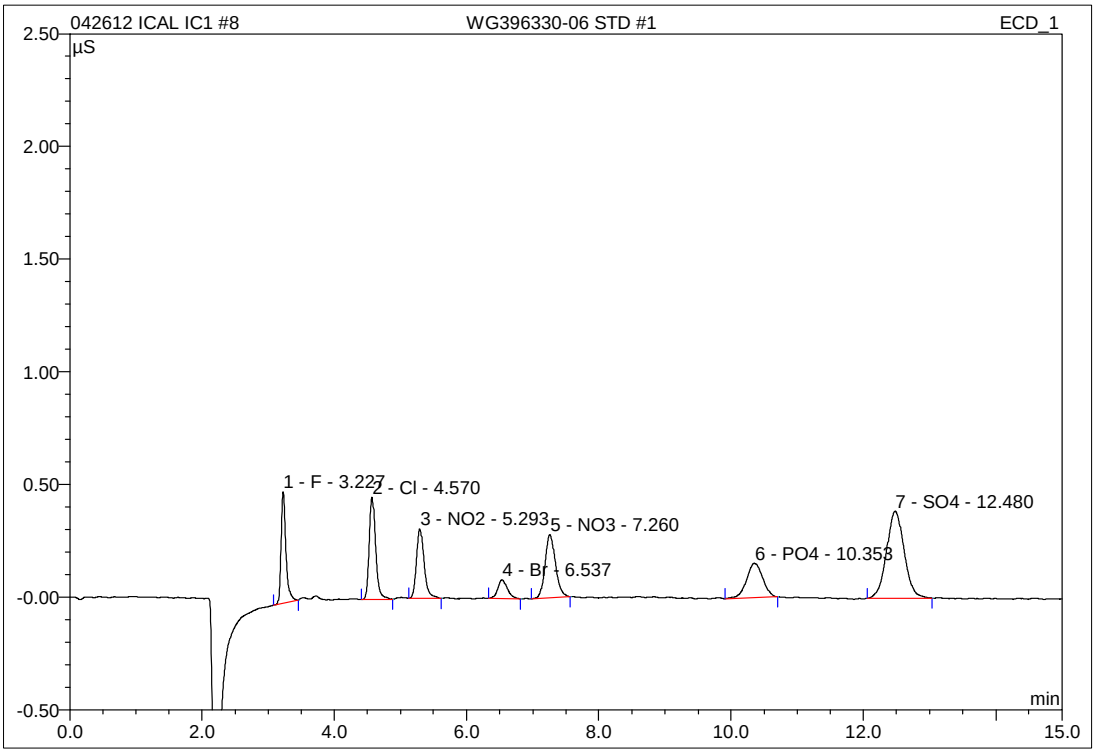
IC/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.80 SP1 Build 2238

8 WG396330-06 STD #1

1,1 JBK STD48131

Sample Name:	**WG396330-06 STD #1**	*Injection Volume:*	**20.0**
Vial Number:	**15**	*Channel:*	**ECD_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**9056**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/26/2012 14:46**	*Sample Weight:*	**1.0000**
Run Time (min):	**15.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	3.23	F	0.493	0.044	11.97	0.202	BMB
2	4.57	Cl	0.454	0.051	13.91	0.204	BMB
3	5.29	NO2	0.308	0.042	11.41	0.122	BMB
4	6.54	Br	0.084	0.014	3.86	0.202	BMB
5	7.26	NO3	0.280	0.052	14.16	0.137	BMB
6	10.35	PO4	0.152	0.043	11.78	0.330	BMB
7	12.48	SO4	0.387	0.120	32.92	1.018	BMB
Total:			2.158	0.364	100.00	2.215	

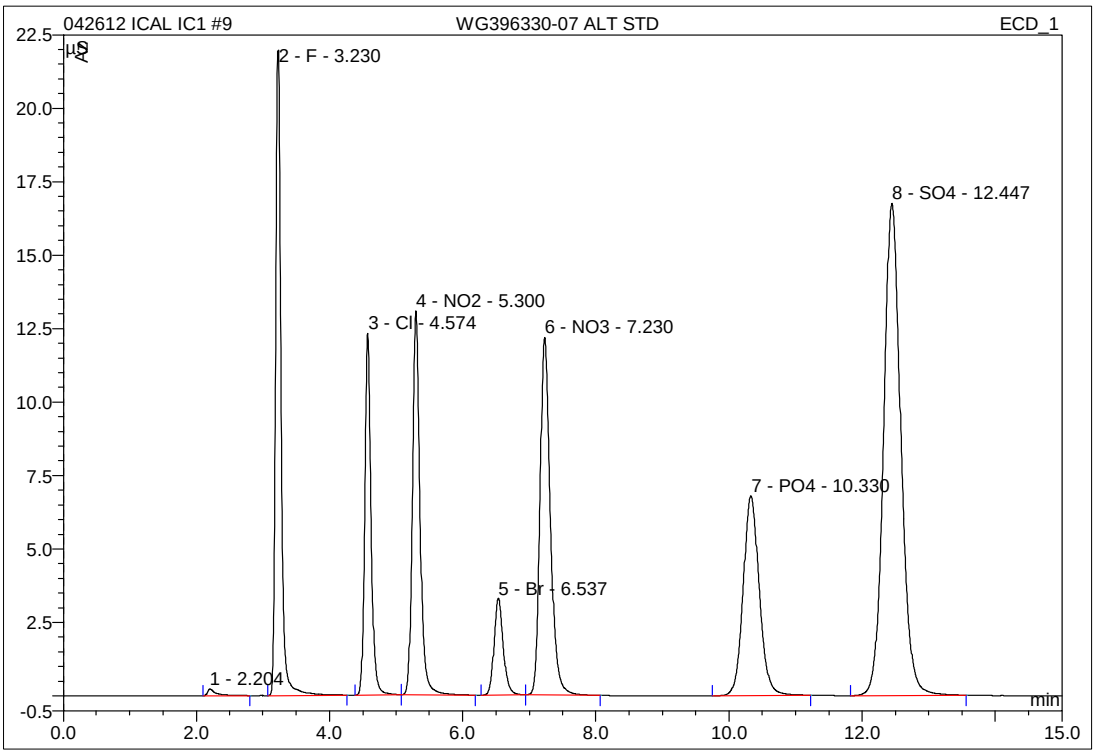
IC/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.80 SP1 Build 2238

9 WG396330-07 ALT STD

1,1 JBK STD48132

Sample Name:	**WG396330-07 ALT STD**	*Injection Volume:*	**20.0**
Vial Number:	**17**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**9056**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/26/2012 15:03**	*Sample Weight:*	**1.0000**
Run Time (min):	**15.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	2.20	n.a.	0.233	0.036	0.24	n.a.	BMB
2	3.23	F	21.970	2.010	13.56	8.287	BMB
3	4.57	Cl	12.319	1.358	9.16	8.260	BMB
4	5.30	NO2	13.060	1.739	11.73	4.960	BMB
5	6.54	Br	3.303	0.530	3.57	8.144	BMB
6	7.23	NO3	12.180	2.196	14.81	5.382	BMB
7	10.33	PO4	6.790	1.905	12.85	12.934	BMB
8	12.45	SO4	16.745	5.052	34.08	39.968	BMB
Total:			86.599	14.826	100.00	87.935	

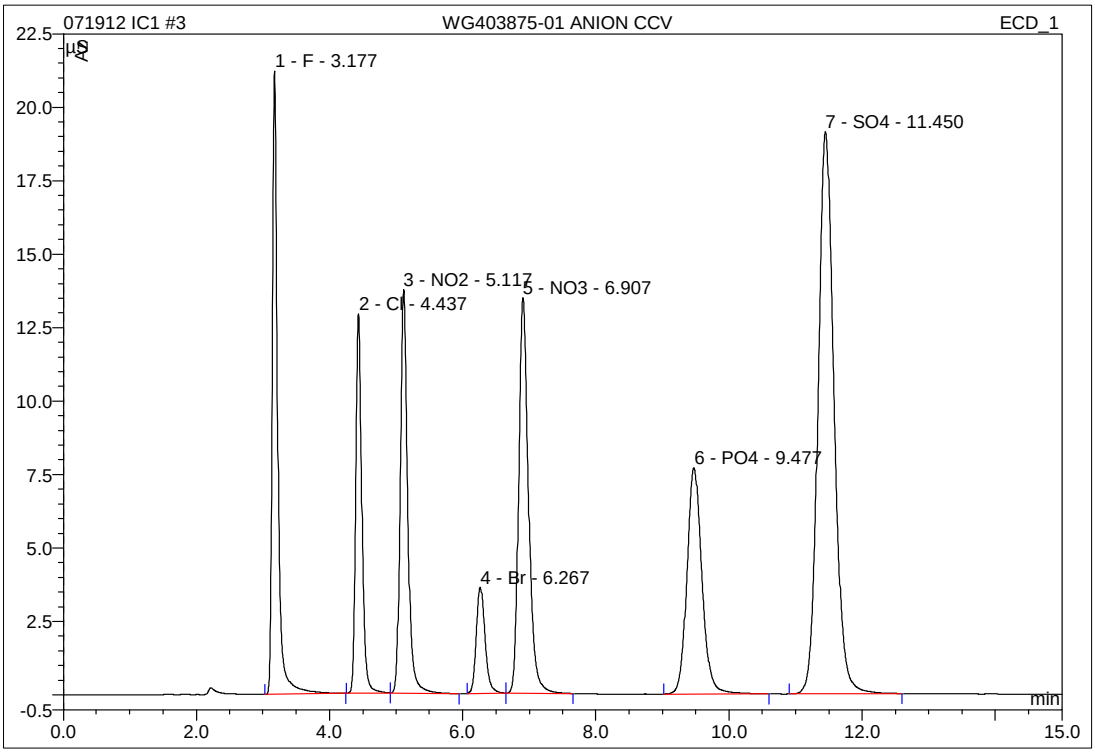
IC/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.80 SP1 Build 2238

3 WG403875-01 ANION CCV

1,1 JBK STD48131 _____ psi @ _____

Sample Name:	**WG403875-01 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:	**7/19/2012 15:30**	*Sample Weight:*	**1.0000**
Run Time (min):	**15.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	3.18	F	21.207	2.013	13.10	8.301	BMB
2	4.44	Cl	12.909	1.378	8.97	8.380	BMB
3	5.12	NO2	13.726	1.779	11.58	5.075	BMB
4	6.27	Br	3.614	0.551	3.58	8.468	BMB
5	6.91	NO3	13.453	2.304	15.00	5.647	BMB
6	9.48	PO4	7.699	2.012	13.10	13.660	BMB
7	11.45	SO4	19.122	5.327	34.67	42.133	BMB
Total:			91.729	15.364	100.00	91.664	

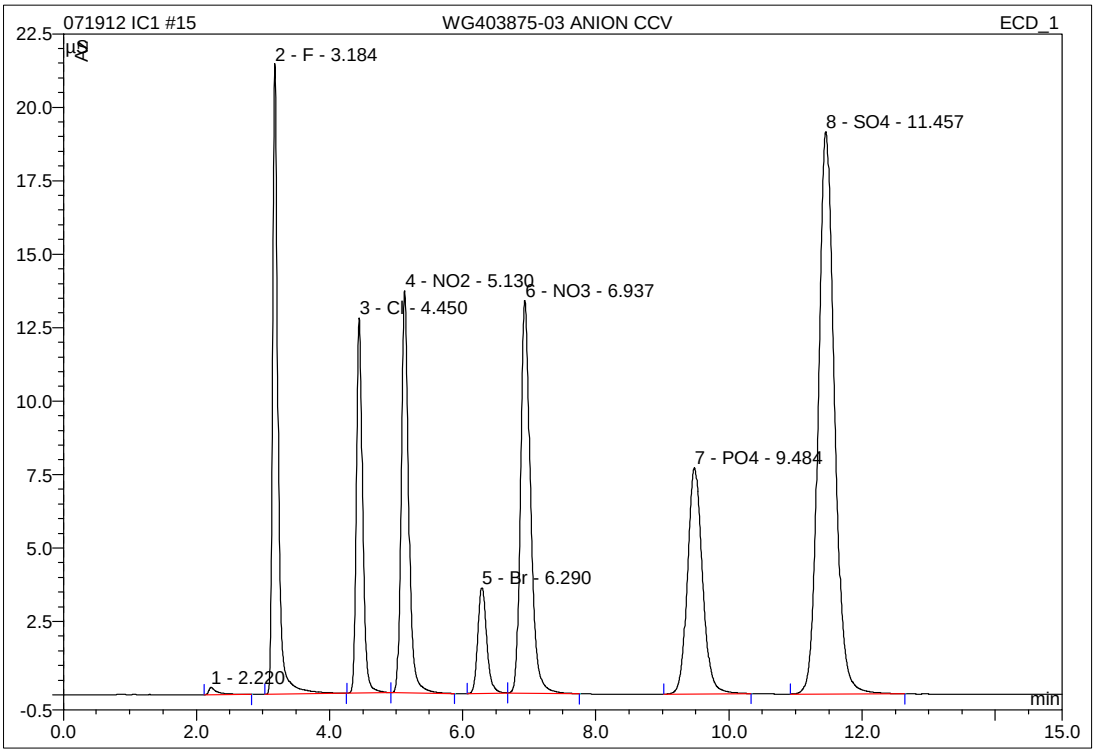
IC/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.80 SP1 Build 2238

15 WG403875-03 ANION CCV

1,1 JBK STD48131

Sample Name:	**WG403875-03 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:	**7/19/2012 18:59**	*Sample Weight:*	**1.0000**
Run Time (min):	**15.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	2.22	n.a.	0.250	0.039	0.25	n.a.	BMB
2	3.18	F	21.463	2.035	13.15	8.389	BMB
3	4.45	Cl	12.762	1.381	8.93	8.400	BMb
4	5.13	NO2	13.696	1.782	11.52	5.083	bMB
5	6.29	Br	3.593	0.552	3.57	8.482	BMb
6	6.94	NO3	13.356	2.316	14.97	5.676	bMB
7	9.48	PO4	7.690	2.006	12.97	13.616	BMB
8	11.46	SO4	19.135	5.360	34.65	42.395	BMB
Total:			91.946	15.470	100.00	92.040	

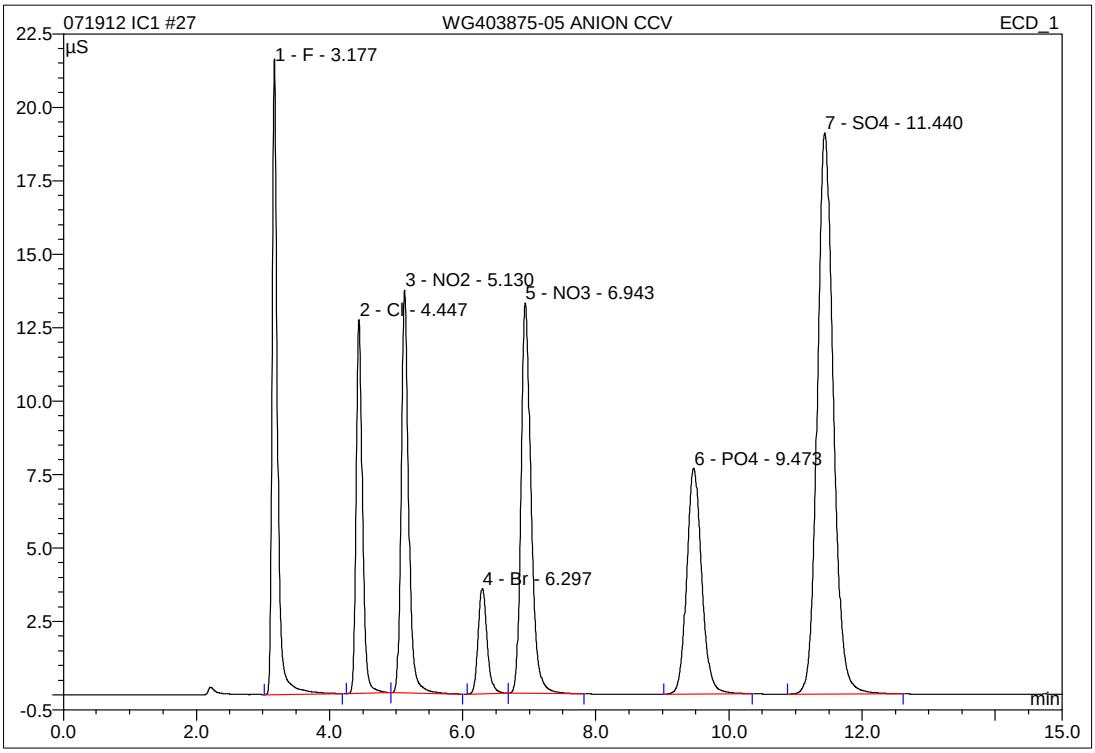
IC/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.80 SP1 Build 2238

27 WG403875-05 ANION CCV

1,1 JBK STD48131

Sample Name:	**WG403875-05 ANION CCV**	*Injection Volume:*	**20.0**
Vial Number:	**11**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**9056**	*Dilution Factor:*	**1.0000**
Recording Time:	**7/19/2012 22:28**	*Sample Weight:*	**1.0000**
Run Time (min):	**15.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	3.18	F	21.636	2.047	13.21	8.438	BMB
2	4.45	Cl	12.716	1.398	9.02	8.503	BMb
3	5.13	NO2	13.700	1.791	11.56	5.107	bMB
4	6.30	Br	3.582	0.555	3.59	8.540	BMB
5	6.94	NO3	13.289	2.319	14.98	5.685	BMB
6	9.47	PO4	7.694	2.013	13.00	13.664	BMB
7	11.44	SO4	19.106	5.366	34.64	42.445	BMB
Total:			91.722	15.489	100.00	92.383	

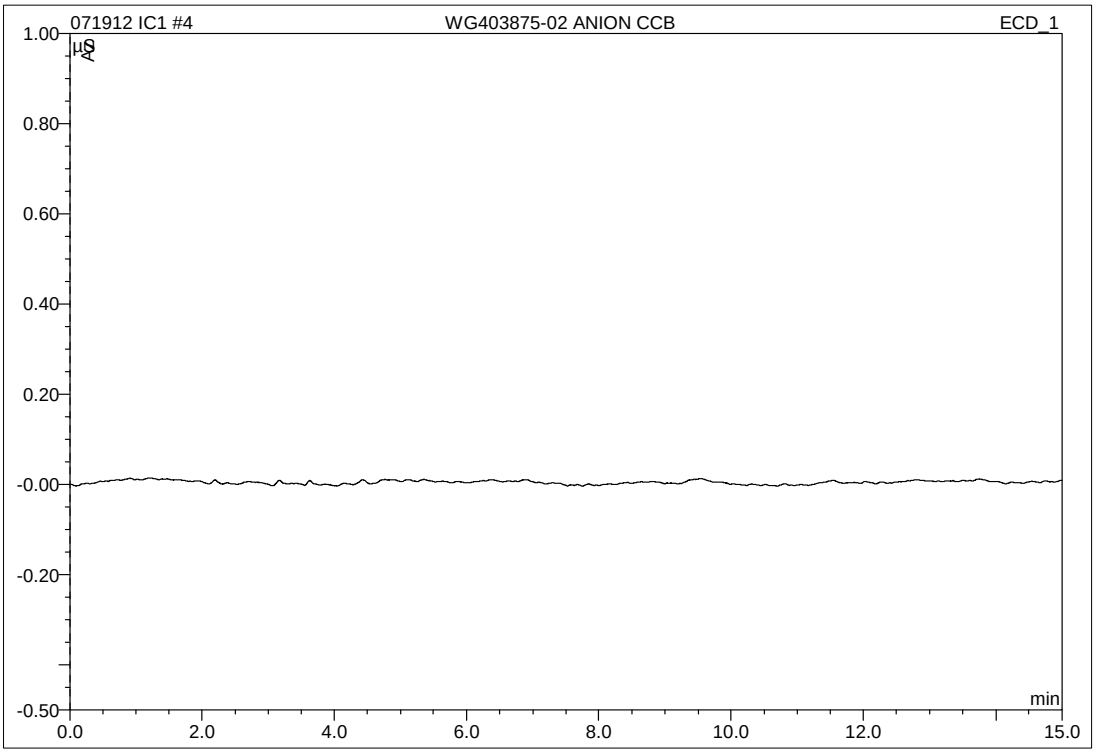
IC/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.80 SP1 Build 2238

4 WG403875-02 ANION CCB

1,1 JBK

Sample Name:	**WG403875-02 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:	**7/19/2012 15:48**	*Sample Weight:*	**1.0000**
Run Time (min):	**15.00**	*Sample Amount:*	**1.0000**

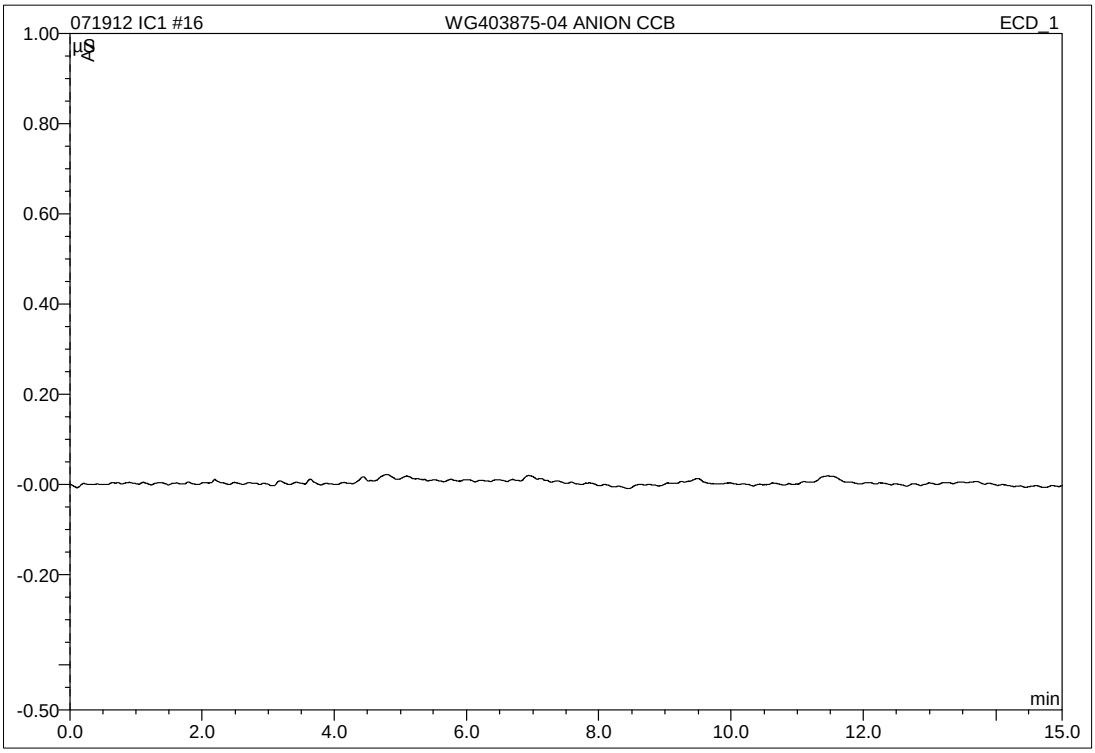


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
Total:			0.000	0.000	0.00	0.000	

16 WG403875-04 ANION CCB

1,1 JBK

Sample Name:	**WG403875-04 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:	**7/19/2012 19:16**	*Sample Weight:*	**1.0000**
Run Time (min):	**15.00**	*Sample Amount:*	**1.0000**

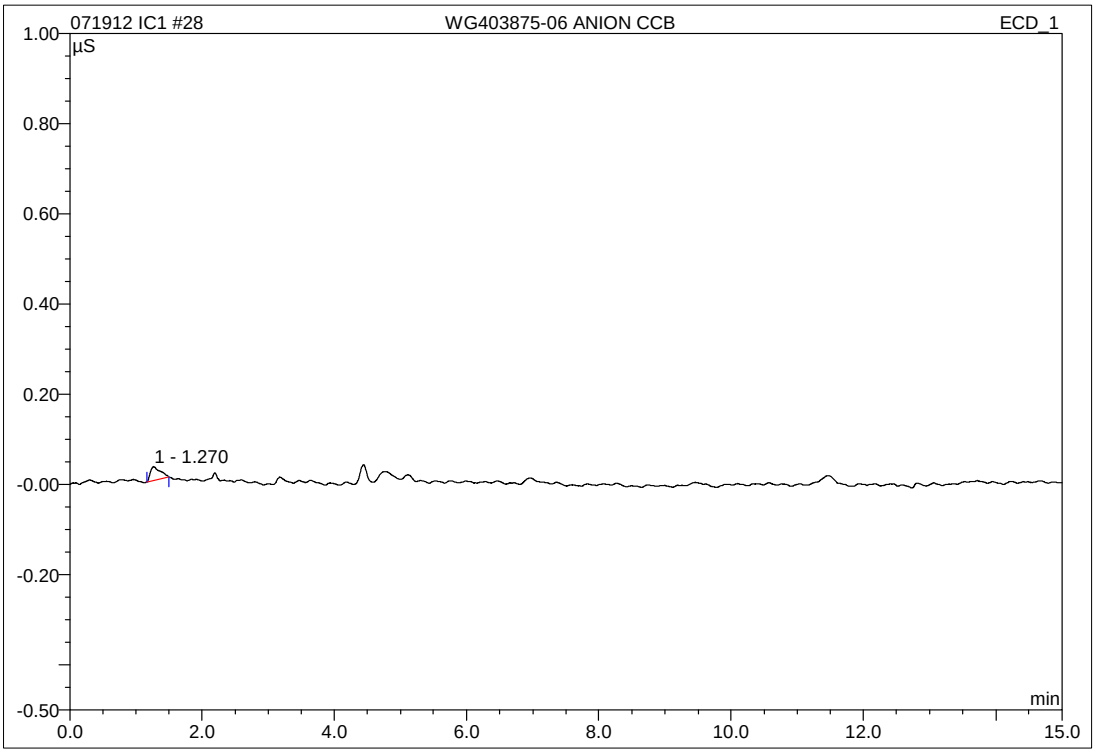


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
Total:			0.000	0.000	0.00	0.000	

28 WG403875-06 ANION CCB

1,1 JBK

Sample Name:	**WG403875-06 ANION CCB**	*Injection Volume:*	**20.0**
Vial Number:	**12**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**9056**	*Dilution Factor:*	**1.0000**
Recording Time:	**7/19/2012 22:45**	*Sample Weight:*	**1.0000**
Run Time (min):	**15.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	1.27	n.a.	0.031	0.005	100.00	n.a.	BMB
Total:			0.031	0.005	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

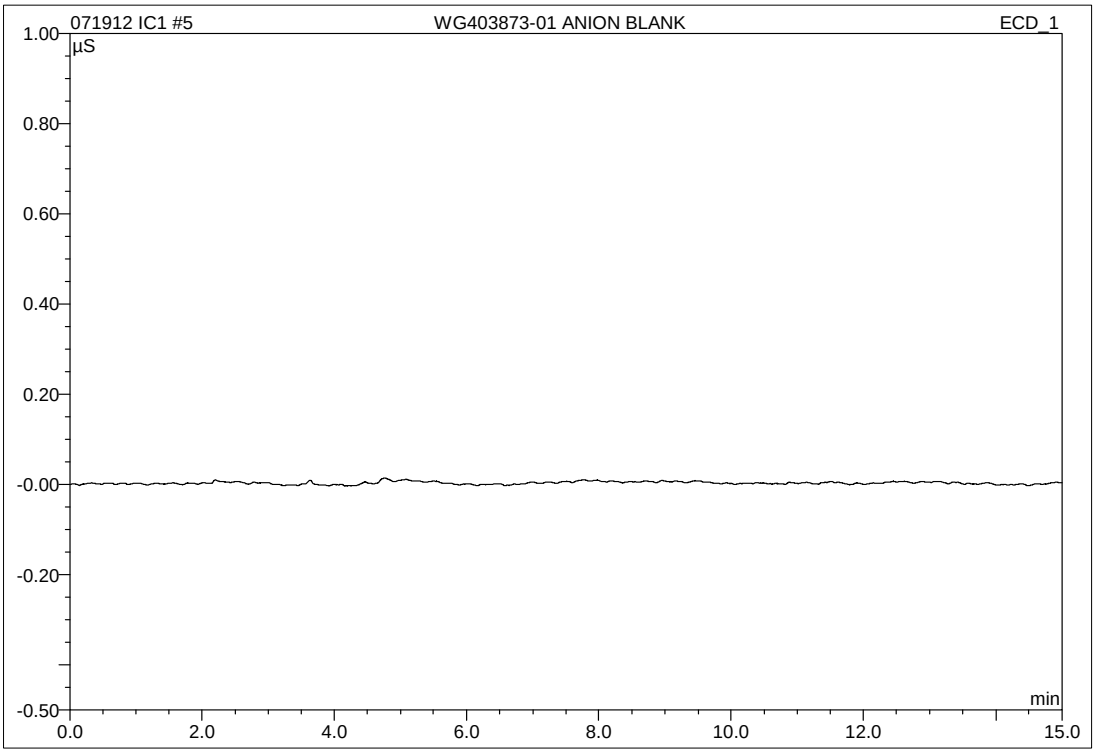
COMPOUND	STD #1 RT	STD #2 RT	STD #3 RT	RT WIN
F	3.387	3.377	3.367	0.030
Cl	4.867	4.864	4.837	0.050
NO2-N	5.724	5.717	5.684	0.064
Br	7.174	7.160	7.117	0.089
NO3-N	8.020	8.007	7.954	0.105
PO4-P	10.640	10.607	10.580	0.090
SO4	12.580	12.574	12.507	0.122

2.2.1.5 Raw QC Data

5 WG403873-01 ANION BLANK

1,1 JBK

Sample Name:	**WG403873-01 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:	**7/19/2012 16:05**	*Sample Weight:*	**1.0000**
Run Time (min):	**15.00**	*Sample Amount:*	**1.0000**

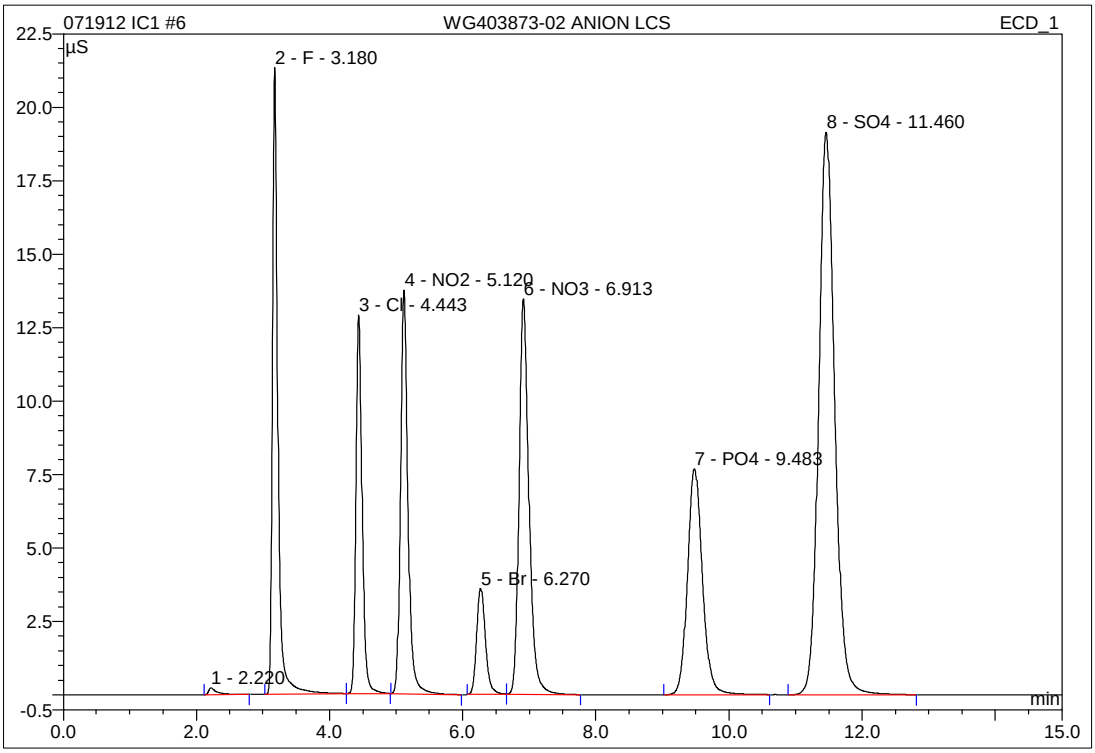


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
Total:			0.000	0.000	0.00	0.000	

6 WG403873-02 ANION LCS

1,1 JBK STD48131

Sample Name:	**WG403873-02 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:	**7/19/2012 16:22**	*Sample Weight:*	**1.0000**
Run Time (min):	**15.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	2.22	n.a.	0.237	0.036	0.23	n.a.	BMB
2	3.18	F	21.335	2.022	13.10	8.338	BMB
3	4.44	Cl	12.873	1.380	8.94	8.392	BMB
4	5.12	NO2	13.744	1.780	11.53	5.078	BMB
5	6.27	Br	3.607	0.550	3.56	8.459	BMB
6	6.91	NO3	13.448	2.310	14.96	5.662	BMB
7	9.48	PO4	7.698	2.010	13.02	13.642	BMB
8	11.46	SO4	19.136	5.351	34.66	42.327	BMB
Total:			92.077	15.439	100.00	91.897	

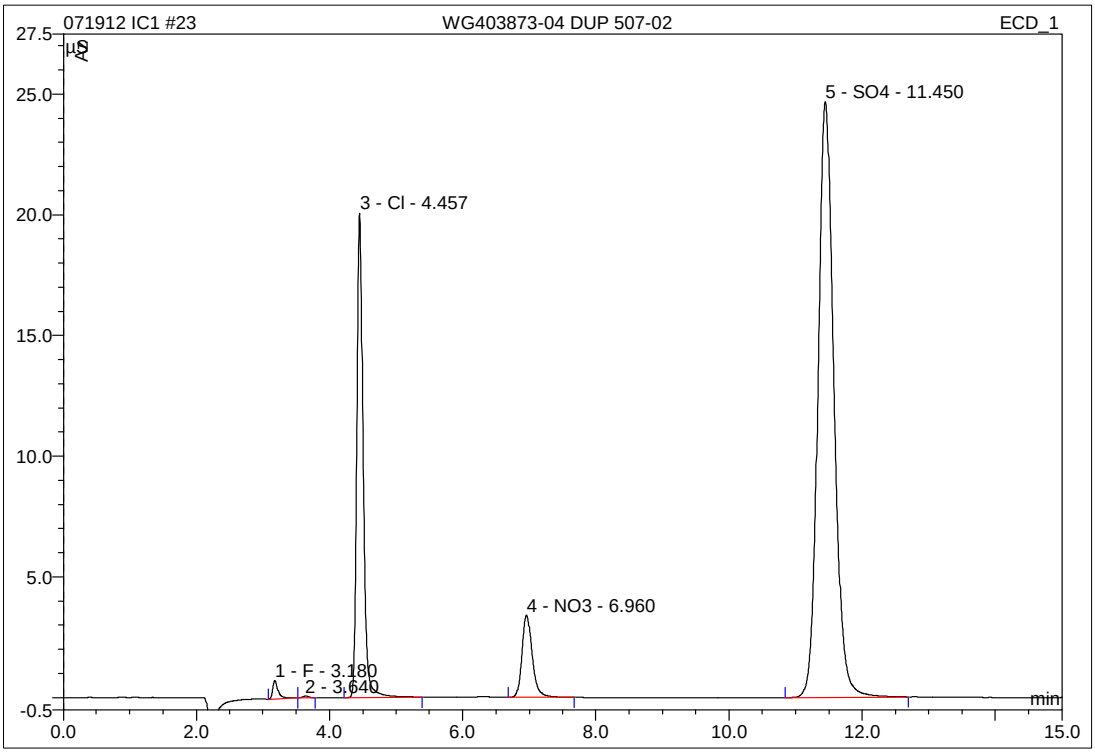
IC/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.80 SP1 Build 2238

23 WG403873-04 DUP 507-02

1,1 JBK

Sample Name:	**WG403873-04 DUP 507-02**	*Injection Volume:*	**20.0**
Vial Number:	**16**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**9056**	*Dilution Factor:*	**1.0000**
Recording Time:	**7/19/2012 21:18**	*Sample Weight:*	**1.0000**
Run Time (min):	**15.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	3.18	F	0.765	0.073	0.75	0.325	BMB
2	3.64	n.a.	0.082	0.008	0.08	n.a.	bMB
3	4.46	Cl	20.059	2.196	22.56	13.424	BMB
4	6.96	NO3	3.414	0.612	6.28	1.508	BMB
5	11.45	SO4	24.686	6.847	70.32	54.142	BMB
Total:			49.005	9.737	100.00	69.399	

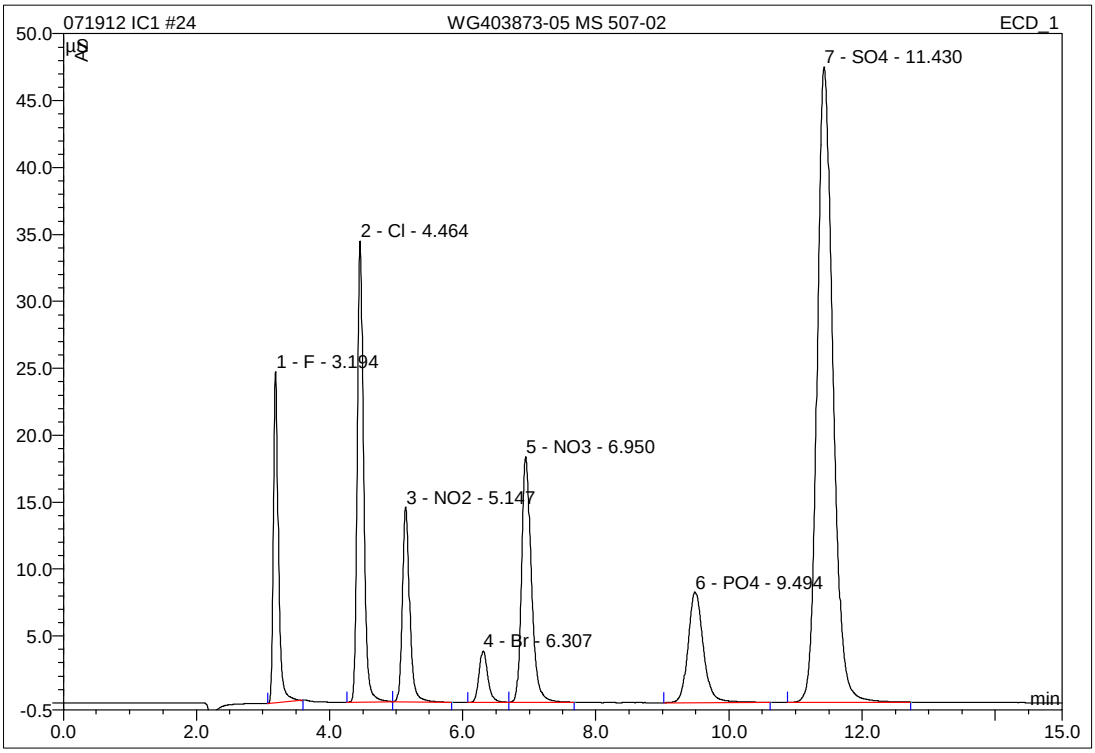
IC/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.80 SP1 Build 2238

24 WG403873-05 MS 507-02

1,1 JBK

Sample Name:	**WG403873-05 MS 507-02**	*Injection Volume:*	**20.0**
Vial Number:	**16**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**9056**	*Dilution Factor:*	**1.0000**
Recording Time:	**7/19/2012 21:36**	*Sample Weight:*	**1.0000**
Run Time (min):	**15.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	3.19	F	24.756	2.137	8.00	8.810	BMB
2	4.46	Cl	34.435	3.732	13.98	22.884	BMB
3	5.15	NO2	14.535	1.851	6.93	5.278	BMB
4	6.31	Br	3.837	0.586	2.20	9.013	BMB
5	6.95	NO3	18.329	3.129	11.72	7.666	bMB
6	9.49	PO4	8.264	2.195	8.22	14.898	BMB
7	11.43	SO4	47.467	13.069	48.95	103.271	BMB
Total:			151.623	26.699	100.00	171.819	

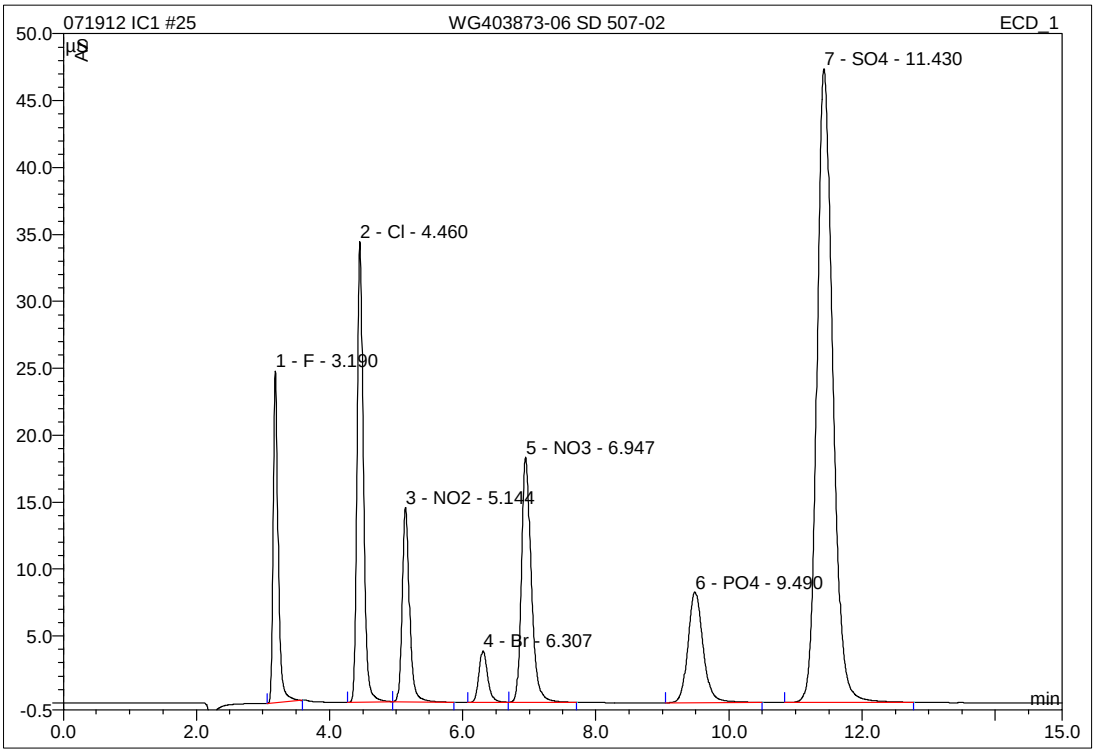
IC/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.80 SP1 Build 2238

25 WG403873-06 SD 507-02

1,1 JBK

Sample Name:	**WG403873-06 SD 507-02**	*Injection Volume:*	**20.0**
Vial Number:	**16**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**9056**	*Dilution Factor:*	**1.0000**
Recording Time:	**7/19/2012 21:53**	*Sample Weight:*	**1.0000**
Run Time (min):	**15.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	3.19	F	24.783	2.136	8.02	8.808	BMB
2	4.46	Cl	34.430	3.725	13.98	22.840	BMB
3	5.14	NO2	14.515	1.852	6.95	5.283	BMB
4	6.31	Br	3.828	0.585	2.19	8.993	BMB
5	6.95	NO3	18.290	3.119	11.71	7.642	BMB
6	9.49	PO4	8.261	2.182	8.19	14.807	BMB
7	11.43	SO4	47.366	13.046	48.96	103.091	BMB
Total:			151.474	26.646	100.00	171.464	

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: L12070507
Department: Conventionals
Analyst: Justin Hesson

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.

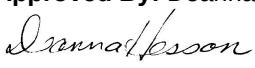
Duplicates: All acceptance criteria were met.

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: 50790
Approved By: Deanna Hesson



Microbac

Lab Report #: L12070507
Lab Project #: 3005.011
Project Name: White Sands MR
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L12070507-01	**PrePrep Method:**	N/A	**Instrument:**	ORION-4STAR
Client ID:	MPL23-0712-1	**Prep Method:**	9040C	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	9040C	**Cal Date:**	
Workgroup #:	WG403766	**Analyst:**	JDH	**Run Date:**	07/18/2012 17:20
Collect Date:	07/17/2012 12:42	**Dilution:**	1	**File ID:**	OS12072015435301
Sample Tag:		**Units:**	UNITS		

Analyte	CAS #	Result	Qual	LOQ	LOD
Corrosivity pH	10-29-7	8.16		0.000	0.000

Sample #:	L12070507-02	**PrePrep Method:**	N/A	**Instrument:**	ORION-4STAR
Client ID:	MPL23-0712-2	**Prep Method:**	9040C	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	9040C	**Cal Date:**	
Workgroup #:	WG403766	**Analyst:**	JDH	**Run Date:**	07/18/2012 17:20
Collect Date:	07/17/2012 12:42	**Dilution:**	1	**File ID:**	OS12072015435601
Sample Tag:		**Units:**	UNITS		

Analyte	CAS #	Result	Qual	LOQ	LOD
Corrosivity pH	10-29-7	8.16		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: 17-JUL-2012
Analyst: JDH
Analyst: NA
Method: PH
Instrument: ORION 4 STAR
Curve Workgroup: NA
Runlog ID:
Analytical Workgroups: WG403766

Calibration/Linearity	7/17/12
Second Source Check	
ICV/CCV (std)	
ICB/CCB	
Blank	
LCS/LCS Dup	
MS/MSD	
Duplicate	X
Upload Results	
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	JDH
Secondary Reviewer	DIH
Comments	

Primary Reviewer:
20-JUL-2012

Secondary Reviewer:
20-JUL-2012

CHECKLIST1 - Modified 03/05/2008
Generated: JUL-20-2012 15:44:08

2.2.2.3 Raw Data

pH

Sample	Calibration Buffers	Time of Calibration	A Water Misc. Liquid	B 50% Slurry Of Solid	C 50% Water Org. Liq. Mix	Time Analyzed	
LCS 6 51811	7,4,10	1610	6.00			1715	B,C) SW846 9045D
L12070538-01			6.54			↓	A) SM 4500-H(+)-B
L12070507-02			8.16			↓	A) EPA 150.1
L12070507-01			8.16			↓	A) SW846 9040C
L12070471-01			6.59			1720	SOP K1501 Rev 13
L12070471-02			9.88			↓	
L12070471-01				8.34		↓	
DUP L12070 47102	7,4,10		9.88			1720	
LCS 9 51846			9.02			1720	

Circle Instrument

Orion 4-Star

Orion 710A #1

Orion 710A #2

Bante 922

Analyst: [signature] Date: 7/18/12 @1715

DCN#91614

Microbac

TCLP ___ Extraction Daily Log / SPLP

Date : 07-17-12

#	Microbac Sample #	Client	Due Date	Me	SV	Pest	Herb	Voa	PAH	pH-L			Comments
1	07-471-02	SHAW	7/20	✓						✓			
2	FBLK	—	—	✓									
3													
4													
5													
6													
7													
8													
9													
10													
11													
12													
13													
14													
15													
16													
17													
18													
19													
20													
21													
22													

Agitated	Work Group	Run ID
Me	403679	
SV		
Pest		
Herb		
Voa		
PAH		
pH-L	403677	

Filtered	Work Group	Run ID
Me		
SV		
Pest		
Herb		
Voa		
pH-L		
Me (org)		
SV (org)		
Voa (org)		

√ = Perform analysis
☆ = Perform analysis and spike sample

Comments: _____

Internal Use Only

Microbac

TCLP ✓ Extraction Daily Log ___ SPLP

Date : 07-17-12

#	Microbac Sample #	Client	Due Date	Me	SV	Pest	Herb	Voa	PAH	pH-L			Comments
1	07-454-01	MICRO	7/23	✓									
2	07-470-01	HOWARD	7/20	✓									
3	07-471-01	SHAW		✓						✓			
4	07-474-01	KEMRON		☆									
5	FBLK	—	—	✓									
6													
7													
8													
9													
10													
11													
12													
13													
14													
15													
16													
17													
18													
19													
20													
21													
22													

Agitated	Work Group	Run ID
Me	403680	
SV		
Pest		
Herb		
Voa		
PAH		
pH-L	403678	

Filtered	Work Group	Run ID
Me		
SV		
Pest		
Herb		
Voa		
pH-L		
Me (org)		
SV (org)		
Voa (org)		

√ = Perform analysis
☆ = Perform analysis and spike sample

Comments: _____

Internal Use Only

2.2.3 Alkalinity Data

2.2.3.1 Summary Data

Login Number: L12070507
Department: Conventionals
Analyst: Deanna Hesson

METHOD

Analysis EPA 310.2 (Alkalinity)

HOLDING TIMES

Sample Analysis: All holding times were met.

PREPARATION

Sample preparation proceeded normally.

BATCH QA/QC

Method Blank: All acceptance criteria were met.

Laboratory Control Sample: All acceptance criteria were met.

Matrix Spikes: All acceptance criteria were met.

Duplicates: All acceptance criteria were met.

SAMPLES

Samples: All acceptance criteria were met.

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Narrative ID: 50788
Approved By: Deanna Hesson

Microbac

Lab Report #: L12070507
Lab Project #: 3005.011
Project Name: White Sands MR
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L12070507-01	**PrePrep Method:**	N/A	**Instrument:**	SMARTCHEM
Client ID:	MPL23-0712-1	**Prep Method:**	310.2	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	310.2	**Cal Date:**	07/20/2012 12:56
Workgroup #:	WG403975	**Analyst:**	DIH	**Run Date:**	07/20/2012 13:05
Collect Date:	07/17/2012 12:42	**Dilution:**	1	**File ID:**	SC120720007.022
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Alkalinity, Total (as CaCO3)	11-43-8	85.5		20.0	10.0

Sample #:	L12070507-01	**PrePrep Method:**	N/A	**Instrument:**	SMARTCHEM
Client ID:	MPL23-0712-1	**Prep Method:**	310.2	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	310.2	**Cal Date:**	07/20/2012 12:56
Workgroup #:	WG403975	**Analyst:**	DIH	**Run Date:**	07/20/2012 13:05
Collect Date:	07/17/2012 12:42	**Dilution:**	1	**File ID:**	SC120720007.022
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Alkalinity, Bicarbonate (as CaCO3)	13-00-3	85.5		20.0	10.0

Sample #:	L12070507-01	**PrePrep Method:**	N/A	**Instrument:**	SMARTCHEM
Client ID:	MPL23-0712-1	**Prep Method:**	310.2	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	310.2	**Cal Date:**	07/20/2012 12:56
Workgroup #:	WG403975	**Analyst:**	DIH	**Run Date:**	07/20/2012 13:05
Collect Date:	07/17/2012 12:42	**Dilution:**	1	**File ID:**	SC120720007.022
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 #:	L12070507-02	**PrePrep Method:**	N/A	**Instrument:**	SMARTCHEM
Client ID:	MPL23-0712-2	**Prep Method:**	310.2	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	310.2	**Cal Date:**	07/20/2012 12:56
Workgroup #:	WG403975	**Analyst:**	DIH	**Run Date:**	07/20/2012 13:05
Collect Date:	07/17/2012 12:42	**Dilution:**	1	**File ID:**	SC120720007.023
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Alkalinity, Total (as CaCO3)	11-43-8	87.5		20.0	10.0

Sample #:	L12070507-02	**PrePrep Method:**	N/A	**Instrument:**	SMARTCHEM
Client ID:	MPL23-0712-2	**Prep Method:**	310.2	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	310.2	**Cal Date:**	07/20/2012 12:56
Workgroup #:	WG403975	**Analyst:**	DIH	**Run Date:**	07/20/2012 13:05
Collect Date:	07/17/2012 12:42	**Dilution:**	1	**File ID:**	SC120720007.023
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 #: L12070507
Lab Project #: 3005.011
Project Name: White Sands MR
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L12070507-02	**PrePrep Method:**	N/A	**Instrument:**	SMARTCHEM
Client ID:	MPL23-0712-2	**Prep Method:**	310.2	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	310.2	**Cal Date:**	07/20/2012 12:56
Workgroup #:	WG403975	**Analyst:**	DIH	**Run Date:**	07/20/2012 13:05
Collect Date:	07/17/2012 12:42	**Dilution:**	1	**File ID:**	SC120720007.023
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Alkalinity, Bicarbonate (as CaCO3)	13-00-3	87.5		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: 20-JUL-2012
Analyst: DIH
Analyst: NA
Method: ALK
Instrument: SC
Curve Workgroup: NA
Runlog ID:
Analytical Workgroups: WG403955 WG403975 WG403946

Calibration/Linearity	7/20/2012
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	DIH
Secondary Reviewer	DIH
Comments	

Primary Reviewer:
24-JUL-2012

Secondary Reviewer:
24-JUL-2012

CHECKLIST1 - Modified 03/05/2008
Generated: JUL-24-2012 17:14:44

Microbac Laboratories Inc.

HOLDING TIMES
EQUIVALENT TO AFCEE FORM 9

Analytical Method: 310.2 AAB#: WG403975

Login Number: L12070507

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
MPL23-0712-1	01	07/17/12					07/20/2012	3	14		07/20/12	3	14	
MPL23-0712-2	02	07/17/12					07/20/2012	3	14		07/20/12	3	14	

* = SEE PROJECT QAPP REQUIREMENTS

HOLD_TIMES - Modified 03/06/2008
PDF File ID: 2509730
Report generated 07/23/2012 10:42

Microbac Laboratories Inc.

METHOD BLANK SUMMARY

Login Number: L12070507
Blank File ID: SC120720007.038
Prep Date: 07/20/12 13:14
Analyzed Date: 07/20/12 13:14
Analyst: DIH

Work Group: WG403975
Blank Sample ID: WG403975-01
Instrument ID: SMARTCHEM
Method: 310.2

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG403975-02	SC120720007.011	07/20/12 12:58	01
LCS2	WG403975-03	SC120720007.012	07/20/12 12:59	01
MPL23-0712-1	L12070507-01	SC120720007.022	07/20/12 13:05	01
MPL23-0712-1	L12070507-01	SC120720007.022	07/20/12 13:05	01
MPL23-0712-1	L12070507-01	SC120720007.022	07/20/12 13:05	01
MPL23-0712-2	L12070507-02	SC120720007.023	07/20/12 13:05	01
MPL23-0712-2	L12070507-02	SC120720007.023	07/20/12 13:05	01
MPL23-0712-2	L12070507-02	SC120720007.023	07/20/12 13:05	01
DUP	WG403975-05	SC120720007.037	07/20/12 13:13	01

Report Name: BLANK_SUMMARY
PDF File ID: 2509731
Report generated 07/23/2012 10:42

Microbac Laboratories Inc.

METHOD BLANK REPORT

Login Number: L12070507 Prep Date: 07/20/12 13:14 Sample ID: WG403975-01
Instrument ID: SMARTCHEM Run Date: 07/20/12 13:14 Prep Method: 310.2
File ID: SC120720007.038 Analyst: DIH Method: 310.2
Workgroup (AAB#): WG403975 Matrix: Water Units: mg/L
Contract #: Cal ID: SMARTC-20-JUL-12

Analytes	LOD	LOQ	Concentration	Dilution	Qualifier
Alkalinity, Total (as CaCO3)	10.0	20.0	10.0	1	U

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

Report Name: BLANK
PDF ID: 2509732
23-JUL-2012 10:42

Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L12070507 Analyst: DIH Prep Method: 310.2
Instrument ID: SMARTCHEM Matrix: Water Method: 310.2
Workgroup (AAB#): WG403975 Units: mg/L
QC Key: DOD4 Lot #: STD52533

Sample ID: WG403975-02 LCS File ID: SC120720007.011 Run Date: 07/20/2012 12:58
Sample ID: WG403975-03 LCS2 File ID: SC120720007.012 Run Date: 07/20/2012 12:59

Analytes	LCS			LCS2			%RPD	%Rec Limits	RPD Lmt	Q
	Known	Found	% REC	Known	Found	% REC				
Alkalinity, Total (as CaCO3)	200	206	103	200	208	104	0.853	85 - 115	20	

LCS_LCS2 - Modified 03/06/2008
PDF File ID: 2509733
Report generated: 07/23/2012 10:42

2.2.3.3 Raw Data

WORKGROUP: WG403946 D

403955 E

403975 F

SMARTCHEM RUN LOG

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
- [x] WBL Run
- [x] Reagents Full
- [x] Dilution H_2O Full
- [x] Waste Container Check

Syringe filter lot # _____

1) **Workgroup** D
Plan # ~~20140394~~ 20120720005
2) **Workgroup** E
Plan # 20120720006
3) **Workgroup** F
Plan # 20120720007

	Analyte	1	2	3
		AIK		
		Dilution		
SC Prepared Curve				
Position				
1-1	ICV 250			
1-2	BIK			
1-3	LCS 200			
1-4	LCSDUP			
1-5	07-246-01	1/2		
1-6	07-247-01	1/2		
1-7	07-~~248~~ 249-01	1/2		
1-8	07-509-01			
1-9	07-373-01			TBC
1-10	02			↓
1-11	03			
1-12	06			
1-13	07-384-01	1/2		
1-14	03	1/2		
1-15	05	1/2		
1-16	07	1/2		
1-17	09	1/2		
1-18	11	1/2		
1-19	07-401-01			
1-20	03			
1-21	05			
1-22	07			
2-1	09			
2-2	11			
2-3	DUP 11			

07-249

Position	Analyte	1	2	3
2-4 1	ICV 250			
2-5 2	BIK			
2-6 3	LCS 200			
2-7 4	LCSDUP			
2-8 5	07-254-~~02~~ 01	1/2		
2-9 6	07-270-01	1/2		
2-10 7	07-271-02			
2-11 8	07-272-01			
2-12 9	07-327-01			+BC
2-13 10	02			↓
2-14 11	07-401-13			
2-15 12	07-420-01			+BC ✓
2-16 13	DUP 01			↓ ✓
2-17 14	MS 04			✓
2-18 15	MSD 07			✓
2-19 16	07-479-02	1/5		color
2-20 17	03	1/5		↓
2-21 18	05	1/5		
2-22 19	06	1/5		
2-23 20	07-516-01			●
2-24 21	02			
2-25 22	07-425-01			+BC
2-26 1	02			↓
3-1 2	07-460-01			+BC ✓
3-2 3	04			↓ ✓
4	07-478-01			+BC ✗
5	04			↓ ✓

NOTES:
* Run NO2 std on NO3 runs
* LCS/LCS Dup all parameters
*MS(10% sample): NO3, TKN, NH3

2-4 RR BIK

DCN#91645

SMARTCHEM RUN LOG

Position		Analyte	1	2	3
3-3	1	BLK ICV 250			
3-4	2	BLK			
3-5	3	LCS 200			
3-6	4	LCS DUP			
3-7	5	07-491-01	1/2		
3-8	6	03	1/2		
3-9	7	05	1/2		
3-10	8	07-496-01			
3-11	9	02			
3-12	10	03			
3-13	11	07-497-01			
3-14	12	07-507-01			+BC
3-15	13	02			↓

Position		Analyte	1	2	3
3-16	14	07-526-01			
3-17	15	07-491-08	1/2		
3-18	16	09	1/2		
3-19	17	11	1/2		
3-20	18	07-551-01			
3-21	19	07-552-01			
3-22	20	07-553-01			
3-23	21	07-554-01			
3-24	22	07-555-01			
3-25	1	07-556-01			
3-26	2	07-557-01			
3-27	3	DUP ↓			
3-28	4	RR BLK			

- [ ] 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	K 3102 R14		R6f17578
Curve Stock (SC made)	std 50178		
Curve ID (user made)			
ICV	std 52532		
CCV	std 52534		
LCS	std 52533		
MS	std 50179 Dilution 0.2/5(2500)=100		

Comments: 07-373, 07-327, 07-420, 07-425, 07-460, 07-478, 07-507 all pH < 8.3

Analyst: Joanne Hesson Date: 7/20/12

DCN#91645

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	0.5283	0.00		10:52:25 AM
DIL-1	RBL	0.0	0.5305	0.00		10:52:43 AM
DIL-1	RBL	0.0	0.5401	0.00		10:53:37 AM
DIL-1	Std-1	0.0	0.0127	0.00	INV	10:53:55 AM
SR5-1	Std-2	10.0	0.0018	0.00	INV	10:54:49 AM
SR5-2	Std-3	20.0	-0.0062	0.00		10:55:07 AM
SR5-3	Std-4	50.0	-0.0417	0.00		10:56:01 AM
SR5-4	Std-5	100.0	-0.0896	0.00		10:56:19 AM
SR5-5	Std-6	200.0	-0.2235	0.00		10:57:13 AM
SR5-6	Std-7	250.0	-0.2821	0.00		10:57:31 AM
SR5-7	Std-8	300.0	-0.3351	0.00		10:58:26 AM
1	ICV 250	242.9	-0.2693	0.00		10:58:43 AM
2	WG403946-01 BLK	-18.2	0.0354	0.00	INV,><,LL	10:59:38 AM
3	WG403946-02 LCS	203.2	-0.2209	0.00		10:59:56 AM
4	WG403946-03 LCSDUP	199.0	-0.2158	0.00		11:00:50 AM
5	L12070246-01 (2)	163.8	-0.1737	0.00		11:01:08 AM
6	L12070247-01 (2)	148.5	-0.1556	0.00		11:02:02 AM
7	L12070249-01 (2)	144.3	-0.1506	0.00		11:02:20 AM
8	L12070509-01	18.9	-0.0061	0.00		11:03:14 AM
9	L12070373-01	108.6	-0.1087	0.00		11:03:32 AM
10	L12070373-02	108.9	-0.1091	0.00		11:04:26 AM
ST-2	CCV (150 mg/L)	151.0	-0.1585	100.66		11:04:44 AM
ST-3	CCB (0 mg/L)	-10.9	0.0273	0.00	INV,><,LL	11:05:38 AM
11	L12070373-03	82.1	-0.0781	0.00		11:05:56 AM
12	L12070373-06	66.4	-0.0600	0.00		11:06:50 AM
13	L12070384-01 (2)	109.6	-0.1099	0.00		11:07:08 AM
14	L12070384-03 (2)	133.1	-0.1374	0.00		11:08:02 AM
15	L12070384-05 (2)	115.0	-0.1162	0.00		11:08:20 AM
16	L12070384-07 (2)	119.5	-0.1215	0.00		11:09:14 AM
17	L12070384-09 (2)	116.7	-0.1182	0.00		11:09:32 AM
18	L12070384-11 (2)	120.0	-0.1220	0.00		11:10:26 AM
19	L12070401-01	273.6	-0.3073	0.00		11:10:44 AM

Report Date :07/20/2012 **Run Date :7/20/2012** **Operator : WESTCO** **Plan # :20120720005**

Plan Description : ALK-D-DIH/7/20/2012

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	L12070401-03	259.8	-0.2901	0.00		11:11:38 AM
ST-2	CCV (150 mg/L)	153.4	-0.1613	102.24		11:11:56 AM
ST-3	CCB (0 mg/L)	0.4	0.0147	0.00	INV,><	11:12:50 AM
21	L12070401-05	225.1	-0.2475	0.00		11:13:08 AM
22	L12070401-07	61.2	-0.0541	0.00		11:14:02 AM
23	L12070401-09	35.0	-0.0243	0.00		11:14:20 AM
24	7/20/12 L12040701-11	273.1	-0.3066	0.00		11:15:14 AM
25	WG403946-05 DUP	268.2	-0.3005	0.00		11:15:32 AM
26	ID 26 BLANK	4.0	0.0106	0.00	INV	11:16:26 AM
27	ID 27	2.4	0.0125	0.00	INV	11:16:44 AM
ST-2	CCV (150 mg/L)	156.3	-0.1648	104.21		11:17:38 AM
ST-3	CCB (0 mg/L)	0.2	0.0149	0.00	INV,><	11:17:56 AM

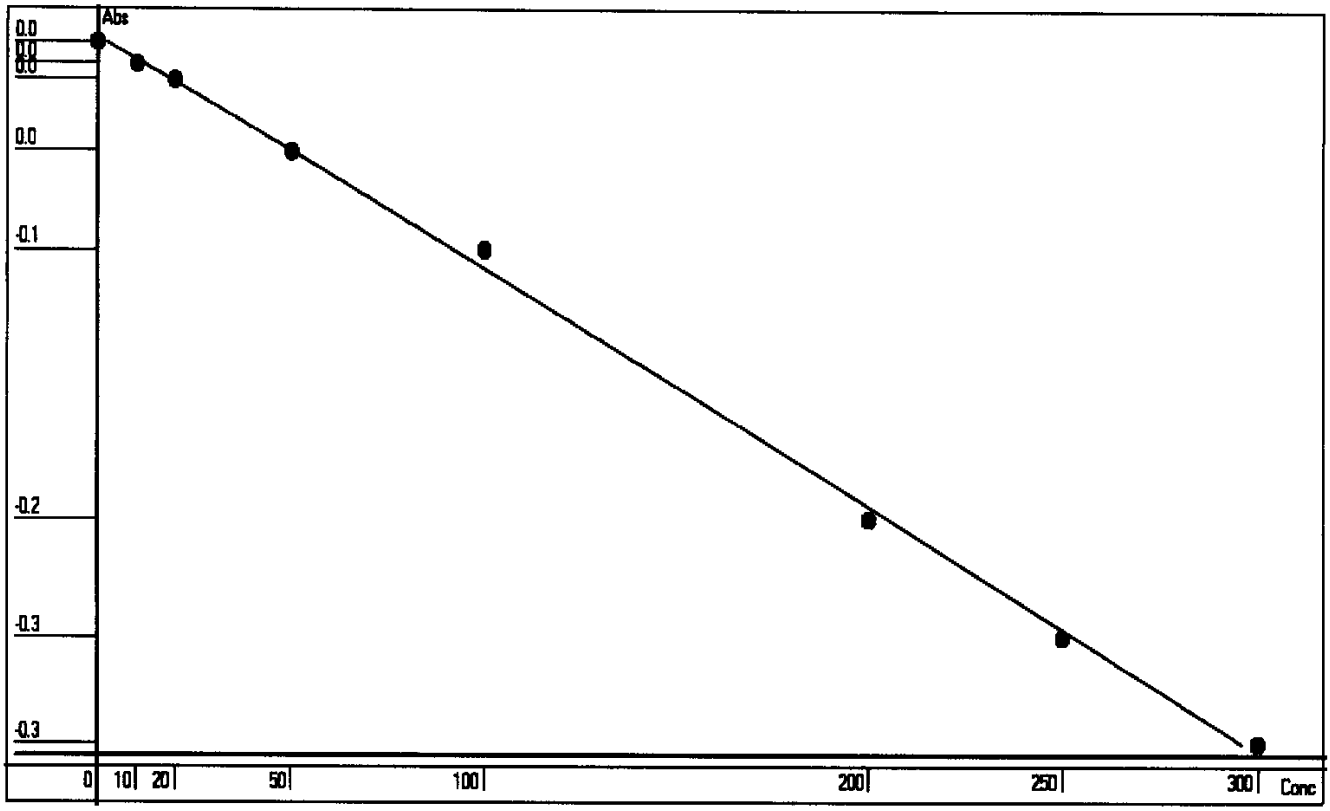
Report Date :07/20/2012 **Run Date :7/20/2012** **Operator : WESTCO** **Plan # :20120720005**

Plan Description : ALK-D-DIH/7/20/2012

Calibrant Report - WALK -

Calib Lot #:010104 Exp Date:6/21/2020 User:MICROBAC

Plan # : 20120720005 Description : [ALK-D-DIH/7/20/2012]



Point	OD	Conc	Recalc Conc	% Error
1	0.0127	0	2.1715	217.15
2	0.0018	10	11.8931	18.93
3	-0.0062	20	19.0070	-4.97
4	-0.0417	50	50.3568	0.71
5	-0.0896	100	92.0937	-7.91
6	-0.2235	200	205.3319	2.67
7	-0.2821	250	253.2986	1.32
8	-0.3351	300	295.8473	-1.38

Conc= -141.0335*Abso^2 -889.8505*Abso +13.4953 R^2=0.9987

RBL
0.5294
0

Report Date 7/20/2012 Run Date 7/20/2012

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	0.6057	0.00		11:36:11 AM
DIL-1	RBL	0.0	0.6000	0.00		11:36:29 AM
DIL-1	RBL	0.0	0.6105	0.00		11:37:23 AM
DIL-1	Std-1	0.0	-0.0060	0.00		11:37:41 AM
SR5-1	Std-2	10.0	-0.0139	0.00		11:38:35 AM
SR5-2	Std-3	20.0	-0.0287	0.00		11:38:53 AM
SR5-3	Std-4	50.0	-0.0650	0.00		11:39:47 AM
SR5-4	Std-5	100.0	-0.1267	0.00		11:40:05 AM
SR5-5	Std-6	200.0	-0.2700	0.00		11:40:59 AM
SR5-6	Std-7	250.0	-0.3390	0.00		11:41:17 AM
SR5-7	Std-8	300.0	-0.4005	0.00		11:42:12 AM
1	ICV 250	249.3	-0.3339	0.00		11:42:29 AM
2	WG403955-01 BLK	-8.9	0.0091	0.00	INV,><,LL	11:43:24 AM
3	WG403955-02 LCS	197.0	-0.2620	0.00		11:43:41 AM
4	WG403955-03 LCSDUP	197.9	-0.2633	0.00		11:44:36 AM
5	L12070254-01 (2)	156.7	-0.2075	0.00		11:44:54 AM
6	L12070270-01 (2)	165.4	-0.2193	0.00		11:45:48 AM
7	L12070271-02	151.4	-0.2005	0.00		11:46:06 AM
8	L12070272-01	211.6	-0.2820	0.00		11:47:00 AM
9	L12070327-01	78.0	-0.1032	0.00		11:47:18 AM
10	L12070327-02	76.2	-0.1009	0.00		11:48:12 AM
ST-2	CCV (150 mg/L)	152.0	-0.2012	101.31		11:48:30 AM
ST-3	CCB (0 mg/L)	4.1	-0.0075	0.00		11:49:24 AM
11	L12070401-13	223.7	-0.2985	0.00		11:49:42 AM
12	L12070420-01	345.9X	-0.4701	0.00	><,LH	11:50:36 AM
13	WG403955-05 DUP	344.6X	-0.4682	0.00	><,LH	11:50:54 AM
14	L12070420-04 MS	365.9X	-0.4989	0.00	><,LH	11:51:48 AM
15	L12070420-07 MSD	367.1X	-0.5006	0.00	><,LH	11:52:06 AM
16	L12070479-02 (5)	221.1	-0.2950	0.00		11:53:00 AM
17	L12070479-03 (5)	134.5	-0.1778	0.00		11:53:18 AM
18	L12070479-05 (5)	214.5	-0.2859	0.00		11:54:12 AM
19	L12070479-~~07~~ 06 (5)	137.6	-0.1820	0.00		11:54:30 AM

Report Date :07/20/2012 Run Date :7/20/2012 Operator : WESTCO Plan # :20120720006

Plan Description : ALK-E-DIH/7/20/2012

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	L12070516-01	381.8	-0.5219	0.00	><,LH	11:55:24 AM
ST-2	CCV (150 mg/L)	162.4	-0.2152	108.26		11:55:42 AM
ST-3	CCB (0 mg/L)	4.0	-0.0074	0.00		11:56:36 AM
21	L12070516-02	31.5	-0.0427	0.00		11:56:54 AM
22	L12070425-01	143.1	-0.1894	0.00		11:57:48 AM
23	L12070425-02	113.2	-0.1496	0.00		11:58:06 AM
24	L12070460-01	344.9	-0.4686	0.00	><,LH	11:59:00 AM
25	L12070460-04	342.8	-0.4656	0.00	><,LH	11:59:18 AM
26	L12070478-01	286.3	-0.3854	0.00		12:00:12 PM
27	L12070478-04	347.0	-0.4716	0.00	><,LH	12:00:30 PM
28	ID 28	12.0	-0.0176	0.00		12:01:24 PM
29	ID 29	14.8	-0.0213	0.00		12:01:42 PM
ST-2	CCV (150 mg/L)	161.9	-0.2146	107.96		12:02:36 PM
ST-3	CCB (0 mg/L)	19.6	-0.0274	0.00		12:02:54 PM
ST-2	CCV (150 mg/L)	164.0	-0.2174	109.35		12:10:34 PM
12-[1/2]	L12070420-01	425.7	-0.2837	0.00	LH	12:10:34 PM
ST-3	CCB (0 mg/L)	17.6	-0.0249	0.00		12:11:28 PM
13-[1/2]	WG403955-05 DUP	435.5	-0.2904	0.00	LH	12:12:58 PM
14-[1/2]	L12070420-04 MS	515.5	-0.3456	0.00	LH	12:14:11 PM
15-[1/2]	L12070420-07 MSD	520.6	-0.3491	0.00	LH	12:15:23 PM
20-[1/2]	L12070516-01	608.3	-0.4106	0.00	><,LH	12:16:34 PM
24-[1/2]	L12070460-01	434.1	-0.2894	0.00	LH	12:17:47 PM
25-[1/2]	L12070460-04	436.6	-0.2911	0.00	LH	12:18:59 PM
27-[1/2]	L12070478-04	435.1	-0.2901	0.00	LH	12:20:11 PM
ST-2	CCV (150 mg/L)	171.7	-0.2277	114.44		12:20:11 PM
ST-3	CCB (0 mg/L)	22.5	-0.0311	0.00		12:21:05 PM
20-[1/4]	L12070516-01	710.3	-0.2357	0.00	LH	12:28:45 PM
ST-2	CCV (150 mg/L)	183.7	-0.2440	122.48		12:28:45 PM
ST-3	CCB (0 mg/L)	35.4	-0.0478	0.00		12:29:39 PM

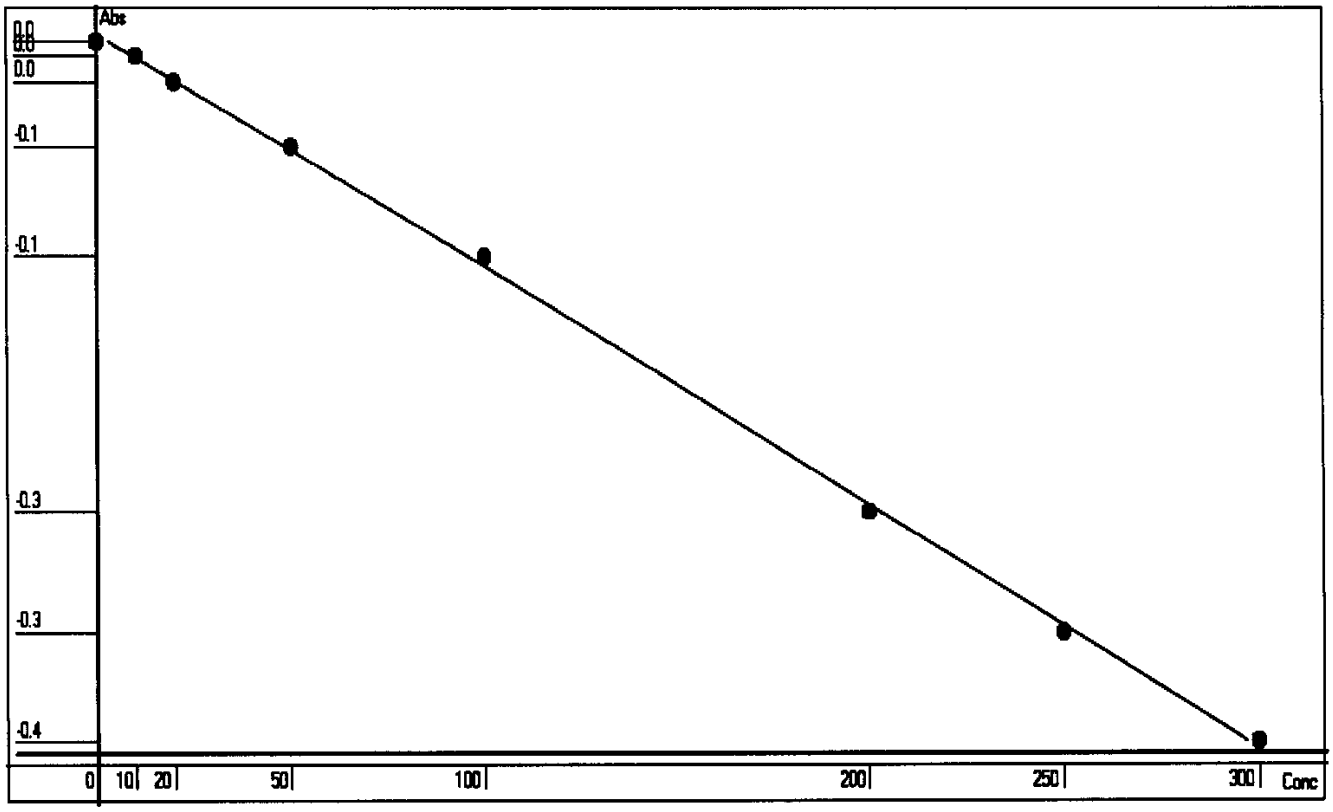
Report Date :07/20/2012 **Run Date :7/20/2012** **Operator : WESTCO** **Plan # :20120720006**

Plan Description : ALK-E-DIH/7/20/2012

Calibrant Report - WALK -

Calib Lot #:010104 Exp Date:6/21/2020 User:MICROBAC

Plan # : 20120720006 Description : [ALK-E-DIH/7/20/2012]



Point	OD	Conc	Recalc Conc	% Error
1	-0.0060	0	2.9057	290.57
2	-0.0139	10	9.0726	-9.27
3	-0.0287	20	20.5954	2.98
4	-0.0650	50	48.6886	-2.62
5	-0.1267	100	95.8894	-4.11
6	-0.2700	200	202.8432	1.42
7	-0.3390	250	253.0102	1.20
8	-0.4005	300	296.9943	-1.00

Conc= -90.9386*Abso^2 -782.4384*Abso -1.7857 R^2=0.9994

RBL
0.6081
0

Report Date 7/20/2012 Run Date 7/20/2012

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	0.5095	0.00		12:50:36 PM
DIL-1	RBL	0.0	0.5092	0.00		12:50:54 PM
DIL-1	RBL	0.0	0.5125	0.00		12:51:48 PM
DIL-1	Std-1	0.0	0.0002	0.00	INV	12:52:06 PM
SR5-1	Std-2	10.0	-0.0112	0.00		12:53:00 PM
SR5-2	Std-3	20.0	-0.0204	0.00		12:53:18 PM
SR5-3	Std-4	50.0	-0.0532	0.00		12:54:12 PM
SR5-4	Std-5	100.0	-0.1070	0.00		12:54:30 PM
SR5-5	Std-6	200.0	-0.2135	0.00		12:55:24 PM
SR5-6	Std-7	250.0	-0.2813	0.00		12:55:42 PM
SR5-7	Std-8	300.0	-0.3416	0.00		12:56:36 PM
1	ICV 250	261.8	-0.2931	0.00		12:56:54 PM
2	WG403975-01 BLK	-17.0	0.0162	0.00	INV,><,LL	12:57:48 PM
3	WG403975-02 LCS	206.3	-0.2253	0.00		12:58:06 PM
4	WG403975-03 LCSDUP	208.0	-0.2274	0.00		12:59:00 PM
5	L12070491-01 (2)	187.4	-0.2031	0.00		12:59:18 PM
6	L12070491-03 (2)	129.9	-0.1377	0.00		1:00:12 PM
7	L12070491-05 (2)	135.8	-0.1443	0.00		1:00:30 PM
8	L12070496-01	346.4	-0.4047	0.00	><,LH	1:01:25 PM
9	L12070496-02	289.3	-0.3282	0.00		1:01:43 PM
10	L12070496-03	330.5	-0.3828	0.00	><,LH	1:02:36 PM
ST-2	CCV (150 mg/L)	155.9	-0.1669	103.94		1:02:55 PM
ST-3	CCB (0 mg/L)	-10.0	0.0092	0.00	INV,><,LL	1:03:49 PM
11	L12070497-01	248.2	-0.2761	0.00		1:04:07 PM
12	L12070507-01	85.5	-0.0894	0.00		1:05:01 PM
13	L12070507-02	87.5	-0.0915	0.00		1:05:19 PM
14	L12070526-01	93.0	-0.0974	0.00		1:06:13 PM
15	L12070491-07 (2)	130.4	-0.1383	0.00		1:06:31 PM
16	L12070491-09 (2)	140.8	-0.1499	0.00		1:07:25 PM
17	L12070491-11 (2)	126.1	-0.1335	0.00		1:07:43 PM
18	L12070551-01	243.2	-0.2699	0.00		1:08:37 PM
19	L12070552-01	262.9	-0.2944	0.00		1:08:55 PM

Report Date :07/20/2012 **Run Date :7/20/2012** **Operator : WESTCO** **Plan # :20120720007**

Plan Description : ALK-F-DIH/7/20/2012

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	L12070553-01	258.5	-0.2890	0.00		1:09:49 PM
ST-2	CCV (150 mg/L)	164.3	-0.1764	109.50		1:10:07 PM
ST-3	CCB (0 mg/L)	3.8	-0.0046	0.00		1:11:01 PM
21	L12070554-01	208.2	-0.2276	0.00		1:11:19 PM
22	L12070555-01	236.1	-0.2612	0.00		1:12:13 PM
23	L12070556-01	234.4	-0.2591	0.00		1:12:31 PM
24	L12070557-01	211.6	-0.2316	0.00		1:13:25 PM
25	WG403975-05 DUP	206.7	-0.2258	0.00		1:13:43 PM
26	ID 26 Blank	5.6	-0.0064	0.00		1:14:37 PM
27	ID 27	9.8	-0.0107	0.00		1:14:55 PM
ST-2	CCV (150 mg/L)	169.2	-0.1821	112.82		1:15:49 PM
ST-3	CCB (0 mg/L)	10.0	-0.0109	0.00		1:16:07 PM
8-[1/2]	L12070496-01	486.5	-0.2700	0.00	LH	1:23:47 PM
10-[1/2]	L12070496-03	417.9	-0.2285	0.00	LH	1:24:59 PM
ST-2	CCV (150 mg/L)	168.5	-0.1812	112.30		1:24:59 PM
ST-3	CCB (0 mg/L)	13.4	-0.0144	0.00		1:25:53 PM

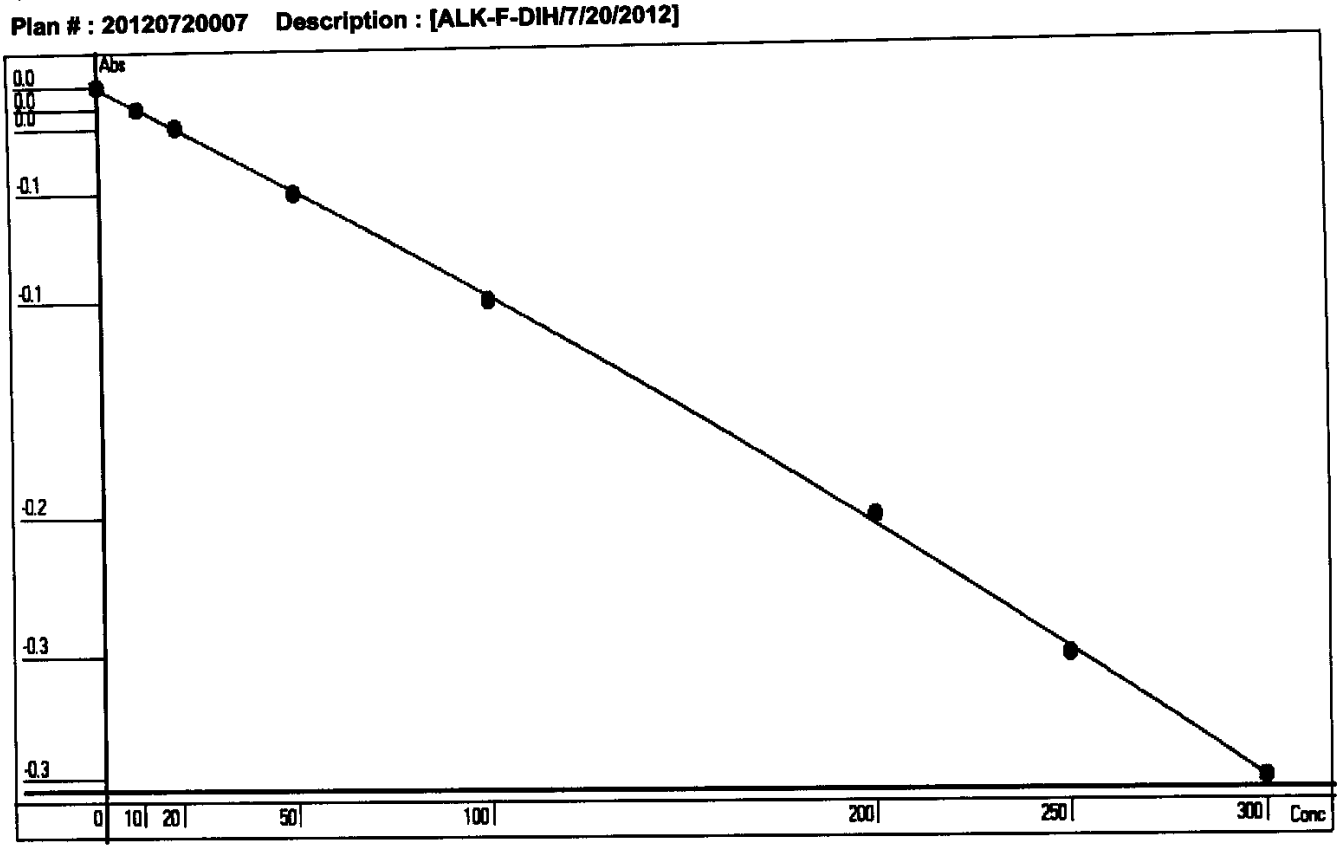
Report Date :07/20/2012 **Run Date :7/20/2012** **Operator : WESTCO** **Plan # :20120720007**

Plan Description : ALK-F-DIH/7/20/2012

Calibrant Report - WALK -

Calib Lot #:010104 Exp Date:6/21/2020 User:MICROBAC

Plan # : 20120720007 Description : [ALK-F-DIH/7/20/2012]



Point	OD	Conc	Recalc Conc	% Error
1	0.0002	0	-0.9835	-98.35
2	-0.0112	10	10.3277	3.28
3	-0.0204	20	19.3914	-3.04
4	-0.0532	50	51.2363	2.47
5	-0.1070	100	101.8820	1.88
6	-0.2135	200	196.3210	-1.84
7	-0.2813	250	252.4160	0.97
8	-0.3416	300	299.6739	-0.11

Conc= -340.7376*Abso^2 -995.9573*Abso -0.7843 R^2=0.9997

RBL
0.5094
0

Report Date 7/20/2012 Run Date 7/20/2012

2.2.4 Cyanide Data

2.2.4.1 Summary Data

Login Number: L12070507
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.

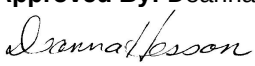
Duplicates: All acceptance criteria were met.

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: 50794
Approved By: Deanna Hesson



Microbac

Lab Report #: L12070507
Lab Project #: 3005.011
Project Name: White Sands MR
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L12070507-01	**PrePrep Method:**	N/A	**Instrument:**	UV-120-1V
Client ID:	MPL23-0712-1	**Prep Method:**	9014-9010C	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	9014-9010C	**Cal Date:**	07/27/2012 11:00
Workgroup #:	WG404392	**Analyst:**	HJR	**Run Date:**	07/27/2012 15:30
Collect Date:	07/17/2012 12:42	**Dilution:**	1	**File ID:**	1V.1207271530-06
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 #:	L12070507-01	**PrePrep Method:**	N/A	**Instrument:**	UV-120-1V
Client ID:	MPL23-0712-1	**Prep Method:**	SM4500-CN-C,G	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	SM4500-CN-C,G	**Cal Date:**	07/27/2012 11:00
Workgroup #:	WG404597	**Analyst:**	HJR	**Run Date:**	07/27/2012 16:10
Collect Date:	07/17/2012 12:42	**Dilution:**	1	**File ID:**	1V.1207271610-05
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 #:	L12070507-01	**PrePrep Method:**	N/A	**Instrument:**	UV-120-1V
Client ID:	MPL23-0712-1	**Prep Method:**	SM4500-CN-I	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	SM4500-CN-I	**Cal Date:**	07/27/2012 11:00
Workgroup #:	WG404558	**Analyst:**	HJR	**Run Date:**	07/27/2012 15:50
Collect Date:	07/17/2012 12:42	**Dilution:**	1	**File ID:**	1V.1207271550-06
Sample Tag:	w	**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 #:	L12070507-02	**PrePrep Method:**	N/A	**Instrument:**	UV-120-1V
Client ID:	MPL23-0712-2	**Prep Method:**	9014-9010C	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	9014-9010C	**Cal Date:**	07/27/2012 11:00
Workgroup #:	WG404392	**Analyst:**	HJR	**Run Date:**	07/27/2012 15:30
Collect Date:	07/17/2012 12:42	**Dilution:**	1	**File ID:**	1V.1207271530-07
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.

Microbac

Lab Report #: L12070507
Lab Project #: 3005.011
Project Name: White Sands MR
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L12070507-02	**PrePrep Method:**	N/A	**Instrument:**	UV-120-1V
Client ID:	MPL23-0712-2	**Prep Method:**	SM4500-CN-C,G	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	SM4500-CN-C,G	**Cal Date:**	07/27/2012 11:00
Workgroup #:	WG404597	**Analyst:**	HJR	**Run Date:**	07/27/2012 16:10
Collect Date:	07/17/2012 12:42	**Dilution:**	1	**File ID:**	1V.1207271610-06
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 #:	L12070507-02	**PrePrep Method:**	N/A	**Instrument:**	UV-120-1V
Client ID:	MPL23-0712-2	**Prep Method:**	SM4500-CN-I	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	SM4500-CN-I	**Cal Date:**	07/27/2012 11:00
Workgroup #:	WG404558	**Analyst:**	HJR	**Run Date:**	07/27/2012 15:50
Collect Date:	07/17/2012 12:42	**Dilution:**	1	**File ID:**	1V.1207271550-07
Sample Tag:	w	**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: 27-JUL-2012
Analyst: HJR
Analyst: NA
Method: CN
Instrument: UV-120-1V
Curve Workgroup: NA
Runlog ID:
Analytical Workgroups: WG404392

Calibration/Linearity	7/27/12
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:
27-JUL-2012

Secondary Reviewer:
28-JUL-2012

CHECKLIST1 - Modified 03/05/2008
Generated: JUL-28-2012 09:57:05

Microbac Laboratories Inc.

Data Checklist

Date: 27-JUL-2012
Analyst: HJR
Analyst: NA
Method: CN-WD
Instrument: UV-120-1V
Curve Workgroup: NA
Runlog ID:
Analytical Workgroups: WG404558

Calibration/Linearity	7/27/12
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: 27-JUL-2012

Secondary Reviewer: 28-JUL-2012

CHECKLIST1 - Modified 03/05/2008
Generated: JUL-28-2012 09:57:03

Microbac Laboratories Inc.

Data Checklist

Date: 27-JUL-2012
Analyst: HJR
Analyst: NA
Method: CN-A
Instrument: UV-120-1V
Curve Workgroup: NA
Runlog ID:
Analytical Workgroups: WG404597

Calibration/Linearity	7/27/12
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:
27-JUL-2012

Secondary Reviewer:
28-JUL-2012

CHECKLIST1 - Modified 03/05/2008
Generated: JUL-28-2012 09:56:59

Microbac Laboratories Inc.

HOLDING TIMES
EQUIVALENT TO AFCEE FORM 9

Analytical Method: 9014-9010C

AAB#: WG404392

Login Number: L12070507

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
MPL23-0712-1	01	07/17/12					07/27/2012	10.1	14		07/27/12	10.1	14	
MPL23-0712-2	02	07/17/12					07/27/2012	10.1	14		07/27/12	10.1	14	

* = SEE PROJECT QAPP REQUIREMENTS

HOLD_TIMES - Modified 03/06/2008
PDF File ID: 2523090
Report generated 07/28/2012 09:54

Microbac Laboratories Inc.

HOLDING TIMES
EQUIVALENT TO AFCEE FORM 9

Analytical Method: SM4500-CN-C,G

AAB#: WG404597

Login Number: L12070507

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
MPL23-0712-1	01	07/17/12					07/27/2012	10.1	14		07/27/12	10.1	14	
MPL23-0712-2	02	07/17/12					07/27/2012	10.1	14		07/27/12	10.1	14	

* = SEE PROJECT QAPP REQUIREMENTS

HOLD_TIMES - Modified 03/06/2008
PDF File ID: 2523039
Report generated 07/28/2012 09:52

Microbac Laboratories Inc.

HOLDING TIMES
EQUIVALENT TO AFCEE FORM 9

Analytical Method: SM4500-CN-I

AAB#: WG404558

Login Number: L12070507

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
MPL23-0712-1	01	07/17/12					07/27/2012	10.1	14		07/27/12	10.1	14	
MPL23-0712-2	02	07/17/12					07/27/2012	10.1	14		07/27/12	10.1	14	

* = SEE PROJECT QAPP REQUIREMENTS

HOLD_TIMES - Modified 03/06/2008
PDF File ID: 2523099
Report generated 07/28/2012 09:54

Microbac Laboratories Inc.

METHOD BLANK SUMMARY

Login Number: L12070507
Blank File ID: 1V.1207271530-03
Prep Date: 07/27/12 15:30
Analyzed Date: 07/27/12 15:30
Analyst: HJR

Work Group: WG404392
Blank Sample ID: WG404392-01
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	WG404392-02	1V.1207271530-04	07/27/12 15:30	
LCS	WG404392-03	1V.1207271530-05	07/27/12 15:30	
MPL23-0712-1	L12070507-01	1V.1207271530-06	07/27/12 15:30	
MPL23-0712-2	L12070507-02	1V.1207271530-07	07/27/12 15:30	
DUP	WG404392-05	1V.1207271530-19	07/27/12 15:30	

Report Name: BLANK_SUMMARY
PDF File ID: 2523091
Report generated 07/28/2012 09:54

Microbac Laboratories Inc.

METHOD BLANK SUMMARY

Login Number: L12070507
Blank File ID: 1V.1207271610-03
Prep Date: 07/27/12 16:10
Analyzed Date: 07/27/12 16:10
Analyst: HJR

Work Group: WG404597
Blank Sample ID: WG404597-01
Instrument ID: UV-120-1V
Method: SM4500-CN-C,G

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG404597-02	1V.1207271610-04	07/27/12 16:10	a
MPL23-0712-1	L12070507-01	1V.1207271610-05	07/27/12 16:10	a
MPL23-0712-2	L12070507-02	1V.1207271610-06	07/27/12 16:10	a
DUP	WG404597-04	1V.1207271610-18	07/27/12 16:10	a

Report Name: BLANK_SUMMARY
PDF File ID: 2523040
Report generated 07/28/2012 09:52

Microbac Laboratories Inc.

METHOD BLANK SUMMARY

Login Number: L12070507
Blank File ID: 1V.1207271550-03
Prep Date: 07/27/12 15:50
Analyzed Date: 07/27/12 15:50
Analyst: HJR

Work Group: WG404558
Blank Sample ID: WG404558-01
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	WG404558-02	1V.1207271550-04	07/27/12 15:50	w
LCS	WG404558-03	1V.1207271550-05	07/27/12 15:50	w
MPL23-0712-1	L12070507-01	1V.1207271550-06	07/27/12 15:50	w
MPL23-0712-2	L12070507-02	1V.1207271550-07	07/27/12 15:50	w
DUP	WG404558-05	1V.1207271550-19	07/27/12 15:50	w

Report Name: BLANK_SUMMARY
PDF File ID: 2523100
Report generated 07/28/2012 09:54

Microbac Laboratories Inc.

METHOD BLANK REPORT

Login Number: L12070507 Prep Date: 07/27/12 15:30 Sample ID: WG404392-01
Instrument ID: UV-120-1V Run Date: 07/27/12 15:30 Prep Method: 9014-9010C
File ID: 1V.1207271530-03 Analyst: HJR Method: 9014-9010C
Workgroup (AAB#): WG404392 Matrix: Water Units: mg/L
Contract #: Cal ID: UV-120 - 27-JUL-12

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: 2523092
28-JUL-2012 09:54

Microbac Laboratories Inc.

METHOD BLANK REPORT

Login Number: L12070507 Prep Date: 07/27/12 16:10 Sample ID: WG404597-01
Instrument ID: UV-120-1V Run Date: 07/27/12 16:10 Prep Method: SM4500-CN-C,G
File ID: 1V.1207271610-03 Analyst: HJR Method: SM4500-CN-C,G
Workgroup (AAB#): WG404597 Matrix: Water Units: mg/L
Contract #: Cal ID: UV-120 - 27-JUL-12

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: 2523041
28-JUL-2012 09:52

Microbac Laboratories Inc.

METHOD BLANK REPORT

Login Number: L12070507 Prep Date: 07/27/12 15:50 Sample ID: WG404558-01
Instrument ID: UV-120-1V Run Date: 07/27/12 15:50 Prep Method: SM4500-CN-I
File ID: 1V.1207271550-03 Analyst: HJR Method: SM4500-CN-I
Workgroup (AAB#): WG404558 Matrix: Water Units: mg/L
Contract #: Cal ID: UV-120 - 27-JUL-12

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: 2523101
28-JUL-2012 09:54

Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L12070507 Run Date: 07/27/2012 Sample ID: WG404392-02
Instrument ID: UV-120-1V Run Time: 15:30 Prep Method: 9014-9010C
File ID: 1V.1207271530-04 Analyst: HJR Method: 9014-9010C
Workgroup (AAB#): WG404392 Matrix: Water Units: mg/L
QC Key: DOD4 Lot#: STD48862 Cal ID: UV-120 - 27-JUL-12

Analytes	Expected	Found	% Rec	LCS Limits	Q
Cyanide	0.200	0.205	103	90 - 110	

LCS - Modified 03/06/2008
PDF File ID: 2523093
Report generated: 07/28/2012 09:54

Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L12070507 Run Date: 07/27/2012 Sample ID: WG404392-03
Instrument ID: UV-120-1V Run Time: 15:30 Prep Method: 9014-9010C
File ID: 1V.1207271530-05 Analyst: HJR Method: 9014-9010C
Workgroup (AAB#): WG404392 Matrix: Water Units: mg/L
QC Key: DOD4 Lot#: STD48862 Cal ID: UV-120 - 27-JUL-12

Analytes	Expected	Found	% Rec	LCS Limits	Q
Cyanide	0.0400	0.0401	100	90 - 110	

LCS - Modified 03/06/2008
PDF File ID: 2523093
Report generated: 07/28/2012 09:54

Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L12070507 Run Date: 07/27/2012 Sample ID: WG404597-02
Instrument ID: UV-120-1V Run Time: 16:10 Prep Method: SM4500-CN-C,G
File ID: 1V.1207271610-04 Analyst: HJR Method: SM4500-CN-C,G
Workgroup (AAB#): WG404597 Matrix: Water Units: mg/L
QC Key: DOD4 Lot#: STD48862 Cal ID: UV-120-27-JUL-12

Analytes	Expected	Found	% Rec	LCS Limits	Q
Cyanide, Amenable to Chlor.	0.200	0.0108	5.40	90 - 110	*

LCS - Modified 03/06/2008
PDF File ID: 2523042
Report generated: 07/28/2012 09:52

Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L12070507 Run Date: 07/27/2012 Sample ID: WG404558-02
Instrument ID: UV-120-1V Run Time: 15:50 Prep Method: SM4500-CN-I
File ID: 1V.1207271550-04 Analyst: HJR Method: SM4500-CN-I
Workgroup (AAB#): WG404558 Matrix: Water Units: mg/L
QC Key: DOD4 Lot#: STD48862 Cal ID: UV-120 - 27-JUL-12

Analytes	Expected	Found	% Rec	LCS Limits	Q
Cyanide, Weak/Dissociable	0.200	0.205	103	90 - 110	

LCS - Modified 03/06/2008
PDF File ID: 2523102
Report generated: 07/28/2012 09:54

Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L12070507 Run Date: 07/27/2012 Sample ID: WG404558-03
Instrument ID: UV-120-1V Run Time: 15:50 Prep Method: SM4500-CN-I
File ID: 1V.1207271550-05 Analyst: HJR Method: SM4500-CN-I
Workgroup (AAB#): WG404558 Matrix: Water Units: mg/L
QC Key: DOD4 Lot#: STD48862 Cal ID: UV-120 - 27-JUL-12

Analytes	Expected	Found	% Rec	LCS Limits	Q
Cyanide, Weak/Dissociable	0.0400	0.0402	101	90 - 110	

LCS - Modified 03/06/2008
PDF File ID: 2523102
Report generated: 07/28/2012 09:54

2.2.4.3 Raw Data

WG404729

Curves

Parameter: Cyanide - Low

Spectrophotometer: UV-120-1V

Calibration (Curve) standard stock: Std 48861

Concentration: 990

Recipe for preparation of curve standards found in:

SOP: 163354 Revision: 14 Page: 15

Second Source Stock: Std 48862 (concentration: 1000)

Daily Preparation: 5(1000)/250 = 20
10(20)/150 = 2.0
concentration = (2.0)/50 = 0.04

Calibration Standards (mg/L)	Volume (mL)	Cell Size (cm)	Wavelength (nm)	Absorbance
0.0495	50	5cm	578	0.364
0.0396				0.296
0.0297				0.220
0.0198				0.148
0.0099				0.073
0.00495				0.037
0.000				0.001
ICV (0.04)				~~0.150~~ 0.299

7/27/12

Analyst: [signature] Date/Time: 7/27/12 1100

DCN#91749

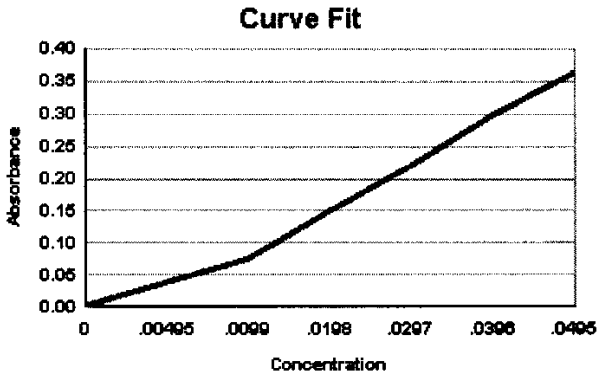
Microbac Laboratories Inc.
INITIAL CALIBRATION

Workgroup: WG404729
Analytical Method: 300
Instrument ID: UV-120-1V

Analyst: HJR
Initial Calibration Date: 07/27/2012

Analyte: CYANIDE
Number of Points: 7
Slope: 7.38167
Y-Intercept: 0.000897611
Coef. Of Correlation (R^2): 0.999865
Coef. Of Correlation (R): 0.999933

Concentration X	Absorbance Y	X^2	X * Y	Y-Fitted (mX^2+B)
0.00	0.00100	0.00	0.00	0.000897611
0.00495	0.0370	0.0000245	0.000183	0.0374369
0.00990	0.0730	0.0000980	0.000723	0.0739761
0.0198	0.148	0.000392	0.00293	0.147055
0.0297	0.220	0.000882	0.00653	0.220133
0.0396	0.296	0.00157	0.0117	0.293212
0.0495	0.364	0.00245	0.0180	0.366290



WG_ICAL_CAL_WET - Modified 03/06/2008
Report generated 07/27/2012 11:58

[redacted]

Microbac Laboratories Inc.
ALTERNATE SOURCE REPORT

Workgroup #: WG404729
File ID: 1V.1207271100-08
CCV ID: WG404729-08
Units: mg/L
Analyte: CYANIDE

Instrument ID: UV-120-1V
Run Date: 07/27/2012
Run Time: 11:00
Analyst: HJR
Cal ID: UV-120 - 27-JUL-12 11:00:07

Analyte	Expected	Found	RF	%D	Q
Cyanide	.04	0.0404	7.48	1.0	

* Exceeds %D Limit

CCC Calibrtion Check Compounds
SPCC System Performance Check Compounds

WET_WG_SSCV - Modified 03/06/2008
Report generated 07/27/2012 11:58

[redacted]*

WG404728

Curves

Parameter: Cyanide -High

Spectrophotometer: UV-120-1V

Calibration (Curve) standard stock: Std 48861

Concentration: 990

Recipe for preparation of curve standards found in:

SOP: K3354 Revision: 14 Page: 15

Second Source Stock: Std 48862 (concentration: 1000)

Daily Preparation: 5(1000)/250=20
10(20)/100=20

concentration = 5(20)/50=0.2

Calibration Standards (mg/L)	Volume (mL)	Cell Size (cm)	Wavelength (nm)	Absorbance
0.396	50	1cm	578	0.675
0.292				0.498
0.198				0.349
0.099				0.170
0.0396				0.070
0.0198				0.035
0.000				0.001
ICV (0.2)				0.350

Analyst: [illegible] Date/Time: 7/27/12 1050

DCN#91748

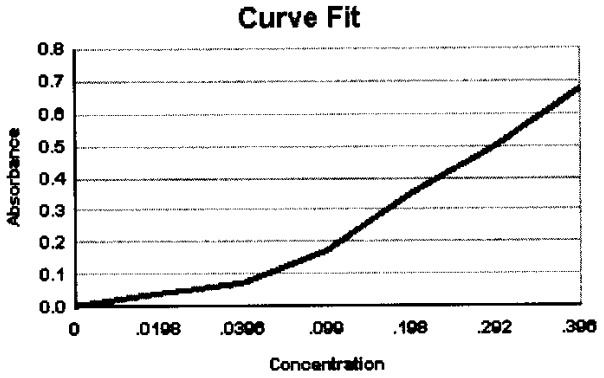
Microbac Laboratories Inc.
INITIAL CALIBRATION

Workgroup: WG404728
Analytical Method: 300
Instrument ID: UV-120-1V

Analyst: HJR
Initial Calibration Date: 07/27/2012

Analyte: CYANIDE
Number of Points: 7
Slope: 1.70420
Y-Intercept: 0.00259067
Coef. Of Correlation (R^2): 0.999755
Coef. Of Correlation (R): 0.999878

Concentration X	Absorbance Y	X^2	X * Y	Y-Fitted (mX^2+B)
0.00	0.00100	0.00	0.00	0.00259067
0.0198	0.0350	0.000392	0.000693	0.0363338
0.0396	0.0700	0.00157	0.00277	0.0700769
0.0990	0.170	0.00980	0.0168	0.171306
0.198	0.349	0.0392	0.0691	0.340022
0.292	0.498	0.0853	0.145	0.500217
0.396	0.675	0.157	0.267	0.677453



WG_ICAL_CAL_WET - Modified 03/06/2008
Report generated 07/27/2012 11:52

[redacted]

Microbac Laboratories Inc.
ALTERNATE SOURCE REPORT

Workgroup #: WG404728
File ID: 1V.1207271050-08
CCV ID: WG404728-08
Units: mg/L
Analyte: CYANIDE

Instrument ID: UV-120-1V
Run Date: 07/27/2012
Run Time: 10:50
Analyst: HJR
Cal ID: UV-120 - 27-JUL-12 10:50:07

Analyte	Expected	Found	RF	%D	Q
Cyanide	.2	0.204	1.75	2.0	

* Exceeds %D Limit

CCC Calibrtion Check Compounds
SPCC System Performance Check Compounds

WET_WG_SSCV - Modified 03/06/2008
Report generated 07/27/2012 11:53

[redacted]

WORKGROUP: WG404392

Cyanide

☑ Total method 9010B/9014
SM4500 CN C,E
EPA 335.2

☐ WD method SM4500 CN I

SOP K3354 Rev 14

Spec: UV-120-IV

Instrument: Easy-Dist

Matrix: Liquid (mg/L) Soil (mg/kg)

Curve ID: 7/27/12

CCV: Std 48861

True Value: 990

Daily Dilution: 5(990)/250 = 19.8
10(19.8)/100 = 1.98
10(1.98)/100 = 0.198
5(1.98)/50 = 0.198 5(0.198)/50 = 0.0198

LCS: Std 48862

True Value: 1000

Daily Dilution: 5(1000)/250 = 20
10(20)/100 = 2
5(2)/50 = 0.2
1(2)/50 = 0.04

Spike: Std 48862

True Value: 1000

Daily Dilution: 5(2)/50 = 0.2

Distillation Reagents
RGT17496
RGT17445
RGT 17353

Colorimetric Reagents
~~RGT17608~~ RGT17608 7/27/12
~~RGT17609~~ RGT17609
~~RGT17614~~ RGT17614

Page 1 of 2

DCN#91707

Cyanide

CN- Total

Sample	Volume mL/grams	pH > 12	Sulfide Presense	Dilution	Cell Size (cm)	Absorbance λ = 578 nm
CCV(high): 0.198 ppm	50		X = none		1cm	0.348
CCV(low): 0.0198 ppm	50		X		5cm	0.148
Blank	50	✓	X		5cm	0.001
LCS: 0.2 ppm	50	✓	X		1cm	0.352
LCS: 0.04 ppm	50	✓	X		5cm	0.297
07-0507-01	50	✓	X		5cm	0.015
-02	50	✓	X		5cm	0.017
07-0639-01	50	✓	X		1cm	0.358
-02	50	✓	X		5cm	0.015
-03	50	✓	X		5cm	0.034
07-0640-01	50	✓	X		5cm	0.040
-02	50	✓	X		5cm	0.020
-03	50	✓	X		5cm	0.045
07-0673-01	50	✓	X		5cm	0.042
-03	50	✓	X		1cm	0.520
07-0716-01	50	✓	X	1/2	1cm	0.332
distilled CCV(H)	50	✓	X		1cm	0.349
CCV(L)	50	✓	X		5cm	0.149
Duplicate: ~~07-0716-01~~	50	✓	X	1/2	1cm	0.335
MS: (0.2 ppm) 07-0673-03	50	✓	X		1cm	0.871
MSD: (ppm)						
CCV high: (0.198 ppm)	50		X		1cm	0.348
CCV low: (0.0198 ppm)	50		X		5cm	0.149

Analyst: [signature] Date/Time (on) 7/25/12 0915
(off) 7/25/12 1050
(color) 7/27/12 1530

DCN#91707

Microbac Laboratories Inc.
SAMPLE REPORT

Workgroup: WG404392 **Analyst:** HJR
Analyte: CYANIDE **Date:** 07/27/2012

Sample ID	I Vol	F Vol	Response	Slope	Y Intercept	Anal. Conc.	Rep. Conc.	Dil	Units
WG404392-01	50	50	0.00100	7.382	0.0008976	0.000013871	0.000013871	1	mg/L
WG404392-02	50	50	0.352	1.704	0.002591	0.20503	0.20503	1	mg/L
WG404392-03	50	50	0.297	7.382	0.0008976	0.040113	0.040113	1	mg/L
L12070507-01	50	50	0.0150	7.382	0.0008976	0.0019105	ND	1	mg/L
L12070507-02	50	50	0.0170	7.382	0.0008976	0.0021814	ND	1	mg/L
L12070639-01	50	50	0.358	1.704	0.002591	0.20855	0.20855	1	mg/L
L12070639-02	50	50	0.0150	7.382	0.0008976	0.0019105	ND	1	mg/L
L12070639-03	50	50	0.0340	7.382	0.0008976	0.0044844	ND	1	mg/L
L12070640-01	50	50	0.0400	7.382	0.0008976	0.0052972	0.0052972 F	1	mg/L
L12070640-02	50	50	0.0200	7.382	0.0008976	0.0025878	ND	1	mg/L
L12070640-03	50	50	0.0450	7.382	0.0008976	0.0059746	0.0059746 F	1	mg/L
L12070673-01	50	50	0.0420	7.382	0.0008976	0.0055682	0.0055682 F	1	mg/L
L12070673-03	50	50	0.520	1.704	0.002591	0.30361	0.30361	1	mg/L
WG404392-06	50	50	0.520	1.704	0.002591	0.30361	0.30361	1	mg/L
L12070716-01	50	50	0.332	1.704	0.002591	0.19329	0.38659	2	mg/L
WG404392-04	50	50	0.332	1.704	0.002591	0.19329	0.38659	2	mg/L
WG404392-05	50	50	0.335	1.704	0.002591	0.19505	0.39011	2	mg/L
WG404392-07	50	50	0.871	1.704	0.002591	0.50957	0.50957	1	mg/L

UV_SAMPLE_REPORT - Modified 03/06/2008

Report generated 07/27/2012 17:05

[redacted]

Microbac Laboratories Inc.
DISTILLED STANDARD REPORT

Workgroup #: WG404807
File ID: 1V.1207271530-17
CCV ID: WG404807-03
Units: mg/L

Instrument ID: UV-120-1V
Run Date: 07/27/2012
Run Time: 15:30
Analyst: HJR
Cal ID: UV-120 - 27-JUL-12

Analyte	Expected	Found	RF	%D	Q
Cyanide	.198	0.203	1.76	2.5	

* Exceeds %D Limit

CCC Calibrtion Check Compounds
SPCC System Performance Check Compounds

WG_CCV_LCS - Modified 03/06/2008
Report generated 07/27/2012 17:14

Microbac Laboratories Inc.
DISTILLED STANDARD REPORT

Workgroup #: WG404807
File ID: 1V.1207271530-18
CCV ID: WG404807-04
Units: mg/L

Instrument ID: UV-120-1V
Run Date: 07/27/2012
Run Time: 15:30
Analyst: HJR
Cal ID: UV-120 - 27-JUL-12

Analyte	Expected	Found	RF	%D	Q
Cyanide	.0198	0.0201	7.53	1.5	

* Exceeds %D Limit

CCC Calibrtion Check Compounds
SPCC System Performance Check Compounds

WG_CCV_LCS - Modified 03/06/2008
Report generated 07/27/2012 17:14

[redacted]*

Microbac Laboratories Inc.
CONTINUING CALIBRATION REPORT

Workgroup #: WG404807
File ID: 1V.1207271530-01
CCV ID: WG404807-01
Units: mg/L
Analyte: CYANIDE

Instrument ID: UV-120-1V
Run Date: 07/27/2012
Run Time: 15:30
Analyst: HJR
Cal ID: UV-120 - 27-JUL-12

Analyte	Expected	Found	RF	%D	Q
Cyanide	.198	0.203	1.76	2.5	

* Exceeds %D Limit

CCC Calibrtion Check Compounds
SPCC System Performance Check Compounds

WET_WG_CCV - Modified 03/06/2008

Report generated 07/27/2012 17:02

[redacted]

Microbac Laboratories Inc.
CONTINUING CALIBRATION REPORT

Workgroup #: WG404807
File ID: 1V.1207271530-02
CCV ID: WG404807-02
Units: mg/L
Analyte: CYANIDE

Instrument ID: UV-120-1V
Run Date: 07/27/2012
Run Time: 15:30
Analyst: HJR
Cal ID: UV-120 - 27-JUL-12

Analyte	Expected	Found	RF	%D	Q
Cyanide	.0198	0.0199	7.47	0.5	

* Exceeds %D Limit

CCC Calibrtion Check Compounds
SPCC System Performance Check Compounds

WET_WG_CCV - Modified 03/06/2008

Report generated 07/27/2012 17:02

[redacted]

Microbac Laboratories Inc.
CONTINUING CALIBRATION REPORT

Workgroup #: WG404807
File ID: 1V.1207271530-21
CCV ID: WG404807-05
Units: mg/L
Analyte: CYANIDE

Instrument ID: UV-120-1V
Run Date: 07/27/2012
Run Time: 15:30
Analyst: HJR
Cal ID: UV-120 - 27-JUL-12

Analyte	Expected	Found	RF	%D	Q
Cyanide	.198	0.203	1.76	2.5	

* Exceeds %D Limit

CCC Calibrtion Check Compounds
SPCC System Performance Check Compounds

WET_WG_CCV - Modified 03/06/2008

Report generated 07/27/2012 17:02

Microbac Laboratories Inc.
CONTINUING CALIBRATION REPORT

Workgroup #: WG404807
File ID: 1V.1207271530-22
CCV ID: WG404807-06
Units: mg/L
Analyte: CYANIDE

Instrument ID: UV-120-1V
Run Date: 07/27/2012
Run Time: 15:30
Analyst: HJR
Cal ID: UV-120 - 27-JUL-12

Analyte	Expected	Found	RF	%D	Q
Cyanide	.0198	0.0201	7.53	1.5	

* Exceeds %D Limit

CCC Calibrtion Check Compounds
SPCC System Performance Check Compounds

WET_WG_CCV - Modified 03/06/2008

Report generated 07/27/2012 17:02

[redacted]

WORKGROUP: WG404558

Cyanide

☐ Total method 9010B/9014
SM4500 CN C,E
EPA 335.2

☑ WD method SM4500 CN I

SOP K3354 Rev 14

Spec: UV-120-IV

Instrument: Easy-Dist

Matrix: Liquid (mg/L) Soil (mg/kg)

Curve ID: 5/27/12

CCV: Std 48861

True Value: 990

Daily Dilution: 5(990)/250=19.8
10(19.8)/100 = 1.98
10(1.98)/100 = 0.198
5(1.98)/50=0.198 5(0.198)/50=0.0198

LCS: Std 48862

True Value: 1500

Daily Dilution: ~~5(1000)/250=20~~
~~10(20)/100=0~~ 2.0
5(2)/50 = 0.2
1(2)/50 = 0.04

Spike: Std 48862 ~~1500~~

True Value: 1020

Daily Dilution: 5(2)/50=0.2

Distillation Reagents
RGT17471
RGT17470
RGT17466

Colorimetric Reagents
RGT17608
RGT17609
RGT17614

DCN#91728

Cyanide

CN-WD

Sample	Volume mL/grams	pH > 12	Sulfide Presense	Dilution	Cell Size (cm)	Absorbance λ = 578 nm
CCV(high): 0.198 ppm	50		X = None		1cm	0.347
CCV(low): 0.0198 ppm	50		X		5cm	0.149
Blank	50	✓	X		5cm	0.004
LCS: 0.2 ppm	50	✓	X		1cm	0.352
LCS: 0.04 ppm	50	✓	X		5cm	0.298
07-0507-01	50	✓	X		5cm	0.005
-02	50	✓	X		5cm	0.007
07-0639-01	50	✓	X		5cm	0.152
-02	50	✓	X		5cm	0.003
-03	50	✓	X		5cm	0.009
07-0640-01	50	✓	X		5cm	0.003
-02	50	✓	X		5cm	0.006
-03	50	✓	X		5cm	0.007
07-0643-01	50	✓	X		5cm	0.004
-03	50	✓	X		5cm	0.270
07-0716-01	50	✓	X		5cm	0.316
CCV H (0.198)	50	✓	X		1cm	0.349
CCV L (0.0198)	50	✓	X		5cm	0.149
Duplicate: 07-0507-01	50	✓	X		5cm	0.005
MS: (0.2 ppm) 07-0639-1	50	✓	X		1cm	0.387
MSD: (_____ ppm)						
CCV high: (0.198 ppm)	50		X		1cm	0.348
CCV low: (0.0198 ppm)	50		X		5cm	0.150

Distilled

Analyst: [signature] Date/Time (on) 7/26/12 1140
(off) 7/26/12 1315
(color) 7/27/12 1550

DCN#91728

Microbac Laboratories Inc.
SAMPLE REPORT

Workgroup: WG404558
Analyte: CYANIDE

Analyst: HJR
Date: 07/27/2012

Sample ID	I Vol	F Vol	Response	Slope	Y Intercept	Anal. Conc.	Rep. Conc.	Dil	Units
WG404558-01	50	50	0.00100	7.382	0.0008976	0.000013871	0.000013871	1	mg/L
WG404558-02	50	50	0.352	1.704	0.002591	0.20503	0.20503	1	mg/L
WG404558-03	50	50	0.298	7.382	0.0008976	0.040249	0.040249	1	mg/L
L12070507-01	50	50	0.00500	7.382	0.0008976	0.00055575	ND	1	mg/L
WG404558-04	50	50	0.00500	7.382	0.0008976	0.00055575	0.00055575	1	mg/L
L12070507-02	50	50	0.00700	7.382	0.0008976	0.00082670	ND	1	mg/L
L12070639-01	50	50	0.152	7.382	0.0008976	0.020470	0.020470	1	mg/L
WG404558-06	50	50	0.152	7.382	0.0008976	0.020470	0.020470	1	mg/L
L12070639-02	50	50	0.00300	7.382	0.0008976	0.00028481	ND	1	mg/L
L12070639-03	50	50	0.00900	7.382	0.0008976	0.0010976	ND	1	mg/L
L12070640-01	50	50	0.00300	7.382	0.0008976	0.00028481	ND	1	mg/L
L12070640-02	50	50	0.00600	7.382	0.0008976	0.00069122	ND	1	mg/L
L12070640-03	50	50	0.00700	7.382	0.0008976	0.00082670	ND	1	mg/L
L12070673-01	50	50	0.00400	7.382	0.0008976	0.00042028	ND	1	mg/L
L12070673-03	50	50	0.270	7.382	0.0008976	0.036456	0.036456	1	mg/L
L12070716-01	50	50	0.316	7.382	0.0008976	0.042687	0.042687	1	mg/L
WG404558-05	50	50	0.00500	7.382	0.0008976	0.00055575	0.00055575	1	mg/L
WG404558-07	50	50	0.387	1.704	0.002591	0.22557	0.22557	1	mg/L

UV_SAMPLE_REPORT - Modified 03/06/2008

Report generated 07/27/2012 17:10

[redacted]

Microbac Laboratories Inc.
DISTILLED STANDARD REPORT

Workgroup #: WG404808
File ID: 1V.1207271550-17
CCV ID: WG404808-03
Units: mg/L

Instrument ID: UV-120-1V
Run Date: 07/27/2012
Run Time: 15:50
Analyst: HJR
Cal ID: UV-120 - 27-JUL-12

Analyte	Expected	Found	RF	%D	Q
Cyanide	.198	0.203	1.76	2.5	

* Exceeds %D Limit

CCC Calibrtion Check Compounds
SPCC System Performance Check Compounds

WG_CCV_LCS - Modified 03/06/2008
Report generated 07/27/2012 17:13

[redacted]

Microbac Laboratories Inc.
DISTILLED STANDARD REPORT

Workgroup #: WG404808
File ID: 1V.1207271550-18
CCV ID: WG404808-04
Units: mg/L

Instrument ID: UV-120-1V
Run Date: 07/27/2012
Run Time: 15:50
Analyst: HJR
Cal ID: UV-120 - 27-JUL-12

Analyte	Expected	Found	RF	%D	Q
Cyanide	.0198	0.0201	7.53	1.5	

* Exceeds %D Limit

CCC Calibrtion Check Compounds
SPCC System Performance Check Compounds

WG_CCV_LCS - Modified 03/06/2008
Report generated 07/27/2012 17:13

[redacted]

Microbac Laboratories Inc.
CONTINUING CALIBRATION REPORT

Workgroup #: WG404808
File ID: 1V.1207271550-01
CCV ID: WG404808-01
Units: mg/L
Analyte: CYANIDE

Instrument ID: UV-120-1V
Run Date: 07/27/2012
Run Time: 15:50
Analyst: HJR
Cal ID: UV-120 - 27-JUL-12

Analyte	Expected	Found	RF	%D	Q
Cyanide	.198	0.202	1.75	2.0	

* Exceeds %D Limit

CCC Calibrtion Check Compounds
SPCC System Performance Check Compounds

WET_WG_CCV - Modified 03/06/2008

Report generated 07/27/2012 17:11

[redacted]

Microbac Laboratories Inc.
CONTINUING CALIBRATION REPORT

Workgroup #: WG404808
File ID: 1V.1207271550-02
CCV ID: WG404808-02
Units: mg/L
Analyte: CYANIDE

Instrument ID: UV-120-1V
Run Date: 07/27/2012
Run Time: 15:50
Analyst: HJR
Cal ID: UV-120 - 27-JUL-12

Analyte	Expected	Found	RF	%D	Q
Cyanide	.0198	0.0201	7.53	1.5	

* Exceeds %D Limit

CCC Calibrtion Check Compounds
SPCC System Performance Check Compounds

WET_WG_CCV - Modified 03/06/2008

Report generated 07/27/2012 17:11

[redacted]

Microbac Laboratories Inc.
CONTINUING CALIBRATION REPORT

Workgroup #: WG404808
File ID: 1V.1207271550-21
CCV ID: WG404808-05
Units: mg/L
Analyte: CYANIDE

Instrument ID: UV-120-1V
Run Date: 07/27/2012
Run Time: 15:50
Analyst: HJR
Cal ID: UV-120 - 27-JUL-12

Analyte	Expected	Found	RF	%D	Q
Cyanide	.198	0.203	1.76	2.5	

* Exceeds %D Limit

CCC Calibrtion Check Compounds
SPCC System Performance Check Compounds

WET_WG_CCV - Modified 03/06/2008

Report generated 07/27/2012 17:11

[redacted]

Microbac Laboratories Inc.
CONTINUING CALIBRATION REPORT

Workgroup #: WG404808
File ID: 1V.1207271550-22
CCV ID: WG404808-06
Units: mg/L
Analyte: CYANIDE

Instrument ID: UV-120-1V
Run Date: 07/27/2012
Run Time: 15:50
Analyst: HJR
Cal ID: UV-120 - 27-JUL-12

Analyte	Expected	Found	RF	%D	Q
Cyanide	.0198	0.0202	7.58	2.0	

* Exceeds %D Limit

CCC Calibrtion Check Compounds
SPCC System Performance Check Compounds

WET_WG_CCV - Modified 03/06/2008

Report generated 07/27/2012 17:11

[redacted]

WORKGROUP: WG404597

Cyanide

☑ Total method 9010B/9014
SM4500 CN C,E CN-A
EPA 335.2

☐ WD method SM4500 CN I

SOP K3354 Rev 14

Spec: UV-120-IV

Instrument: Easy-Dist

Matrix: Liquid (mg/L) Soil (mg/kg)

Curve ID: 7/27/12

CCV: Std 48861

True Value: 990

Daily Dilution: 5(990)/250=19.8
10(19.8)/100=1.98
10(1.98)/100=.198
5(1.98)/50=0.198 5(0.198)/50=0.0198

LCS: Std 48862

True Value: 1000

Daily Dilution: 5(1000)/250=20
10(20)/100=2
5(2)/50=0.2
1(2)/50=0.04

Spike: Std 48862

True Value: 1000

Daily Dilution:
5(2)/50=
0.2

Distillation Reagents
RGT 17607
RGT 17496
RGT 17593

Colorimetric Reagents
RGT 17608
RGT 17609
RGT 17614

Page 1 of 2

DCN#91735

Cyanide

CN-A

Sample	Volume mL/grams	pH > 12	Sulfide Presense	Dilution	Cell Size (cm)	Absorbance λ = 578 nm
CCV(high): 0.198 ppm	50		X = none		1cm	0.348
CCV(low): 0.0198 ppm	50		X		5cm	0.150
Blank	50	✓	X		5cm	0.001
LCS: 0.2 ppm	50	✓	X		1cm	0.021
LCS: _____ ppm	50				~~5cm~~	~~0.013~~ 7/27/12
07-0507-01	50	✓	X		5cm	0.017
-02	50	✓	X		5cm	0.020
07-0639-01	50	✓	X		5cm	0.021
-02	50	✓	X		5cm	0.017
-03	50	✓	X		5cm	0.015
07-0640-01	50	✓	X		5cm	0.022
-02	50	✓	X		5cm	0.016
-03	50	✓	X		5cm	0.017
07-0673-01	50	✓	X		5cm	0.019
-03	50	✓	X		5cm	0.016
07-0716-01	50	✓	X		5cm	0.010
ccv H (0.198)	50	✓	X		1cm	0.349
ccv L (0.0198)	50	✓	X		5cm	0.149
Duplicate: ~~07-0507-02~~	50	✓	X		5cm	0.019
MS: (0.2 ppm) 07-0639-02	50	✓	X		1cm	0.020
MSD: (_____ ppm)						
CCV high: (0.198 ppm)	50		X		1cm	0.349
CCV low: (0.0198 ppm)	50		X		5cm	0.150

Analyst: [signature]

Date/Time (on) 7/26/12 1910
(off) 7/26/12 1545
(color) 7/27/12 1610

DCN#91735

Microbac Laboratories Inc.

SAMPLE REPORT

treated

Workgroup: WG404597

Analyte: CYANIDE

Analyst: HJR

Date: 07/27/2012

Sample ID	I Vol	F Vol	Response	Slope	Y Intercept	Anal. Conc.	Rep. Conc.	Dil	Units
WG404597-01	50	50	0.00100	7.382	0.0008976	0.000013871	0.000013871	1	mg/L
WG404597-02	50	50	0.0210	1.704	0.002591	0.010802	0.010802	1	mg/L
L12070507-01	50	50	0.0170	7.382	0.0008976	0.0021814	ND	1	mg/L
L12070507-02	50	50	0.0200	7.382	0.0008976	0.0025878	ND	1	mg/L
WG404597-03	50	50	0.0200	7.382	0.0008976	0.0025878	0.0025878	1	mg/L
L12070639-01	50	50	0.0210	7.382	0.0008976	0.0027233	0.20580	1	mg/L
L12070639-02	50	50	0.0170	7.382	0.0008976	0.0021814	ND	1	mg/L
WG404597-05	50	50	0.0170	7.382	0.0008976	0.0021814	0.0021814	1	mg/L
L12070639-03	50	50	0.0150	7.382	0.0008976	0.0019105	ND	1	mg/L
L12070640-01	50	50	0.0220	7.382	0.0008976	0.0028588	ND	1	mg/L
L12070640-02	50	50	0.0160	7.382	0.0008976	0.0020459	ND	1	mg/L
L12070640-03	50	50	0.0170	7.382	0.0008976	0.0021814	ND	1	mg/L
L12070673-01	50	50	0.0190	7.382	0.0008976	0.0024523	ND	1	mg/L
L12070673-03	50	50	0.0160	7.382	0.0008976	0.0020459	0.30360	1	mg/L
L12070716-01	50	50	0.0100	7.382	0.0008976	0.0012331	0.38500	1	mg/L
WG404597-04	50	50	0.0190	7.382	0.0008976	0.0024523	0.0024523	1	mg/L
WG404597-06	50	50	0.0200	1.704	0.002591	0.010216	0.010216	1	mg/L

UV_SAMPLE_REPORT - Modified 03/06/2008

Report generated 07/28/2012 09:48

[redacted]

Microbac Laboratories Inc.

SAMPLE REPORT

CN-total

Workgroup: WG404392

Analyte: CYANIDE

Analyst: HJR

Date: 07/27/2012

Sample ID	I Vol	F Vol	Response	Slope	Y Intercept	Anal. Conc.	Rep. Conc.	Dil	Units
WG404392-01	50	50	0.00100	7.382	0.0008976	0.000013871	0.000013871	1	mg/L
WG404392-02	50	50	0.352	1.704	0.002591	0.20503	0.20503	1	mg/L
WG404392-03	50	50	0.297	7.382	0.0008976	0.040113	0.040113	1	mg/L
L12070507-01	50	50	0.0150	7.382	0.0008976	0.0019105	ND	1	mg/L
L12070507-02	50	50	0.0170	7.382	0.0008976	0.0021814	ND	1	mg/L
L12070639-01	50	50	0.358	1.704	0.002591	0.20855	0.20855	1	mg/L
L12070639-02	50	50	0.0150	7.382	0.0008976	0.0019105	ND	1	mg/L
L12070639-03	50	50	0.0340	7.382	0.0008976	0.0044844	ND	1	mg/L
L12070640-01	50	50	0.0400	7.382	0.0008976	0.0052972	0.0052972 F	1	mg/L
L12070640-02	50	50	0.0200	7.382	0.0008976	0.0025878	ND	1	mg/L
L12070640-03	50	50	0.0450	7.382	0.0008976	0.0059746	0.0059746 F	1	mg/L
L12070673-01	50	50	0.0420	7.382	0.0008976	0.0055682	0.0055682 F	1	mg/L
L12070673-03	50	50	0.520	1.704	0.002591	0.30361	0.30361	1	mg/L
WG404392-06	50	50	0.520	1.704	0.002591	0.30361	0.30361	1	mg/L
L12070716-01	50	50	0.332	1.704	0.002591	0.19329	0.38659	2	mg/L
WG404392-04	50	50	0.332	1.704	0.002591	0.19329	0.38659	2	mg/L
WG404392-05	50	50	0.335	1.704	0.002591	0.19505	0.39011	2	mg/L
WG404392-07	50	50	0.871	1.704	0.002591	0.50957	0.50957	1	mg/L

UV_SAMPLE_REPORT - Modified 03/06/2008

Report generated 07/27/2012 17:05

[redacted]

Cyanide, Amenable to Chlorination (mg/L)
CN (Total) - CN (Treated) = CN-A

SAMPLE	7/20/2012 CN (Total)	7/20/2012 CN (Treated)	CN-A
L12070507-01	0.0019105	0.0021814	-0.000271
l12070507-02	0.0021814	0.0025878	-0.000406
L12070639-01	0.20855	0.0027233	0.205827
L12070639-02	0.0019105	0.0021814	-0.000271
L12070639-03	0.0044844	0.0019105	0.002574
L12070640-01	0.0052972	0.0028588	0.002438
L12070640-02	0.0025878	0.0020459	0.000542
L12070640-03	0.0059746	0.0021814	0.003793
L12070673-01	0.0055682	0.0024523	0.003116
L12070673-03	0.30361	0.0020459	0.301564
L12070716-01	0.3866	0.0012331	0.385367
blank	0.000013871	0.000013871	0
lcs (0.2)	0.20503	0.010802	0.194228
dup	0.19505	0.0024523	0.192598
ms	0.20957	0.010216	0.199354
			0
			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 amenabl (the treated portion is ND)

Microbac Laboratories Inc.
DISTILLED STANDARD REPORT

Workgroup #: WG404810
File ID: 1V.1207271610-16
CCV ID: WG404810-03
Units: mg/L

Instrument ID: UV-120-1V
Run Date: 07/27/2012
Run Time: 16:10
Analyst: HJR
Cal ID: UV-120 - 27-JUL-12

Analyte	Expected	Found	RF	%D	Q
Cyanide	.198	0.203	1.76	2.5	

* Exceeds %D Limit

CCC Calibrtion Check Compounds
SPCC System Performance Check Compounds

WG_CCV_LCS - Modified 03/06/2008
Report generated 07/27/2012 17:23

[redacted]

Microbac Laboratories Inc.
DISTILLED STANDARD REPORT

Workgroup #: WG404810
File ID: 1V.1207271610-17
CCV ID: WG404810-04
Units: mg/L

Instrument ID: UV-120-1V
Run Date: 07/27/2012
Run Time: 16:10
Analyst: HJR
Cal ID: UV-120 - 27-JUL-12

Analyte	Expected	Found	RF	%D	Q
Cyanide	.0198	0.0201	7.53	1.5	

* Exceeds %D Limit

CCC Calibrtion Check Compounds
SPCC System Performance Check Compounds

WG_CCV_LCS - Modified 03/06/2008
Report generated 07/27/2012 17:23

[redacted]

Microbac Laboratories Inc.
CONTINUING CALIBRATION REPORT

Workgroup #: WG404810
File ID: 1V.1207271610-01
CCV ID: WG404810-01
Units: mg/L
Analyte: CYANIDE

Instrument ID: UV-120-1V
Run Date: 07/27/2012
Run Time: 16:10
Analyst: HJR
Cal ID: UV-120 - 27-JUL-12

Analyte	Expected	Found	RF	%D	Q
Cyanide	.198	0.203	1.76	2.5	

* Exceeds %D Limit

CCC Calibrtion Check Compounds
SPCC System Performance Check Compounds

WET_WG_CCV - Modified 03/06/2008

Report generated 07/27/2012 17:21

[redacted]

Microbac Laboratories Inc.
CONTINUING CALIBRATION REPORT

Workgroup #: WG404810
File ID: 1V.1207271610-02
CCV ID: WG404810-02
Units: mg/L
Analyte: CYANIDE

Instrument ID: UV-120-1V
Run Date: 07/27/2012
Run Time: 16:10
Analyst: HJR
Cal ID: UV-120 - 27-JUL-12

Analyte	Expected	Found	RF	%D	Q
Cyanide	.0198	0.0202	7.58	2.0	

* Exceeds %D Limit

CCC Calibrtion Check Compounds
SPCC System Performance Check Compounds

WET_WG_CCV - Modified 03/06/2008

Report generated 07/27/2012 17:21

[redacted]

Microbac Laboratories Inc.
CONTINUING CALIBRATION REPORT

Workgroup #: WG404810
File ID: 1V.1207271610-20
CCV ID: WG404810-05
Units: mg/L
Analyte: CYANIDE

Instrument ID: UV-120-1V
Run Date: 07/27/2012
Run Time: 16:10
Analyst: HJR
Cal ID: UV-120 - 27-JUL-12

Analyte	Expected	Found	RF	%D	Q
Cyanide	.198	0.203	1.76	2.5	

* Exceeds %D Limit

CCC Calibrtion Check Compounds
SPCC System Performance Check Compounds

WET_WG_CCV - Modified 03/06/2008

Report generated 07/27/2012 17:21

[redacted]

Microbac Laboratories Inc.
CONTINUING CALIBRATION REPORT

Workgroup #: WG404810
File ID: 1V.1207271610-21
CCV ID: WG404810-06
Units: mg/L
Analyte: CYANIDE

Instrument ID: UV-120-1V
Run Date: 07/27/2012
Run Time: 16:10
Analyst: HJR
Cal ID: UV-120 - 27-JUL-12

Analyte	Expected	Found	RF	%D	Q
Cyanide	.0198	0.0202	7.58	2.0	

* Exceeds %D Limit

CCC Calibrtion Check Compounds
SPCC System Performance Check Compounds

WET_WG_CCV - Modified 03/06/2008

Report generated 07/27/2012 17:21

[redacted]

2.2.5 Conductivity Data

2.2.5.1 Summary Data

Login Number: L12070507
Department: Conventionals
Analyst: Tammy Morris

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: 50789
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: 21-JUL-2012
Analyst: TMM
Analyst: NA
Method: COND
Instrument: YSI-32
Curve Workgroup: NA
Runlog ID:
Analytical Workgroups: WG404043

Calibration/Linearity	4/12
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	TMM
Secondary Reviewer	DIH
Comments	

Primary Reviewer:
23-JUL-2012

Secondary Reviewer:
26-JUL-2012

CHECKLIST1 - Modified 03/05/2008
Generated: JUL-26-2012 15:39:47

Microbac Laboratories Inc.

HOLDING TIMES
EQUIVALENT TO AFCEE FORM 9

Analytical Method: 120.1 AAB#: WG404043

Login Number: L12070507

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
MPL23-0712-1	01	07/17/12					07/21/2012	3.9	28		07/21/12	3.9	28	
MPL23-0712-2	02	07/17/12					07/21/2012	3.9	28		07/21/12	3.9	28	

* = SEE PROJECT QAPP REQUIREMENTS

HOLD_TIMES - Modified 03/06/2008
PDF File ID: 2514335
Report generated 07/25/2012 07:36

Microbac Laboratories Inc.

METHOD BLANK SUMMARY

Login Number: L12070507
Blank File ID: 32.1207211030-01
Prep Date: 07/21/12 10:30
Analyzed Date: 07/21/12 10:30
Analyst: TMM

Work Group: WG404043
Blank Sample ID: WG404043-01
Instrument ID: YSI-32
Method: 120.1

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG404043-02	32.1207211030-02	07/21/12 10:30	
MPL23-0712-1	L12070507-01	32.1207211030-03	07/21/12 10:30	
MPL23-0712-2	L12070507-02	32.1207211030-04	07/21/12 10:30	
DUP	WG404043-05	32.1207211030-23	07/21/12 10:30	
DUP	WG404043-07	32.1207211030-24	07/21/12 10:30	
LCS2	WG404043-03	32.1207211030-25	07/21/12 10:30	

Report Name: BLANK_SUMMARY
PDF File ID: 2514336
Report generated 07/25/2012 07:36

Microbac Laboratories Inc.

METHOD BLANK REPORT

Login Number: L12070507 Prep Date: 07/21/12 10:30 Sample ID: WG404043-01
Instrument ID: YSI-32 Run Date: 07/21/12 10:30 Prep Method: 120.1
File ID: 32.1207211030-01 Analyst: TMM Method: 120.1
Workgroup (AAB#): WG404043 Matrix: Water Units: umhos/cm
Contract #: Cal ID: YSI-32 -

Analytes	LOD	LOQ	Concentration	Dilution	Qualifier
Conductivity	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: 2514337
25-JUL-2012 07:36

Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L12070507 Analyst: TMM Prep Method: 120.1
Instrument ID: YSI-32 Matrix: Water Method: 120.1
Workgroup (AAB#): WG404043 Units: umhos/cm
QC Key: DOD4 Lot #: STD49788

Sample ID: WG404043-02 LCS File ID: 32.1207211030-02 Run Date: 07/21/2012 10:30
Sample ID: WG404043-03 LCS2 File ID: 32.1207211030-25 Run Date: 07/21/2012 10:30

Analytes	LCS			LCS2			%RPD	%Rec Limits	RPD Lmt	Q
	Known	Found	% REC	Known	Found	% REC				
Conductivity	1410	1350	95.5	1410	1370	97.3	1.82	90 - 110	10	

LCS_LCS2 - Modified 03/06/2008
PDF File ID: 2514338
Report generated: 07/25/2012 07:36

2.2.5.3 Raw Data

CONDUCTIVITY

☑ EPA 120.1/SM2510B SOP K1201 Revision#: 13

LCS: Std 49788 ☑ Cell Constants Determined
Daily Dilution: 10 6.1m/100 = 1412 ☑ Cells Clean

SAMPLE	DILUTION	CELL	MULTIPLIER	Direct Instrument READING
BLANK		0.1	uS	3.38
LCS: (1412)		1.0	mS	1257
07-507-01		1.0	mS	0.312
02		1.0	mS	0.335
* 07-538-01	1/10 / 1/10	10.0	mS	3.41 / 36.7
07-551-01		1.0	mS	~~0.520~~ 0.447
07-552-02		1.0	mS	0.520
07-553-01		1.0	mS	0.600
07-554-01		1.0	mS	0.542
07-555-01		1.0	mS	0.467
07-556-01		1.0	mS	0.716
07-557-01		1.0	mS	0.377
07-558-01		1.0	mS	0.589
07-559-01		1.0	mS	0.526
07-560-01		1.0	mS	0.476
07-561-01		1.0	mS	0.540
02		1.0	mS	0.152
07-562-01		1.0	mS	0.541
07-563-01		1.0	mS	0.412
07-564-01		1.0	mS	0.432
07-565-01		1.0	mS	0.367
07-566-01		1.0	mS	0.439
DUP: 07-561-01		1.0	~~0.541~~ mS	0.541
* DUP: 07-538-01	1/10	10.0	mS	3.69
LCS: 1412		1.0	mS	1.274

1.0 cell

Analyst: Tammy Mann Date/Time: 7/21/12 @ 1030

*LCS/CCV required at end of run
* Duplicate required on 10% of samples

* Sample brine.

DCN#91665

Microbac Laboratories Inc.

TITRAMETRIC REPORT

Workgroup (AAB#): WG404043

Product: 120.1\

Analyte: Conductivity

Analyst: TMM

Run Date: 07/21/2012 10:30

SAMPLE NUMBER	Cell	Multiplier	Reading	Dil	Analytical	Reported	Units
WG404043-01	.1021	1	3.38	1	0.3451	0.3451	umhos/cm
WG404043-02	1.078	1000	1.251	1	1349	1349	umhos/cm
L12070507-01	1.078	1000	.312	1	336.3	336.3	umhos/cm
L12070507-02	1.078	1000	.335	1	361.1	361.1	umhos/cm
L12070538-01	10.437	1000	3.41	10	355900	355900	umhos/cm
WG404043-06	10.437	1000	3.41	10	355900	355900	umhos/cm
L12070551-01	1.078	1000	.447	1	481.9	481.9	umhos/cm
L12070552-01	1.078	1000	.52	1	560.6	560.6	umhos/cm
L12070553-01	1.078	1000	.6	1	646.8	646.8	umhos/cm
L12070554-01	1.078	1000	.542	1	584.3	584.3	umhos/cm
L12070555-01	1.078	1000	.467	1	503.4	503.4	umhos/cm
L12070556-01	1.078	1000	.716	1	771.8	771.8	umhos/cm
L12070557-01	1.078	1000	.377	1	406.4	406.4	umhos/cm
L12070558-01	1.078	1000	.589	1	634.9	634.9	umhos/cm
L12070559-01	1.078	1000	.526	1	567.0	567.0	umhos/cm
L12070560-01	1.078	1000	.476	1	513.1	513.1	umhos/cm
L12070561-01	1.078	1000	.54	1	582.1	582.1	umhos/cm
WG404043-04	1.078	1000	.54	1	582.1	582.1	umhos/cm
L12070561-02	1.078	1000	.152	1	163.9	163.9	umhos/cm
L12070562-01	1.078	1000	.541	1	583.2	583.2	umhos/cm
L12070563-01	1.078	1000	.412	1	444.1	444.1	umhos/cm
L12070564-01	1.078	1000	.432	1	465.7	465.7	umhos/cm
L12070565-01	1.078	1000	.367	1	395.6	395.6	umhos/cm
L12070566-01	1.078	1000	.439	1	473.2	473.2	umhos/cm
WG404043-05	1.078	1000	.541	1	583.2	583.2	umhos/cm
WG404043-07	10.437	1000	3.69	10	385100	385100	umhos/cm
WG404043-03	1.078	1000	1.274	1	1373	1373	umhos/cm

COND_REPORT - Modified 03/05/2008

Report generated 07/25/2012 07:35

[redacted]

2.2.6 Ammonia Data

2.2.6.1 Summary Data

Login Number: L12070507
Department: Conventionals
Analyst: Deanna Hesson

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: 50791
Approved By: Deanna Hesson

Microbac

Lab Report #: L12070507
Lab Project #: 3005.011
Project Name: White Sands MR
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L12070507-01	**PrePrep Method:**	N/A	**Instrument:**	SMARTCHEM
Client ID:	MPL23-0712-1	**Prep Method:**	350.1	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	350.1	**Cal Date:**	07/26/2012 13:55
Workgroup #:	WG404588	**Analyst:**	DIH	**Run Date:**	07/26/2012 14:07
Collect Date:	07/17/2012 12:42	**Dilution:**	1	**File ID:**	SC120726005.020
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Nitrogen, Ammonia	7664-41-7	0.106		0.100	0.0500

Sample #:	L12070507-02	**PrePrep Method:**	N/A	**Instrument:**	SMARTCHEM
Client ID:	MPL23-0712-2	**Prep Method:**	350.1	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	350.1	**Cal Date:**	07/26/2012 13:55
Workgroup #:	WG404588	**Analyst:**	DIH	**Run Date:**	07/26/2012 14:08
Collect Date:	07/17/2012 12:42	**Dilution:**	1	**File ID:**	SC120726005.021
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Nitrogen, Ammonia	7664-41-7	0.0930	J	0.100	0.0500

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

Certificate of Analysis

2.2.6.2 QC Summary Data

Example Calculations for Visible Spectrophotometric Methods

Linear Calibration Model

Step 1 - Retrieve Curve Data from ICAL

m = slope of the linear equation
b = intercept from the linear equation
y = instrument response as absorbance or OD
x = concentration of analyte (mg/L)
y = mx + b

Step 2: Calculate the instrument concentration, x

Where:

x = (y - b)/m

Step 3: Solve for analyte concentration in sample, Cx

Cx = (x) (D)

Example Calculation (LCS):

Value of m from plot:	7.809	
Value of b from plot:	0.0004135	
Absorbance of unknown from quantitation report (y):	0.31	
Calculated concentration (x):	0.03964483	
Dilution factor (D):	1.00	
Concentration of analyte in sample, Cy:	0.0396	mg/L

SmartChem Autoanalyzer - Quadratic Calibration for Chloride and Sulfate

Step 1 - Retrieve Curve Data from Smartchem ICAL

A, B, C = constants from the ICAL quadratic regression

x = instrument response as absorbance or OD

y = concentration of analyte (mg/L)

Step 2: Calculate the instrument concentration, y

Where:

y = Ax^2 + Bx + C

Step 3: Solve for analyte concentration in sample, Cy

Cy = (y) (D)

Example Calculation (LCS):

Value of A from plot:	101.2796	
Value of B from plot:	318.9056	
Value of C from plot:	-2.2712	
Absorbance of unknown from quantitation report (x):	0.1583	
Calculated concentration (y):	50.7495108	
Dilution factor (D):	1.00	
Concentration of analyte in sample, Cy:	50.75	mg/L

Microbac Laboratories Inc.

Data Checklist

Date: 26-JUL-2012
Analyst: DIH
Analyst: NA
Method: NH3
Instrument: SC
Curve Workgroup: NA
Runlog ID:
Analytical Workgroups: WG404589 WG404591 WG404588

Calibration/Linearity	7/26/2012
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	DIH
Secondary Reviewer	DIH
Comments	

Primary Reviewer:
28-JUL-2012

Secondary Reviewer:
28-JUL-2012

CHECKLIST1 - Modified 03/05/2008
Generated: JUL-28-2012 09:20:57

Microbac Laboratories Inc.

HOLDING TIMES
EQUIVALENT TO AFCEE FORM 9

Analytical Method: 350.1 AAB#: WG404588

Login Number: L12070507

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
MPL23-0712-1	01	07/17/12					07/26/2012	9.1	28		07/26/12	9.1	28	
MPL23-0712-2	02	07/17/12					07/26/2012	9.1	28		07/26/12	9.1	28	

* = SEE PROJECT QAPP REQUIREMENTS

HOLD_TIMES - Modified 03/06/2008
PDF File ID: 2522410
Report generated 07/27/2012 15:48

Microbac Laboratories Inc.

METHOD BLANK SUMMARY

Login Number: L12070507
Blank File ID: SC120726005.009
Prep Date: 07/26/12 13:57
Analyzed Date: 07/26/12 13:57
Analyst: DIH

Work Group: WG404588
Blank Sample ID: WG404588-01
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
MPL23-0712-1	L12070507-01	SC120726005.020	07/26/12 14:07	01
MPL23-0712-2	L12070507-02	SC120726005.021	07/26/12 14:08	01
LCS	WG404588-02	SC120726005.084	07/26/12 15:05	01
DUP	WG404588-04	SC120726005.096	07/26/12 15:30	DL01

Report Name: BLANK_SUMMARY
PDF File ID: 2522411
Report generated 07/27/2012 15:48

Microbac Laboratories Inc.

METHOD BLANK REPORT

Login Number: L12070507 Prep Date: 07/26/12 13:57 Sample ID: WG404588-01
Instrument ID: SMARTCHEM Run Date: 07/26/12 13:57 Prep Method: 350.1
File ID: SC120726005.009 Analyst: DIH Method: 350.1
Workgroup (AAB#): WG404588 Matrix: Water Units: mg/L
Contract #: Cal ID: SMARTC-26-JUL-12

Analytes	LOD	LOQ	Concentration	Dilution	Qualifier
Nitrogen, Ammonia	0.0500	0.100	0.0585	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: 2522412
27-JUL-2012 15:48

Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L12070507 Run Date: 07/26/2012 Sample ID: WG404588-02
Instrument ID: SMARTCHEM Run Time: 15:05 Prep Method: 350.1
File ID: SC120726005.084 Analyst: DIH Method: 350.1
Workgroup (AAB#): WG404588 Matrix: Water Units: mg/L
QC Key: DOD4 Lot#: STD49779 Cal ID: SMARTC-26-JUL-12

Analytes	Expected	Found	% Rec	LCS Limits	Q
Nitrogen, Ammonia	2.00	2.06	103	90 - 110	

LCS - Modified 03/06/2008
PDF File ID: 2522413
Report generated: 07/27/2012 15:48

2.2.6.3 Raw Data

WORKGROUP: WG404588

404589
404591

SMARTCHEM RUN LOG

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
- [x] WBL Run
- [x] Reagents Full
- [x] Dilution H_2O Full
- [x] Waste Container Check

Syringe filter lot # _____

1) **Workgroup** _____
Plan # 20120726009
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	07-481-01			
1-5	MS02			
1-6	MSD03			
1-7	07-504-01			
1-8	05			
1-9	14			
1-10	15	25ml/50 =	1/2	
1-11	07-507-01			
1-12	02			
1-13	07-513-02			
1-14	07-645-02			
1-15	07-668-01	*	1/20	Auto 1/4
1-16	02	1ml/50 *	1/4	= 1/200
1-17	07-602-01			
1-18	02			
1-19	03			
1-20	DUP 645-02			
1-21	MS ↓			
1-22	BLK			
2-1	LCS 2			
2-2	07-611-01			
2-3	02			

Analyte		1	2	3
Position				
2-4	07-639-01			
2-5	02			
2-6	03			
2-7	07-640-01			
2-8	02			
2-9	03			
2-10	07-587-01		Auto	1/2
2-11	02		"	1/2
2-12	03		"	1/2
2-13	04		"	1/2
2-14	05		"	1/2
2-15	06		"	1/2
2-16	07-673-01			
2-17	02			
2-18	07-703-01			
2-19	02			
2-20	07-716-01			
2-21	new ICS			
2-22	DUP 703-01			
2-23	MS ↓			
2-24	MS 587-01		Auto	1/2
2-25	BLK			
2-26	LCS 2			
3-1	07-735-01			
3-2	02			

NOTES:
* Run NO2 std on NO3 runs
* LCS/LCS Dup all parameters
*MS(10% sample): NO3, TKN, NH3

DCN#91734

WORKGROUP: WG404588

SMARTCHEM RUN LOG

Position	Analyte	1	2	3
3-3	07-735-03			
3-4	04			
3-5	07-737-01	10ne/50	Auto 1/3 *	
3-6	07-724-01			
3-7	02			
3-8	03			
3-9	04			
3-10	05			
3-11	ms 06			
3-12	msd 07			
3-13	08			
3-14	07-732-01			
3-15	DUP 724-08			

Position	Analyte	1	2	3
3-16	ms 732-01			
3-17				
3-18				
3-19				
3-20				
3-21				
3-22	* lost	auto	on 1/25	was manual 1/20
3-23				1/3
3-24			1/5 *	1/3 * 1/20 * 1/25
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
- [x] Ammonia — EPA 350.1/SM 4500-NH3 B
- [ ] TKN — EPA 351.2
- [ ] Phos — EPA 365.4

Analyte	NH3		Reagents
SOP & Revision	K3501 R 18		Rot 17292
Curve Stock (SC made)	std 52564		Rot 17450
Curve ID (user made)			Rot 17446
ICV	std 52567		
CCV	std 52566		
LCS			
MS	See dist log Dilution		

Comments:

Analyst: [signature] Date: 7/26/12

DCN#91734

AMMONIA DISTILLATION LOG

SOP K3501 Revision # 18

LCS: STD 49779 10(100)/100 = 10

SPIKE: STD 49779 10(100)/100 = 10

WATER (mg/L)

DAILY DIL. 10(10)/50 = 2

DAILY DIL. 5(10)/50 = 1

SOIL (mg/Kg)

☒ easy-dist method

☐ macro method

RGT 17568
RGT 17380

SAMPLE	VOLUME DISTILLED (mL)	CHLORINE PRESENT?	pH ADJUSTED 9.5 ± 0.2	COMMENTS
BLANK ✓	50	NO	✓	
LCS( ) ✓	50	NO	✓	
Re 07-481-01 ✓	50	NO	✓	
MS -02 ✓	50	NO	✓	
MSD 03 ✓	50	NO	✓	
07-504 01 ✓	50	NO	✓	
-05 ✓	50	NO	✓	
-14 ✓	50	NO	✓	
* -15 ✓	25	NO	✓	
07-507-01 ✓	50	NO	✓	
02 ✓	50	NO	✓	
07-513-02 ✓	50	NO	✓	
07-645-02 ✓	50	NO	✓	
07-668-01 ✓	50	NO	✓	Valley - Final
02 ✓	1	NO	✓	Valley DAFI
07-602-01 ✓	50	NO	✓	
-02 ✓	50	NO	✓	
03 ✓	50	NO	✓	
DUP 07-645-02	50	NO	✓	
MS 07-645-02	50	NO	✓	

Analyst: Quetty Pasa

Date/Time: 07-23-12/1530

*MS required on 10% of samples (EPA 350.1)
*MS/MS required on each set of 20 samples (SM4500)

* 25 ml was done because of not enough sample.

AMMONIA DISTILLATION LOG

SOP K3501 Revision # 18

LCS: 550 49779 10(100)/100 = 10
DAILY DIL. 10(10)/50 = 2

SPIKE: 550 49779 10(100)/100 = 10
DAILY DIL. 5(10)/50 = 1

WATER (mg/L)
SOIL (mg/Kg)

☒ easy-dist method ☐ macro method

RGT 17380
RGT 17560

SAMPLE	VOLUME DISTILLED (mL)	CHLORINE PRESENT?	pH ADJUSTED 9.5 ± 0.2	COMMENTS
BLANK ✓	50	NO	yes	
LCS( ) ✓	50	NO		
07-611-01 ✓	50	NO		
-02 ✓	50	NO		
07-639-01 ✓	50	NO		
-02 ✓	50	NO		
03 ✓	50	NO		
07-640-01 ✓	50	NO		
-02 ✓	50	NO		
03 ✓	50	NO		
07-587-01 ✓	50	NO		
-02 ✓	50	NO		
-03 ✓	50	NO		
-04 ✓	50	NO		
-05 ✓	50	NO		
-06 ✓	50	NO		
07-673-01 ✓	50	NO		
-03 ✓	50	NO		
07-703-01 ✓	50	yes		
02 ✓	50	NO		
07-716-01 ✓	50	NO		
New LCS	50	NO		
DUP 07-703-01	50	yes		
MS 07-703-01	50	yes		
MS 07-587-01	50	NO		

Analyst: Quatty Pope Date/Time: 07-24-12/0900

*MS required on 10% of samples (EPA 350.1)
*MS/MS required on each set of 20 samples (SM4500)

AMMONIA DISTILLATION LOG

SOP K3501 Revision # 18

LCS: STD 49779 10(100)/100 = 10
DAILY DIL. 10(10)/50 = 2

SPIKE: STD 49779 10(100)/100 = 10
DAILY DIL. 5(10)/50 = 1

WATER (mg/L)
SOIL (mg/Kg)

☒ easy-dist method ☐ macro method

RGT 17380
RGT 17568

SAMPLE	VOLUME DISTILLED (mL)	CHLORINE PRESENT?	pH ADJUSTED 9.5 ± 0.2	COMMENTS
BLANK ✓	50	NO	yes	
LCS( ) ✓	50	NO		
07-735-01 ✓	50	NO		
-02 ✓	50	NO		
-03 ✓	80	NO		
-04 ✓	50	NO		
*07-737-01 ✓	10	NO		Valley Spray Tank
07-724-01 ✓	50	NO		
-02 ✓	50	NO		
-03 ✓	50	NO		
-04 ✓	50	NO		
Ref -05 ✓	50	NO		
MS -06 ✓	50	NO		
MSD -07 ✓	50	NO		
-08 ✓	50	NO		
07-732-01	50	NO		
DUP 07-724-08	50	NO	yes	
MS 07-732-01	50	NO	yes	

Analyst: Quantty Pupe Date/Time: 07-25-12/1415

*MS required on 10% of samples (EPA 350.1)
*MS/MS required on each set of 20 samples (SM4500)

* When sample was being pH adjusted there was a strong ammonia smell.

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	0.0592	0.00		1:47:53 PM
DIL-1	RBL	0.000	0.0580	0.00		1:48:11 PM
DIL-1	RBL	0.000	0.0621	0.00		1:49:41 PM
DIL-1	Std-1	0.000	0.0012	0.00		1:49:59 PM
SR5-1	Std-2	0.030	0.0122	0.00		1:51:29 PM
SR5-2	Std-3	0.094	0.0277	0.00		1:51:47 PM
SR5-3	Std-4	0.600	0.1692	0.00		1:53:17 PM
SR5-4	Std-5	1.050	0.3012	0.00		1:53:35 PM
SR5-5	Std-6	2.100	0.5892	0.00		1:55:05 PM
ST-1	Std-7	3.000	0.8580	0.00		1:55:23 PM
1	ICV 1.5	1.437	0.4090	0.00		1:56:53 PM
2	WG404588-01 BLK	0.059	0.0176	0.00		1:57:11 PM
3	WG404588-02 LCS	1.713	0.4875	0.00		1:58:41 PM
4	L12070481-01	0.207	0.0597	0.00		1:58:59 PM
5	L12070481-02 MS	1.066	0.3038	0.00		2:00:29 PM
6	L12070481-03 MSD	0.966	0.2754	0.00		2:00:47 PM
7	L12070504-01	0.082	0.0243	0.00		2:02:18 PM
8	L12070504-05	0.393	0.1125	0.00	EPL	2:02:35 PM
9	L12070504-14	0.082	0.0242	0.00		2:04:06 PM
10	L12070504-15 (2)	0.080	0.0238	0.00		2:04:24 PM
ST-2	CCV (1.5 mg/L)	1.465	0.4170	97.68		2:05:54 PM
ST-3	CCB (0 mg/L)	0.067	0.0199	0.00		2:06:12 PM
11	L12070507-01	0.106	0.0312	0.00		2:07:42 PM
12	L12070507-02	0.093	0.0274	0.00		2:08:00 PM
13	L12070513-02	5.008	1.4230	0.00	><,LH	2:09:30 PM
14	L12070645-02	5.099	1.4487	0.00	EPL,><,LH	2:09:48 PM
15	L12070668-01 (20)	12.538	3.5610	0.00	EPL,><,LH	2:11:18 PM
16	L12070668-02 (200)	4.212	1.1969	0.00	><,LH	2:11:36 PM
17	L12070602-01	0.263	0.0756	0.00		2:13:06 PM
18	L12070602-02	0.089	0.0263	0.00		2:13:24 PM
19	L12070602-03	0.117	0.0343	0.00		2:14:54 PM
20	WG404588-04 DUP	5.126	1.4564	0.00	><,LH	2:15:12 PM

Report Date :07/26/2012 **Run Date :7/26/2012** **Operator : WESTCO** **Plan # :20120726005**

Plan Description : NH3-A-DIH/7/26/2012

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)	1.466	0.4172	97.72		2:16:42 PM
ST-3	CCB (0 mg/L)	0.078	0.0230	0.00		2:17:00 PM
21	WG404588-05 MS	5.727	1.6271	0.00	><,LH	2:18:30 PM
22	WG404589-01 BLK	0.037	0.0115	0.00		2:18:48 PM
23	WG404589-02 LCS	1.873	0.5328	0.00		2:20:18 PM
24	L12070611-01	0.081	0.0239	0.00		2:20:36 PM
25	L12070611-02	0.308	0.0883	0.00		2:22:06 PM
26	L12070639-01	0.099	0.0292	0.00		2:22:24 PM
27	L12070639-02	0.098	0.0289	0.00		2:23:54 PM
28	L12070639-03	0.071	0.0211	0.00		2:24:12 PM
29	L12070640-01	0.062	0.0187	0.00		2:25:42 PM
30	L12070640-02	0.050	0.0153	0.00		2:26:00 PM
ST-2	CCV (1.5 mg/L)	1.427	0.4062	95.14		2:27:30 PM
ST-3	CCB (0 mg/L)	0.089	0.0262	0.00		2:27:48 PM
31	L12070640-03	0.085	0.0252	0.00		2:29:18 PM
32	L12070587-01	9.559	2.7152	0.00	EPL,><,LH	2:29:36 PM
33	L12070587-02	10.631	3.0194	0.00	EPL,><,LH	2:31:06 PM
34	L12070587-03	11.618	3.2997	0.00	><,LH	2:31:24 PM
35	L12070587-04	9.609	2.7293	0.00	EPL,><,LH	2:32:54 PM
36	L12070587-05	7.103	2.0179	0.00	><,LH	2:33:12 PM
37	L12070587-06	6.314	1.7937	0.00	EPL,><,LH	2:34:42 PM
38	L12070673-01	0.086	0.0254	0.00		2:35:01 PM
39	L12070673-03	0.161	0.0466	0.00		2:36:31 PM
40	L12070703-01	0.391	0.1119	0.00		2:36:49 PM
ST-2	CCV (1.5 mg/L)	1.443	0.4106	96.17		2:38:19 PM
ST-3	CCB (0 mg/L)	0.090	0.0265	0.00		2:38:37 PM
41	L12070703-02	0.393	0.1127	0.00		2:40:07 PM
42	L12070716-01	0.150	0.0436	0.00		2:40:25 PM
43	NEW LCS	1.816	0.5166	0.00		2:41:55 PM
44	WG404589-04 DUP	0.349	0.1001	0.00		2:42:13 PM
45	WG404589-05 MS	1.131	0.3222	0.00		2:43:43 PM
46	WG404589-07 MS	10.551	2.9968	0.00	EPL,><,LH	2:44:01 PM

Report Date :07/26/2012 **Run Date :7/26/2012** **Operator : WESTCO** **Plan # :20120726005**

Plan Description : NH3-A-DIH/7/26/2012

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	WG404591-01 BLK	0.079	0.0233	0.00		2:45:31 PM
48	WG404591-02 LCS	1.914	0.5444	0.00		2:45:49 PM
49	L12070735-01	0.951	0.2709	0.00		2:47:19 PM
50	L12070735-02	0.807	0.2300	0.00		2:47:37 PM
ST-2	CCV (1.5 mg/L)	1.461	0.4157	97.37		2:49:07 PM
ST-3	CCB (0 mg/L)	0.111	0.0324	0.00		2:49:25 PM
51	L12070735-03	0.558	0.1595	0.00		2:50:55 PM
52	L12070735-04	1.487	0.4231	0.00		2:51:13 PM
53	L12070737-01 (5)	12.640 X	3.5898	0.00	EPL,><,LH	2:52:43 PM
54	L12070724-01	5.134 X	1.4586	0.00	EPL,><,LH	2:53:01 PM
55	L12070724-02	2.106	0.5989	0.00		2:54:31 PM
56	L12070724-03	1.109	0.3158	0.00		2:54:49 PM
57	L12070724-04	0.374	0.1072	0.00		2:56:19 PM
58	L12070724-05	0.235	0.0677	0.00		2:56:37 PM
59	L12070724-06 MS	1.116	0.3178	0.00		2:58:07 PM
60	L12070724-07 MSD	1.074	0.3058	0.00		2:58:25 PM
ST-2	CCV (1.5 mg/L)	1.520	0.4327	101.36		2:59:55 PM
ST-3	CCB (0 mg/L)	0.125	0.0364	0.00		3:00:13 PM
61	L12070724-08	0.325	0.0933	0.00		3:01:43 PM
62	L12070732-01	0.225	0.0648	0.00		3:02:01 PM
63	WG404591-05 DUP	0.380	0.1090	0.00		3:03:31 PM
64	WG404591-06 MS	1.078	0.3070	0.00		3:03:49 PM
65	ID 65 LCS wg 404588-02	2.060	0.5860	0.00		3:05:19 PM
66	ID 66	1.849 X	0.5260	0.00		3:05:37 PM
67	ID 67	3.483 X	0.9899	0.00	><,LH	3:07:07 PM
68	ID 68	8.663 X	2.4607	0.00	><,LH	3:07:25 PM
ST-2	CCV (1.5 mg/L)	1.533	0.4363	102.21		3:08:55 PM
ST-3	CCB (0 mg/L)	0.145	0.0421	0.00		3:09:13 PM
13-[1/2]	L12070513-02	5.326	0.7571	0.00	LH	3:21:24 PM
14-[1/2]	L12070645-02	5.478	0.7787	0.00	LH	3:23:12 PM
ST-2	CCV (1.5 mg/L)	1.539	0.4380	102.61		3:23:12 PM
ST-3	CCB (0 mg/L)	0.016	0.0056	0.00		3:24:42 PM

Report Date :07/26/2012 **Run Date :7/26/2012** **Operator : WESTCO** **Plan # :20120726005**

Plan Description : NH3-A-DIH/7/26/2012

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
15-[1/2]	L12070668-01 (20)	11.812 X	1.6779	0.00	><,LH	3:26:48 PM
16-[1/2]	L12070668-02 (200)	4.617	0.6565	0.00	LH	3:28:36 PM
20-[1/2]	WG404588-04 DUP	5.656	0.8039	0.00	LH	3:30:24 PM
21-[1/2]	WG404588-05 MS	6.097 on	0.8665	0.00	><,LH	3:32:12 PM
32-[1/2]	L12070587-01 (2)	5.216	0.7415	0.00	LH	3:34:00 PM
33-[1/2]	L12070587-02 (2)	6.042 X	0.8587	0.00	><,LH	3:35:48 PM
34-[1/2]	L12070587-03 (3)	4.697	0.6678	0.00	LH	3:37:36 PM
35-[1/2]	L12070587-04 (2)	5.098	0.7248	0.00	LH	3:39:24 PM
36-[1/2]	L12070587-05 (2)	3.857	0.5486	0.00	LH	3:41:12 PM
37-[1/2]	L12070587-06 (2)	3.592	0.5109	0.00	LH	3:43:00 PM
ST-2	CCV (1.5 mg/L)	1.571	0.4470	104.72		3:43:00 PM
ST-3	CCB (0 mg/L)	0.007	0.0029	0.00		3:44:30 PM
46-[1/2]	WG404589-07 MS (2)	5.977	0.8496	0.00	LH	3:46:36 PM
53-[1/2]	L12070737-01 (5)(3)	26.718 X	3.7941	0.00	><,LH	3:48:24 PM
54-[1/2]	L12070724-01	5.976	0.8494	0.00	LH	3:50:12 PM
67-[1/2]	ID 67	0.573 X	0.0823	0.00		3:52:00 PM
68-[1/2]	ID 68	2.086 X	0.2971	0.00		3:53:48 PM
ST-2	CCV (1.5 mg/L)	1.590	0.4524	105.99		3:53:48 PM
ST-3	CCB (0 mg/L)	0.008	0.0033	0.00		3:55:19 PM
15-[1/5]	L12070668-01 (20)(4)	11.934	0.6787	0.00	LH	4:07:29 PM
21-[1/5]	WG404588-05 MS	6.604 X	0.3760	0.00	LH	4:09:17 PM
ST-2	CCV (1.5 mg/L)	1.562	0.4444	104.11		4:09:17 PM
ST-3	CCB (0 mg/L)	0.019	0.0065	0.00		4:10:47 PM
33-[1/5]	L12070587-02 (2)	6.266	0.3568	0.00	LH	4:12:53 PM
53-[1/5]	L12070737-01 (5)(3)	66.844 X	3.7969	0.00	><,LH	4:14:41 PM
ST-2	CCV (1.5 mg/L)	1.709	0.4863	113.95		4:14:41 PM
ST-3	CCB (0 mg/L)	0.024	0.0077	0.00		4:16:11 PM
53-[1/10]	L12070737-01 (5)(3)	134.192 X	3.8112	0.00	><,LH	4:28:21 PM
ST-2	CCV (1.5 mg/L)	1.602	0.4558	106.79		4:28:21 PM
ST-3	CCB (0 mg/L)	0.036	0.0111	0.00		4:29:51 PM
53-[1/25]	L12070737-01 (5)(3)(20)	46.146	0.5251	0.00	LH	4:42:02 PM
ST-2	CCV (1.5 mg/L)	1.589	0.4521	105.92		4:42:02 PM

Report Date :07/26/2012 **Run Date :7/26/2012** **Operator : WESTCO** **Plan # :20120726005**

Plan Description : NH3-A-DIH/7/26/2012

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-3	**CCB (0 mg/L)**	**0.028**	**0.0089**	**0.00**		**4:43:32 PM**

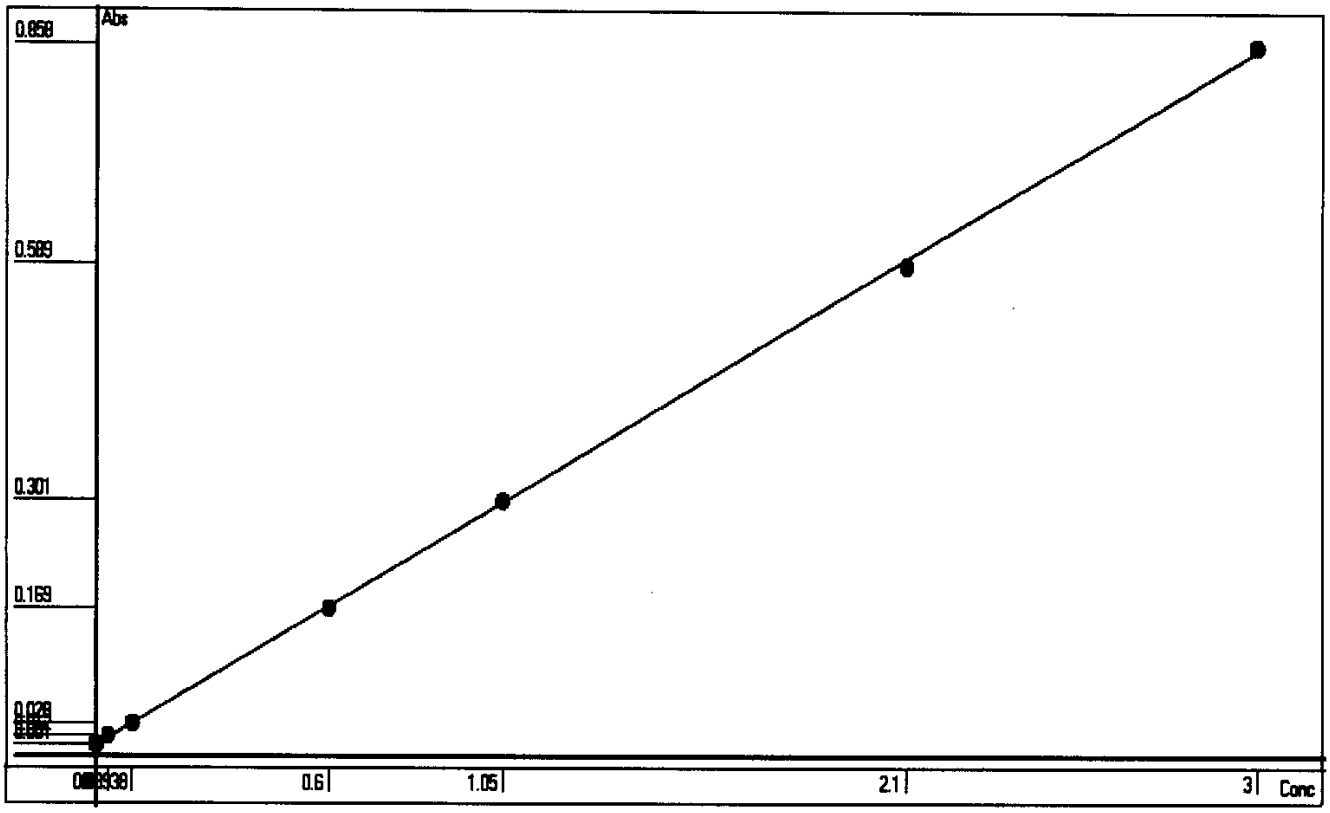
Report Date :07/26/2012 **Run Date :7/26/2012** **Operator : WESTCO** **Plan # :20120726005**

Plan Description : NH3-A-DIH/7/26/2012

Calibrant Report - WNH3 -

Calib Lot #:010104 Exp Date:6/17/2020 User:Westco Scientific

Plan # : 20120726005 Description : [NH3-A-DIH/7/26/2012]



Point	OD	Conc	Recalc Conc	% Error
1	0.0012	0	0.0007	0.07
2	0.0122	0.03	0.0395	31.67
3	0.0277	0.0938	0.0941	0.32
4	0.1692	0.6	0.5924	-1.27
5	0.3012	1.05	1.0573	0.70
6	0.5892	2.1	2.0716	-1.35
7	0.8580	3	3.0183	0.61

Conc= +3.5219*Abso -0.0035 R^2=0.9998

RBL
0.0586
0

Report Date 7/26/2012 Run Date 7/26/2012

2.2.7 Nitrate Data

2.2.7.1 Summary Data

Login Number: L12070507
Department: Conventionals
Analyst: Deanna Hesson

METHOD

Analysis EPA 353.2/SM4500-NO3 F (Nitrate)

HOLDING TIMES

Sample Analysis: Nitrate is reported as the difference of nitrate-nitrite (28 day hold) and nitrite (48 hour hold). Both analysis were analyzed within the appropriate hold time. The nitrate hold time is within compliance.

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.

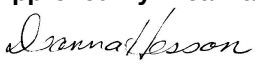
Duplicates: All acceptance criteria were met.

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: 50792
Approved By: Deanna Hesson



Microbac

Lab Report #: L12070507
Lab Project #: 3005.011
Project Name: White Sands MR
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L12070507-01	**PrePrep Method:**	N/A	**Instrument:**	SMARTCHEM
Client ID:	MPL23-0712-1	**Prep Method:**	353.2	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	353.2	**Cal Date:**	07/23/2012 07:28
Workgroup #:	WG404245	**Analyst:**	DIH	**Run Date:**	07/24/2012 10:53
Collect Date:	07/17/2012 12:42	**Dilution:**	1	**File ID:**	SC12072712124601
Sample Tag:		**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Nitrate-Nitrite (as N)		1.53		0.0500	0.0250

Sample #:	L12070507-02	**PrePrep Method:**	N/A	**Instrument:**	SMARTCHEM
Client ID:	MPL23-0712-2	**Prep Method:**	353.2	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	353.2	**Cal Date:**	07/23/2012 07:28
Workgroup #:	WG404245	**Analyst:**	DIH	**Run Date:**	07/24/2012 10:53
Collect Date:	07/17/2012 12:42	**Dilution:**	1	**File ID:**	SC12072712124901
Sample Tag:		**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Nitrate-Nitrite (as N)		1.57		0.0500	0.0250

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: 24-JUL-2012
Analyst: DIH
Analyst: NA
Method: NO3
Instrument: SC
Curve Workgroup: NA
Runlog ID:
Analytical Workgroups: WG404244 WG404245

Calibration/Linearity	7/24/2012
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	DIH
Secondary Reviewer	DIH
Comments	

Primary Reviewer:
28-JUL-2012

Secondary Reviewer:
28-JUL-2012

CHECKLIST1 - Modified 03/05/2008
Generated: JUL-28-2012 09:21:04

Microbac Laboratories Inc.

HOLDING TIMES
EQUIVALENT TO AFCEE FORM 9

Analytical Method: 353.2 AAB#: WG404245

Login Number: L12070507

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
MPL23-0712-1	01	07/17/12					07/24/2012	6.9	28		07/24/12	6.9	28	
MPL23-0712-2	02	07/17/12					07/24/2012	6.9	28		07/24/12	6.9	28	

* = SEE PROJECT QAPP REQUIREMENTS

HOLD_TIMES - Modified 03/06/2008
PDF File ID: 2522086
Report generated 07/27/2012 15:25

Microbac Laboratories Inc.

METHOD BLANK SUMMARY

Login Number: L12070507
Blank File ID: SC12072712112201
Prep Date: 07/24/12 10:53
Analyzed Date: 07/24/12 10:53
Analyst: DIH

Work Group: WG404245
Blank Sample ID: WG404245-01
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
LCS	WG404245-02	SC12072712112701	07/24/12 10:53	
LCS2	WG404245-03	SC12072712113001	07/24/12 10:53	
MPL23-0712-1	L12070507-01	SC12072712124601	07/24/12 10:53	
MPL23-0712-2	L12070507-02	SC12072712124901	07/24/12 10:53	
DUP	WG404245-05	SC12072712113701	07/24/12 10:53	

Report Name: BLANK_SUMMARY
PDF File ID: 2522087
Report generated 07/27/2012 15:25

Microbac Laboratories Inc.

METHOD BLANK REPORT

Login Number: L12070507 Prep Date: 07/24/12 10:53 Sample ID: WG404245-01
Instrument ID: SMARTCHEM Run Date: 07/24/12 10:53 Prep Method: 353.2
File ID: SC12072712112201 Analyst: DIH Method: 353.2
Workgroup (AAB#): WG404245 Matrix: Water Units: mg/L
Contract #: Cal ID: SMARTC-23-JUL-12

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: 2522088
27-JUL-2012 15:25

Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L12070507 Analyst: DIH Prep Method: 353.2
Instrument ID: SMARTCHEM Matrix: Water Method: 353.2
Workgroup (AAB#): WG404245 Units: mg/L
QC Key: DOD4 Lot #: STD52632

Sample ID: WG404245-02 LCS File ID: SC12072712112701 Run Date: 07/24/2012 10:53
Sample ID: WG404245-03 LCS2 File ID: SC12072712113001 Run Date: 07/24/2012 10:53

Analytes	LCS			LCS2			%RPD	%Rec Limits	RPD Lmt	Q
	Known	Found	% REC	Known	Found	% REC				
Nitrate-Nitrite (as N)	1.00	0.920	92.0	1.00	0.960	96.0	4.26	90 - 110	15	

LCS_LCS2 - Modified 03/06/2008
PDF File ID: 2522089
Report generated: 07/27/2012 15:25

2.2.7.3 Raw Data

WORKGROUP: WG404244

404245

SMARTCHEM RUN LOG

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 # 44403

1) **Workgroup** _____ **Plan #** 20120724002
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		
1-6	07-558-01		
1-7	559-01		
1-8	560-01		
1-9	561-01		
1-10	561-02		
1-11	562-01		
1-12	563-01		
1-13	564-01		
1-14	565-01		
1-15	566-01		
1-16	567-01		
1-17	568-01		
1-18	569-01		
1-19	570-01		
1-20	571-01		
1-21	572-01		
1-22	573-01		
2-1	574-01		
2-2	575-01		
2-3	-02		

Position	Analyte	1	2	3
2-4	DUP 575-02			
2-5	MS ↓			
2-6	MS 571-01			
2-7	BLK			
2-8	LCS			
2-9	LCS DUP			
2-10	07-576-01			
2-11	02			
2-12	577-01			
2-13	578-01			
2-14	579-01			
2-15	07-534-01			
2-16	MS 13			
2-17	msd 15			
2-18	DUP 01			
2-19	03			
2-20	05			
2-21	07	1/10		
2-22	09		AUTO	1/2
2-23	11			
2-24	07-644-02	1/15		
2-25	07-702-01			
2-26	02			
3-1	07-498-01			
3-2	07-507-01			

NOTES:
- * Run NO2 std on NO3 runs
- * LCS/LCS Dup all parameters
- *MS(10% sample): NO3, TKN, NH3

DCN#91685

SMARTCHEM RUN LOG

Position	Analyte	1	2	3
3-3	07-5070-02			
3-4	07-611-01			
3-5	02			
3-6	MS ↓			
3-7 R	~~LCS~~	07-534-07 1/2		
3-8 R	~~LCSDUP~~		LCS	
3-9 R	~~07-534-07 1/2~~		LCSDUP	
3-10	JW 7/24/12			
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
- [x] 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	R 3532 R18		Rgt 17254
Curve Stock (SC made)	std 52843		Rgt 17494
Curve ID (user made) NO2	std 52845		
ICV std 52842	std 52844		
CCV ↓	std 52750		
LCS ↓			
MS	std 52536 Dilution 0.1/5(25)=0.5		

Comments: _____

Analyst: Deanna Dixon Date: 7/24/12

DCN#91685

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	0.0149	0.00		10:03:10 AM
DIL-1	RBL	0.000	0.0173	0.00		10:04:22 AM
DIL-1	RBL	0.000	0.0167	0.00		10:05:34 AM
DIL-1	RBL	0.000	0.0171	0.00		10:06:46 AM
DIL-1	Std-1	0.000	-0.0008	0.00	INV	10:07:58 AM
SR5-1	Std-2	0.040	0.0163	0.00		10:09:10 AM
SR5-2	Std-3	0.100	0.0395	0.00		10:10:22 AM
SR5-3	Std-4	0.500	0.1976	0.00		10:11:34 AM
SR5-4	Std-5	1.000	0.3816	0.00		10:12:46 AM
ST-1	Std-6	2.000	0.7864	0.00		10:13:58 AM
1	ICV 1.5	1.484	0.5806	0.00		10:15:10 AM
2	WG404244-01 BLK	0.009	0.0024	0.00		10:16:22 AM
3	WG404244-02 LCS	0.891 X	0.3481	0.00		10:17:34 AM
4	WG404244-03 LCSDUP	0.968	0.3782	0.00		10:18:46 AM
5	NO2 1	0.971	0.3796	0.00		10:19:58 AM
6	L12070558-01	0.045	0.0168	0.00	0	10:21:10 AM
7	L12070559-01	0.029	0.0104	0.00	0	10:22:22 AM
8	L12070560-01	3.022 X	1.1832	0.00	><,LH 0	10:23:34 AM
9	L12070561-01	0.046	0.0171	0.00	0	10:24:47 AM
10	L12070561-02	0.076	0.0288	0.00	0	10:25:59 AM
ST-2	CCV (1 mg/L)	0.989	0.3864	98.86	0	10:27:11 AM
ST-3	CCB (0 mg/L)	0.009	0.0026	0.00	0	10:28:23 AM
11	L12070562-01	0.027	0.0097	0.00	0	10:29:35 AM
12	L12070563-01	0.033	0.0120	0.00	0	10:30:47 AM
13	L12070564-01	0.074	0.0279	0.00	0	10:31:59 AM
14	L12070565-01	0.013	0.0043	0.00	0	10:33:11 AM
15	L12070566-01	0.066	0.0250	0.00	0	10:34:23 AM
16	L12070567-01	0.058	0.0216	0.00	0	10:35:35 AM
17	L12070568-01	0.029	0.0106	0.00	0	10:36:47 AM
18	L12070569-01	0.025	0.0088	0.00	0	10:37:59 AM
19	L12070570-01	0.024	0.0086	0.00	0	10:39:11 AM
20	L12070571-01	0.027	0.0096	0.00		10:40:23 AM

Report Date :07/24/2012 **Run Date :7/24/2012** **Operator : WESTCO** **Plan # :20120724002**

Plan Description : NO3-B-DIH/7/24/2012

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)	1.022	0.3995	102.20	0		10:41:35 AM
ST-3	CCB (0 mg/L)	0.003	0.0001	0.00			10:42:47 AM
21	L12070572-01	0.061	0.0229	0.00	0		10:43:59 AM
22	L12070573-01	0.024	0.0085	0.00	0		10:45:11 AM
23	L12070574-01	0.033	0.0120	0.00	0		10:46:23 AM
24	L12070575-01	0.075	0.0286	0.00	0		10:47:35 AM
25	L12070575-02	1.873	0.7327	0.00	0		10:48:47 AM
26	DUP 572-02	1.709	0.6688	0.00			10:49:59 AM
27	MS 572-02	2.266	0.8870	0.00	><,LH		10:51:11 AM
28	MS 571-01	0.460	0.1792	0.00			10:52:23 AM
29	WG404245-01 BLK	0.006	0.0016	0.00			10:53:35 AM
30	WG404245-02 LCS	0.920	0.3594	0.00			10:54:47 AM
ST-2	CCV (1 mg/L)	1.027	0.4014	102.69			10:55:59 AM
ST-3	CCB (0 mg/L)	0.006	0.0016	0.00			10:57:11 AM
31	WG404245-03 LCSDUP	0.960	0.3753	0.00			10:58:23 AM
32	L12070576-01	0.035	0.0126	0.00	0		10:59:35 AM
33	L12070576-02	0.718	0.2803	0.00	0.146		11:00:47 AM
34	L12070577-01	3.397	1.3299	0.00	><,LH		11:01:59 AM
35	L12070578-01	0.017	0.0058	0.00		0	11:03:11 AM
36	L12070579-01	0.038	0.0141	0.00			11:04:23 AM
37	L12070534-01	0.119	0.0458	0.00		0	11:05:35 AM
38	L12070534-13 MS	0.525	0.2049	0.00			11:06:48 AM
39	L12070534-15 MSD	0.528	0.2059	0.00			11:08:00 AM
40	DUP 534-01	0.099	0.0377	0.00			11:09:12 AM
ST-2	CCV (1 mg/L)	1.021	0.3990	102.08			11:10:24 AM
ST-3	CCB (0 mg/L)	0.007	0.0018	0.00			11:11:36 AM
41	L12070534-03	0.106	0.0405	0.00		0	11:12:48 AM
42	L12070534-05	0.060	0.0226	0.00		0.008	11:14:00 AM
43	L12070534-07 (10)	0.320	0.1243	0.00			11:15:12 AM
44	L12070534-09	9.784	3.8322	0.00	><,LH		11:16:24 AM
45	L12070534-11	0.015	0.0048	0.00			11:17:36 AM
46	L12070644-02 (15)	0.839	0.3278	0.00		0.291	11:18:48 AM

Report Date :07/24/2012 **Run Date :7/24/2012** **Operator : WESTCO** **Plan # :20120724002**

Plan Description : NO3-B-DIH/7/24/2012

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	L12070702-01	0.820	0.3202	0.00	0.037	11:20:00 AM
48	L12070702-02	0.041	0.0152	0.00	D	11:21:12 AM
49	L12070498-01	6.407 X	2.5092	0.00	EPL,><,LH	11:22:24 AM
50	L12070507-01	1.531	0.5987	0.00		11:23:36 AM
ST-2	CCV (1 mg/L)	1.014	0.3964	101.41		11:24:48 AM
ST-3	CCB (0 mg/L)	0.011	0.0033	0.00		11:26:00 AM
51	L12070507-02	1.566	0.6127	0.00		11:27:12 AM
52	L12070611-01	0.241	0.0933	0.00		11:28:24 AM
53	L12070611-02	0.061	0.0228	0.00		11:29:36 AM
54	MS ~~DUR~~ 611-02	0.453	0.1767	0.00		11:30:48 AM
55	ID 55 07-534-07 1/2	0.874	0.3414	0.00	o	11:32:00 AM
56	ID 56 LCS	0.978	0.3822	0.00		11:33:12 AM
57	ID 57	0.170 X	0.0656	0.00		11:34:24 AM
ST-2	CCV (1 mg/L)	0.916	0.3578	91.56		11:35:36 AM
ST-3	CCB (0 mg/L)	0.006	0.0013	0.00		11:36:48 AM
8-[1/4]	L12070560-01	3.502	0.3421	0.00	LH D	11:45:59 AM
27-[1/4]	MS 572-02	2.465 X	0.2405	0.00	LH	11:48:04 AM
34-[1/4]	L12070577-01	3.914	0.3824	0.00	LH o	11:50:10 AM
ST-2	CCV (1 mg/L)	1.006	0.3933	100.62		11:51:05 AM
ST-3	CCB (0 mg/L)	0.004	0.0007	0.00		11:53:47 AM
44-[1/4]	L12070534-09 (2)	6.246	0.6109	0.00	LH o	11:56:11 AM
49-[1/4]	L12070498-01	6.750	0.6602	0.00	LH	11:58:17 AM
ST-2	CCV (1 mg/L)	1.008	0.3940	100.80		11:59:11 AM
ST-3	CCB (0 mg/L)	0.007	0.0017	0.00		12:00:23 PM

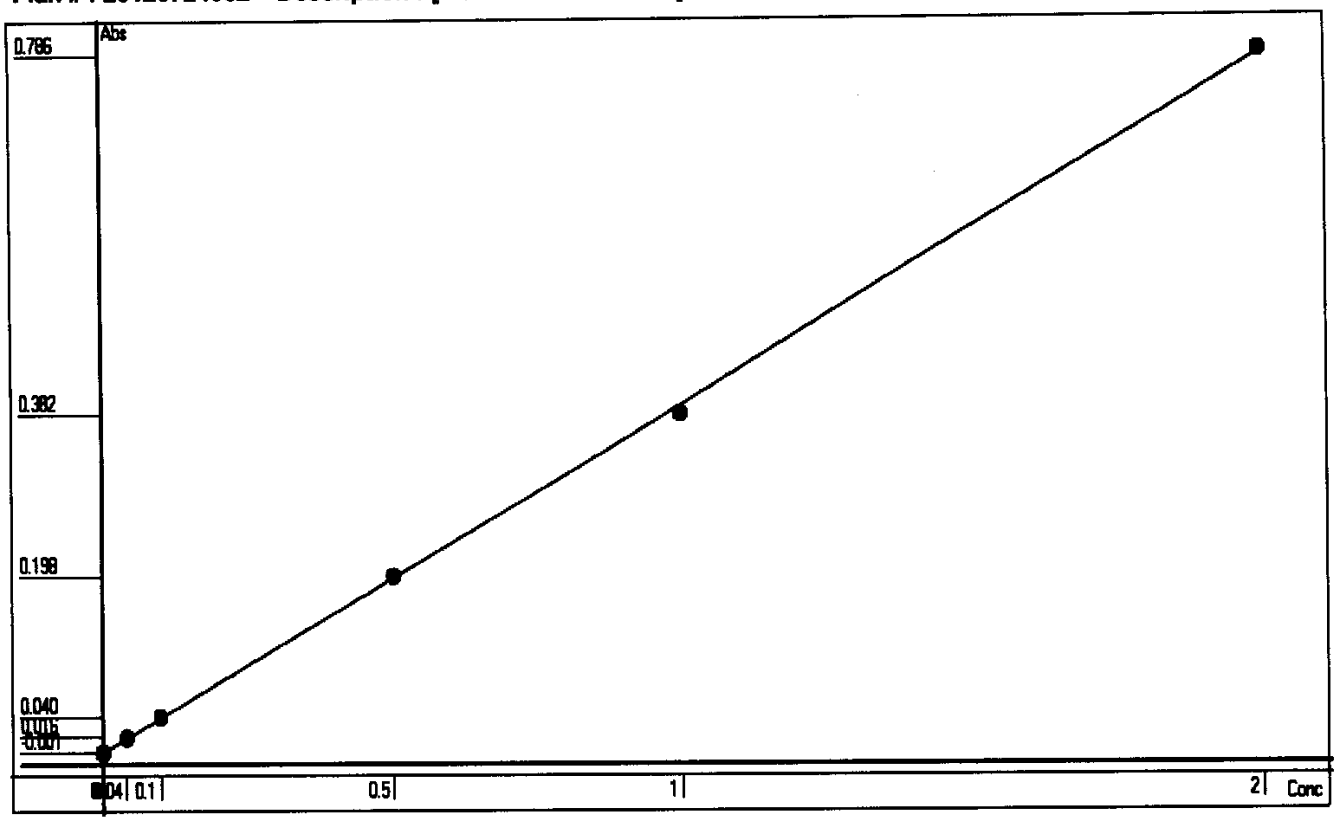
Report Date :07/24/2012 **Run Date :7/24/2012** **Operator : WESTCO** **Plan # :20120724002**

Plan Description : NO3-B-DIH/7/24/2012

Calibrant Report - WNO3 -

Calib Lot #:010104 Exp Date:6/17/2020 User:MICROBAC

Plan # : 20120724002 Description : [NO3-B-DIH/7/24/2012]



Point	OD	Conc	Recalc Conc	% Error
1	-0.0008	0	0.0003	0.03
2	0.0163	0.04	0.0439	9.75
3	0.0395	0.1	0.1031	3.10
4	0.1976	0.5	0.5067	1.34
5	0.3816	1	0.9763	-2.37
6	0.7864	2	2.0095	0.48

Conc= +2.5524*Abso +0.0023 R^2=0.9998

RBL
0.0169
0

Report Date 7/24/2012 Run Date 7/24/2012

2.2.8 Orthophosphate Data

2.2.8.1 Summary Data

Login Number: L12070507
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: 50793
Approved By: Deanna Hesson

Microbac

Lab Report #: L12070507
Lab Project #: 3005.011
Project Name: White Sands MR
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L12070507-01	**PrePrep Method:**	N/A	**Instrument:**	UV-120-1V
Client ID:	MPL23-0712-1	**Prep Method:**	SM4500-P-E-20th	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	SM4500-P-E-20th	**Cal Date:**	06/22/2012 08:14
Workgroup #:	WG403756	**Analyst:**	HJR	**Run Date:**	07/18/2012 16:15
Collect Date:	07/17/2012 12:42	**Dilution:**	1	**File ID:**	1V.1207181615-05
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 #:	L12070507-02	**PrePrep Method:**	N/A	**Instrument:**	UV-120-1V
Client ID:	MPL23-0712-2	**Prep Method:**	SM4500-P-E-20th	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	SM4500-P-E-20th	**Cal Date:**	06/22/2012 08:14
Workgroup #:	WG403756	**Analyst:**	HJR	**Run Date:**	07/18/2012 16:15
Collect Date:	07/17/2012 12:42	**Dilution:**	1	**File ID:**	1V.1207181615-06
Sample Tag:		**Units:**	mg/L		

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

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

Certificate of Analysis

2.2.8.2 QC Summary Data

Example Calculations for Visible Spectrophotometric Methods

Linear Calibration Model

Step 1 - Retrieve Curve Data from ICAL

m = slope of the linear equation
b = intercept from the linear equation
y = instrument response as absorbance or OD
x = concentration of analyte (mg/L)
y = mx + b

Step 2: Calculate the instrument concentration, x

Where:

x = (y - b)/m

Step 3: Solve for analyte concentration in sample, Cx

Cx = (x) (D)

Example Calculation (LCS):

Value of m from plot:	7.809	
Value of b from plot:	0.0004135	
Absorbance of unknown from quantitation report (y):	0.31	
Calculated concentration (x):	0.03964483	
Dilution factor (D):	1.00	
Concentration of analyte in sample, Cy:	0.0396	mg/L

SmartChem Autoanalyzer - Quadratic Calibration for Chloride and Sulfate

Step 1 - Retrieve Curve Data from Smartchem ICAL

A, B, C = constants from the ICAL quadratic regression

x = instrument response as absorbance or OD

y = concentration of analyte (mg/L)

Step 2: Calculate the instrument concentration, y

Where:

y = Ax^2 + Bx + C

Step 3: Solve for analyte concentration in sample, Cy

Cy = (y) (D)

Example Calculation (LCS):

Value of A from plot:	101.2796	
Value of B from plot:	318.9056	
Value of C from plot:	-2.2712	
Absorbance of unknown from quantitation report (x):	0.1583	
Calculated concentration (y):	50.7495108	
Dilution factor (D):	1.00	
Concentration of analyte in sample, Cy:	50.75	mg/L

Microbac Laboratories Inc.

Data Checklist

Date: 18-JUL-2012
Analyst: HJR
Analyst: NA
Method: PO4
Instrument: UV-120-1V
Curve Workgroup: NA
Runlog ID:
Analytical Workgroups: WG403756

Calibration/Linearity	3/21/12
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: 27-JUL-2012

Secondary Reviewer: 28-JUL-2012

CHECKLIST1 - Modified 03/05/2008
Generated: JUL-28-2012 09:55:59

Microbac Laboratories Inc.

HOLDING TIMES
EQUIVALENT TO AFCEE FORM 9

Analytical Method: SM4500-P-E-20th

AAB#: WG403756

Login Number: L12070507

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
MPL23-0712-1	01	07/17/12					07/18/2012	1.1	2		07/18/12	1.1	2	
MPL23-0712-2	02	07/17/12					07/18/2012	1.1	2		07/18/12	1.1	2	

* = SEE PROJECT QAPP REQUIREMENTS

HOLD_TIMES - Modified 03/06/2008
PDF File ID: 2523129
Report generated 07/28/2012 09:55

Microbac Laboratories Inc.

METHOD BLANK SUMMARY

Login Number: L12070507
Blank File ID: 1V.1207181615-02
Prep Date: 07/18/12 16:15
Analyzed Date: 07/18/12 16:15
Analyst: HJR

Work Group: WG403756
Blank Sample ID: WG403756-01
Instrument ID: UV-120-1V
Method: SM4500-P-E-20th

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG403756-02	1V.1207181615-03	07/18/12 16:15	
LCS2	WG403756-03	1V.1207181615-04	07/18/12 16:15	
MPL23-0712-1	L12070507-01	1V.1207181615-05	07/18/12 16:15	
MPL23-0712-2	L12070507-02	1V.1207181615-06	07/18/12 16:15	
DUP	WG403756-05	1V.1207181615-07	07/18/12 16:15	

Report Name: BLANK_SUMMARY
PDF File ID: 2523130
Report generated 07/28/2012 09:55

Microbac Laboratories Inc.

METHOD BLANK REPORT

Login Number: L12070507 Prep Date: 07/18/12 16:15 Sample ID: WG403756-01
Instrument ID: UV-120-1V Run Date: 07/18/12 16:15 Prep Method: SM4500-P-E-20th
File ID: 1V.1207181615-02 Analyst: HJR Method: SM4500-P-E-20th
Workgroup (AAB#): WG403756 Matrix: Water Units: mg/L
Contract #: Cal ID: UV-120 - 16-JUL-12

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: 2523131
28-JUL-2012 09:55

Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L12070507 Analyst: HJR Prep Method: SM4500-P-E-20th
Instrument ID: UV-120-1V Matrix: Water Method: SM4500-P-E-20th
Workgroup (AAB#): WG403756 Units: mg/L
QC Key: DOD4 Lot #: STD52909

Sample ID: WG403756-02 LCS File ID: 1V.1207181615-03 Run Date: 07/18/2012 16:15
Sample ID: WG403756-03 LCS2 File ID: 1V.1207181615-04 Run Date: 07/18/2012 16:15

Analytes	LCS			LCS2			%RPD	%Rec Limits	RPD Lmt	Q
	Known	Found	% REC	Known	Found	% REC				
Orthophosphate	1.00	0.977	97.7	1.00	0.994	99.4	1.71	90 - 110	20	

LCS_LCS2 - Modified 03/06/2008
PDF File ID: 2523132
Report generated: 07/28/2012 09:55

2.2.8.3 Raw Data

WG401391

Curves

Parameter: ~~UV-120-1V-404~~ 6/22/12

Spectrophotometer: UV-120-1V

Calibration (Curve) standard stock: Std 49733

Concentration: 1000mg/L

Recipe for preparation of curve standards found in:

SOP B3653 Revision: 13 Page: 9

Second Source Stock: Std 52400 (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	0.655
0.7	50	1cm	880	0.460
0.5	50	1cm	880	0.325
0.2	50	1cm	880	0.140
0.1	50	1cm	880	0.070
0.05	50	1cm	880	0.035
0.00	50	1cm	880	0.00
Second Source (1.0)	50	1cm	880	0.660

Analyst: [signature] Date/Time: 6/22/12 0814

DCN#91326

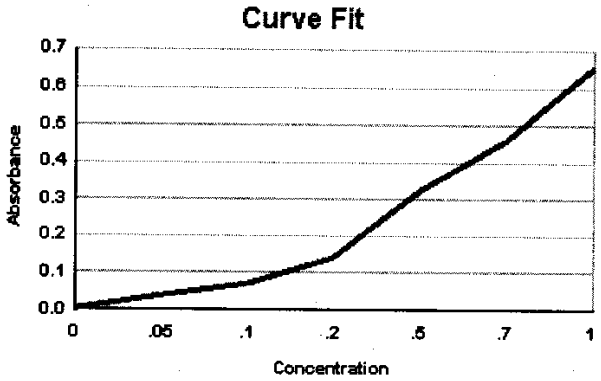
Microbac Laboratories Inc.
INITIAL CALIBRATION

Workgroup: WG401391
Analytical Method: 300
Instrument ID: UV-120-1V

Analyst: HJR
Initial Calibration Date: 06/22/2012

Analyte: ORTHOPHOSPHATE
Number of Points: 7
Slope: 0.651282
Y-Intercept: 0.00346154
Coef. Of Correlation (R^2): 0.999804
Coef. Of Correlation (R): 0.999902

Concentration X	Absorbance Y	X^2	X * Y	Y-Fitted (mX^2+B)
0.00	0.00	0.00	0.00	0.00346154
0.0500	0.0350	0.00250	0.00175	0.0360256
0.100	0.0700	0.0100	0.00700	0.0685897
0.200	0.140	0.0400	0.0280	0.133718
0.500	0.325	0.250	0.163	0.329103
0.700	0.460	0.490	0.322	0.459359
1.00	0.655	1.00	0.655	0.654744



WG_ICAL_CAL_WET - Modified 03/06/2008
Report generated 06/22/2012 09:48

[redacted]

Microbac Laboratories Inc.
ALTERNATE SOURCE REPORT

Workgroup #: WG401391
File ID: 1V.1206220814-08
CCV ID: WG401391-08
Units: mg/L
Analyte: ORTHOPHOSPHATE

Instrument ID: UV-120-1V
Run Date: 06/22/2012
Run Time: 08:14
Analyst: HJR
Cal ID: UV-120 - 22-JUN-12 08:14:07

Analyte	Expected	Found	RF	%D	Q
Orthophosphate	1	1.01	0.660	1.0	

* Exceeds %D Limit

CCC Calibrtion Check Compounds
SPCC System Performance Check Compounds

WET_WG_SSCV - Modified 03/06/2008
Report generated 06/22/2012 09:48

[redacted]

ORTHOPHOSPHATE

EPA 365.2/SM4500-P E
SOP K3653 Rev 13

Color Reagent Chemicals
RGT 17484
RGT 17674
CDA 16278
RGT 17320

CCV: Std 52908
Daily Dilution: 5/5/50 =
Daily Dilution: 1/0.5
Spectrophotometer: UV-120-1V

LCS: Std 52909
Daily Dilution: 5/10/50
Daily Dilution: 1/1.0
Curve ID: 3/21/12

Spike: Std 52909
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	✓		0.325
BLANK	50	✓		0.000
LCS: 1.0 ppm	50	✓		0.640
LCSDUP: 1.0 ppm	50	✓		0.651
07-0507-01	50	✓		0.007
-02	50	✓		0.004
	50			
	50			
	50			
	50			
	50			
	50			
	50			
	50			
	50			
	50			
	50			
	50			
	50			
	50			
	50			
DUP: 07-0507-01	50	✓		0.006
MS: (0.4) 07-0507-01	50	✓		0.259
MSD: (____) _____	50			
CCV: (0.5) _____	50	✓		0.326

ANALYST: [signature] DATE / TIME: 7/18/12 1615

DCN#91611

Microbac Laboratories Inc.
SAMPLE REPORT

Workgroup: WG403756
Analyte: ORTHOPHOSPHATE

Analyst: HJR
Date: 07/18/2012

Sample ID	I Vol	F Vol	Response	Slope	Y Intercept	Anal. Conc.	Rep. Conc.	Dil	Units
WG403756-01	50	50	0	0.6513	0.003462	-0.0053150	-0.0053150	1	mg/L
WG403756-02	50	50	0.640	0.6513	0.003462	0.97736	0.97736	1	mg/L
WG403756-03	50	50	0.651	0.6513	0.003462	0.99425	0.99425	1	mg/L
L12070507-01	50	50	0.00700	0.6513	0.003462	0.0054331	ND	1	mg/L
WG403756-04	50	50	0.00700	0.6513	0.003462	0.0054331	0.0054331	1	mg/L
L12070507-02	50	50	0.00400	0.6513	0.003462	0.00082677	ND	1	mg/L
WG403756-05	50	50	0.00600	0.6513	0.003462	0.0038976	0.0038976	1	mg/L
WG403756-06	50	50	0.259	0.6513	0.003462	0.39236	0.39236	1	mg/L

UV_SAMPLE_REPORT - Modified 03/06/2008

Report generated 07/27/2012 13:17

[redacted]

Microbac Laboratories Inc.
CONTINUING CALIBRATION REPORT

Workgroup #: WG404745
File ID: 1V.1207181615-01
CCV ID: WG404745-01
Units: mg/L
Analyte: ORTHOPHOSPHATE

Instrument ID: UV-120-1V
Run Date: 07/18/2012
Run Time: 16:15
Analyst: HJR
Cal ID: UV-120 - 16-JUL-12

Analyte	Expected	Found	RF	%D	Q
Orthophosphate	.5	0.494	0.650	1.2	

* Exceeds %D Limit

CCC Calibrtion Check Compounds
SPCC System Performance Check Compounds

WET_WG_CCV - Modified 03/06/2008

Report generated 07/27/2012 13:17

[redacted]

Microbac Laboratories Inc.
CONTINUING CALIBRATION REPORT

Workgroup #: WG404745
File ID: 1V.1207181615-09
CCV ID: WG404745-02
Units: mg/L
Analyte: ORTHOPHOSPHATE

Instrument ID: UV-120-1V
Run Date: 07/18/2012
Run Time: 16:15
Analyst: HJR
Cal ID: UV-120 - 16-JUL-12

Analyte	Expected	Found	RF	%D	Q
Orthophosphate	.5	0.495	0.652	1.0	

* Exceeds %D Limit

CCC Calibrtion Check Compounds
SPCC System Performance Check Compounds

WET_WG_CCV - Modified 03/06/2008

Report generated 07/27/2012 13:17

2.2.9 Total Dissolved Solids Data

2.2.9.1 Summary Data

Login Number: L12070507
Department: Conventionals
Analyst: Erin R Porter

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.

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Narrative ID: 50797
Approved By: Deanna Hesson

Microbac

Lab Report #: L12070507
Lab Project #: 3005.011
Project Name: White Sands MR
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L12070507-01	**PrePrep Method:**	N/A	**Instrument:**	OVEN
Client ID:	MPL23-0712-1	**Prep Method:**	160.1/SM2540C	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	160.1	**Cal Date:**	
Workgroup #:	WG403831	**Analyst:**	ERP	**Run Date:**	07/19/2012 09:46
Collect Date:	07/17/2012 12:42	**Dilution:**	1	**File ID:**	EN.1207190946-08
Sample Tag:		**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Total Dissolved Solids		206		20.0	10.0

Sample #:	L12070507-02	**PrePrep Method:**	N/A	**Instrument:**	OVEN
Client ID:	MPL23-0712-2	**Prep Method:**	160.1/SM2540C	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	160.1	**Cal Date:**	
Workgroup #:	WG403831	**Analyst:**	ERP	**Run Date:**	07/19/2012 09:46
Collect Date:	07/17/2012 12:42	**Dilution:**	1	**File ID:**	EN.1207190946-09
Sample Tag:		**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Total Dissolved Solids		216		20.0	10.0

2.2.9.2 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: 19-JUL-2012
Analyst: HJR
Analyst: ERP
Method: TDS
Instrument: OVEN
Curve Workgroup: NA
Runlog ID:
Analytical Workgroups: WG403831

Calibration/Linearity	
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	
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	ERP
Secondary Reviewer	DIH
Comments	

Primary Reviewer: 23-JUL-2012

Secondary Reviewer: 24-JUL-2012

CHECKLIST1 - Modified 03/05/2008
Generated: JUL-24-2012 15:31:23

Microbac Laboratories Inc.

HOLDING TIMES
EQUIVALENT TO AFCEE FORM 9

Analytical Method: 160.1 AAB#: WG403831

Login Number: L12070507

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
MPL23-0712-1	01	07/17/12					07/19/2012	1.9	7		07/19/12	1.9	7	
MPL23-0712-2	02	07/17/12					07/19/2012	1.9	7		07/19/12	1.9	7	

* = SEE PROJECT QAPP REQUIREMENTS

HOLD_TIMES - Modified 03/06/2008
PDF File ID: 2511792
Report generated 07/23/2012 16:23

Microbac Laboratories Inc.

METHOD BLANK SUMMARY

Login Number: L12070507
Blank File ID: EN.1207190946-01
Prep Date: 07/19/12 09:46
Analyzed Date: 07/19/12 09:46
Analyst: ERP

Work Group: WG403831
Blank Sample ID: WG403831-01
Instrument ID: OVEN
Method: 160.1

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG403831-02	EN.1207190946-02	07/19/12 09:46	
LCS2	WG403831-03	EN.1207190946-03	07/19/12 09:46	
MPL23-0712-1	L12070507-01	EN.1207190946-08	07/19/12 09:46	
MPL23-0712-2	L12070507-02	EN.1207190946-09	07/19/12 09:46	
DUP	WG403831-05	EN.1207190946-24	07/19/12 09:46	
DUP	WG403831-07	EN.1207190946-25	07/19/12 09:46	

Report Name: BLANK_SUMMARY
PDF File ID: 2511794
Report generated 07/23/2012 16:23

Microbac Laboratories Inc.

METHOD BLANK REPORT

Login Number: L12070507 Prep Date: 07/19/12 09:46 Sample ID: WG403831-01
Instrument ID: OVEN Run Date: 07/19/12 09:46 Prep Method: 160.1/SM2540C
File ID: EN.1207190946-01 Analyst: ERP Method: 160.1
Workgroup (AAB#): WG403831 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: 2511795
23-JUL-2012 16:23

Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L12070507 Analyst: ERP Prep Method: 160.1/SM2540C
Instrument ID: OVEN Matrix: Water Method: 160.1
Workgroup (AAB#): WG403831 Units: mg/L
QC Key: DOD4 Lot #: STD52847

Sample ID: WG403831-02 LCS File ID: EN.1207190946-02 Run Date: 07/19/2012 09:46
Sample ID: WG403831-03 LCS2 File ID: EN.1207190946-03 Run Date: 07/19/2012 09:46

Analytes	LCS			LCS2			%RPD	%Rec Limits	RPD Lmt	Q
	Known	Found	% REC	Known	Found	% REC				
Total Dissolved Solids	500	510	102	500	492	98.4	3.59	80 - 120	10	

LCS_LCS2 - Modified 03/06/2008
PDF File ID: 2511796
Report generated: 07/23/2012 16:23

2.2.9.3 Raw Data

TOTAL DISSOLVED SOLIDS

Oven: TDS1 MISC1

SOP K1601 Revision #: _____ Balance: AND GR-202 / Other

☐ EPA 160.1/SM2540C Matrix Spike: _____

LCS: 5052847 Daily Dilution: _____

Daily Dilution: _____ Filter Lot #: 64798

On Temp: 103 1009 180 0728 179 0730

SAMPLE	#	VOLUME (mL)	INITIAL WEIGHT WT1 (g)	DRY WEIGHT WT2A (g)	DRY WEIGHT WT2B (g)	DRY WEIGHT WT2C (g)
BLANK	D3	100				
LCS: _____mg/L	K5	50				
LCSDUP: _____mg/L	K7	50				
7-527-1	K8	50				
7-5 3	P3	50				
5	K4	50				
7-493-1	B7	50				
7-507-1	B4	50				
2	R	50				
7-516-1	L	50				
2	X	50				
Rerun → 7-528-1	K	50				
7-541-1	B	50				
2	Q	50				
3	F	50				
4	Sm	50				
7-546-1	N2	25				
2	11T	50				
3	N1	50				
7-482-1 4	N3	1				
7-483-1 5	TA	1				
7-484-1 ~~7-558-1~~	P8	1				
7-485-1 ~~7-559-1~~	C9	1				
DUP: 7-527-1	C11	50				
DUP: 7-527-3	J1	50				

Off Temp: 103 0730 180 130 179 330

ANALYST: [illegible]

DATE/TIME: (on) 7-19-12 1000

DATE/TIME: (off) _____

DATE/TIME: (off) _____

DATE/TIME: (off) _____

* Duplicate required on 10% of samples

DCN#91622

Microbac Laboratories Inc.
GRAVIMETRIC REPORT

Workgroup (AAB#): WG403831
Analyst: ERP
Analyte: TOTAL DISSOLVED SOLIDS
Balance: BAL004
Instrument: OVEN

Method: 160.1/SM2540C
SOP: Revison
Spike Solution: STD52847
Daily Dilution:

SAMPLE NUMBER	#	INITIAL VOL	INITIAL WT	DRY WT A	DRY WT B	DRY WT C	Anal. Conc	Rep. Conc.	Units
WG403831-01	D3	100	80.9432	80.9432	80.9432			0	mg/L
WG403831-02	K5	50	79.5427	79.5686	79.5682			510.0	mg/L
WG403831-03	K7	50	76.4484	76.4732	76.473			492.0	mg/L
L12070527-01	K8	50	73.4488	73.4525	73.4525			74.00	mg/L
WG403831-04	K8	50	73.4488	73.4525	73.4525			74.00	mg/L
L12070527-03	P3	50	75.3224	75.4546	75.4546			2644	mg/L
WG403831-06	P3	50	75.3224	75.4546	75.4546			2644	mg/L
L12070527-05	K4	50	82.2034	82.3358	82.3354			2640	mg/L
L12070493-01	B7	50	64.6006	64.6685	64.6684			1356	mg/L
L12070507-01	B4	50	66.9584	66.9691	66.9687			206.0	mg/L
L12070507-02	R	50	71.2475	71.2588	71.2583			216.0	mg/L
L12070516-01	L	50	66.0215	66.0788	66.0784			1138	mg/L
L12070516-02	X	50	76.8852	76.8853	76.8854			ND	mg/L
L12070528-01	K	50	66.9989	67.5061				10140	mg/L
L12070541-01	B	50	73.7682	73.8332	73.8327			1290	mg/L
L12070541-02	Q	50	64.2133	64.2772	64.2774			1282	mg/L
L12070541-03	F	50	70.0816	70.1393	70.1395			1158	mg/L
L12070541-04	SM	50	45.7158	45.8237	45.8135	45.813	1944	1944	mg/L
L12070546-01	N2	25	48.7586	48.8154	48.8153			2268	mg/L
L12070546-02	11T	50	51.0824	51.1889	51.1887			2126	mg/L
L12070546-03	N1	50	51.5724	51.5803	51.5799			150.0	mg/L
L12070482-01	N3	1	55.3276	55.4963	55.4791	55.4792	151600	151600	mg/L
L12070483-01	TA	1	48.9349	49.1749	49.1481	49.1481	213200	213200	mg/L
L12070484-01	P8	1	74.9781	75.1237	75.1019	75.1015	123400	123400	mg/L
L12070485-01	C9	1	60.7862	60.8725	60.8611	60.8612	75000	75000	mg/L
WG403831-05	C11	50	68.8755	68.8789	68.8789			68.00	mg/L
WG403831-07	J1	50	57.0253	57.1433	57.1433			2360	mg/L

Analyst: Erin Potter

*Duplicate required on 10% of samples

Date/Time (on) : 07/19/2012 09:46
Date/Time (off): 07/20/2012 15:00
Date/Time (off): 07/23/2012 15:00
Date/Time (off): 07/21/2012 15:49

CONT_GRAV_REPORT - Modified 02/18/2011
PDF ID: 2503823
Report generated: 07/23/2012 15:50

Microbac

2.2.10 Total Organic Carbon Data

2.2.10.1 Summary Data

Login Number: L12070507
Department: Conventionals
Analyst: Deanna Hesson

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: 50795
Approved By: Deanna Hesson

Microbac

Lab Report #: L12070507
Lab Project #: 3005.011
Project Name: White Sands MR
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L12070507-01	**PrePrep Method:**	N/A	**Instrument:**	TOC-VWP
Client ID:	MPL23-0712-1	**Prep Method:**	415.1	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	415.1	**Cal Date:**	12/06/2011 09:40
Workgroup #:	WG404426	**Analyst:**	DIH	**Run Date:**	07/25/2012 12:35
Collect Date:	07/17/2012 12:42	**Dilution:**	1	**File ID:**	TC07252012.008
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Total Organic Carbon		0.778	J	1.00	0.500

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

Certificate of Analysis

Sample #:	L12070507-02	**PrePrep Method:**	N/A	**Instrument:**	TOC-VWP
Client ID:	MPL23-0712-2	**Prep Method:**	415.1	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	415.1	**Cal Date:**	12/06/2011 09:40
Workgroup #:	WG404426	**Analyst:**	DIH	**Run Date:**	07/25/2012 12:47
Collect Date:	07/17/2012 12:42	**Dilution:**	1	**File ID:**	TC07252012.009
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Total Organic Carbon		0.773	J	1.00	0.500

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

Certificate of Analysis

2.2.10.2 QC Summary Data

Total Organic Carbon Example Calculations
(Direct Readout Parameter)

(Readout)/(dilution) = mg/L

where:

Readout = direct readout from the instrument
dilution = dilution in decimal form (ex. 1/5 dilution = 0.2)

Microbac Laboratories Inc.

Data Checklist

Date: 25-JUL-2012
Analyst: DIH
Analyst: NA
Method: TOC
Instrument: TOC
Curve Workgroup: NA
Runlog ID:
Analytical Workgroups: WG404426 WG404427

Calibration/Linearity	12/6/2011
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	
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:
28-JUL-2012

Secondary Reviewer:
28-JUL-2012

CHECKLIST1 - Modified 03/05/2008
Generated: JUL-28-2012 09:18:56

Microbac Laboratories Inc.

HOLDING TIMES
EQUIVALENT TO AFCEE FORM 9

Analytical Method: 415.1 AAB#: WG404426

Login Number: L12070507

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
MPL23-0712-1	01	07/17/12					07/25/2012	8	28		07/25/12	8	28	
MPL23-0712-2	02	07/17/12					07/25/2012	8	28		07/25/12	8	28	

* = SEE PROJECT QAPP REQUIREMENTS

HOLD_TIMES - Modified 03/06/2008
PDF File ID: 2522812
Report generated 07/27/2012 17:02

Microbac Laboratories Inc.

METHOD BLANK SUMMARY

Login Number: L12070507
Blank File ID: TC07252012.003
Prep Date: 07/25/12 11:34
Analyzed Date: 07/25/12 11:34
Analyst: DIH

Work Group: WG404426
Blank Sample ID: WG404426-01
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	WG404426-02	TC07252012.004	07/25/12 11:46	01
LCS2	WG404426-03	TC07252012.005	07/25/12 11:58	01
MPL23-0712-1	L12070507-01	TC07252012.008	07/25/12 12:35	01
MPL23-0712-2	L12070507-02	TC07252012.009	07/25/12 12:47	01
DUP	WG404426-05	TC07252012.030	07/25/12 17:08	01

Report Name: BLANK_SUMMARY
PDF File ID: 2522813
Report generated 07/27/2012 17:02

Microbac Laboratories Inc.

METHOD BLANK REPORT

Login Number: L12070507 Prep Date: 07/25/12 11:34 Sample ID: WG404426-01
Instrument ID: TOC-VWP Run Date: 07/25/12 11:34 Prep Method: 415.1
File ID: TC07252012.003 Analyst: DIH Method: 415.1
Workgroup (AAB#): WG404426 Matrix: Water Units: mg/L
Contract #: Cal ID: TOC-VW-06-DEC-11

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: 2522814
27-JUL-2012 17:02

Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L12070507 Analyst: DIH Prep Method: 415.1
Instrument ID: TOC-VWP Matrix: Water Method: 415.1
Workgroup (AAB#): WG404426 Units: mg/L
QC Key: DOD4 Lot #: STD50986

Sample ID: WG404426-02 LCS File ID: TC07252012.004 Run Date: 07/25/2012 11:46
Sample ID: WG404426-03 LCS2 File ID: TC07252012.005 Run Date: 07/25/2012 11:58

Analytes	LCS			LCS2			%RPD	%Rec Limits	RPD Lmt	Q
	Known	Found	% REC	Known	Found	% REC				
Total Organic Carbon	25.0	23.8	95.2	25.0	23.8	95.3	0.168	85 - 115	15	

LCS_LCS2 - Modified 03/06/2008
PDF File ID: 2522815
Report generated: 07/27/2012 17:02

2.2.10.3 Raw Data

WG384145

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): _____

Calibration Curve Date: _____

Reagent: RGT 16590 RGT 16642

☑ SM5310-C : Matrix 2 WG_____

☐ EPA 415.1/9060A(mod): Matrix 1 WG_____ WG_____

SOP: K 4151 Rev. 13

Instrument: Shimadza TOC-VWP/ASI

DAILY CHECK

☑ drain reservoir filled
☑ ASI water bottle full
☑ dilution water bottle full

☑ 3rd bottle full
☑ sufficient gas
☑ sufficient persulfate

☑ sufficient acid
☑ waste container

Position	Sample ID	Dilution	Position	Sample ID	Dilution	Position	Sample ID	Dilution
1	TC Curve		26	TC Curve		51		
2	TIC Curve		27	STD 47222		52		
3	TC ICV		28			53	See SOP for	
4	TIC ICV		29	TIC Curve		54	Curve points	
5			30	STD 47189		55		
6			31			56		
7			32			57		
8			33			58		
9			34			59		
10			35			60		
11			36			61		
12			37	TC ICV		62		
13			38	STD 47544		63	5/200(1000)	
14			39			64	= 25 mg/L	
15			40	TIC ICV		65		
16			41	STD 47190		66		
17			42			67		
18			43			68		
19	All points analyzed		44			69		
20	in duplicate		45			70		
21			46			71		
22			47			72		
23			48			73		
24			49			74		
25			50			75		

Analyst: _____ Date/Time: 12/04/2011

DCN#89227

C:\TOC3201\Data\CURVES-12-06-2011.t32

	Analyst	Sample Name	Result	Status	Date / Time	Vial
1	TC	TC CURVE		Complet	12/06/2011 09:46:27 AM	0, 1, 2, 3, 4, 5
2	IC	TIC CURVE		Complet	12/06/2011 05:00:56 PM	0, 6, 7, 8, 9, 10
3	TC	TC ICV	✓ 93.08% TC:23.27mg/L	Complet	12/06/2011 05:13:38 PM	11
4	IC	TIC ICV	✓ 104.24% IC:26.21mg/L	Complet	12/06/2011 05:25:50 PM	12

12/07/2011 08:14:31 AM

1/1

Instr.Information

System TOCVW ASI
Detector Wet Chemical

Cal. Curve

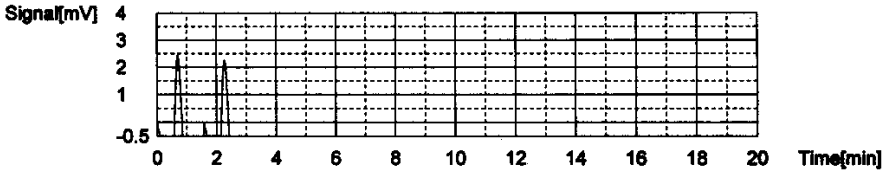
Sample Name: TC CURVE
Sample ID: Untitled
Cal. Curve: TCCURVE-12-06-2011.2011_12_06_08_40_57.cal
Status Completed

Type	Anal.
Standard	TC

Conc: 0.000mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	6.123	500uL	1	*******		12/06/2011 08:44:40 AM
2	5.308	500uL	1	*******		12/06/2011 08:48:33 AM

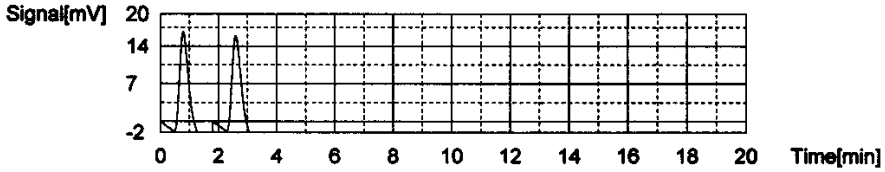
Acid Add. 0.000%
Mean Area 5.716



Conc: 1.000mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	39.77	500uL	1	*******		12/06/2011 08:54:04 AM
2	39.18	500uL	1	*******		12/06/2011 08:58:10 AM

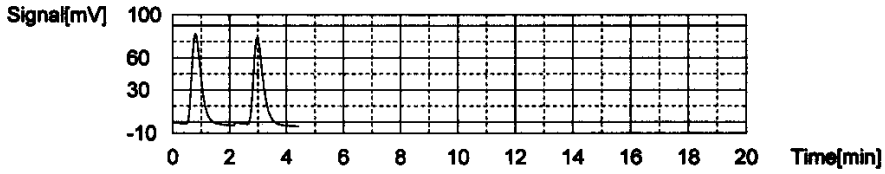
Acid Add. 0.000%
Mean Area 39.48



Conc: 5.000mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	191.7	500uL	1	*******		12/06/2011 09:04:17 AM
2	189.4	500uL	1	*******		12/06/2011 09:08:49 AM

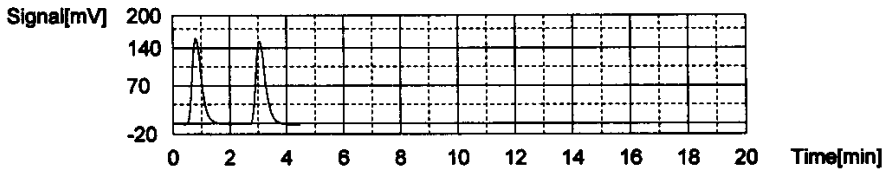
Acid Add. 0.000%
Mean Area 190.6



Conc: 10.00mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	367.0	500uL	1	*******		12/06/2011 09:15:00 AM
2	367.7	500uL	1	*******		12/06/2011 09:20:26 AM

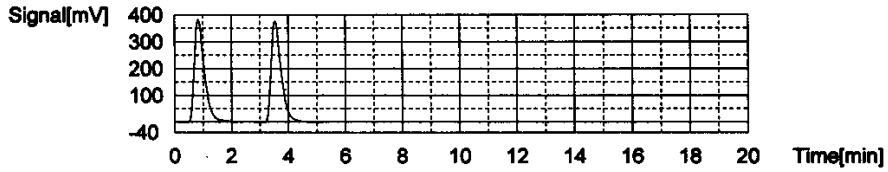
Acid Add. 0.000%
Mean Area 367.4



Conc: 25.00mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	938.7	500uL	1	*******		12/06/2011 09:27:05 AM
2	928.1	500uL	1	*******		12/06/2011 09:31:51 AM

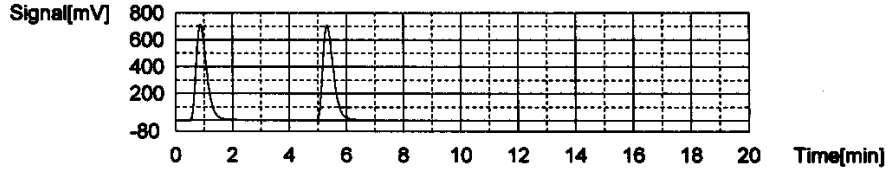
Acid Add. 0.000%
Mean Area 933.4



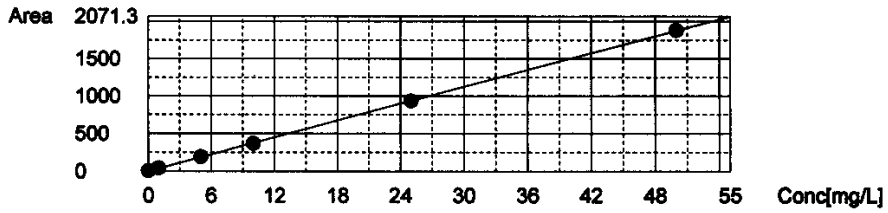
Conc: 50.00mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	1902	500uL	1	*******		12/06/2011 09:40:15 AM
2	1864	500uL	1	*******		12/06/2011 09:46:27 AM

Acid Add. 0.000%
Mean Area 1883



Slope: 37.57
Intercept 0.09333
r^2 0.999936 ✓
Zero Shift No



Cal. Curve

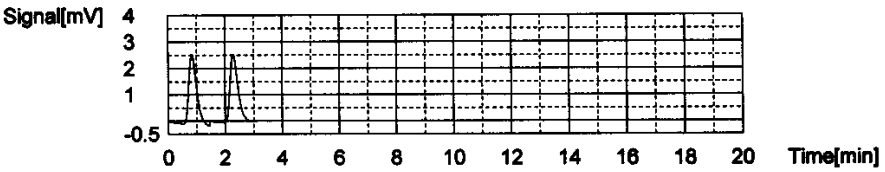
Sample Name: TIC CURVE
Sample ID: Untitled
Cal. Curve: TICCURVE-12-06-2011B.2011_12_06_15_47_44.cal
Status Completed

Type	Anal.
Standard	IC

Conc: 0.000mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	5.003	500uL	1	*******		12/06/2011 03:51:39 PM
2	4.762	500uL	1	*******		12/06/2011 03:55:32 PM

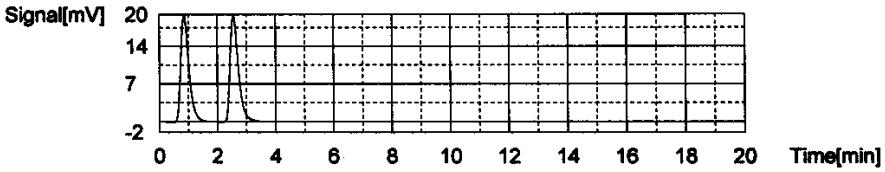
Acid Add. 10.00%
Mean Area 4.883



Conc: 1.000mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	38.88	500uL	1	*******		12/06/2011 04:02:55 PM
2	38.91	500uL	1	*******		12/06/2011 04:07:20 PM

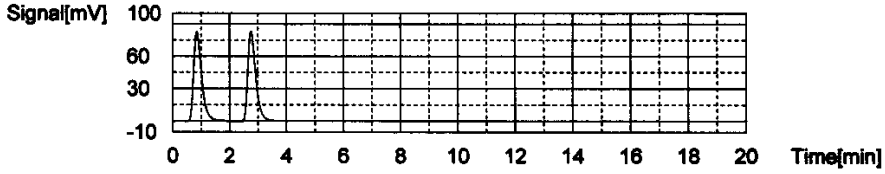
Acid Add. 10.00%
Mean Area 38.90



Conc: 5.000mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	160.3	500uL	1	*******		12/06/2011 04:15:09 PM
2	162.3	500uL	1	*******		12/06/2011 04:19:53 PM

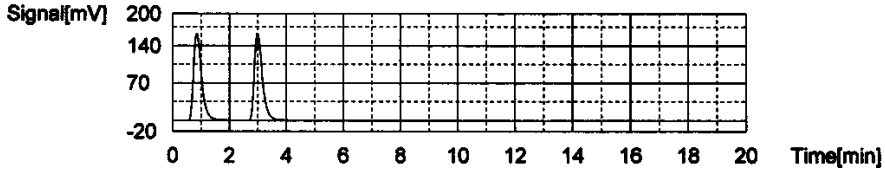
Acid Add. 10.00%
Mean Area 161.3



Conc: 10.00mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	317.9	500uL	1	*******		12/06/2011 04:28:01 PM
2	319.9	500uL	1	*******		12/06/2011 04:33:00 PM

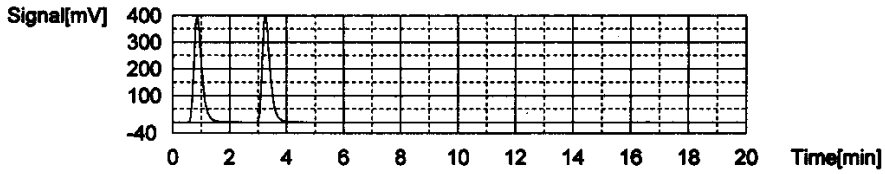
Acid Add. 10.00%
Mean Area 318.9



Conc: 25.00mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	765.1	500uL	1	*******		12/06/2011 04:41:31 PM
2	765.8	500uL	1	*******		12/06/2011 04:46:44 PM

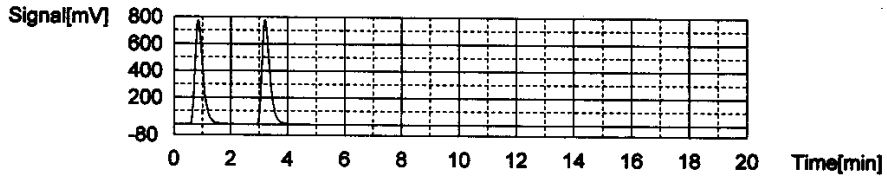
Acid Add. 10.00%
Mean Area 765.5



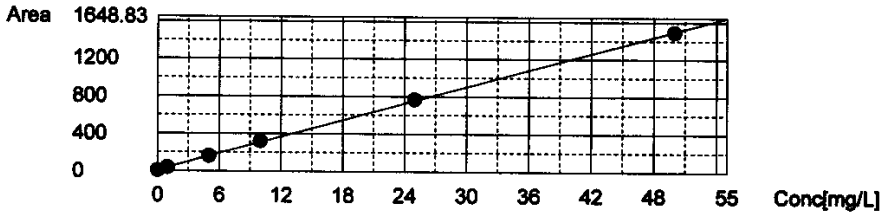
Conc: 50.00mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	1490	500uL	1	*******		12/06/2011 04:55:30 PM
2	1495	500uL	1	*******		12/06/2011 05:00:56 PM

Acid Add. 10.00%
Mean Area 1493



Slope: 29.72
Intercept 12.89
r^2 0.999826 ✓
Zero Shift No



Sample

Sample Name: TC ICV
Sample ID: Untitled
Origin: TCCURVE-12-06-2011.cal
Status Completed
Chk. Result

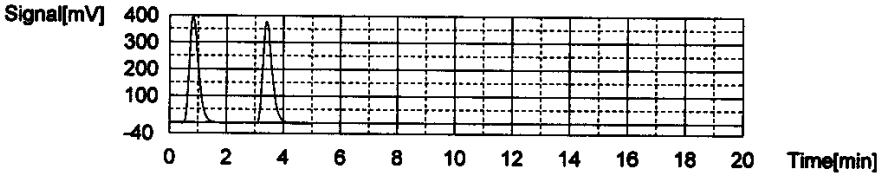
Type	Anal.	Dil.	Result
Unknown	TC	1.000	TC:23.27mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	889.3	23.67mg/L	500uL	1		TCCURVE-12-06-2011.2011_12_06_08_40_5	12/06/2011 05:08:57 PM
2	859.5	22.87mg/L	500uL	1		TCCURVE-12-06-2011.2011_12_06_08_40_5	12/06/2011 05:13:38 PM

Mean Area 874.4
Mean Conc. 23.27mg/L



Sample

Sample Name: TIC ICV
Sample ID: Untitled
Origin: TICCURVE-12-06-2011B.cal
Status Completed
Chk. Result

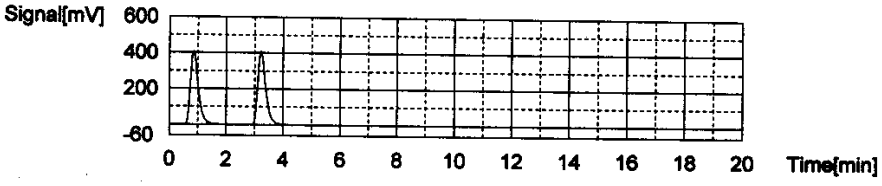
Type	Anal.	Dil.	Result
Unknown	IC	1.000	IC:26.21mg/L

1. Det

Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	788.9	26.11mg/L	500uL	1		TICCURVE-12-06-2011B.2011_12_06_15_47	12/06/2011 05:20:43 PM
2	794.9	26.31mg/L	500uL	1		TICCURVE-12-06-2011B.2011_12_06_15_47	12/06/2011 05:25:50 PM

Mean Area 791.9
Mean Conc. 26.21mg/L



WORKGROUP: WG404426

404427

Total Organic Carbon

MAKE DAILY

CCV (TOC): std 52106 (5/200)(1000) = 25mg/L

LCS (TOC): std 50986 (5/200)(1000) = 25mg/L

CCV (TIC): std 50244 (5/200)(1000) = 25mg/L

MS (TOC): 0.4/40(1000) = 10

Calibration Curve Date: 12/6/11

Reagent: Rgt 17495 Rgt 17230

☐ SM5310-C : Matrix 2 WG 404427

☑ EPA 415.1/9060A(mod): Matrix 1 WG 404426 SOP: K 4151 Rev. 14

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
1	TIC 25	
2	CCV 25	
3	BLK	
4	LCS25	
5	LCSDUP	
6	07-425-01	
7	02	
8	07-507-01	
9	02	
10	07-419-01	1/3
11	03	1/3
12	05	1/3
13	07	1/3
14	CCV	
15	CCB	
16	07-419-09	1/3
17	11	1/3
18	07-631-02	
19	03	1/10 gas
20	07-639-01	
21	02	
22	03	
23	07-640-01	
24	02	
25	03	

Position	Sample ID	Dilution
26	CCV	
27	CCB	
28	07-673-01	
29	03	
30	DUP	
31	MS	
32	BLK	
33	LCS 25	
34	LCSDUP	
35	07-652-01	
36	02	
37	03	
38	CCV	
39	CCB	
40	652-04	
41	07-743-01	
42	07-747-01	
43	02	
44	03	
45	DUP	
46	MS	
47	07-001-01	
48	07-003-01	
49		
50	CCV	

Position	Sample ID	Dilution
51	CCB	
52	CCV	
53	CCB	
54	R07-631-02	1/3
55	CCV	
56	CCB	
57		
58		
59		
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75		

Analyst: Deanna Gibson Date/Time: 7/25/12

DCN#91708

C:\TOC3201\Data\07-25-2012-DIH-TOC.t32

	Analysi	Sample Name	Result	Status	Date / Time	Vial
1	TOC	TIC 25	TOC:0.7115mg/L TC:25.23mg/L IC:24.52mg/L	Completed	7/25/2012 11:16:42 A	1
2	TOC	CCV 25	!!Error!! TOC:23.00mg/L TC:22.75mg/L IC:-0.2508mg/L	Completed	7/25/2012 11:29:02 A	2
3	TOC	WG404426-01 BLK	!!Error!! TOC:0.4085mg/L TC:0.2235mg/L IC:-0.1851mg	Completed	7/25/2012 11:38:12 A	0
4	TOC	WG404426-02 LCS	!!Error!! TOC:23.79mg/L TC:23.52mg/L IC:-0.2789mg/L	Completed	7/25/2012 11:50:24 A	4
5	TOC	WG404426-03 LCSDUP	!!Error!! TOC:23.83mg/L TC:23.55mg/L IC:-0.2790mg/L	Completed	7/25/2012 12:02:38 P	5
6	TOC	L12070425-01	TOC:1.603mg/L TC:13.72mg/L IC:12.11mg/L	Completed	7/25/2012 12:15:17 P	6
7	TOC	L12070425-02	TOC:0.9359mg/L TC:7.437mg/L IC:6.501mg/L	Completed	7/25/2012 12:27:33 P	7
8	TOC	L12070507-01	TOC:0.7779mg/L TC:6.354mg/L IC:5.576mg/L	Completed	7/25/2012 12:39:58 P	8
9	TOC	L12070507-02	TOC:0.7733mg/L TC:6.524mg/L IC:5.751mg/L	Completed	7/25/2012 12:52:18 P	9
10	TOC	L12070491-01 (3)	TOC:4.501mg/L TC:27.20mg/L IC:22.70mg/L	Completed	7/25/2012 1:05:59 PM	10
11	TOC	L12070491-03 (3)	TOC:23.08mg/L TC:35.50mg/L IC:12.42mg/L	Completed	7/25/2012 1:18:55 PM	11
12	TOC	L12070491-05 (3)	TOC:21.33mg/L TC:37.50mg/L IC:16.17mg/L	Completed	7/25/2012 1:32:22 PM	12
13	TOC	L12070491-07 (3)	TOC:12.35mg/L TC:28.29mg/L IC:15.94mg/L	Completed	7/25/2012 1:45:42 PM	13
14	TOC	CCV	!!Error!! TOC:25.72mg/L TC:25.53mg/L IC:-0.1881mg/L	Completed	7/25/2012 1:58:04 PM	14
15	TOC	CCB	!!Error!! TOC:0.3602mg/L TC:0.1745mg/L IC:-0.1857mg	Completed	7/25/2012 2:07:11 PM	0
16	TOC	L12070491-09 (3)	TOC:22.92mg/L TC:41.25mg/L IC:18.33mg/L	Completed	7/25/2012 2:20:44 PM	16
17	TOC	L12070491-11 (3)	TOC:31.08mg/L TC:43.09mg/L IC:12.01mg/L	Completed	7/25/2012 2:34:34 PM	17
18	TOC	L12070631-02 X	!!Error!! TOC:-4.738mg/L TC:72.82mg/L IC:77.56mg/L	Completed	7/25/2012 2:50:02 PM	18
19	TOC	L12070631-03 (10)	TOC:2.270mg/L TC:8.552mg/L IC:6.282mg/L	Completed	7/25/2012 3:02:42 PM	19
20	TOC	L12070639-01	TOC:1.041mg/L TC:5.244mg/L IC:4.203mg/L	Completed	7/25/2012 3:15:00 PM	20
21	TOC	L12070639-02	TOC:0.8705mg/L TC:5.544mg/L IC:4.674mg/L	Completed	7/25/2012 3:26:53 PM	21
22	TOC	L12070639-03	TOC:0.8288mg/L TC:4.887mg/L IC:4.058mg/L	Completed	7/25/2012 3:38:50 PM	22
23	TOC	L12070640-01	TOC:0.9596mg/L TC:5.576mg/L IC:4.617mg/L	Completed	7/25/2012 3:51:04 PM	23
24	TOC	L12070640-02	TOC:0.7985mg/L TC:2.658mg/L IC:1.859mg/L	Completed	7/25/2012 4:02:46 PM	24
25	TOC	L12070640-03	TOC:1.030mg/L TC:5.590mg/L IC:4.560mg/L	Completed	7/25/2012 4:15:03 PM	25
26	TOC	CCV	!!Error!! TOC:25.86mg/L TC:25.63mg/L IC:-0.2243mg/L	Completed	7/25/2012 4:28:12 PM	26
27	TOC	CCB	!!Error!! TOC:0.3683mg/L TC:0.1761mg/L IC:-0.1922mg	Completed	7/25/2012 4:37:19 PM	0
28	TOC	L12070673-01	TOC:0.7417mg/L TC:3.388mg/L IC:2.647mg/L	Completed	7/25/2012 4:49:27 PM	28
29	TOC	L12070673-03	TOC:1.039mg/L TC:4.182mg/L IC:3.143mg/L	Completed	7/25/2012 5:01:27 PM	29
30	TOC	WG404426-05 DUP	TOC:1.126mg/L TC:4.049mg/L IC:2.922mg/L	Completed	7/25/2012 5:13:34 PM	30
31	TOC	WG404426-036 MS	TOC:11.49mg/L TC:15.52mg/L IC:4.031mg/L	Completed	7/25/2012 5:26:02 PM	31
32	TOC	WG404427-01 BLK	!!Error!! TOC:0.3579mg/L TC:0.1652mg/L IC:-0.1927mg	Completed	7/25/2012 5:42:50 PM	0
33	TOC	WG404427-02 LCS	!!Error!! TOC:23.54mg/L TC:23.30mg/L IC:-0.2415mg/L	Completed	7/25/2012 6:03:42 PM	33
34	TOC	WG404427-03 LCSDUP	!!Error!! TOC:24.84mg/L TC:24.60mg/L IC:-0.2412mg/L	Completed	7/25/2012 6:25:19 PM	34
35	TOC	L12070652-01	TOC:0.7843mg/L TC:4.291mg/L IC:3.506mg/L	Completed	7/25/2012 6:46:57 PM	35
36	TOC	L12070652-02	TOC:2.079mg/L TC:16.78mg/L IC:14.70mg/L	Completed	7/25/2012 7:10:40 PM	36
37	TOC	L12070652-03	TOC:1.079mg/L TC:4.360mg/L IC:3.281mg/L	Completed	7/25/2012 7:33:30 PM	37
38	TOC	CCV	!!Error!! TOC:25.64mg/L TC:25.42mg/L IC:-0.2202mg/L	Completed	7/25/2012 7:45:43 PM	38
39	TOC	CCB	!!Error!! TOC:0.3666mg/L TC:0.1649mg/L IC:-0.2017mg	Completed	7/25/2012 7:54:48 PM	0
40	TOC	L12070652-04	TOC:0.6851mg/L TC:4.023mg/L IC:3.338mg/L	Completed	7/25/2012 8:15:32 PM	40
41	TOC	L12070743-01	TOC:8.170mg/L TC:9.497mg/L IC:1.326mg/L	Completed	7/25/2012 8:37:18 PM	41
42	TOC	L12070747-01	TOC:9.506mg/L TC:24.02mg/L IC:14.51mg/L	Completed	7/25/2012 9:01:48 PM	42
43	TOC	L12070747-02	TOC:10.32mg/L TC:22.10mg/L IC:11.78mg/L	Completed	7/25/2012 9:25:39 PM	43
44	TOC	L12070747-03	TOC:5.262mg/L TC:12.15mg/L IC:6.893mg/L	Completed	7/25/2012 9:48:17 PM	44
45	TOC	WG404427-05 DUP	TOC:5.385mg/L TC:11.07mg/L IC:5.687mg/L	Completed	7/25/2012 10:10:57 P	45
46	TOC	WG404427-06 MS	TOC:16.13mg/L TC:27.67mg/L IC:11.54mg/L	Completed	7/25/2012 10:34:29 P	46
47	TOC	L12070001-01 X	!!Error!! TOC:0.9833mg/L TC:0.7762mg/L IC:-0.2071mg	Completed	7/25/2012 10:53:59 P	47
48	TOC	L12070003-01 X	!!Error!! TOC:1.482mg/L TC:1.251mg/L IC:-0.2311mg/L	Completed	7/25/2012 11:13:38 P	48
49	TOC	<Untitled>	!!Error!! TOC:24.97mg/L TC:24.74mg/L IC:-0.2310mg/L	Completed	7/25/2012 11:34:55 P	49
50	TOC	CCV	!!Error!! TOC:23.27mg/L TC:23.04mg/L IC:-0.2323mg/L	Completed	7/25/2012 11:47:08 P	50
51	TOC	CCB	!!Error!! TOC:0.3711mg/L TC:0.1744mg/L IC:-0.1968mg	Completed	7/25/2012 11:56:15 P	0
52	TOC	CCV	!!Error!! TOC:22.95mg/L TC:22.75mg/L IC:-0.1922mg/L	Completed	7/26/2012 9:54:55 AM	52
53	TOC	CCB	!!Error!! TOC:0.4004mg/L TC:0.2092mg/L IC:-0.1912mg	Completed	7/26/2012 10:04:02 A	0
54	TOC	L12070631-02 (3)	TOC:1.604mg/L TC:1.723mg/L IC:0.1186mg/L	Completed	7/26/2012 10:15:51 A	54
55	TOC	CCV	!!Error!! TOC:24.53mg/L TC:24.33mg/L IC:-0.2059mg/L	Completed	7/26/2012 10:28:03 A	55
56	TOC	CCB	!!Error!! TOC:0.3494mg/L TC:0.1568mg/L IC:-0.1925mg	Completed	7/26/2012 10:37:09 A	0

7/26/2012 11:58:50 AM

1/1

Instr.Information

System TOCVW ASI
Detector Wet Chemical

Sample

Sample Name: TIC 25
Sample ID:
Origin: TOC-12-06-2011.met
Status Completed
Chk. Result

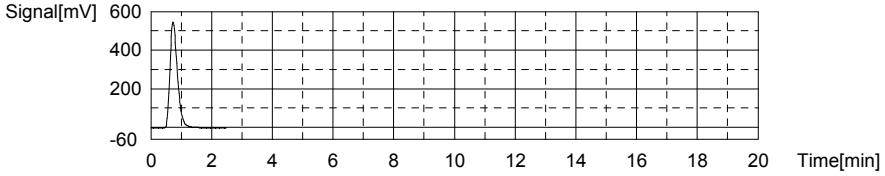
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:0.7115mg/L TC:25.23mg/L IC:24.52mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	948.0	25.23mg/L	500uL	1		TCCURVE-12-06-2011.2011_12_06_08_40_5	7/25/2012 11:11:05 AM

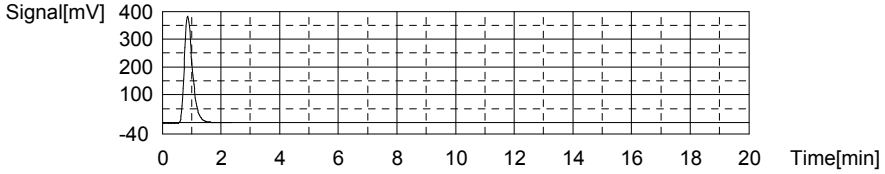
Mean Area 948.0
Mean Conc. 25.23mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	741.6	24.52mg/L	500uL	1		TICCURVE-12-06-2011B.2011_12_06_15_47	7/25/2012 11:16:42 AM

Mean Area 741.6
Mean Conc. 24.52mg/L



Sample

Sample Name: CCV 25
Sample ID:
Origin: TOC-12-06-2011.met
Status Completed
Chk. Result

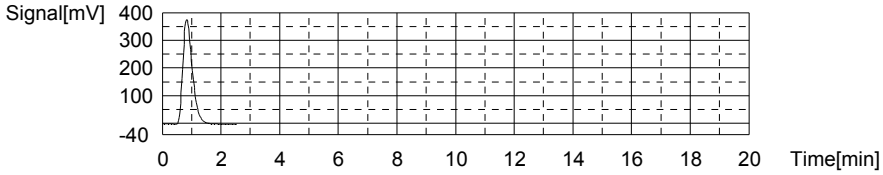
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	!!Error!! TOC:23.00mg/L TC:22.75mg/L IC:-0.2508mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	854.9	22.75mg/L	500uL	1		TCCURVE-12-06-2011.2011_12_06_08_40_5	7/25/2012 11:24:41 AM

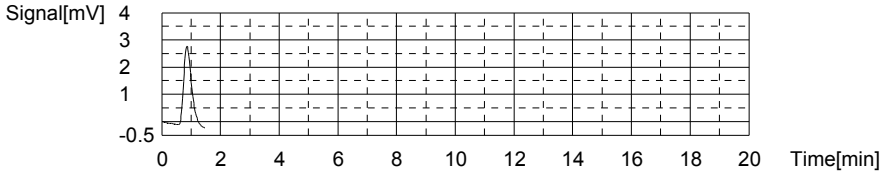
Mean Area 854.9
Mean Conc. 22.75mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	5.432	-0.2508mg/L	500uL	1		TICCURVE-12-06-2011B.2011_12_06_15_47_	7/25/2012 11:29:02 AM

Mean Area 5.432
Mean Conc. -0.2508mg/L



Sample

Sample Name: WG404426-01 BLK
Sample ID:
Origin: TOC-12-06-2011.met
Status Completed
Chk. Result

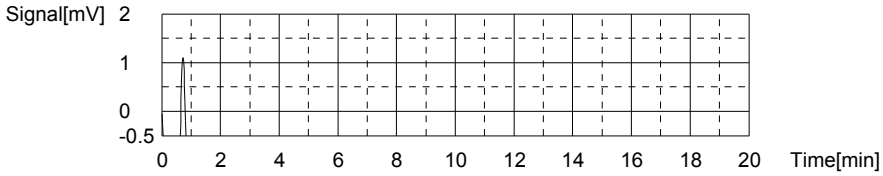
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	!!Error!! TOC:0.4085mg/L TC:0.2235mg/L IC:-0.1851mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	8.489	0.2235mg/L	500uL	1		TCCURVE-12-06-2011.2011_12_06_08_40_5	7/25/2012 11:34:14 AM

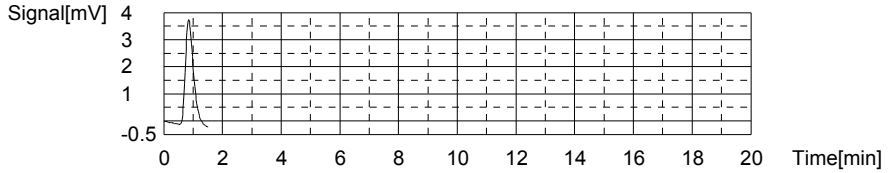
Mean Area 8.489
Mean Conc. 0.2235mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	7.385	-0.1851mg/L	500uL	1		TICCURVE-12-06-2011B.2011_12_06_15_47_	7/25/2012 11:38:12 AM

Mean Area 7.385
Mean Conc. -0.1851mg/L



Sample

Sample Name: WG404426-02 LCS
Sample ID:
Origin: TOC-12-06-2011.met
Status Completed
Chk. Result

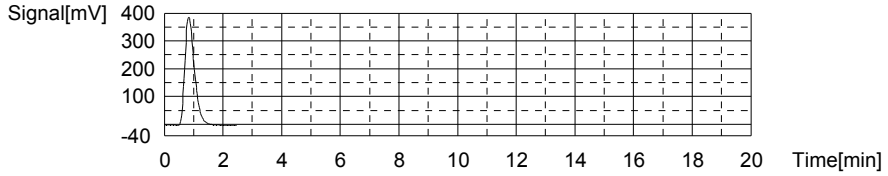
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	!!Error!! TOC:23.79mg/L TC:23.52mg/L IC:-0.2789mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	883.6	23.52mg/L	500uL	1		TCCURVE-12-06-2011.2011_12_06_08_40_5	7/25/2012 11:46:05 AM

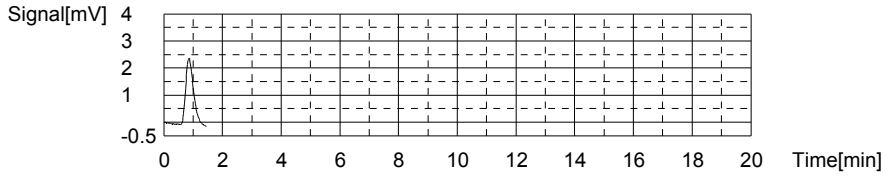
Mean Area 883.6
Mean Conc. 23.52mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	4.596	-0.2789mg/L	500uL	1		TICCURVE-12-06-2011B.2011_12_06_15_47_	7/25/2012 11:50:24 AM

Mean Area 4.596
Mean Conc. -0.2789mg/L



Sample

Sample Name: WG404426-03 LCSDUP
Sample ID:
Origin: TOC-12-06-2011.met
Status Completed
Chk. Result

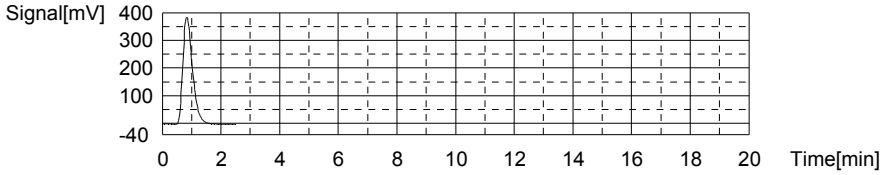
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	!!Error!! TOC:23.83mg/L TC:23.55mg/L IC:-0.2790mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	884.8	23.55mg/L	500uL	1		TCCURVE-12-06-2011.2011_12_06_08_40_5	7/25/2012 11:58:20 AM

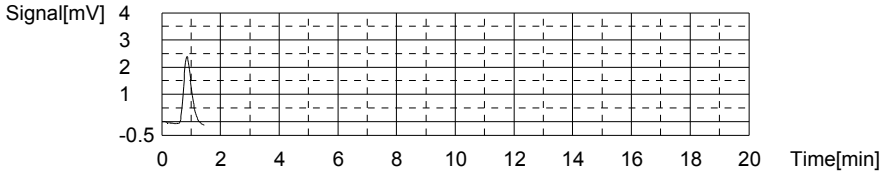
Mean Area 884.8
Mean Conc. 23.55mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	4.594	-0.2790mg/L	500uL	1		TICCURVE-12-06-2011B.2011_12_06_15_47_	7/25/2012 12:02:38 PM

Mean Area 4.594
Mean Conc. -0.2790mg/L



Sample

Sample Name: L12070425-01
Sample ID:
Origin: TOC-12-06-2011.met
Status Completed
Chk. Result

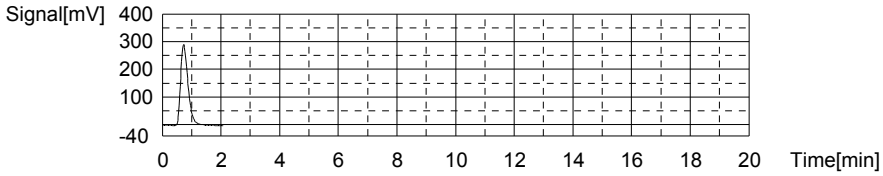
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:1.603mg/L TC:13.72mg/L IC:12.11mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	515.4	13.72mg/L	500uL	1		TCCURVE-12-06-2011.2011_12_06_08_40_5	7/25/2012 12:10:08 PM

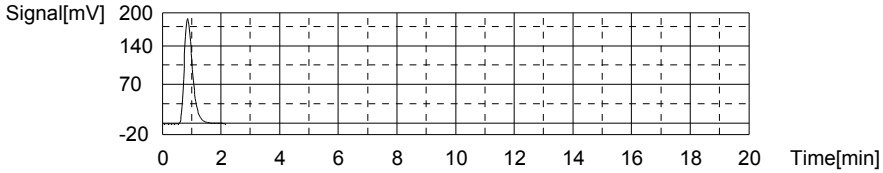
Mean Area 515.4
Mean Conc. 13.72mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	372.9	12.11mg/L	500uL	1		TICCURVE-12-06-2011B.2011_12_06_15_47_	7/25/2012 12:15:17 PM

Mean Area 372.9
Mean Conc. 12.11mg/L



Sample

Sample Name: L12070425-02
Sample ID:
Origin: TOC-12-06-2011.met
Status Completed
Chk. Result

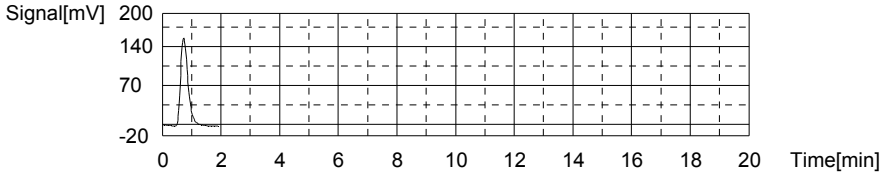
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:0.9359mg/L TC:7.437mg/L IC:6.501mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	279.5	7.437mg/L	500uL	1		TCCURVE-12-06-2011.2011_12_06_08_40_5	7/25/2012 12:22:37 PM

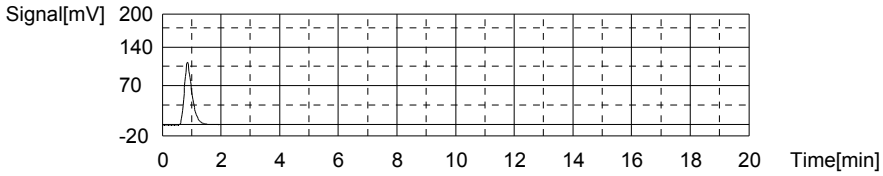
Mean Area 279.5
Mean Conc. 7.437mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	206.1	6.501mg/L	500uL	1		TICCURVE-12-06-2011B.2011_12_06_15_47_	7/25/2012 12:27:33 PM

Mean Area 206.1
Mean Conc. 6.501mg/L



Sample

Sample Name: L12070507-01
Sample ID:
Origin: TOC-12-06-2011.met
Status Completed
Chk. Result

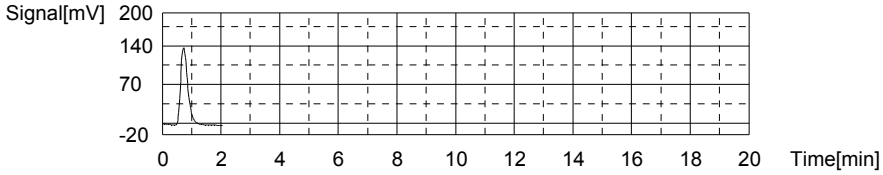
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:0.7779mg/L TC:6.354mg/L IC:5.576mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	238.8	6.354mg/L	500uL	1		TCCURVE-12-06-2011.2011_12_06_08_40_5	7/25/2012 12:35:03 PM

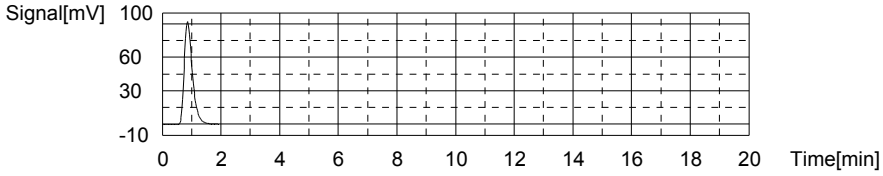
Mean Area 238.8
Mean Conc. 6.354mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	178.6	5.576mg/L	500uL	1		TICCURVE-12-06-2011B.2011_12_06_15_47_	7/25/2012 12:39:58 PM

Mean Area 178.6
Mean Conc. 5.576mg/L



Sample

Sample Name: L12070507-02
Sample ID:
Origin: TOC-12-06-2011.met
Status Completed
Chk. Result

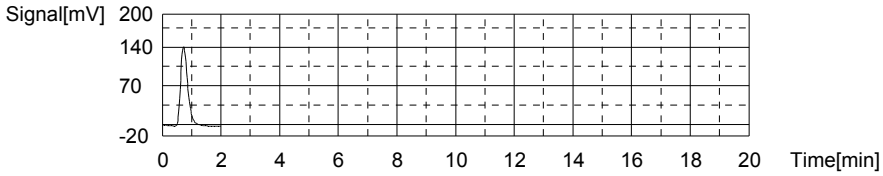
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:0.7733mg/L TC:6.524mg/L IC:5.751mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	245.2	6.524mg/L	500uL	1		TCCURVE-12-06-2011.2011_12_06_08_40_5	7/25/2012 12:47:23 PM

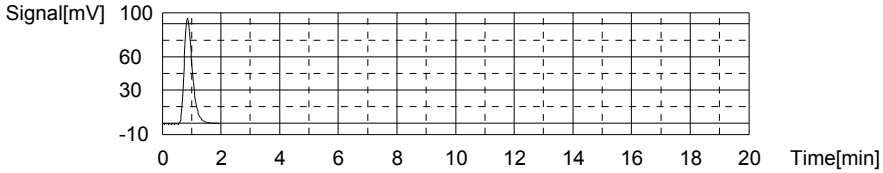
Mean Area 245.2
Mean Conc. 6.524mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	183.8	5.751mg/L	500uL	1		TICCURVE-12-06-2011B.2011_12_06_15_47_	7/25/2012 12:52:18 PM

Mean Area 183.8
Mean Conc. 5.751mg/L



Sample

Sample Name: L12070491-01 (3)
Sample ID:
Origin: TOC-12-06-2011.met
Status Completed
Chk. Result

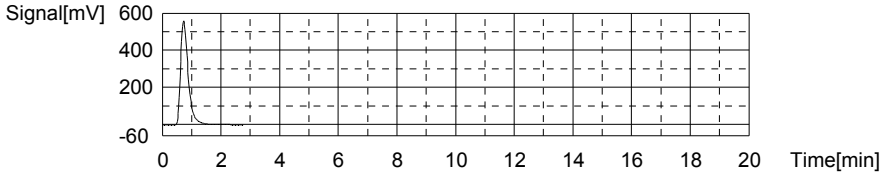
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:4.501mg/L TC:27.20mg/L IC:22.70mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1022	27.20mg/L	500uL	1		TCCURVE-12-06-2011.2011_12_06_08_40_5	7/25/2012 1:00:30 PM

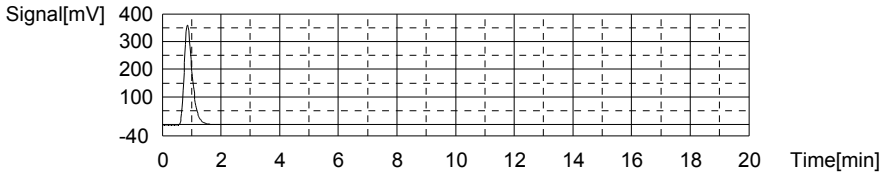
Mean Area 1022
Mean Conc. 27.20mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	687.5	22.70mg/L	500uL	1		TICCURVE-12-06-2011B.2011_12_06_15_47_	7/25/2012 1:05:59 PM

Mean Area 687.5
Mean Conc. 22.70mg/L



Sample

Sample Name: L12070491-03 (3)
Sample ID:
Origin: TOC-12-06-2011.met
Status Completed
Chk. Result

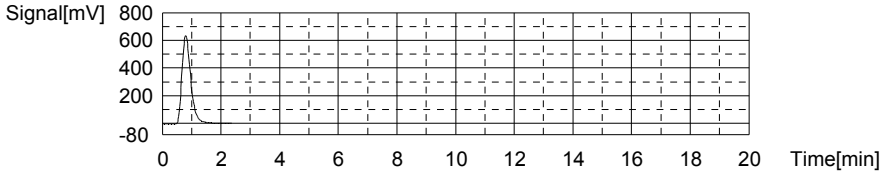
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:23.08mg/L TC:35.50mg/L IC:12.42mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1334	35.50mg/L	500uL	1		TCCURVE-12-06-2011.2011_12_06_08_40_5	7/25/2012 1:13:46 PM

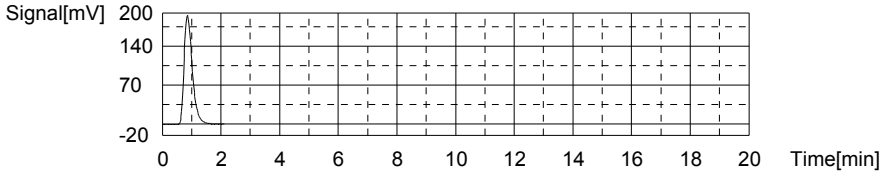
Mean Area 1334
Mean Conc. 35.50mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	382.1	12.42mg/L	500uL	1		TICCURVE-12-06-2011B.2011_12_06_15_47_	7/25/2012 1:18:55 PM

Mean Area 382.1
Mean Conc. 12.42mg/L



Sample

Sample Name: L12070491-05 (3)
Sample ID:
Origin: TOC-12-06-2011.met
Status Completed
Chk. Result

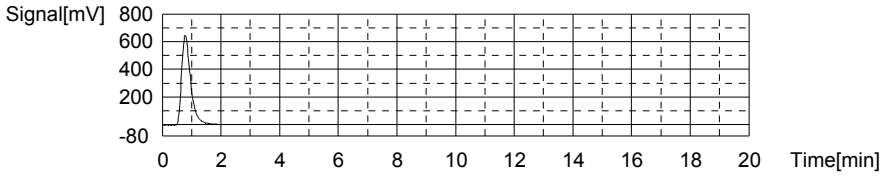
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:21.33mg/L TC:37.50mg/L IC:16.17mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1409	37.50mg/L	500uL	1		TCCURVE-12-06-2011.2011_12_06_08_40_5	7/25/2012 1:27:12 PM

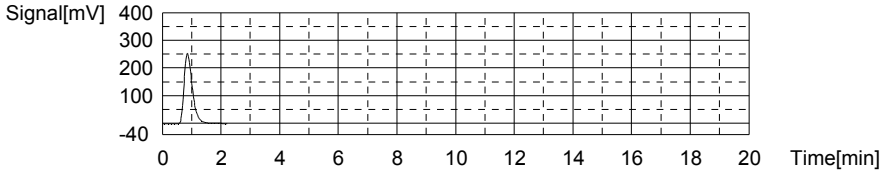
Mean Area 1409
Mean Conc. 37.50mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	493.6	16.17mg/L	500uL	1		TICCURVE-12-06-2011B.2011_12_06_15_47_	7/25/2012 1:32:22 PM

Mean Area 493.6
Mean Conc. 16.17mg/L



Sample

Sample Name: L12070491-07 (3)
Sample ID:
Origin: TOC-12-06-2011.met
Status Completed
Chk. Result

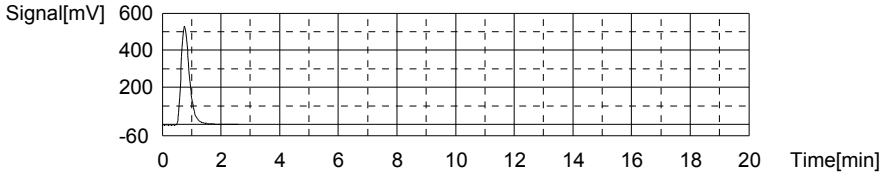
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:12.35mg/L TC:28.29mg/L IC:15.94mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1063	28.29mg/L	500uL	1		TCCURVE-12-06-2011.2011_12_06_08_40_5	7/25/2012 1:40:24 PM

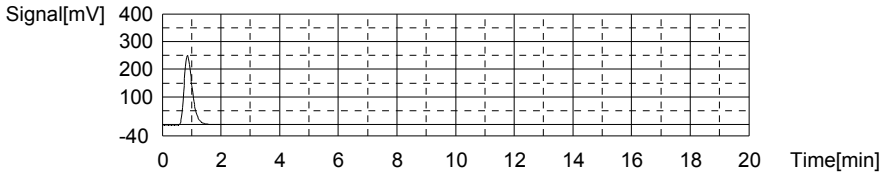
Mean Area 1063
Mean Conc. 28.29mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	486.7	15.94mg/L	500uL	1		TICCURVE-12-06-2011B.2011_12_06_15_47	7/25/2012 1:45:42 PM

Mean Area 486.7
Mean Conc. 15.94mg/L



Sample

Sample Name: CCV
Sample ID:
Origin: TOC-12-06-2011.met
Status Completed
Chk. Result

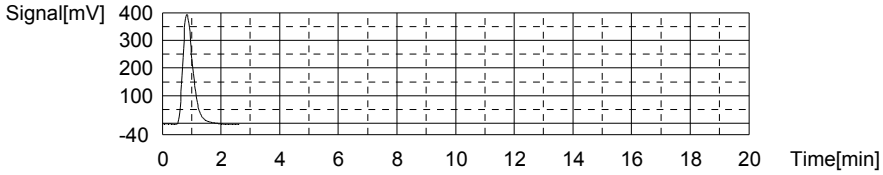
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	!!Error!! TOC:25.72mg/L TC:25.53mg/L IC:-0.1881mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	959.4	25.53mg/L	500uL	1		TCCURVE-12-06-2011.2011_12_06_08_40_5	7/25/2012 1:53:45 PM

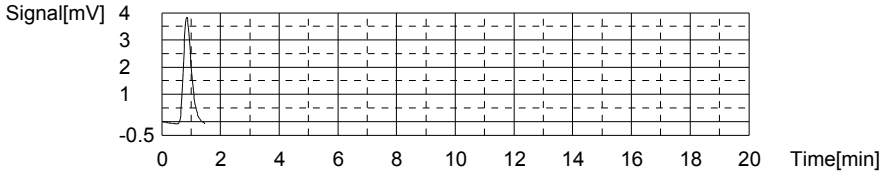
Mean Area 959.4
Mean Conc. 25.53mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	7.296	-0.1881mg/L	500uL	1		TICCURVE-12-06-2011B.2011_12_06_15_47_	7/25/2012 1:58:04 PM

Mean Area 7.296
Mean Conc. -0.1881mg/L



Sample

Sample Name: CCB
Sample ID:
Origin: TOC-12-06-2011.met
Status Completed
Chk. Result

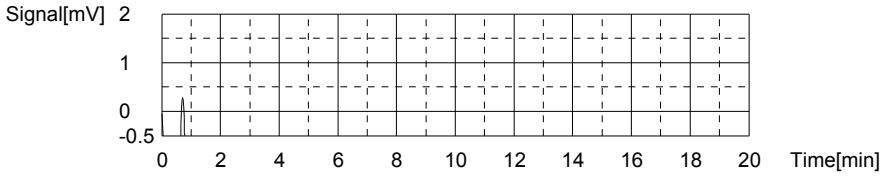
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	!!Error!! TOC:0.3602mg/L TC:0.1745mg/L IC:-0.1857mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	6.650	0.1745mg/L	500uL	1		TCCURVE-12-06-2011.2011_12_06_08_40_5	7/25/2012 2:03:18 PM

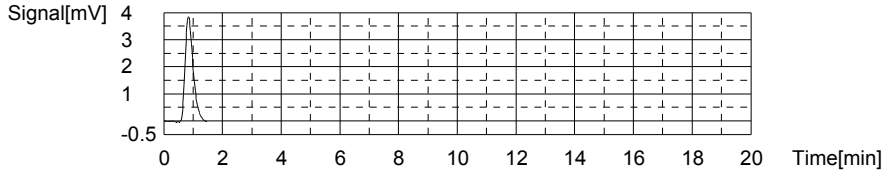
Mean Area 6.650
Mean Conc. 0.1745mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	7.368	-0.1857mg/L	500uL	1		TICCURVE-12-06-2011B.2011_12_06_15_47_	7/25/2012 2:07:11 PM

Mean Area 7.368
Mean Conc. -0.1857mg/L



Sample

Sample Name: L12070491-09 (3)
Sample ID:
Origin: TOC-12-06-2011.met
Status Completed
Chk. Result

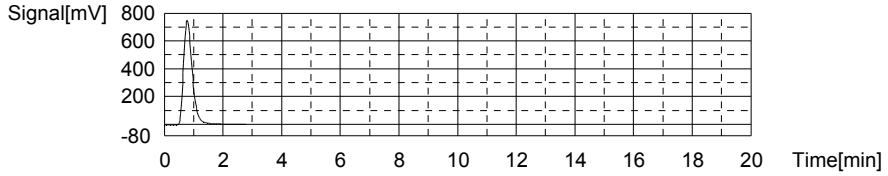
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:22.92mg/L TC:41.25mg/L IC:18.33mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1550	41.25mg/L	500uL	1		TCCURVE-12-06-2011.2011_12_06_08_40_5	7/25/2012 2:15:24 PM

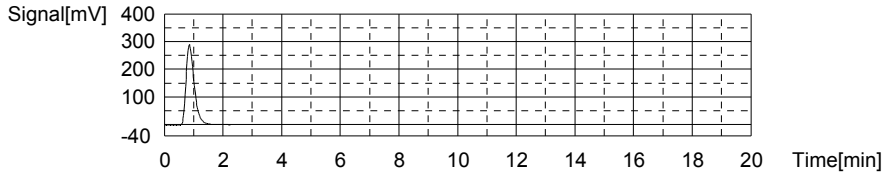
Mean Area 1550
Mean Conc. 41.25mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	557.8	18.33mg/L	500uL	1		TICCURVE-12-06-2011B.2011_12_06_15_47_	7/25/2012 2:20:44 PM

Mean Area 557.8
Mean Conc. 18.33mg/L



Sample

Sample Name: L12070491-11 (3)
Sample ID:
Origin: TOC-12-06-2011.met
Status Completed
Chk. Result

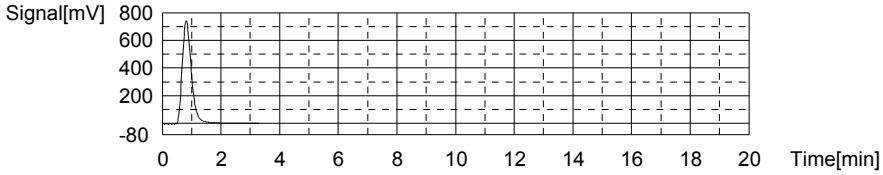
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:31.08mg/L TC:43.09mg/L IC:12.01mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1619	43.09mg/L	500uL	1		TCCURVE-12-06-2011.2011_12_06_08_40_5	7/25/2012 2:29:27 PM

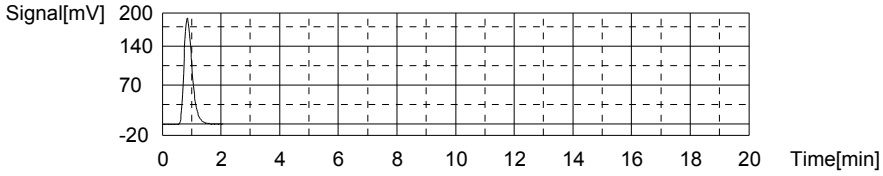
Mean Area 1619
Mean Conc. 43.09mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	369.8	12.01mg/L	500uL	1		TICCURVE-12-06-2011B.2011_12_06_15_47_	7/25/2012 2:34:34 PM

Mean Area 369.8
Mean Conc. 12.01mg/L



Sample

Sample Name: L12070631-02
Sample ID:
Origin: TOC-12-06-2011.met
Status Completed
Chk. Result

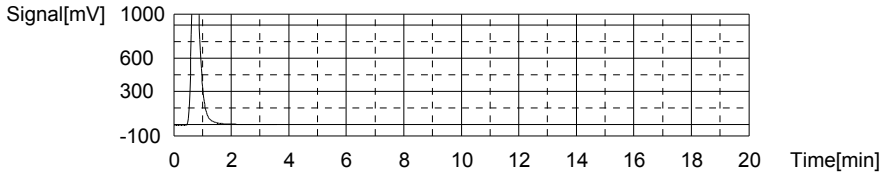
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	!!Error!! TOC:-4.738mg/L TC:72.82mg/L IC:77.56mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	2736	72.82mg/L	500uL	1		TCCURVE-12-06-2011.2011_12_06_08_40_5	7/25/2012 2:43:36 PM

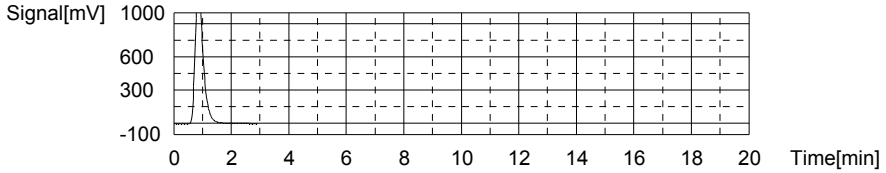
Mean Area 2736
Mean Conc. 72.82mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	2318	77.56mg/L	500uL	1		TICCURVE-12-06-2011B.2011_12_06_15_47_	7/25/2012 2:50:02 PM

Mean Area 2318
Mean Conc. 77.56mg/L



Sample

Sample Name: L12070631-03 (10)
Sample ID:
Origin: TOC-12-06-2011.met
Status Completed
Chk. Result

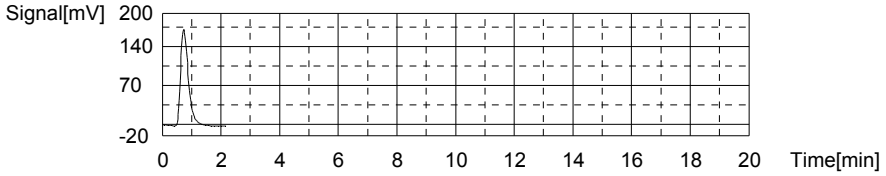
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:2.270mg/L TC:8.552mg/L IC:6.282mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	321.4	8.552mg/L	500uL	1		TCCURVE-12-06-2011.2011_12_06_08_40_5	7/25/2012 2:57:38 PM

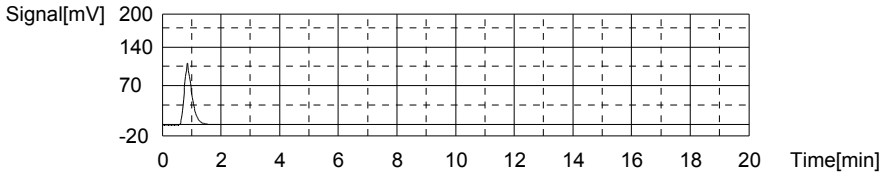
Mean Area 321.4
Mean Conc. 8.552mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	199.6	6.282mg/L	500uL	1		TICCURVE-12-06-2011B.2011_12_06_15_47_	7/25/2012 3:02:42 PM

Mean Area 199.6
Mean Conc. 6.282mg/L



Sample

Sample Name: L12070639-01
Sample ID:
Origin: TOC-12-06-2011.met
Status Completed
Chk. Result

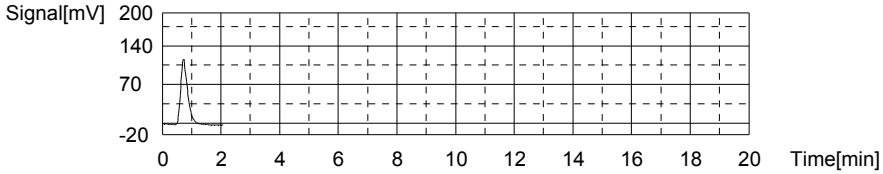
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:1.041mg/L TC:5.244mg/L IC:4.203mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	197.1	5.244mg/L	500uL	1		TCCURVE-12-06-2011.2011_12_06_08_40_5	7/25/2012 3:10:13 PM

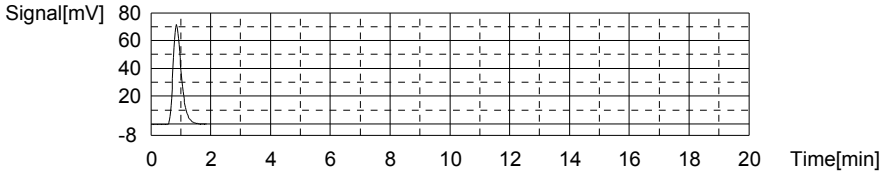
Mean Area 197.1
Mean Conc. 5.244mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	137.8	4.203mg/L	500uL	1		TICCURVE-12-06-2011B.2011_12_06_15_47_	7/25/2012 3:15:00 PM

Mean Area 137.8
Mean Conc. 4.203mg/L



Sample

Sample Name: L12070639-02
Sample ID:
Origin: TOC-12-06-2011.met
Status Completed
Chk. Result

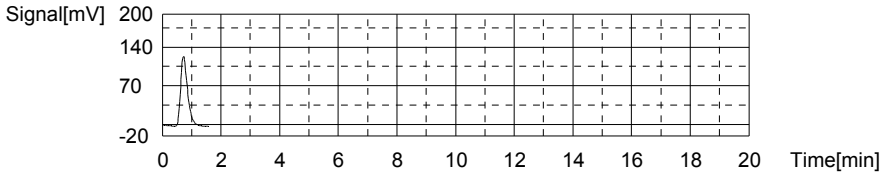
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:0.8705mg/L TC:5.544mg/L IC:4.674mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	208.4	5.544mg/L	500uL	1		TCCURVE-12-06-2011.2011_12_06_08_40_5	7/25/2012 3:22:01 PM

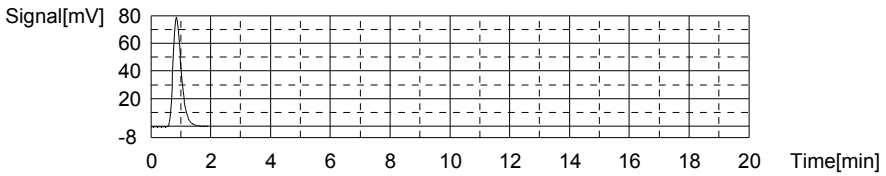
Mean Area 208.4
Mean Conc. 5.544mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	151.8	4.674mg/L	500uL	1		TICCURVE-12-06-2011B.2011_12_06_15_47_	7/25/2012 3:26:53 PM

Mean Area 151.8
Mean Conc. 4.674mg/L



Sample

Sample Name: L12070639-03
Sample ID:
Origin: TOC-12-06-2011.met
Status Completed
Chk. Result

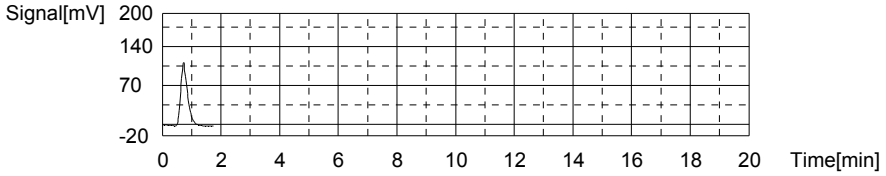
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:0.8288mg/L TC:4.887mg/L IC:4.058mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	183.7	4.887mg/L	500uL	1		TCCURVE-12-06-2011.2011_12_06_08_40_5	7/25/2012 3:34:03 PM

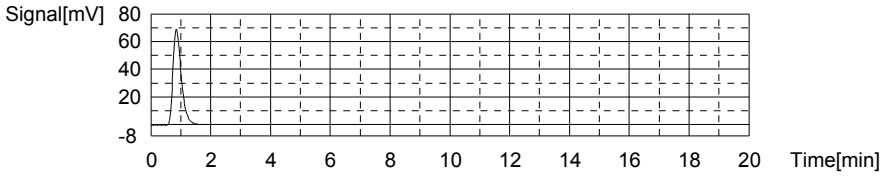
Mean Area 183.7
Mean Conc. 4.887mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	133.5	4.058mg/L	500uL	1		TICCURVE-12-06-2011B.2011_12_06_15_47_	7/25/2012 3:38:50 PM

Mean Area 133.5
Mean Conc. 4.058mg/L



Sample

Sample Name: L12070640-01
Sample ID:
Origin: TOC-12-06-2011.met
Status Completed
Chk. Result

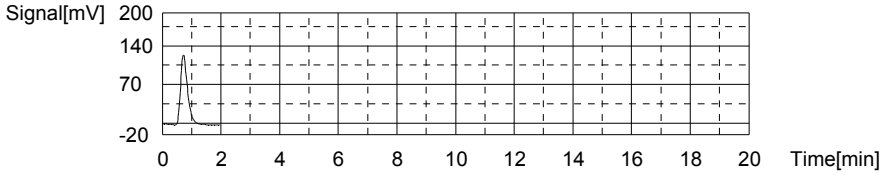
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:0.9596mg/L TC:5.576mg/L IC:4.617mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	209.6	5.576mg/L	500uL	1		TCCURVE-12-06-2011.2011_12_06_08_40_5	7/25/2012 3:46:14 PM

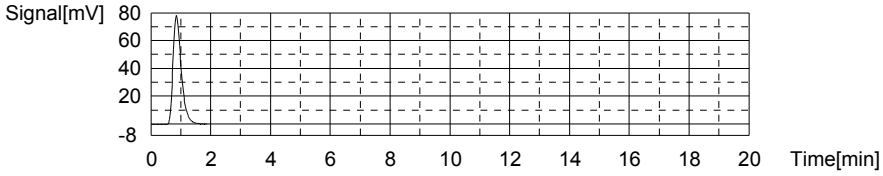
Mean Area 209.6
Mean Conc. 5.576mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	150.1	4.617mg/L	500uL	1		TICCURVE-12-06-2011B.2011_12_06_15_47_	7/25/2012 3:51:04 PM

Mean Area 150.1
Mean Conc. 4.617mg/L



Sample

Sample Name: L12070640-02
Sample ID:
Origin: TOC-12-06-2011.met
Status Completed
Chk. Result

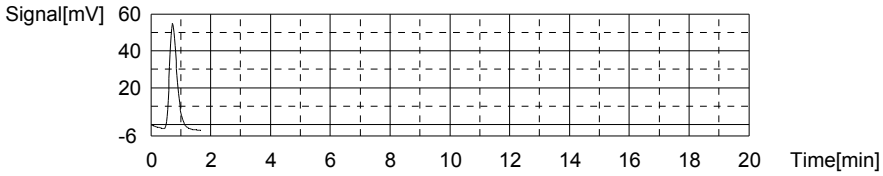
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:0.7985mg/L TC:2.658mg/L IC:1.859mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	99.94	2.658mg/L	500uL	1		TCCURVE-12-06-2011.2011_12_06_08_40_5	7/25/2012 3:58:10 PM

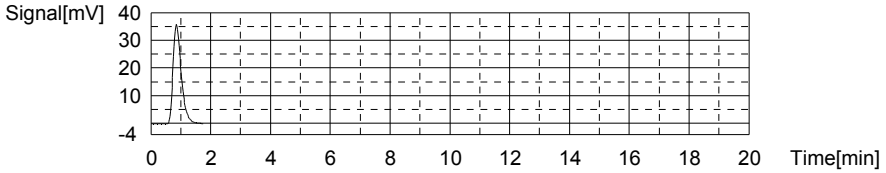
Mean Area 99.94
Mean Conc. 2.658mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	68.14	1.859mg/L	500uL	1		TICCURVE-12-06-2011B.2011_12_06_15_47_	7/25/2012 4:02:46 PM

Mean Area 68.14
Mean Conc. 1.859mg/L



Sample

Sample Name: L12070640-03
Sample ID:
Origin: TOC-12-06-2011.met
Status Completed
Chk. Result

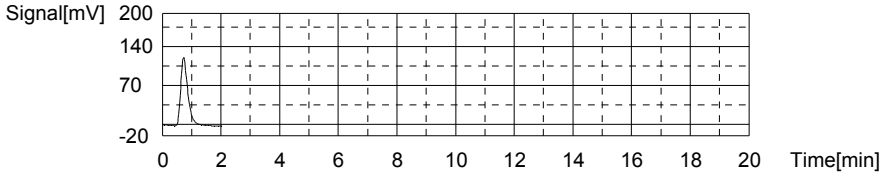
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:1.030mg/L TC:5.590mg/L IC:4.560mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	210.1	5.590mg/L	500uL	1		TCCURVE-12-06-2011.2011_12_06_08_40_5	7/25/2012 4:10:14 PM

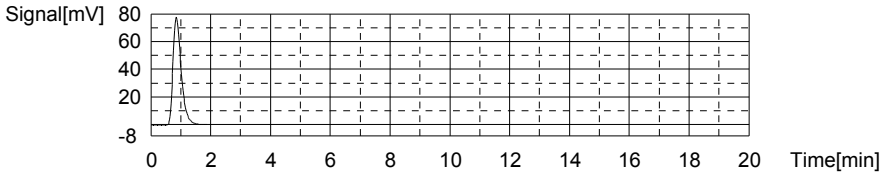
Mean Area 210.1
Mean Conc. 5.590mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	148.4	4.560mg/L	500uL	1		TICCURVE-12-06-2011B.2011_12_06_15_47_	7/25/2012 4:15:03 PM

Mean Area 148.4
Mean Conc. 4.560mg/L



Sample

Sample Name: CCV
Sample ID:
Origin: TOC-12-06-2011.met
Status Completed
Chk. Result

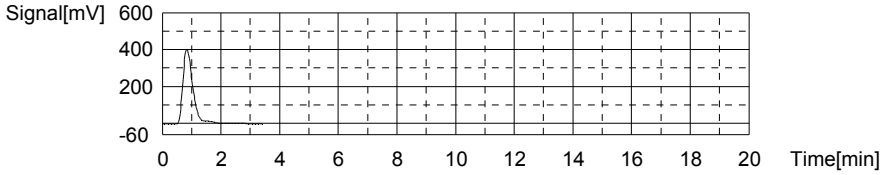
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	!!Error!! TOC:25.86mg/L TC:25.63mg/L IC:-0.2243mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	963.2	25.63mg/L	500uL	1		TCCURVE-12-06-2011.2011_12_06_08_40_5	7/25/2012 4:23:54 PM

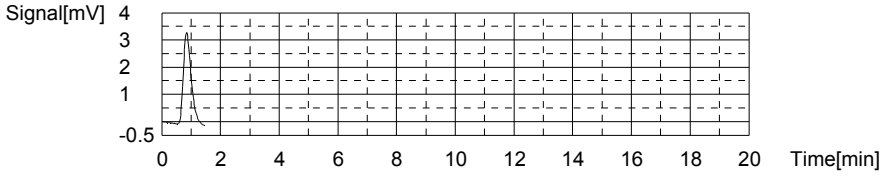
Mean Area 963.2
Mean Conc. 25.63mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	6.219	-0.2243mg/L	500uL	1		TICCURVE-12-06-2011B.2011_12_06_15_47_	7/25/2012 4:28:12 PM

Mean Area 6.219
Mean Conc. -0.2243mg/L



Sample

Sample Name: CCB
Sample ID:
Origin: TOC-12-06-2011.met
Status Completed
Chk. Result

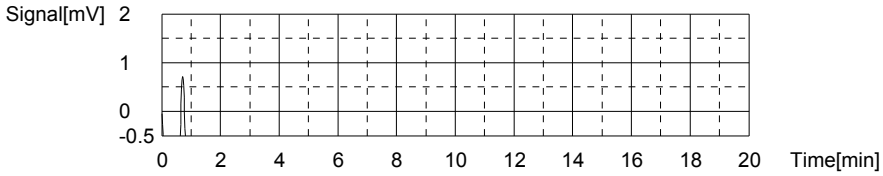
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	!!Error!! TOC:0.3683mg/L TC:0.1761mg/L IC:-0.1922mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	6.709	0.1761mg/L	500uL	1		TCCURVE-12-06-2011.2011_12_06_08_40_5	7/25/2012 4:33:27 PM

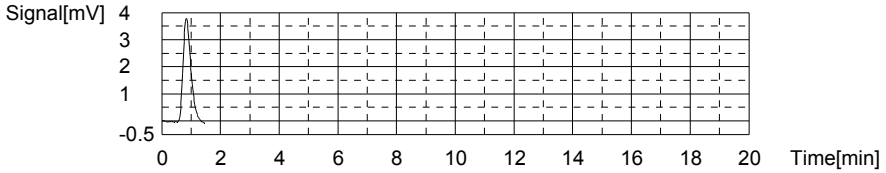
Mean Area 6.709
Mean Conc. 0.1761mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	7.172	-0.1922mg/L	500uL	1		TICCURVE-12-06-2011B.2011_12_06_15_47_	7/25/2012 4:37:19 PM

Mean Area 7.172
Mean Conc. -0.1922mg/L



Sample

Sample Name: L12070673-01
Sample ID:
Origin: TOC-12-06-2011.met
Status Completed
Chk. Result

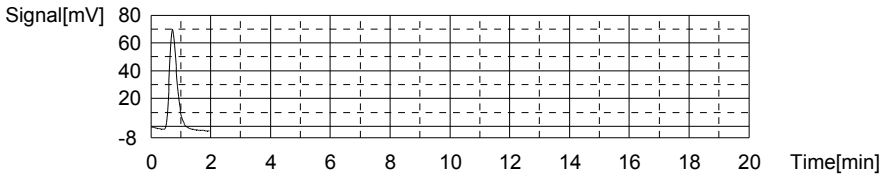
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:0.7417mg/L TC:3.388mg/L IC:2.647mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	127.4	3.388mg/L	500uL	1		TCCURVE-12-06-2011.2011_12_06_08_40_5	7/25/2012 4:44:43 PM

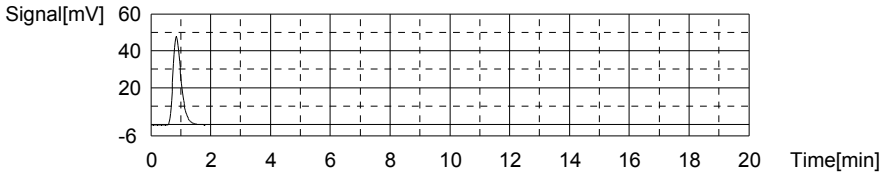
Mean Area 127.4
Mean Conc. 3.388mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	91.55	2.647mg/L	500uL	1		TICCURVE-12-06-2011B.2011_12_06_15_47_	7/25/2012 4:49:27 PM

Mean Area 91.55
Mean Conc. 2.647mg/L



Sample

Sample Name: L12070673-03
Sample ID:
Origin: TOC-12-06-2011.met
Status Completed
Chk. Result

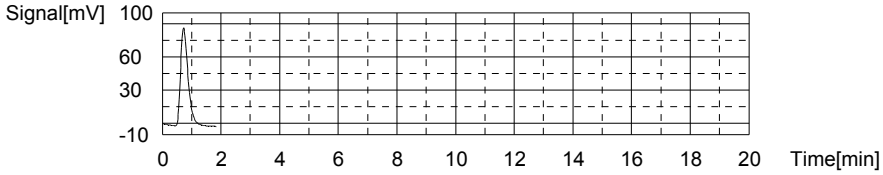
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:1.039mg/L TC:4.182mg/L IC:3.143mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	157.2	4.182mg/L	500uL	1		TCCURVE-12-06-2011.2011_12_06_08_40_5	7/25/2012 4:56:45 PM

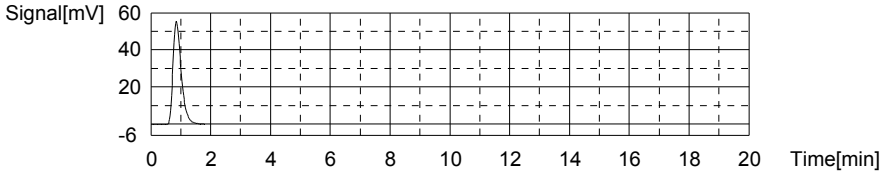
Mean Area 157.2
Mean Conc. 4.182mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	106.3	3.143mg/L	500uL	1		TICCURVE-12-06-2011B.2011_12_06_15_47_	7/25/2012 5:01:27 PM

Mean Area 106.3
Mean Conc. 3.143mg/L



Sample

Sample Name: WG404426-05 DUP
Sample ID:
Origin: TOC-12-06-2011.met
Status Completed
Chk. Result

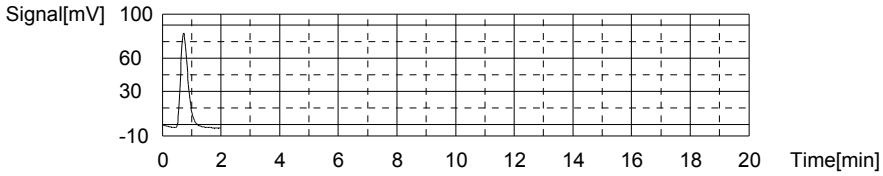
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:1.126mg/L TC:4.049mg/L IC:2.922mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	152.2	4.049mg/L	500uL	1		TCCURVE-12-06-2011.2011_12_06_08_40_5	7/25/2012 5:08:53 PM

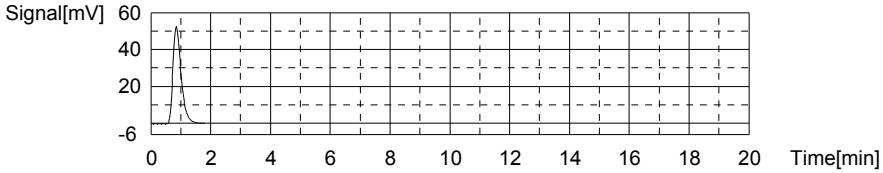
Mean Area 152.2
Mean Conc. 4.049mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	99.74	2.922mg/L	500uL	1		TICCURVE-12-06-2011B.2011_12_06_15_47_	7/25/2012 5:13:34 PM

Mean Area 99.74
Mean Conc. 2.922mg/L



Sample

Sample Name: WG404426-036 MS
Sample ID:
Origin: TOC-12-06-2011.met
Status Completed
Chk. Result

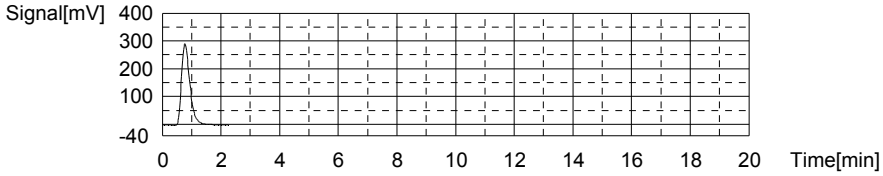
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:11.49mg/L TC:15.52mg/L IC:4.031mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	583.3	15.52mg/L	500uL	1		TCCURVE-12-06-2011.2011_12_06_08_40_5	7/25/2012 5:21:17 PM

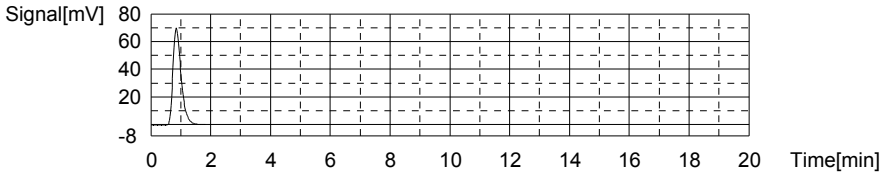
Mean Area 583.3
Mean Conc. 15.52mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	132.7	4.031mg/L	500uL	1		TICCURVE-12-06-2011B.2011_12_06_15_47_	7/25/2012 5:26:02 PM

Mean Area 132.7
Mean Conc. 4.031mg/L



Sample

Sample Name: WG404427-01 BLK
Sample ID: <Untitled>
Origin: TOC-12-06-2011A.met
Status Completed
Chk. Result

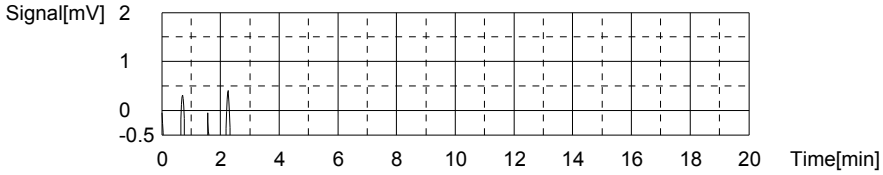
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	!!Error!! TOC:0.3579mg/L TC:0.1652mg/L IC:-0.1927mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	6.642	0.1743mg/L	500uL	1		TCCURVE-12-06-2011.2011_12_06_08_40_5	7/25/2012 5:31:14 PM
2	5.959	0.1561mg/L	500uL	1		TCCURVE-12-06-2011.2011_12_06_08_40_5	7/25/2012 5:34:57 PM

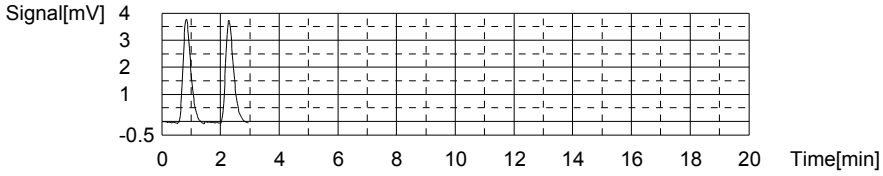
Mean Area 6.301
Mean Conc. 0.1652mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	7.164	-0.1925mg/L	500uL	1		TICCURVE-12-06-2011B.2011_12_06_15_47	7/25/2012 5:38:51 PM
2	7.152	-0.1929mg/L	500uL	1		TICCURVE-12-06-2011B.2011_12_06_15_47	7/25/2012 5:42:50 PM

Mean Area 7.158
Mean Conc. -0.1927mg/L



Sample

Sample Name: WG404427-02 LCS
Sample ID: <Untitled>
Origin: TOC-12-06-2011A.met
Status Completed
Chk. Result

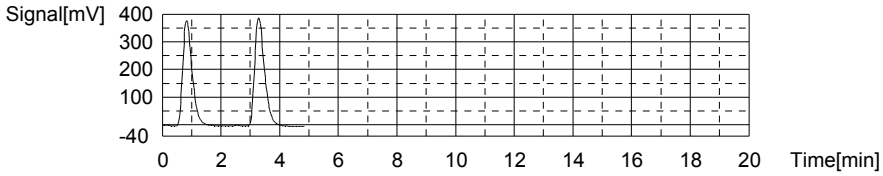
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	!!Error!! TOC:23.54mg/L TC:23.30mg/L IC:-0.2415mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	840.8	22.38mg/L	500uL	1		TCCURVE-12-06-2011.2011_12_06_08_40_5	7/25/2012 5:50:44 PM
2	910.1	24.22mg/L	500uL	1		TCCURVE-12-06-2011.2011_12_06_08_40_5	7/25/2012 5:55:23 PM

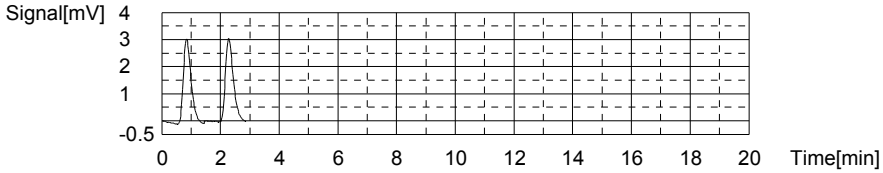
Mean Area 875.5
Mean Conc. 23.30mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	5.724	-0.2410mg/L	500uL	1		TICCURVE-12-06-2011B.2011_12_06_15_47	7/25/2012 5:59:39 PM
2	5.690	-0.2421mg/L	500uL	1		TICCURVE-12-06-2011B.2011_12_06_15_47	7/25/2012 6:03:42 PM

Mean Area 5.707
Mean Conc. -0.2415mg/L



Sample

Sample Name: WG404427-03 LCSDUP
Sample ID: <Untitled>
Origin: TOC-12-06-2011A.met
Status Completed
Chk. Result

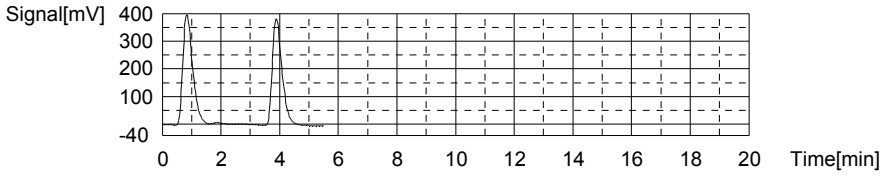
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	!!Error!! TOC:24.84mg/L TC:24.60mg/L IC:-0.2412mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	954.8	25.41mg/L	500uL	1		TCCURVE-12-06-2011.2011_12_06_08_40_5	7/25/2012 6:12:12 PM
2	893.7	23.78mg/L	500uL	1		TCCURVE-12-06-2011.2011_12_06_08_40_5	7/25/2012 6:16:59 PM

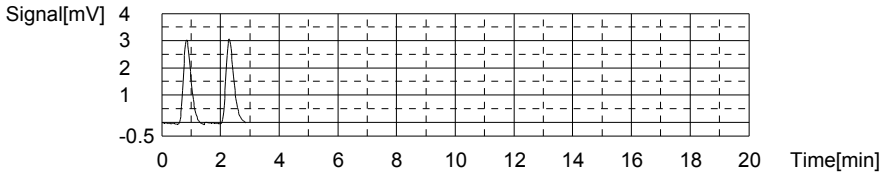
Mean Area 924.3
Mean Conc. 24.60mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	5.713	-0.2413mg/L	500uL	1		TICCURVE-12-06-2011B.2011_12_06_15_47	7/25/2012 6:21:17 PM
2	5.719	-0.2411mg/L	500uL	1		TICCURVE-12-06-2011B.2011_12_06_15_47	7/25/2012 6:25:19 PM

Mean Area 5.716
Mean Conc. -0.2412mg/L



Sample

Sample Name: L12070652-01
Sample ID: <Untitled>
Origin: TOC-12-06-2011A.met
Status Completed
Chk. Result

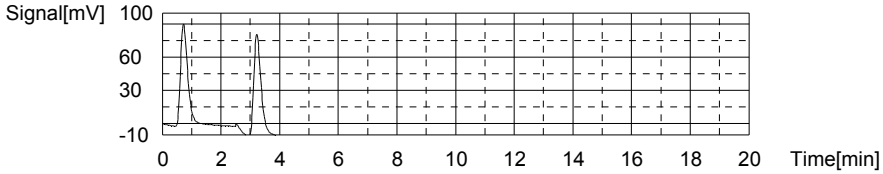
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:0.7843mg/L TC:4.291mg/L IC:3.506mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	165.5	4.403mg/L	500uL	1		TCCURVE-12-06-2011.2011_12_06_08_40_5	7/25/2012 6:33:17 PM
2	157.1	4.179mg/L	500uL	1		TCCURVE-12-06-2011.2011_12_06_08_40_5	7/25/2012 6:37:46 PM

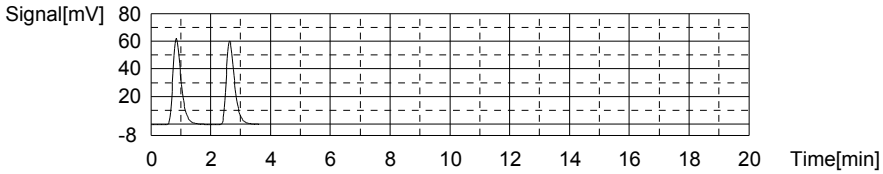
Mean Area 161.3
Mean Conc. 4.291mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	118.4	3.550mg/L	500uL	1		TICCURVE-12-06-2011B.2011_12_06_15_47	7/25/2012 6:42:27 PM
2	115.8	3.463mg/L	500uL	1		TICCURVE-12-06-2011B.2011_12_06_15_47	7/25/2012 6:46:57 PM

Mean Area 117.1
Mean Conc. 3.506mg/L



Sample

Sample Name: L12070652-02
Sample ID: <Untitled>
Origin: TOC-12-06-2011A.met
Status Completed
Chk. Result

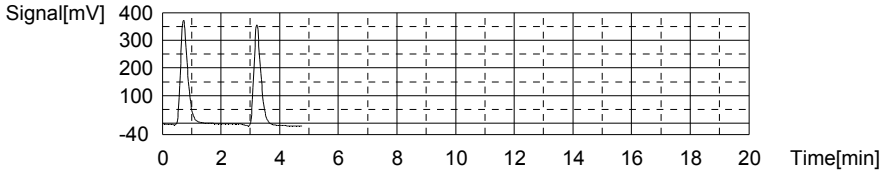
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:2.079mg/L TC:16.78mg/L IC:14.70mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	654.5	17.42mg/L	500uL	1		TCCURVE-12-06-2011.2011_12_06_08_40_5	7/25/2012 6:54:54 PM
2	606.3	16.14mg/L	500uL	1		TCCURVE-12-06-2011.2011_12_06_08_40_5	7/25/2012 7:00:27 PM

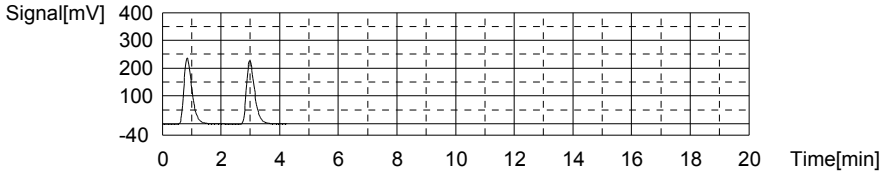
Mean Area 630.4
Mean Conc. 16.78mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	456.7	14.93mg/L	500uL	1		TICCURVE-12-06-2011B.2011_12_06_15_47_	7/25/2012 7:05:44 PM
2	442.7	14.46mg/L	500uL	1		TICCURVE-12-06-2011B.2011_12_06_15_47_	7/25/2012 7:10:40 PM

Mean Area 449.7
Mean Conc. 14.70mg/L



Sample

Sample Name: L12070652-03
Sample ID: <Untitled>
Origin: TOC-12-06-2011A.met
Status Completed
Chk. Result

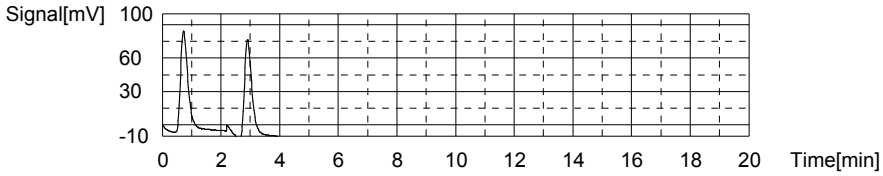
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:1.079mg/L TC:4.360mg/L IC:3.281mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	167.3	4.450mg/L	500uL	1		TCCURVE-12-06-2011.2011_12_06_08_40_5	7/25/2012 7:18:18 PM
2	160.5	4.269mg/L	500uL	1		TCCURVE-12-06-2011.2011_12_06_08_40_5	7/25/2012 7:24:18 PM

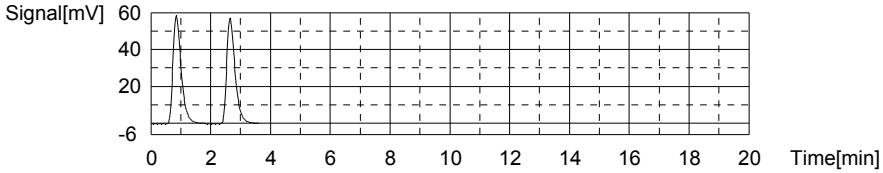
Mean Area 163.9
Mean Conc. 4.360mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	111.2	3.308mg/L	500uL	1		TICCURVE-12-06-2011B.2011_12_06_15_47_	7/25/2012 7:29:01 PM
2	109.6	3.254mg/L	500uL	1		TICCURVE-12-06-2011B.2011_12_06_15_47_	7/25/2012 7:33:30 PM

Mean Area 110.4
Mean Conc. 3.281mg/L



Sample

Sample Name: CCV
Sample ID:
Origin: TOC-12-06-2011.met
Status Completed
Chk. Result

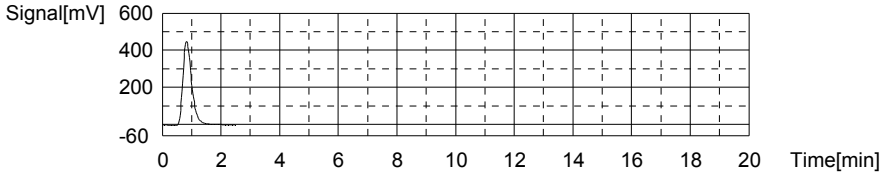
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	!!Error!! TOC:25.64mg/L TC:25.42mg/L IC:-0.2202mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	955.1	25.42mg/L	500uL	1		TCCURVE-12-06-2011.2011_12_06_08_40_5	7/25/2012 7:41:27 PM

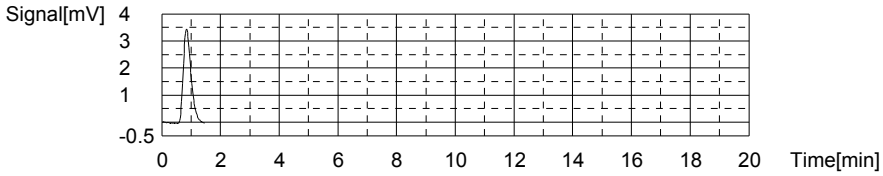
Mean Area 955.1
Mean Conc. 25.42mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	6.342	-0.2202mg/L	500uL	1		TICCURVE-12-06-2011B.2011_12_06_15_47	7/25/2012 7:45:43 PM

Mean Area 6.342
Mean Conc. -0.2202mg/L



Sample

Sample Name: CCB
Sample ID:
Origin: TOC-12-06-2011.met
Status Completed
Chk. Result

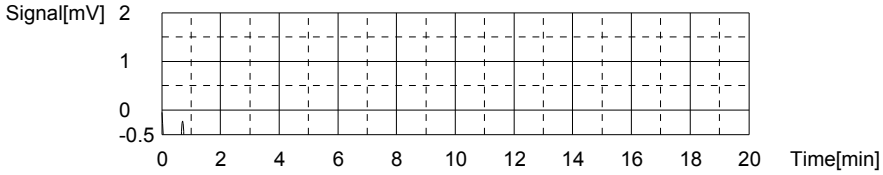
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	!!Error!! TOC:0.3666mg/L TC:0.1649mg/L IC:-0.2017mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	6.289	0.1649mg/L	500uL	1		TCCURVE-12-06-2011.2011_12_06_08_40_5	7/25/2012 7:50:55 PM

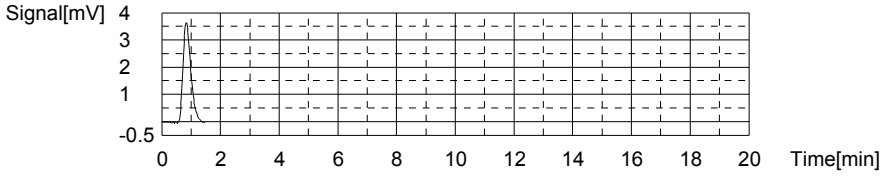
Mean Area 6.289
Mean Conc. 0.1649mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	6.892	-0.2017mg/L	500uL	1		TICCURVE-12-06-2011B.2011_12_06_15_47_	7/25/2012 7:54:48 PM

Mean Area 6.892
Mean Conc. -0.2017mg/L



Sample

Sample Name: L12070652-04
Sample ID: <Untitled>
Origin: TOC-12-06-2011A.met
Status Completed
Chk. Result

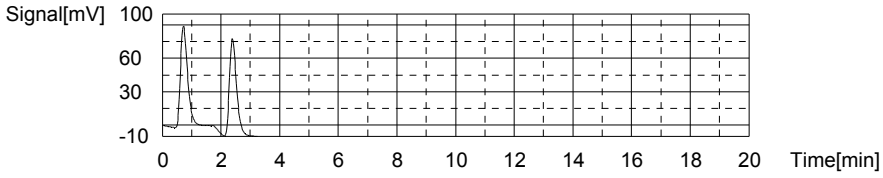
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:0.6851mg/L TC:4.023mg/L IC:3.338mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	155.8	4.144mg/L	500uL	1		TCCURVE-12-06-2011.2011_12_06_08_40_5	7/25/2012 8:01:55 PM
2	146.7	3.902mg/L	500uL	1		TCCURVE-12-06-2011.2011_12_06_08_40_5	7/25/2012 8:06:20 PM

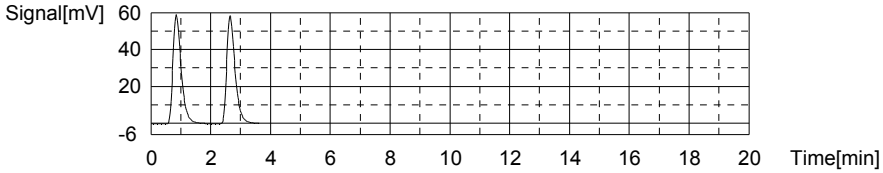
Mean Area 151.3
Mean Conc. 4.023mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	112.4	3.348mg/L	500uL	1		TICCURVE-12-06-2011B.2011_12_06_15_47_	7/25/2012 8:11:01 PM
2	111.8	3.328mg/L	500uL	1		TICCURVE-12-06-2011B.2011_12_06_15_47_	7/25/2012 8:15:32 PM

Mean Area 112.1
Mean Conc. 3.338mg/L



Sample

Sample Name: L12070743-01
Sample ID: <Untitled>
Origin: TOC-12-06-2011A.met
Status Completed
Chk. Result

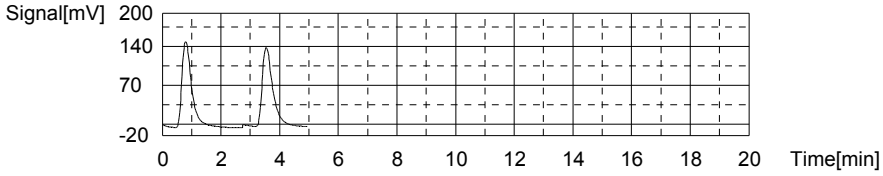
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:8.170mg/L TC:9.497mg/L IC:1.326mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	361.0	9.606mg/L	500uL	1		TCCURVE-12-06-2011.2011_12_06_08_40_5	7/25/2012 8:23:43 PM
2	352.8	9.388mg/L	500uL	1		TCCURVE-12-06-2011.2011_12_06_08_40_5	7/25/2012 8:28:11 PM

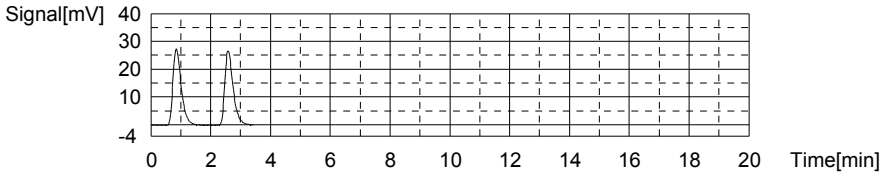
Mean Area 356.9
Mean Conc. 9.497mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	53.07	1.352mg/L	500uL	1		TICCURVE-12-06-2011B.2011_12_06_15_47	7/25/2012 8:32:47 PM
2	51.55	1.301mg/L	500uL	1		TICCURVE-12-06-2011B.2011_12_06_15_47	7/25/2012 8:37:18 PM

Mean Area 52.31
Mean Conc. 1.326mg/L



Sample

Sample Name: L12070747-01
Sample ID: <Untitled>
Origin: TOC-12-06-2011A.met
Status Completed
Chk. Result

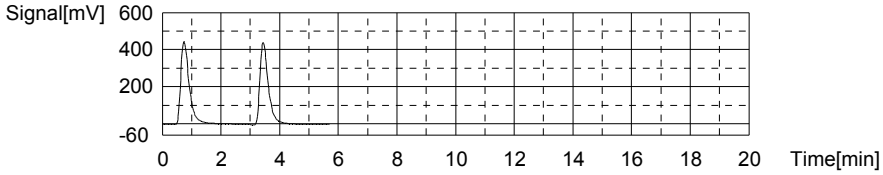
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:9.506mg/L TC:24.02mg/L IC:14.51mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	910.0	24.22mg/L	500uL	1		TCCURVE-12-06-2011.2011_12_06_08_40_5	7/25/2012 8:45:28 PM
2	895.1	23.82mg/L	500uL	1		TCCURVE-12-06-2011.2011_12_06_08_40_5	7/25/2012 8:51:41 PM

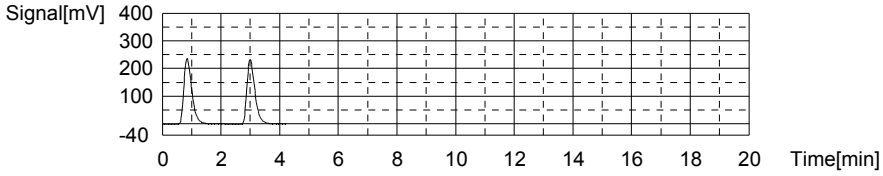
Mean Area 902.5
Mean Conc. 24.02mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	448.0	14.64mg/L	500uL	1		TICCURVE-12-06-2011B.2011_12_06_15_47	7/25/2012 8:56:55 PM
2	440.5	14.39mg/L	500uL	1		TICCURVE-12-06-2011B.2011_12_06_15_47	7/25/2012 9:01:48 PM

Mean Area 444.3
Mean Conc. 14.51mg/L



Sample

Sample Name: L12070747-02
Sample ID: <Untitled>
Origin: TOC-12-06-2011A.met
Status Completed
Chk. Result

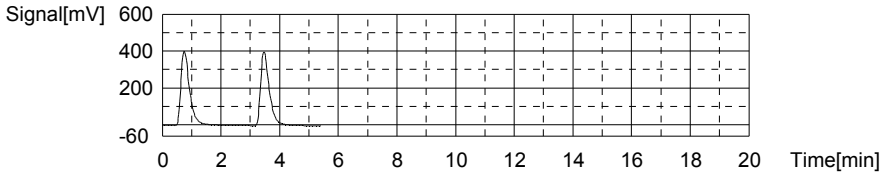
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:10.32mg/L TC:22.10mg/L IC:11.78mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	836.0	22.25mg/L	500uL	1		TCCURVE-12-06-2011.2011_12_06_08_40_5	7/25/2012 9:09:58 PM
2	824.6	21.95mg/L	500uL	1		TCCURVE-12-06-2011.2011_12_06_08_40_5	7/25/2012 9:15:49 PM

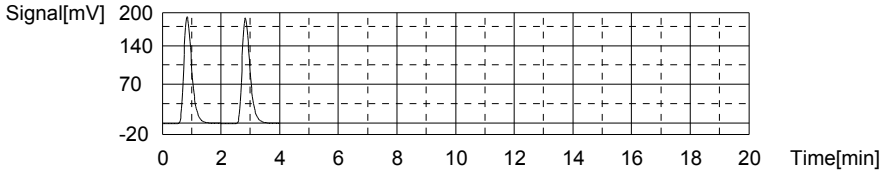
Mean Area 830.3
Mean Conc. 22.10mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	364.7	11.84mg/L	500uL	1		TICCURVE-12-06-2011B.2011_12_06_15_47	7/25/2012 9:20:52 PM
2	361.2	11.72mg/L	500uL	1		TICCURVE-12-06-2011B.2011_12_06_15_47	7/25/2012 9:25:39 PM

Mean Area 363.0
Mean Conc. 11.78mg/L



Sample

Sample Name: L12070747-03
Sample ID: <Untitled>
Origin: TOC-12-06-2011A.met
Status Completed
Chk. Result

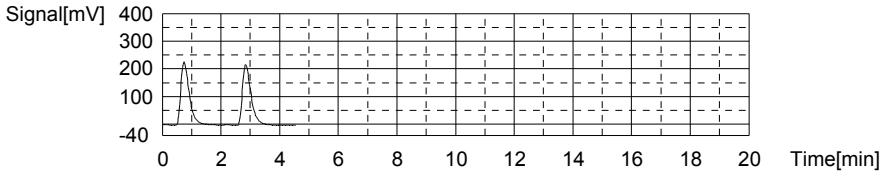
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:5.262mg/L TC:12.15mg/L IC:6.893mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	459.0	12.21mg/L	500uL	1		TCCURVE-12-06-2011.2011_12_06_08_40_5	7/25/2012 9:33:12 PM
2	454.5	12.09mg/L	500uL	1		TCCURVE-12-06-2011.2011_12_06_08_40_5	7/25/2012 9:38:49 PM

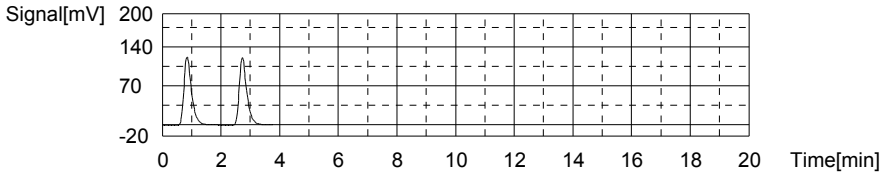
Mean Area 456.8
Mean Conc. 12.15mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	219.1	6.938mg/L	500uL	1		TICCURVE-12-06-2011B.2011_12_06_15_47	7/25/2012 9:43:39 PM
2	216.4	6.847mg/L	500uL	1		TICCURVE-12-06-2011B.2011_12_06_15_47	7/25/2012 9:48:17 PM

Mean Area 217.8
Mean Conc. 6.893mg/L



Sample

Sample Name: WG404427-05 DUP
Sample ID: <Untitled>
Origin: TOC-12-06-2011A.met
Status Completed
Chk. Result

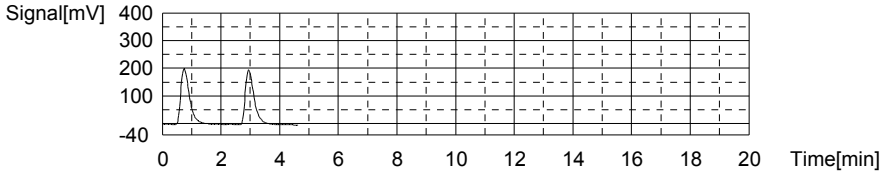
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:5.385mg/L TC:11.07mg/L IC:5.687mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	418.4	11.13mg/L	500uL	1		TCCURVE-12-06-2011.2011_12_06_08_40_5	7/25/2012 9:55:57 PM
2	413.7	11.01mg/L	500uL	1		TCCURVE-12-06-2011.2011_12_06_08_40_5	7/25/2012 10:01:31 PM

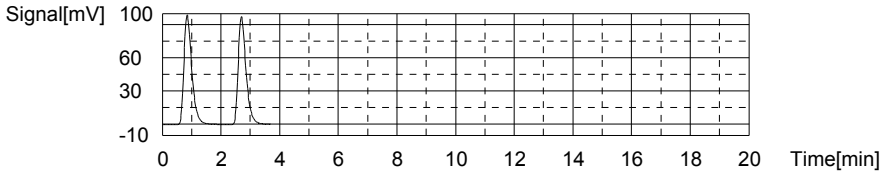
Mean Area 416.1
Mean Conc. 11.07mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	183.0	5.724mg/L	500uL	1		TICCURVE-12-06-2011B.2011_12_06_15_47	7/25/2012 10:06:24 PM
2	180.8	5.650mg/L	500uL	1		TICCURVE-12-06-2011B.2011_12_06_15_47	7/25/2012 10:10:57 PM

Mean Area 181.9
Mean Conc. 5.687mg/L



Sample

Sample Name: WG404427-06 MS
Sample ID: <Untitled>
Origin: TOC-12-06-2011A.met
Status Completed
Chk. Result

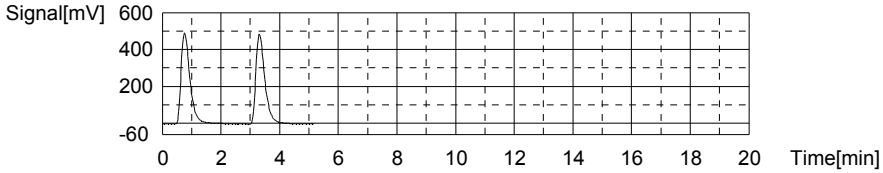
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:16.13mg/L TC:27.67mg/L IC:11.54mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1037	27.60mg/L	500uL	1		TCCURVE-12-06-2011.2011_12_06_08_40_5	7/25/2012 10:18:57 PM
2	1042	27.73mg/L	500uL	1		TCCURVE-12-06-2011.2011_12_06_08_40_5	7/25/2012 10:24:45 PM

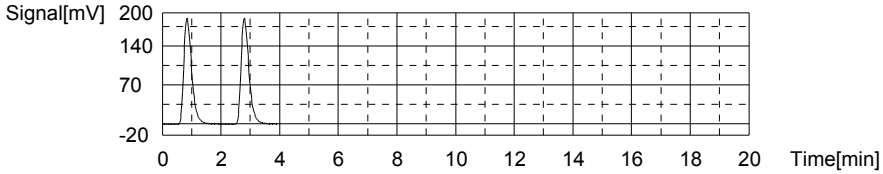
Mean Area 1040
Mean Conc. 27.67mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	355.1	11.51mg/L	500uL	1		TICCURVE-12-06-2011B.2011_12_06_15_47_	7/25/2012 10:29:42 PM
2	356.4	11.56mg/L	500uL	1		TICCURVE-12-06-2011B.2011_12_06_15_47_	7/25/2012 10:34:29 PM

Mean Area 355.8
Mean Conc. 11.54mg/L



Sample

Sample Name: L12070001-01
Sample ID: <Untitled>
Origin: TOC-12-06-2011A.met
Status Completed
Chk. Result

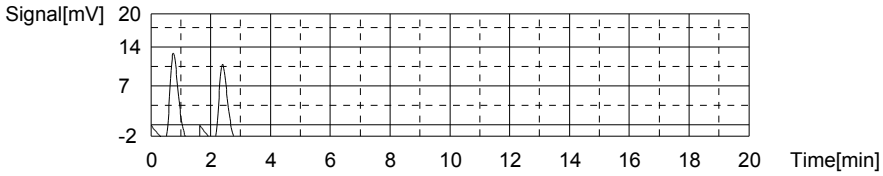
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	!!Error!! TOC:0.9833mg/L TC:0.7762mg/L IC:-0.2071mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	30.66	0.8136mg/L	500uL	1		TCCURVE-12-06-2011.2011_12_06_08_40_5	7/25/2012 10:41:35 PM
2	27.85	0.7388mg/L	500uL	1		TCCURVE-12-06-2011.2011_12_06_08_40_5	7/25/2012 10:45:33 PM

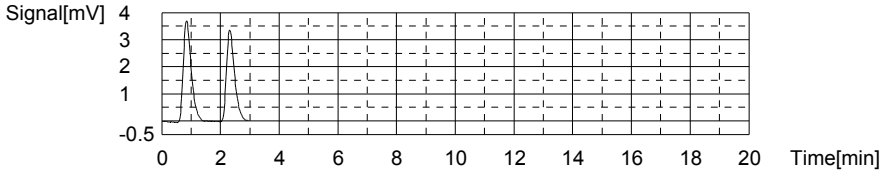
Mean Area 29.26
Mean Conc. 0.7762mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	7.128	-0.1937mg/L	500uL	1		TICCURVE-12-06-2011B.2011_12_06_15_47_	7/25/2012 10:49:53 PM
2	6.332	-0.2205mg/L	500uL	1		TICCURVE-12-06-2011B.2011_12_06_15_47_	7/25/2012 10:53:59 PM

Mean Area 6.730
Mean Conc. -0.2071mg/L



Sample

Sample Name: L12070003-01
Sample ID: <Untitled>
Origin: TOC-12-06-2011A.met
Status Completed
Chk. Result

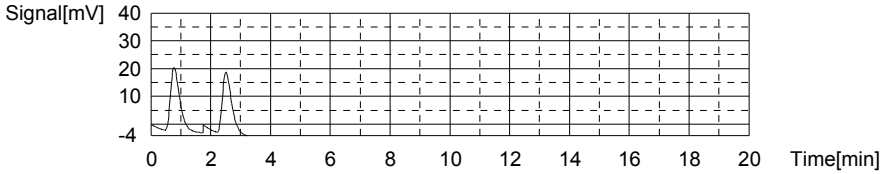
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	!!Error!! TOC:1.482mg/L TC:1.251mg/L IC:-0.2311mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	47.83	1.271mg/L	500uL	1		TCCURVE-12-06-2011.2011_12_06_08_40_5	7/25/2012 11:01:12 PM
2	46.37	1.232mg/L	500uL	1		TCCURVE-12-06-2011.2011_12_06_08_40_5	7/25/2012 11:05:16 PM

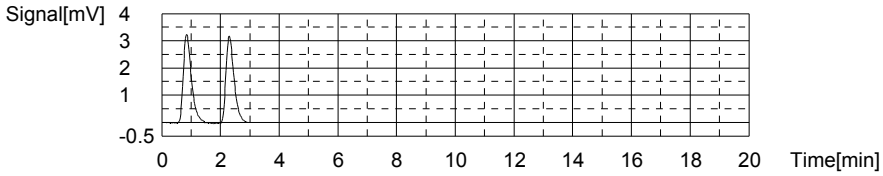
Mean Area 47.10
Mean Conc. 1.251mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	6.042	-0.2303mg/L	500uL	1		TICCURVE-12-06-2011B.2011_12_06_15_47	7/25/2012 11:09:35 PM
2	5.994	-0.2319mg/L	500uL	1		TICCURVE-12-06-2011B.2011_12_06_15_47	7/25/2012 11:13:38 PM

Mean Area 6.018
Mean Conc. -0.2311mg/L



Sample

Sample Name: <Untitled>
Sample ID: <Untitled>
Origin: TOC-12-06-2011A.met
Status Completed
Chk. Result

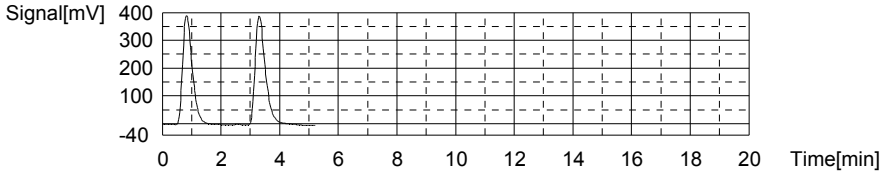
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	!!Error!! TOC:24.97mg/L TC:24.74mg/L IC:-0.2310mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	894.8	23.81mg/L	500uL	1		TCCURVE-12-06-2011.2011_12_06_08_40_5	7/25/2012 11:21:34 PM
2	964.6	25.67mg/L	500uL	1		TCCURVE-12-06-2011.2011_12_06_08_40_5	7/25/2012 11:26:34 PM

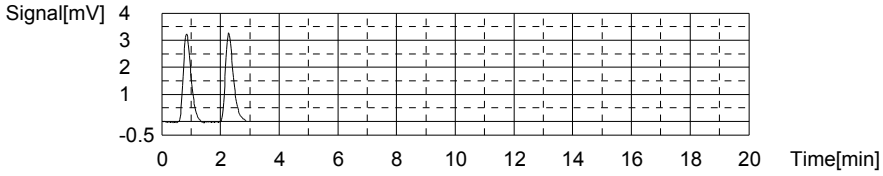
Mean Area 929.7
Mean Conc. 24.74mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	6.024	-0.2309mg/L	500uL	1		TICCURVE-12-06-2011B.2011_12_06_15_47	7/25/2012 11:30:50 PM
2	6.018	-0.2311mg/L	500uL	1		TICCURVE-12-06-2011B.2011_12_06_15_47	7/25/2012 11:34:55 PM

Mean Area 6.021
Mean Conc. -0.2310mg/L



Sample

Sample Name: CCV
Sample ID:
Origin: TOC-12-06-2011.met
Status Completed
Chk. Result

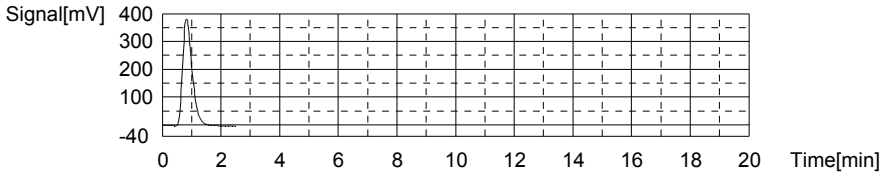
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	!!Error!! TOC:23.27mg/L TC:23.04mg/L IC:-0.2323mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	865.8	23.04mg/L	500uL	1		TCCURVE-12-06-2011.2011_12_06_08_40_5	7/25/2012 11:42:52 PM

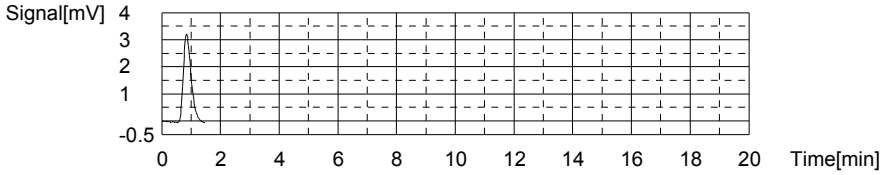
Mean Area 865.8
Mean Conc. 23.04mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	5.983	-0.2323mg/L	500uL	1		TICCURVE-12-06-2011B.2011_12_06_15_47_	7/25/2012 11:47:08 PM

Mean Area 5.983
Mean Conc. -0.2323mg/L



Sample

Sample Name: CCB
Sample ID:
Origin: TOC-12-06-2011.met
Status Completed
Chk. Result

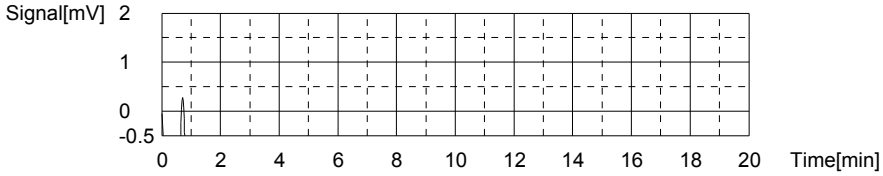
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	!!Error!! TOC:0.3711mg/L TC:0.1744mg/L IC:-0.1968mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	6.644	0.1744mg/L	500uL	1		TCCURVE-12-06-2011.2011_12_06_08_40_5	7/25/2012 11:52:23 PM

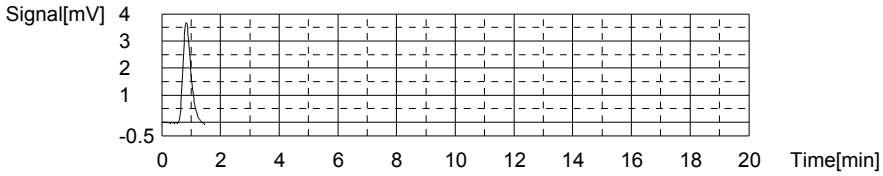
Mean Area 6.644
Mean Conc. 0.1744mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	7.038	-0.1968mg/L	500uL	1		TICCURVE-12-06-2011B.2011_12_06_15_47_	7/25/2012 11:56:15 PM

Mean Area 7.038
Mean Conc. -0.1968mg/L



Sample

Sample Name: CCV
Sample ID:
Origin: TOC-12-06-2011.met
Status Completed
Chk. Result

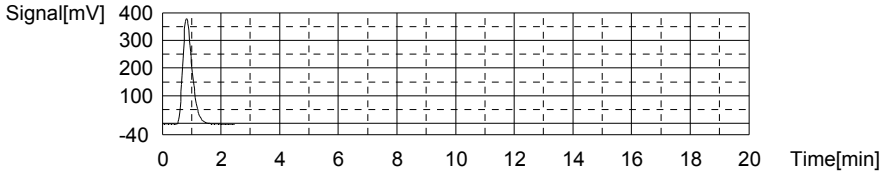
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	!!Error!! TOC:22.95mg/L TC:22.75mg/L IC:-0.1922mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	855.0	22.75mg/L	500uL	1		TCCURVE-12-06-2011.2011_12_06_08_40_5	7/26/2012 9:50:36 AM

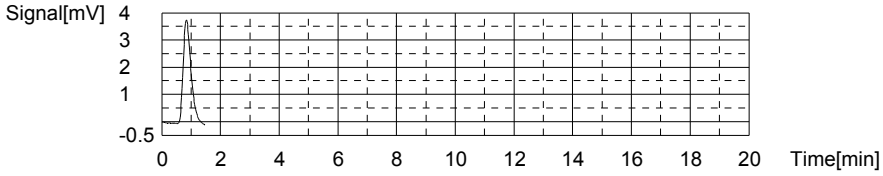
Mean Area 855.0
Mean Conc. 22.75mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	7.172	-0.1922mg/L	500uL	1		TICCURVE-12-06-2011B.2011_12_06_15_47_	7/26/2012 9:54:55 AM

Mean Area 7.172
Mean Conc. -0.1922mg/L



Sample

Sample Name: CCB
Sample ID:
Origin: TOC-12-06-2011.met
Status Completed
Chk. Result

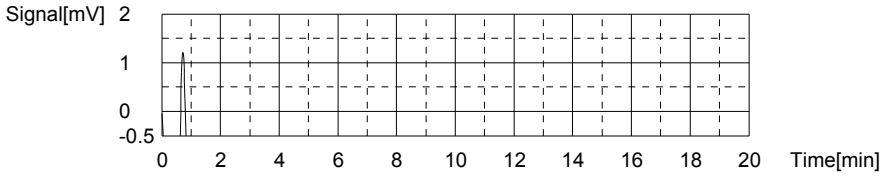
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	!!Error!! TOC:0.4004mg/L TC:0.2092mg/L IC:-0.1912mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	7.952	0.2092mg/L	500uL	1		TCCURVE-12-06-2011.2011_12_06_08_40_5	7/26/2012 10:00:10 AM

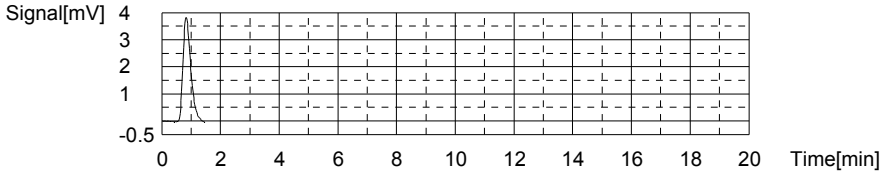
Mean Area 7.952
Mean Conc. 0.2092mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	7.203	-0.1912mg/L	500uL	1		TICCURVE-12-06-2011B.2011_12_06_15_47_	7/26/2012 10:04:02 AM

Mean Area 7.203
Mean Conc. -0.1912mg/L



Sample

Sample Name: L12070631-02 (3)
Sample ID:
Origin: TOC-12-06-2011.met
Status Completed
Chk. Result

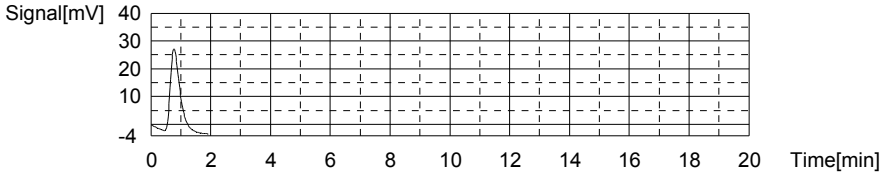
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:1.604mg/L TC:1.723mg/L IC:0.1186mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	64.81	1.723mg/L	500uL	1		TCCURVE-12-06-2011.2011_12_06_08_40_5	7/26/2012 10:11:25 AM

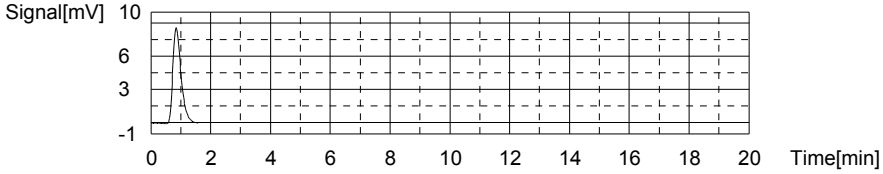
Mean Area 64.81
Mean Conc. 1.723mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	16.41	0.1186mg/L	500uL	1		TICCURVE-12-06-2011B.2011_12_06_15_47_	7/26/2012 10:15:51 AM

Mean Area 16.41
Mean Conc. 0.1186mg/L



Sample

Sample Name: CCV
Sample ID:
Origin: TOC-12-06-2011.met
Status Completed
Chk. Result

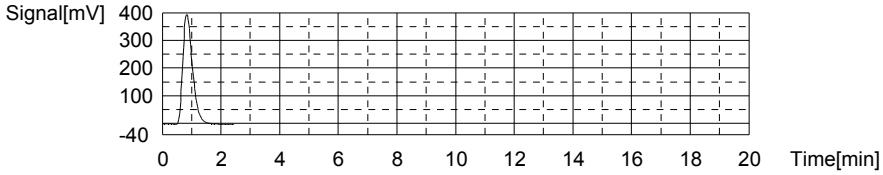
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	!!Error!! TOC:24.53mg/L TC:24.33mg/L IC:-0.2059mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	914.1	24.33mg/L	500uL	1		TCCURVE-12-06-2011.2011_12_06_08_40_5	7/26/2012 10:23:46 AM

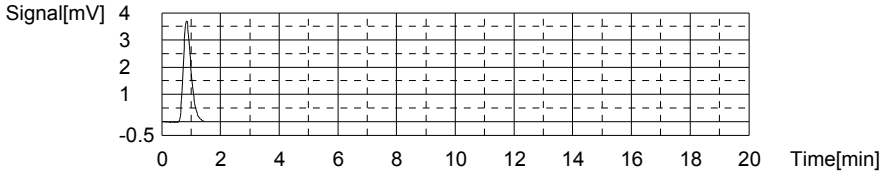
Mean Area 914.1
Mean Conc. 24.33mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	6.766	-0.2059mg/L	500uL	1		TICCURVE-12-06-2011B.2011_12_06_15_47_	7/26/2012 10:28:03 AM

Mean Area 6.766
Mean Conc. -0.2059mg/L



Sample

Sample Name: CCB
Sample ID:
Origin: TOC-12-06-2011.met
Status Completed
Chk. Result

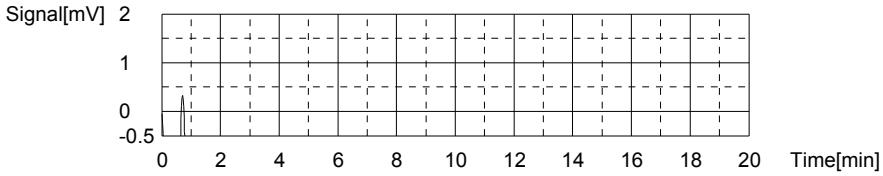
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	!!Error!! TOC:0.3494mg/L TC:0.1568mg/L IC:-0.1925mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	5.985	0.1568mg/L	500uL	1		TCCURVE-12-06-2011.2011_12_06_08_40_5	7/26/2012 10:33:18 AM

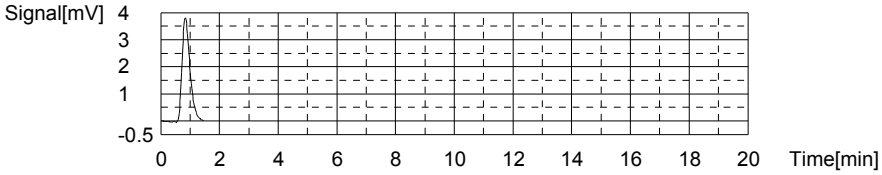
Mean Area 5.985
Mean Conc. 0.1568mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	7.163	-0.1925mg/L	500uL	1		TICCURVE-12-06-2011B.2011_12_06_15_47	7/26/2012 10:37:09 AM

Mean Area 7.163
Mean Conc. -0.1925mg/L



2.2.11 Total Suspended Solids Data

2.2.11.1 Summary Data

Login Number: L12070507
Department: Conventionals
Analyst: Erin R Porter

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: 50796
Approved By: Deanna Hesson

Microbac

Lab Report #: L12070507
Lab Project #: 3005.011
Project Name: White Sands MR
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L12070507-01	**PrePrep Method:**	N/A	**Instrument:**	OVEN
Client ID:	MPL23-0712-1	**Prep Method:**	160.2/SM2540D	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	160.2	**Cal Date:**	
Workgroup #:	WG403852	**Analyst:**	ERP	**Run Date:**	07/19/2012 12:09
Collect Date:	07/17/2012 12:42	**Dilution:**	1	**File ID:**	EN.1207191209-20
Sample Tag:		**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Total Suspended Solids		3.50	J	5.00	2.50

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

Microbac

Lab Report #: L12070507
Lab Project #: 3005.011
Project Name: White Sands MR
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L12070507-02	**PrePrep Method:**	N/A	**Instrument:**	OVEN
Client ID:	MPL23-0712-2	**Prep Method:**	160.2/SM2540D	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	160.2	**Cal Date:**	
Workgroup #:	WG403852	**Analyst:**	ERP	**Run Date:**	07/19/2012 12:09
Collect Date:	07/17/2012 12:42	**Dilution:**	1	**File ID:**	EN.1207191209-21
Sample Tag:		**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Total Suspended Solids		4.00	J	5.00	2.50

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

Certificate of Analysis

2.2.11.2 QC Summary Data

$$[(WT2 - WT1) * 1000000]/volume = mg/L$$

where:

WT1 = weight (grams) of empty container.
WT2 = weight (grams) of dried sample and container.
1000000 = factor to get to mg/L.
volume = mL of sample used.

Microbac Laboratories Inc.

Data Checklist

Date: 19-JUL-2012
Analyst: HJR
Analyst: ERP
Method: TSS
Instrument: OVEN
Curve Workgroup: NA
Runlog ID:
Analytical Workgroups: WG403852

Calibration/Linearity	
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	
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	ERP
Secondary Reviewer	DIH
Comments	

Primary Reviewer: 23-JUL-2012

Secondary Reviewer: 24-JUL-2012

CHECKLIST1 - Modified 03/05/2008
Generated: JUL-24-2012 15:29:29

Microbac Laboratories Inc.

HOLDING TIMES
EQUIVALENT TO AFCEE FORM 9

Analytical Method: 160.2 AAB#: WG403852

Login Number: L12070507

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
MPL23-0712-1	01	07/17/12					07/19/2012	2	7		07/19/12	2	7	
MPL23-0712-2	02	07/17/12					07/19/2012	2	7		07/19/12	2	7	

* = SEE PROJECT QAPP REQUIREMENTS

HOLD_TIMES - Modified 03/06/2008
PDF File ID: 2512462
Report generated 07/24/2012 09:24

Microbac Laboratories Inc.

METHOD BLANK SUMMARY

Login Number: L12070507
Blank File ID: EN.1207191209-01
Prep Date: 07/19/12 12:09
Analyzed Date: 07/19/12 12:09
Analyst: ERP

Work Group: WG403852
Blank Sample ID: WG403852-01
Instrument ID: OVEN
Method: 160.2

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG403852-02	EN.1207191209-02	07/19/12 12:09	
LCS2	WG403852-03	EN.1207191209-03	07/19/12 12:09	
MPL23-0712-1	L12070507-01	EN.1207191209-20	07/19/12 12:09	
MPL23-0712-2	L12070507-02	EN.1207191209-21	07/19/12 12:09	
DUP	WG403852-08	EN.1207191209-24	07/19/12 12:09	
DUP	WG403852-10	EN.1207191209-25	07/19/12 12:09	

Report Name: BLANK_SUMMARY
PDF File ID: 2512463
Report generated 07/24/2012 09:24

Microbac Laboratories Inc.

METHOD BLANK REPORT

Login Number: L12070507 Prep Date: 07/19/12 12:09 Sample ID: WG403852-01
Instrument ID: OVEN Run Date: 07/19/12 12:09 Prep Method: 160.2/SM2540D
File ID: EN.1207191209-01 Analyst: ERP Method: 160.2
Workgroup (AAB#): WG403852 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: 2512464
24-JUL-2012 09:24

Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L12070507 Analyst: ERP Prep Method: 160.2/SM2540D
Instrument ID: OVEN Matrix: Water Method: 160.2
Workgroup (AAB#): WG403852 Units: mg/L
QC Key: DOD4 Lot #: STD52874

Sample ID: WG403852-02 LCS File ID: EN.1207191209-02 Run Date: 07/19/2012 12:09
Sample ID: WG403852-03 LCS2 File ID: EN.1207191209-03 Run Date: 07/19/2012 12:09

Analytes	LCS			LCS2			%RPD	%Rec Limits	RPD Lmt	Q
	Known	Found	% REC	Known	Found	% REC				
Total Suspended Solids	50.0	49.0	98.0	50.0	49.0	98.0	0.00	75 - 125	10	

LCS_LCS2 - Modified 03/06/2008
PDF File ID: 2512465
Report generated: 07/24/2012 09:24

2.2.11.3 Raw Data

TRAY 12

WORKGROUP: WG403852

TOTAL SUSPENDED SOLIDS

LCS: STD-52874

Oven: TSS1 Other

MS: _____ mL LCS & _____ mL sample

Balance: AND GR-202 / Other

Method: EPA 160.2 / SM2540D SOP #: K1602 Revision #: _____ Filter Lot#: _____

On Temp: 103 1320 103 1310

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	LCS	100				
LCSDUP: _____mg/L	LCS 2	100				
7-510-4	1	10				
5	2	10				
7-492-5P	3	200				
9	4	200				
11	5	200				
13ms	6	200				
15msD	7	200				
7-493-1	8	100				
7-495-2	9	200				
4	10	200				
6	11	200				
8	12	200				
9	13	200				
7-498-1	14	200				
3	15	50				
7-500-1	16	200				
7-507-1	17	200				
2	18	200				
7-510-6	19	10				
7-515-2	20	200				
DUP: 7-507-1	Dup1	200				
DUP: 7-507-2	Dup2	200				

Off Temp: 103 1420 103 1440

ANALYST: [illegible]

DATE/TIME: (on) 7-19-12 1320

DATE/TIME: (off) _____

DATE/TIME: (off) _____

DATE/TIME: (off) _____

* Duplicate required on 10% of samples

7-515-3	1	200	
7-541-1	2	100	

DCN#91629

Microbac Laboratories Inc.
GRAVIMETRIC REPORT

Workgroup (AAB#): WG403852
Analyst: ERP
Analyte: TOTAL SUSPENDED SOLIDS
Balance: BAL004
Instrument: OVEN

Method: 160.2/SM2540D
SOP: K1602 Revison 13
Spike Solution: STD52874
Daily Dilution:

SAMPLE NUMBER	#	INITIAL VOL	INITIAL WT	DRY WT A	DRY WT B	DRY WT C	Anal. Conc	Rep. Conc.	Units
WG403852-01	BLK	200	0.0934	0.0932	0.0935		0.5000	0.5000	mg/L
WG403852-02	LCS	100	0.0896	0.0948	0.0945		49.00	49.00	mg/L
WG403852-03	LCS2	100	0.095	0.1002	0.0999		49.00	49.00	mg/L
L12070510-04	1	10	0.0941	0.1156	0.1155		2140	2140	mg/L
L12070510-05	2	10	0.0916	0.1385	0.1386		4700	4700	mg/L
L12070492-05	3	200	0.0903	0.0919	0.0919		8.000	8.000	mg/L
WG403852-04	3	200	0.0903	0.0919	0.0919		8.000	8.000	mg/L
L12070492-09	4	200	0.0925	0.0938	0.0939		7.000	7.000	mg/L
L12070492-11	5	200	0.0926	0.093	0.093		2.000	ND	mg/L
L12070492-13	6	200	0.0936	0.1	0.1		32.00	32.00	mg/L
WG403852-05	6	200	0.0936	0.1	0.1		32.00	32.00	mg/L
L12070492-15	7	200	0.0927	0.0987	0.0985		29.00	29.00	mg/L
WG403852-06	7	200	0.0927	0.0987	0.0985		29.00	29.00	mg/L
L12070493-01	8	100	0.0937	0.1141	0.1143		206.0	206.0	mg/L
L12070495-02	9	200	0.0928	0.093	0.0935		3.500	3.500	mg/L
L12070495-04	10	200	0.0946	0.0948	0.0953		3.500	3.500	mg/L
L12070495-06	11	200	0.0931	0.0936	0.0939		4.000	4.000	mg/L
L12070495-08	12	200	0.0936	0.0942	0.0946		5.000	5.000	mg/L
L12070495-09	13	200	0.0931	0.0934	0.0939		4.000	4.000	mg/L
L12070498-01	14	200	0.0912	0.0917	0.092		4.000	4.000	mg/L
L12070498-03	15	50	0.0914	0.1066	0.1069		310.0	310.0	mg/L
L12070500-01	16	200	0.0929	0.0937	0.0939		5.000	5.000	mg/L
L12070507-01	17	200	0.0931	0.0934	0.0938		3.500	3.500	mg/L
WG403852-07	17	200	0.0931	0.0934	0.0938		3.500	3.500	mg/L
L12070507-02	18	200	0.0904	0.0908	0.0912		4.000	4.000	mg/L
WG403852-09	18	200	0.0904	0.0908	0.0912		4.000	4.000	mg/L
L12070510-06	19	10	0.0908	0.1375	0.1375		4670	4670	mg/L
L12070515-02	20	200	0.0917	0.0922	0.0923		3.000	3.000	mg/L
WG403852-08	DUP1	200	0.0941	0.0945	0.0947		3.000	3.000	mg/L
WG403852-10	DUP2	200	0.0949	0.0948	0.0949		0	0	mg/L
L12070515-03	1	200	0.0951	0.0953	0.0954		1.500	ND	mg/L
L12070541-01	2	100	0.0924	0.124	0.1244		320.0	320.0	mg/L

Analyst: Erin Potter

*Duplicate required on 10% of samples

Date/Time (on) : 07/19/2012 12:09
Date/Time (off): 07/20/2012 13:04
Date/Time (off): 07/20/2012 17:10
Date/Time (off):

CONT_GRAV_REPORT - Modified 02/18/2011
PDF ID: 2504423
Report generated: 07/20/2012 17:15

Microbac

3.0 Attachments

Microbac Laboratories Inc.
Ohio Valley Division Analyst List
July 30, 2012

ADC - ANTHONY D. CANTER
AGK - ANDREW G. KASICK
AJF - AMANDA J. FICKIESEN
ALB - ANNIE L. BROWN
ALV - AMY L. VALENTINE
AML - TONY M. LONG
AZH - AFTER HOURS
BLG - BRENDA L. GREENWALT
BRG - BRENDA R. GREGORY
CAA - CASSIE A. AUGENSTEIN
CAF - CHERYL A. FLOWERS
CEB - CHAD E. BARNES
CLC - CHRYS L. CRAWFORD
CLS - CARA L. STRICKLER
CLW - CHARISSA L. WINTERS
CPD - CHAD P. DAVIS
CS - CODY M. STRAHLER
CSH - CHRIS S. HILL
DDE - DEBRA D. ELLIOTT
DEV - DAVID E. VANDENBERG
DGB - DOUGLAS G. BUTCHER
DIH - DEANNA I. HESSON
DLB - DAVID L. BUMGARNER
DLP - DOROTHY L. PAYNE
DLR - DIANNA L. RAUCH
DSM - DAVID S. MOSSOR
ECL - ERIC C. LAWSON
EDL - ERIN D. LONG
ERP - ERIN R. PORTER
FJB - FRANCES J. BOLDEN
HAV - HEMA VILASAGAR
HJR - HOLLY J. REED
JAL - JOHN A. LENT
JBK - JEREMY B. KINNEY
JDH - JUSTIN D. HESSON
JKS - JANE K. SCHAAD
JLL - JOHN L. LENT
JWR - JOHN W. RICHARDS
JWS - JACK W. SHEAVES
JYH - JI Y. HU
KEB - KATIE E. BARNES
KHR - KIM H. RHODES
KRA - KATHY R. ALBERTSON
LKN - LINDA K. NEDEFF
LSB - LESLIE S. BUCINA
MDA - MIKE D. ALBERTSON
MDC - MIKE D. COCHRAN
MES - MARY E. SCHILLING
MMB - MAREN M. BEERY
MRT - MICHELLE R. TAYLOR
MSW - MATT S. WILSON
PDM - PIERCE D. MORRIS
PWD - PAUL W. DENT
QX - QIN XU
RAH - ROY A. HALSTEAD
REK - BOB E. KYER
RLB - BOB BUCHANAN
RLK - ROBIN L. KLINGER
RS - ROSEMARY SCOTT
RWC - RODNEY W. CAMPBELL
SJP - SUZANNE J. PAUGH
SLM - STEPHANIE L. MOSSBURG
SLP - SHERI L. PFALZGRAF
TIP - TAE I. PARRISH
TMB - TIFFANY M. BAILEY
TMM - TAMMY M. MORRIS
VC - VICKI COLLIER
WJB - WILL J. BEASLEY
WTD - WADE T. DELONG
XXX - UNAVAILABLE OR SUBCONTRACT

Microbac Laboratories Inc.
List of Valid Qualifiers
July 30, 2012

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.
>	Result is greater than the associated numerical value.
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)
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.
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 30686

158 Starlite Drive
Marietta, OH 45750

Microbac

CHAIN-OF-CUSTODY RECORD

Phone: 740-373-4071
Fax: 740-373-4835

Company Name: Shaw / Zia

Project Contact: Mark Lyon

Contact Phone #: 505-262-8920

Turn Around Requirements: Normal

Location: WSMR STP

Project ID: WSMR STP SWMU 82

Sampler (print): Allison Jenness

Signature:

Program: ☐ CWA ☐ RCRA ☐ DOD ☐ AFCEE ☐ Other

Sample I.D. No.	Comp	Grab	Date	Time	Matrix*	NUMBER OF CONTAINERS	Hold	Anions (Cl, Pl, SO4)	Conductivity	pH	PO4	CN-Total	CN-Amenable	CN-WAD-Free	Metals	TSS-TDS	Alkalinity	NH3	NO3-NO2	TOC	Na, K, Ca, Mg, Mn		TOTAL # (LAB USE)	ADDITIONAL REQUIREMENTS
MPL 23-0712-1		X	7-17-12	1242	W	8		X	X	X	X	X	X	X	X	X	X	X	X	X	X			
MPL 23-0712-2		X	7-17-12	1242	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
Brude T. Dias	7-17-12	1700	Microbac OVD Received: 07/18/2012 10:59 By: BRENDA GREENWALT 221000026868 Brenda Greenwalt		
Relinquished by: (Signature)	Date	Time			

Remarks:

*Water (W), Soil (S), Solid Waste (SD), Unknown (X)

Page 1 of 1

Microbac Laboratories Inc.

Internal Chain of Custody Report

Login: L12070507
Account: 3005
Project: 3005.011
Samples: 2
Due Date: 27-JUL-2012

Samplenum	Container ID	Products
L12070507-01	991072	300

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	18-JUL-2012 11:31	CLS		
2	PREP	W1	SEM	19-JUL-2012 10:04	HAV	CLS	
3	STORE	SEM	A1	26-JUL-2012 08:50	CLS	JBK	

Samplenum	Container ID	Products
L12070507-01	991073	ALK-B ALK-C

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	18-JUL-2012 11:31	CLS		
2	ANALYZ	W1	WET	20-JUL-2012 07:16	DIH	AZH	
3	STORE	WET	A1	20-JUL-2012 16:43	CLS	DIH	

Samplenum	Container ID	Products
L12070507-01	991074	PO4

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	WET	18-JUL-2012 11:31	CLS		
2	STORE	WET	A1	23-JUL-2012 08:11	AZH	TMM	

Samplenum	Container ID	Products
L12070507-01	991075	TSS

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	18-JUL-2012 11:31	CLS		
2	ANALYZ	W1	WET	18-JUL-2012 12:04	ERP	CLS	
3	STORE	WET	A1	19-JUL-2012 13:24	ERP	CLS	

Samplenum	Container ID	Products
L12070507-01	991076	TOC

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	18-JUL-2012 11:31	CLS		<2
2	ANALYZ	W1	WET	20-JUL-2012 09:48	CLS	TMM	
3	STORE	WET	A1	26-JUL-2012 06:40	AZH	DIH	

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: L12070507
Account: 3005
Project: 3005.011
Samples: 2
Due Date: 27-JUL-2012

Samplenum	Container ID	Products
L12070507-01	991077	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	18-JUL-2012 11:31	CLS		
2	PREP	W1	DIG	19-JUL-2012 04:34	REK	AZH	
3	STORE	DIG	A1	19-JUL-2012 13:54	CLS	BRG	
4	ANALYZ*	DIG	METALS	20-JUL-2012 07:25	JYH	REK	

Sample extract/digestate/leachate

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	18-JUL-2012 11:31	CLS		

Sample extract/digestate/leachate

Samplenum	Container ID	Products
L12070507-01	991078	CN-WD

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	18-JUL-2012 11:31	CLS		
2	ANALYZ	W1	WET	18-JUL-2012 13:21	HJK	CLS	
3	STORE	WET	A1	30-JUL-2012 08:09	HJR	CLS	

Samplenum	Container ID	Products
L12070507-02	991079	300

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	A1	18-JUL-2012 11:31	CLS		
2	PREP	A1	SEM	19-JUL-2012 10:05	HAV	CLS	
3	PREP	W1	SEM	19-JUL-2012 11:39	HAV	CLS	
4	STORE	SEM	A1	26-JUL-2012 08:45	CLS	JBK	

Samplenum	Container ID	Products
L12070507-02	991080	ALK-B ALK-C

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	18-JUL-2012 11:31	CLS		
2	ANALYZ	W1	WET	20-JUL-2012 07:16	DIH	AZH	
3	STORE	WET	A1	20-JUL-2012 16:43	CLS	DIH	

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: L12070507
Account: 3005
Project: 3005.011
Samples: 2
Due Date: 27-JUL-2012

Samplenum	Container ID	Products
L12070507-02	991081	PO4

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	18-JUL-2012 11:31	CLS		

Samplenum	Container ID	Products
L12070507-02	991082	TSS

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	18-JUL-2012 11:31	CLS		
2	ANALYZ	W1	WET	18-JUL-2012 12:04	ERP	CLS	
3	STORE	WET	A1	19-JUL-2012 13:24	ERP	CLS	

Samplenum	Container ID	Products
L12070507-02	991083	TOC

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	18-JUL-2012 11:31	CLS		<2
2	ANALYZ	W1	WET	20-JUL-2012 09:48	CLS	TMM	
3	STORE	WET	A1	26-JUL-2012 06:40	AZH	DIH	

Samplenum	Container ID	Products
L12070507-02	991084	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	18-JUL-2012 11:31	CLS		
2	PREP	W1	DIG	19-JUL-2012 04:34	REK	AZH	
3	STORE	DIG	A1	19-JUL-2012 13:54	CLS	BRG	
4	ANALYZ*	DIG	METALS	20-JUL-2012 07:25	JYH	REK	

Sample extract/digestate/leachate

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	18-JUL-2012 11:31	CLS		

Sample extract/digestate/leachate

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login

Microbac Laboratories Inc.

Internal Chain of Custody Report

Login: L12070507
Account: 3005
Project: 3005.011
Samples: 2
Due Date: 27-JUL-2012

Samplenum	Container ID	Products
L12070507-02	991085	CN-WD

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	18-JUL-2012 11:31	CLS		
2	ANALYZ	W1	WET	18-JUL-2012 13:21	HJK	CLS	
3	STORE	WET	A1	30-JUL-2012 08:09	HJR	CLS	

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login