Microbac

Laboratory Report Number: L12110393

Shane Lowe
CH2MHILL, Inc
1034 S. Brentwood Blvd
Richmond Heights, MO 63117

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:
Kathy Albertson – Team Chemist/Data Specialist
(740) 373-4071
Kathy.Albertson@microbac.com

I certify that all test results meet all of the requirements of the accrediting authority listed below. 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. The reported results are related only to the samples analyzed as received.

This report was certified on November 28 2012

David E. Vandenberg

David Vandenberg – Managing Director

State of Origin: NY
Accrediting Authority: Department of Health ID:10861
QAPP: WATERLOO

Microbac

Lab Report #: L12110393
Lab Project #: 2736.127
Project Name: DOW WATERLOO Pump Test
Lab Contact: Kathy Albertson

Record of Sample Receipt and Inspection

Comments/Discrepancies

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

The following discrepancies were noted:

Discrepancy	Resolution
The temperature was out of the acceptable range for the following samples Chain of custody 32863. RS	Per the client, please proceed with analysis. EDL 11/13/12 at 1023
The ice was melted. RS	Per the client, please proceed with analysis. EDL 11/13/12 at 1023
IDW-GW-110912:chain of custody says we should of received 6 bottles, but, we received 7. 2-VOAS 2-Semis 1-500P HNO3 1-500P Sulfide 1-250P 4C	

Coolers

Cooler #	Temperature Gun	Temperature	COC #	Airbill #
0017741	G	16.0		1002239561810004575000872087765190

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?	No
4	Was ice present?	No
5	Were COC's received/information complete/signed and dated?	Yes
6	Were sample containers intact and match COC?	No
7	Were sample labels intact and match COC?	Yes
8	Were the correct containers and volumes received?	Yes
9	Were samples received within EPA hold times?	Yes
10	Were correct preservatives used? (water only)	Yes
11	Were pH ranges acceptable? (voa's excluded)	Yes
12	Were VOA samples free of headspace (less than 6mm)?	Yes

Microbac

Lab Report #: L12110393
Lab Project #: 2736.127
Project Name: DOW WATERLOO Pump Test
Lab Contact: Kathy Albertson

Samples Received

Client ID	Laboratory ID	Date Collected	Date Received
BLDG 4-PIT-SSP1-GW-11082012	L12110393-01	11/08/2012 14:11	11/13/2012 10:16
BLDG 4-PIT-SSP1-GW-11082012	L12110393-02	11/08/2012 14:11	11/13/2012 10:16
DUP-GW-110812	L12110393-03	11/08/2012 00:01	11/13/2012 10:16
DUP-GW-110812	L12110393-04	11/08/2012 00:01	11/13/2012 10:16
TB-110912	L12110393-05	11/08/2012 12:41	11/13/2012 10:16

Microbac REPORT L12110393
PREPARED FOR CH2MHILL, Inc
WORK ID:

1.0 Summary Data

1.1 Narratives

Login Number: L12110393
Department: Volatiles
Analyst: Franci Bolden

METHOD

Preparation SW-846 5030C/5035A

Analysis SW-846 8260B

HOLDING TIMES

Sample Preparation: All holding times were met.

Sample Analysis: All holding times were met.

PREPARATION

Sample preparation proceeded normally.

CALIBRATION

Initial Calibration: For all compounds that yielded a %RSD greater than 15%, linear or higher order equations were applied. All acceptance criteria were met.

Alternate Source Standards: The percent difference was out of range for the following analytes: dichlorodifluoromethane. Please see the applicable QC report for a detailed presentation of the failures.

Continuing Calibration and Tune: All acceptance criteria were met.

BATCH QA/QC

Method Blank: All acceptance criteria were met.

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

Matrix Spikes: The MS/MSD results were not associated with this sample delivery group (SDG), due to insufficient volume of sample. The laboratory included an LCS and LCS duplicate in the preparation batch in lieu of the NELAC prescribed MS/MSD. Microbac Laboratories recommends site specific MS/MSD samples to avoid possible data qualifications.

SAMPLES

Internal Standards: All acceptance criteria were met.

Surrogates: All acceptance criteria were met.

Other: Samples 01, 03, were run at a dilution. Reporting limits elevated for samples 01 and 02 due to foaming during purging and the matrix.

Manual Integration Reason Codes

Reason #1: Data System Fails to Select Correct Peak. In some cases the chromatography system selects and integrates the 'wrong peak'. In this case the analyst must correct the selection and force the system to integrate the proper peak. Other times the system may miss the peak completely.

Reason #2: Data System Splits the Peak Incorrectly or Integrates a False Peak as a Rider Peak. This phenomena is common at low concentrations where the signal:noise ratio is low. A single compound (peak) is incorrectly split into multiple peaks or integrated as a main peak with one or more rider peaks resulting in low area counts for the target compound.

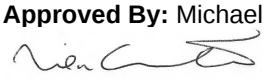
Reason #3: Improperly Integrated Isomers and/or coeluting compounds. This system often fails to distinguish coeluting compounds and or isomers. The integration areas and concentrations are wrong, and they must be corrected by manual integration. Prime examples are benzo(k)fluoranthene and benzo(b)fluoranthene which are often unresolved and integrated improperly when both are present at low concentrations in standards or samples.

Reason #4: System Establishes Incorrect Baseline. There are numerous situations in chromatography where the system establishes the baseline incorrectly. Some baseline errors will be obvious to the analyst and should be corrected via manual procedures.

Reason #5: Miscellaneous. Other situations involving integration errors may require in-depth review and technical judgment. These cases should be brought to the attention of the laboratory management. If the form of manual integration is not clearly covered by these four cases, then review and approval by the Managing Director or the QAO will be 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: 56055
Approved By: Michael Albertson



Login Number: L12110393
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: WG414521 - All acceptance criteria were met.

Matrix Spikes: All acceptance criteria were met.

SAMPLES

Samples: WG414521 - Client samples 01 through 04 required dilution analyses in order to obtain results for potassium and sodium within the linear range.

Narrative ID: 56252
Approved By: Sheri Pfalzgraf

Login Number: L12110393
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: WG414570 - All acceptance criteria were met.

Matrix Spikes: All acceptance criteria were met.

SAMPLES

Samples: All acceptance criteria were met.

Narrative ID: 56221
Approved By: Sheri Pfalzgraf

Login Number: L12110393
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: WG414893 - All acceptance criteria were met.

Matrix Spikes: All acceptance criteria were met.

SAMPLES

Samples: All acceptance criteria were met.

Narrative ID: 56367
Approved By: Sheri Pfalzgraf

1.2 Certificate of Analysis

Certificate of Analysis

Sample #:	L12110393-01	**PrePrep Method:**	N/A	**Instrument:**	HPMS6
Client ID:	BLDG 4-PIT-SSP1-GW-11082012	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	11/12/2012 19:51
Workgroup #:	WG414233	**Analyst:**	FJB	**Run Date:**	11/14/2012 22:32
Collect Date:	11/08/2012 14:11	**Dilution:**	10	**File ID:**	6M112689
Sample Tag:	DL01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	RL	MDL
1,1,1-Trichloroethane	71-55-6		U	10.0	2.50
1,1,2,2-Tetrachloroethane	79-34-5		U	10.0	2.00
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1		U	50.0	20.0
1,1,2-Trichloroethane	79-00-5		U	10.0	2.50
1,1-Dichloroethane	75-34-3		U	10.0	1.25
1,1-Dichloroethene	75-35-4		U	10.0	5.00
1,2,3-Trichlorobenzene	87-61-6		U	10.0	5.00
1,2,4-Trichlorobenzene	120-82-1		U	10.0	2.00
1,2-Dibromo-3-chloropropane	96-12-8		U	50.0	10.0
1,2-Dibromoethane	106-93-4		U	10.0	2.50
1,2-Dichlorobenzene	95-50-1		U	10.0	1.25
1,2-Dichloroethane	107-06-2		U	10.0	2.50
cis-1,2-Dichloroethene	156-59-2		U	10.0	2.50
trans-1,2-Dichloroethene	156-60-5		U	10.0	2.50
1,2-Dichloropropane	78-87-5		U	10.0	2.00
1,3-Dichlorobenzene	541-73-1		U	10.0	2.50
1,4-Dichlorobenzene	106-46-7		U	10.0	1.25
2-Butanone	78-93-3		U	100	25.0
2-Hexanone	591-78-6		U	100	25.0
4-Methyl-2-pentanone	108-10-1	2750		100	25.0
Acetone	67-64-1	712		100	25.0
Benzene	71-43-2		U	10.0	1.25
Bromochloromethane	74-97-5		U	10.0	2.00
Bromodichloromethane	75-27-4		U	10.0	2.50
Bromoform	75-25-2		U	10.0	5.00
Bromomethane	74-83-9		U	10.0	5.00
Carbon disulfide	75-15-0	73.6		10.0	5.00
Carbon tetrachloride	56-23-5		U	10.0	2.50
Chlorobenzene	108-90-7	14.6		10.0	1.25
Chloroethane	75-00-3		U	10.0	5.00
Chloroform	67-66-3	127		10.0	1.25
Chloromethane	74-87-3		U	10.0	5.00

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
cis-1,3-Dichloropropene	10061-01-5		U	10.0	2.50
Cyclohexane	110-82-7		U	50.0	10.0
Dibromochloromethane	124-48-1		U	10.0	2.50
Dichlorodifluoromethane	75-71-8		U	10.0	2.50
Ethyl benzene	100-41-4		U	10.0	2.50
Isopropylbenzene	98-82-8		U	10.0	2.50
Methyl acetate	79-20-9		U	50.0	10.0
Methyl tert-butyl ether	1634-04-4		U	10.0	5.00
Methylcyclohexane	108-87-2		U	50.0	10.0
Methylene chloride	75-09-2	14.3	J	50.0	2.50
m,p-Xylene	179601-23-1		U	10.0	5.00
o-Xylene	95-47-6		U	10.0	2.50
Styrene	100-42-5		U	10.0	1.25
Tetrachloroethene	127-18-4		U	10.0	2.50
Toluene	108-88-3	51.6		10.0	2.50
trans-1,3-Dichloropropene	10061-02-6		U	10.0	5.00
Trichloroethene	79-01-6		U	10.0	2.50
Trichlorofluoromethane	75-69-4		U	10.0	2.50
Vinyl chloride	75-01-4		U	10.0	2.50
Epichlorohydrin	106-89-8			0.000	0.000

Surrogate	Recovery	Lower Limit	Upper Limit	Q
1,2-Dichloroethane-d4	93.3	80	120	
Dibromofluoromethane	99.9	86	118	
p-Bromofluorobenzene	102	86	115	
Toluene-d8	97.4	88	110	

J	The analyte was positively identified, but the quantitation was below the RL.
U	Not detected at or above adjusted sample detection limit.

Sample #: L12110393-01
Client ID: BLDG 4-PIT-SSP1-GW-11082012
Matrix: Water
Workgroup #: WG414521
Collect Date: 11/08/2012 14:11
Sample Tag: 01

PrePrep Method: N/A
Prep Method: 3005A
Analytical Method: 6010B
Analyst: KHR
Dilution: 1
Units: mg/L

Instrument: PE-ICP2
Prep Date: 11/16/2012 07:06
Cal Date: 11/19/2012 07:37
Run Date: 11/19/2012 08:52
File ID: P2.111912.085239

Analyte	CAS #	Result	Qual	RL	MDL
Aluminum, Total	7429-90-5		U	0.100	0.0500
Barium, Total	7440-39-3	0.881		0.0100	0.00500
Beryllium, Total	7440-41-7		U	0.00200	0.00100

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
Cadmium, Total	7440-43-9		U	0.000500	0.000250
Calcium, Total	7440-70-2	294		0.200	0.100
Chromium, Total	7440-47-3	0.158		0.00500	0.00250
Cobalt, Total	7440-48-4		U	0.0200	0.0100
Copper, Total	7440-50-8		U	0.0200	0.0100
Iron, Total	7439-89-6		U	0.100	0.0500
Magnesium, Total	7439-95-4	125		0.500	0.250
Manganese, Total	7439-96-5	0.0577		0.0100	0.00500
Nickel, Total	7440-02-0	0.109		0.0400	0.0200
Silver, Total	7440-22-4		U	0.0100	0.00500
Vanadium, Total	7440-62-2	0.0121		0.0100	0.00500
Zinc, Total	7440-66-6		U	0.0200	0.0100

E	Semiquantitative result (out of calibration range)
U	Not detected at or above adjusted sample detection limit.

Sample #: L12110393-01
Client ID: BLDG 4-PIT-SSP1-GW-11082012
Matrix: Water
Workgroup #: WG414521
Collect Date: 11/08/2012 14:11
Sample Tag: DL01

PrePrep Method: N/A
Prep Method: 3005A
Analytical Method: 6010B
Analyst: KHR
Dilution: 50
Units: mg/L

Instrument: PE-ICP2
Prep Date: 11/16/2012 07:06
Cal Date: 11/19/2012 07:37
Run Date: 11/19/2012 10:41
File ID: P2.111912.104149

Analyte	CAS #	Result	Qual	RL	MDL
Potassium, Total	7440-09-7	114		50.0	25.0
Sodium, Total	7440-23-5	549		25.0	12.5

J	The analyte was positively identified, but the quantitation was below the RL.
U	Not detected at or above adjusted sample detection limit.

Sample #: L12110393-01
Client ID: BLDG 4-PIT-SSP1-GW-11082012
Matrix: Water
Workgroup #: WG414570
Collect Date: 11/08/2012 14:11
Sample Tag: 01

PrePrep Method: N/A
Prep Method: 3015
Analytical Method: 6020
Analyst: JYH
Dilution: 1
Units: mg/L

Instrument: ICP-MS2
Prep Date: 11/15/2012 07:35
Cal Date: 11/18/2012 08:42
Run Date: 11/18/2012 11:37
File ID: NI.111812.113704

Analyte	CAS #	Result	Qual	RL	MDL
Antimony, Total	7440-36-0	0.00266		0.00100	0.000500
Arsenic, Total	7440-38-2	0.112		0.00100	0.000500

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
Lead, Total	7439-92-1		U	0.00100	0.000500
Selenium, Total	7782-49-2	0.00400		0.00100	0.000500
Thallium, Total	7440-28-0		U	0.000200	0.000100

U	Not detected at or above adjusted sample detection limit.

Sample #: L12110393-01 **PrePrep Method:** N/A **Instrument:** HYDRA
Client ID: BLDG 4-PIT-SSP1-GW-11082012 **Prep Method:** 7470A **Prep Date:** 11/20/2012 09:08
Matrix: Water **Analytical Method:** 7470A **Cal Date:** 11/21/2012 08:45
Workgroup #: WG414893 **Analyst:** PDM **Run Date:** 11/21/2012 09:20
Collect Date: 11/08/2012 14:11 **Dilution:** 1 **File ID:** HY.112112.092010
Sample Tag: 01 **Units:** mg/L

Analyte	CAS #	Result	Qual	RL	MDL
Mercury	7439-97-6		U	0.000200	0.000100

U	Not detected at or above adjusted sample detection limit.

Sample #: L12110393-02 **PrePrep Method:** N/A **Instrument:** PE-ICP2
Client ID: BLDG 4-PIT-SSP1-GW-11082012 **Prep Method:** 3005A **Prep Date:** 11/16/2012 07:06
Matrix: Water **Analytical Method:** 6010B **Cal Date:** 11/19/2012 07:37
Workgroup #: WG414521 **Analyst:** KHR **Run Date:** 11/19/2012 08:59
Collect Date: 11/08/2012 14:11 **Dilution:** 1 **File ID:** P2.111912.085941
Sample Tag: 01 **Units:** mg/L

Analyte	CAS #	Result	Qual	RL	MDL
Aluminum, Dissolved	7429-90-5		U	0.100	0.0500
Barium, Dissolved	7440-39-3	0.907		0.0100	0.00500
Beryllium, Dissolved	7440-41-7		U	0.00200	0.00100
Cadmium, Dissolved	7440-43-9		U	0.000500	0.000250
Calcium, Dissolved	7440-70-2	304		0.200	0.100
Chromium, Dissolved	7440-47-3	0.168		0.00500	0.00250
Cobalt, Dissolved	7440-48-4		U	0.0200	0.0100
Copper, Dissolved	7440-50-8		U	0.0200	0.0100
Iron, Dissolved	7439-89-6		U	0.100	0.0500
Magnesium, Dissolved	7439-95-4	130		0.500	0.250
Manganese, Dissolved	7439-96-5	0.0595		0.0100	0.00500
Nickel, Dissolved	7440-02-0	0.106		0.0400	0.0200
Silver, Dissolved	7440-22-4		U	0.0100	0.00500
Vanadium, Dissolved	7440-62-2	0.0124		0.0100	0.00500

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
Zinc, Dissolved	7440-66-6		U	0.0200	0.0100

E	Semiquantitative result (out of calibration range)
U	Not detected at or above adjusted sample detection limit.

Sample #: L12110393-02 **PrePrep Method:** N/A **Instrument:** PE-ICP2
Client ID: BLDG 4-PIT-SSP1-GW-11082012 **Prep Method:** 3005A **Prep Date:** 11/16/2012 07:06
Matrix: Water **Analytical Method:** 6010B **Cal Date:** 11/19/2012 07:37
Workgroup #: WG414521 **Analyst:** KHR **Run Date:** 11/19/2012 10:48
Collect Date: 11/08/2012 14:11 **Dilution:** 50 **File ID:** P2.111912.104846
Sample Tag: DL01 **Units:** mg/L

Analyte	CAS #	Result	Qual	RL	MDL
Potassium, Dissolved	7440-09-7	119		50.0	25.0
Sodium, Dissolved	7440-23-5	581		25.0	12.5

J	The analyte was positively identified, but the quantitation was below the RL.
U	Not detected at or above adjusted sample detection limit.

Sample #: L12110393-02 **PrePrep Method:** N/A **Instrument:** ICP-MS2
Client ID: BLDG 4-PIT-SSP1-GW-11082012 **Prep Method:** 3015 **Prep Date:** 11/15/2012 07:35
Matrix: Water **Analytical Method:** 6020 **Cal Date:** 11/18/2012 08:42
Workgroup #: WG414570 **Analyst:** JYH **Run Date:** 11/18/2012 11:40
Collect Date: 11/08/2012 14:11 **Dilution:** 1 **File ID:** NI.111812.114016
Sample Tag: 01 **Units:** mg/L

Analyte	CAS #	Result	Qual	RL	MDL
Antimony, Dissolved	7440-36-0	0.00285		0.00100	0.000500
Arsenic, Dissolved	7440-38-2	0.117		0.00100	0.000500
Lead, Dissolved	7439-92-1		U	0.00100	0.000500
Selenium, Dissolved	7782-49-2	0.00456		0.00100	0.000500
Thallium, Dissolved	7440-28-0		U	0.000200	0.000100

U	Not detected at or above adjusted sample detection limit.

Certificate of Analysis

Sample #: L12110393-02 | **PrePrep Method:** N/A | **Instrument:** HYDRA
Client ID: BLDG 4-PIT-SSP1-GW-11082012 | **Prep Method:** 7470A | **Prep Date:** 11/20/2012 09:08
Matrix: Water | **Analytical Method:** 7470A | **Cal Date:** 11/21/2012 08:45
Workgroup #: WG414893 | **Analyst:** PDM | **Run Date:** 11/21/2012 09:23
Collect Date: 11/08/2012 14:11 | **Dilution:** 1 | **File ID:** HY.112112.092347
Sample Tag: 01 | **Units:** mg/L

Analyte	CAS #	Result	Qual	RL	MDL
Mercury, Dissolved	7439-97-6		U	0.000200	0.000100

U	Not detected at or above adjusted sample detection limit.

Sample #: L12110393-03 | **PrePrep Method:** N/A | **Instrument:** HPMS6
Client ID: DUP-GW-110812 | **Prep Method:** 5030B/5030C/5035A | **Prep Date:** N/A
Matrix: Water | **Analytical Method:** 8260B | **Cal Date:** 11/12/2012 19:51
Workgroup #: WG414233 | **Analyst:** FJB | **Run Date:** 11/14/2012 23:02
Collect Date: 11/08/2012 00:01 | **Dilution:** 10 | **File ID:** 6M112690
Sample Tag: DL01 | **Units:** ug/L

Analyte	CAS #	Result	Qual	RL	MDL
1,1,1-Trichloroethane	71-55-6		U	10.0	2.50
1,1,2,2-Tetrachloroethane	79-34-5		U	10.0	2.00
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1		U	50.0	20.0
1,1,2-Trichloroethane	79-00-5		U	10.0	2.50
1,1-Dichloroethane	75-34-3		U	10.0	1.25
1,1-Dichloroethene	75-35-4		U	10.0	5.00
1,2,3-Trichlorobenzene	87-61-6		U	10.0	5.00
1,2,4-Trichlorobenzene	120-82-1		U	10.0	2.00
1,2-Dibromo-3-chloropropane	96-12-8		U	50.0	10.0
1,2-Dibromoethane	106-93-4		U	10.0	2.50
1,2-Dichlorobenzene	95-50-1		U	10.0	1.25
1,2-Dichloroethane	107-06-2		U	10.0	2.50
cis-1,2-Dichloroethene	156-59-2	2.56	J	10.0	2.50
trans-1,2-Dichloroethene	156-60-5		U	10.0	2.50
1,2-Dichloropropane	78-87-5		U	10.0	2.00
1,3-Dichlorobenzene	541-73-1		U	10.0	2.50
1,4-Dichlorobenzene	106-46-7		U	10.0	1.25
2-Butanone	78-93-3		U	100	25.0
2-Hexanone	591-78-6		U	100	25.0
4-Methyl-2-pentanone	108-10-1	2750		100	25.0
Acetone	67-64-1	658		100	25.0

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
Benzene	71-43-2		U	10.0	1.25
Bromochloromethane	74-97-5		U	10.0	2.00
Bromodichloromethane	75-27-4		U	10.0	2.50
Bromoform	75-25-2		U	10.0	5.00
Bromomethane	74-83-9		U	10.0	5.00
Carbon disulfide	75-15-0	84.6		10.0	5.00
Carbon tetrachloride	56-23-5		U	10.0	2.50
Chlorobenzene	108-90-7	14.6		10.0	1.25
Chloroethane	75-00-3		U	10.0	5.00
Chloroform	67-66-3	126		10.0	1.25
Chloromethane	74-87-3		U	10.0	5.00
cis-1,3-Dichloropropene	10061-01-5		U	10.0	2.50
Cyclohexane	110-82-7		U	50.0	10.0
Dibromochloromethane	124-48-1		U	10.0	2.50
Dichlorodifluoromethane	75-71-8		U	10.0	2.50
Ethyl benzene	100-41-4		U	10.0	2.50
Isopropylbenzene	98-82-8		U	10.0	2.50
Methyl acetate	79-20-9		U	50.0	10.0
Methyl tert-butyl ether	1634-04-4		U	10.0	5.00
Methylcyclohexane	108-87-2		U	50.0	10.0
Methylene chloride	75-09-2	14.6	J	50.0	2.50
m,p-Xylene	179601-23-1		U	10.0	5.00
o-Xylene	95-47-6		U	10.0	2.50
Styrene	100-42-5		U	10.0	1.25
Tetrachloroethene	127-18-4		U	10.0	2.50
Toluene	108-88-3	50.9		10.0	2.50
trans-1,3-Dichloropropene	10061-02-6		U	10.0	5.00
Trichloroethene	79-01-6		U	10.0	2.50
Trichlorofluoromethane	75-69-4		U	10.0	2.50
Vinyl chloride	75-01-4		U	10.0	2.50
Epichlorohydrin	106-89-8			0.000	0.000

Surrogate	Recovery	Lower Limit	Upper Limit	Q
1,2-Dichloroethane-d4	96.0	80	120	
Dibromofluoromethane	100	86	118	
p-Bromofluorobenzene	98.3	86	115	
Toluene-d8	96.8	88	110	

J	The analyte was positively identified, but the quantitation was below the RL.
U	Not detected at or above adjusted sample detection limit.

Certificate of Analysis

Sample #:	L12110393-03	**PrePrep Method:**	N/A	**Instrument:**	PE-ICP2
Client ID:	DUP-GW-110812	**Prep Method:**	3005A	**Prep Date:**	11/16/2012 07:06
Matrix:	Water	**Analytical Method:**	6010B	**Cal Date:**	11/19/2012 07:37
Workgroup #:	WG414521	**Analyst:**	KHR	**Run Date:**	11/19/2012 09:06
Collect Date:	11/08/2012 00:01	**Dilution:**	1	**File ID:**	P2.111912.090643
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	RL	MDL
Aluminum, Total	7429-90-5		U	0.100	0.0500
Barium, Total	7440-39-3	0.908		0.0100	0.00500
Beryllium, Total	7440-41-7		U	0.00200	0.00100
Cadmium, Total	7440-43-9		U	0.000500	0.000250
Calcium, Total	7440-70-2	299		0.200	0.100
Chromium, Total	7440-47-3	0.160		0.00500	0.00250
Cobalt, Total	7440-48-4		U	0.0200	0.0100
Copper, Total	7440-50-8		U	0.0200	0.0100
Iron, Total	7439-89-6		U	0.100	0.0500
Magnesium, Total	7439-95-4	128		0.500	0.250
Manganese, Total	7439-96-5	0.0590		0.0100	0.00500
Nickel, Total	7440-02-0	0.112		0.0400	0.0200
Silver, Total	7440-22-4		U	0.0100	0.00500
Vanadium, Total	7440-62-2	0.0124		0.0100	0.00500
Zinc, Total	7440-66-6		U	0.0200	0.0100

E	Semiquantitative result (out of calibration range)
U	Not detected at or above adjusted sample detection limit.

Sample #:	L12110393-03	**PrePrep Method:**	N/A	**Instrument:**	PE-ICP2
Client ID:	DUP-GW-110812	**Prep Method:**	3005A	**Prep Date:**	11/16/2012 07:06
Matrix:	Water	**Analytical Method:**	6010B	**Cal Date:**	11/19/2012 07:37
Workgroup #:	WG414521	**Analyst:**	KHR	**Run Date:**	11/19/2012 10:55
Collect Date:	11/08/2012 00:01	**Dilution:**	50	**File ID:**	P2.111912.105539
Sample Tag:	DL01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	RL	MDL
Potassium, Total	7440-09-7	113		50.0	25.0
Sodium, Total	7440-23-5	549		25.0	12.5

J	The analyte was positively identified, but the quantitation was below the RL.
U	Not detected at or above adjusted sample detection limit.

Certificate of Analysis

Sample #:	L12110393-03	**PrePrep Method:**	N/A	**Instrument:**	ICP-MS2
Client ID:	DUP-GW-110812	**Prep Method:**	3015	**Prep Date:**	11/15/2012 07:35
Matrix:	Water	**Analytical Method:**	6020	**Cal Date:**	11/18/2012 08:42
Workgroup #:	WG414570	**Analyst:**	JYH	**Run Date:**	11/18/2012 11:43
Collect Date:	11/08/2012 00:01	**Dilution:**	1	**File ID:**	NI.111812.114330
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	RL	MDL
Antimony, Total	7440-36-0	0.00258		0.00100	0.000500
Arsenic, Total	7440-38-2	0.110		0.00100	0.000500
Lead, Total	7439-92-1		U	0.00100	0.000500
Selenium, Total	7782-49-2	0.00449		0.00100	0.000500
Thallium, Total	7440-28-0		U	0.000200	0.000100

U	Not detected at or above adjusted sample detection limit.

Sample #:	L12110393-03	**PrePrep Method:**	N/A	**Instrument:**	HYDRA
Client ID:	DUP-GW-110812	**Prep Method:**	7470A	**Prep Date:**	11/20/2012 09:08
Matrix:	Water	**Analytical Method:**	7470A	**Cal Date:**	11/21/2012 08:45
Workgroup #:	WG414893	**Analyst:**	PDM	**Run Date:**	11/21/2012 09:25
Collect Date:	11/08/2012 00:01	**Dilution:**	1	**File ID:**	HY.112112.092526
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	RL	MDL
Mercury	7439-97-6	0.000172	J	0.000200	0.000100

J	The analyte was positively identified, but the quantitation was below the RL.

Sample #:	L12110393-04	**PrePrep Method:**	N/A	**Instrument:**	PE-ICP2
Client ID:	DUP-GW-110812	**Prep Method:**	3005A	**Prep Date:**	11/16/2012 07:06
Matrix:	Water	**Analytical Method:**	6010B	**Cal Date:**	11/19/2012 07:37
Workgroup #:	WG414521	**Analyst:**	KHR	**Run Date:**	11/19/2012 09:13
Collect Date:	11/08/2012 00:01	**Dilution:**	1	**File ID:**	P2.111912.091346
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	RL	MDL
Aluminum, Dissolved	7429-90-5		U	0.100	0.0500
Barium, Dissolved	7440-39-3	0.892		0.0100	0.00500
Beryllium, Dissolved	7440-41-7		U	0.00200	0.00100
Cadmium, Dissolved	7440-43-9		U	0.000500	0.000250
Calcium, Dissolved	7440-70-2	298		0.200	0.100
Chromium, Dissolved	7440-47-3	0.165		0.00500	0.00250
Cobalt, Dissolved	7440-48-4		U	0.0200	0.0100

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
Copper, Dissolved	7440-50-8		U	0.0200	0.0100
Iron, Dissolved	7439-89-6		U	0.100	0.0500
Magnesium, Dissolved	7439-95-4	128		0.500	0.250
Manganese, Dissolved	7439-96-5	0.0586		0.0100	0.00500
Nickel, Dissolved	7440-02-0	0.108		0.0400	0.0200
Silver, Dissolved	7440-22-4		U	0.0100	0.00500
Vanadium, Dissolved	7440-62-2	0.0114		0.0100	0.00500
Zinc, Dissolved	7440-66-6		U	0.0200	0.0100

E	Semiquantitative result (out of calibration range)
U	Not detected at or above adjusted sample detection limit.

Sample #: L12110393-04
Client ID: DUP-GW-110812
Matrix: Water
Workgroup #: WG414521
Collect Date: 11/08/2012 00:01
Sample Tag: DL01

PrePrep Method: N/A
Prep Method: 3005A
Analytical Method: 6010B
Analyst: KHR
Dilution: 50
Units: mg/L

Instrument: PE-ICP2
Prep Date: 11/16/2012 07:06
Cal Date: 11/19/2012 07:37
Run Date: 11/19/2012 11:02
File ID: P2.111912.110233

Analyte	CAS #	Result	Qual	RL	MDL
Potassium, Dissolved	7440-09-7	122		50.0	25.0
Sodium, Dissolved	7440-23-5	584		25.0	12.5

U	Not detected at or above adjusted sample detection limit.

Sample #: L12110393-04
Client ID: DUP-GW-110812
Matrix: Water
Workgroup #: WG414570
Collect Date: 11/08/2012 00:01
Sample Tag: 01

PrePrep Method: N/A
Prep Method: 3015
Analytical Method: 6020
Analyst: JYH
Dilution: 1
Units: mg/L

Instrument: ICP-MS2
Prep Date: 11/15/2012 07:35
Cal Date: 11/18/2012 08:42
Run Date: 11/18/2012 11:46
File ID: NI.111812.114642

Analyte	CAS #	Result	Qual	RL	MDL
Antimony, Dissolved	7440-36-0	0.00269		0.00100	0.000500
Arsenic, Dissolved	7440-38-2	0.117		0.00100	0.000500
Lead, Dissolved	7439-92-1		U	0.00100	0.000500
Selenium, Dissolved	7782-49-2	0.00505		0.00100	0.000500
Thallium, Dissolved	7440-28-0		U	0.000200	0.000100

U	Not detected at or above adjusted sample detection limit.

Certificate of Analysis

Sample #:	L12110393-04	**PrePrep Method:**	N/A	**Instrument:**	HYDRA
Client ID:	DUP-GW-110812	**Prep Method:**	7470A	**Prep Date:**	11/20/2012 09:08
Matrix:	Water	**Analytical Method:**	7470A	**Cal Date:**	11/21/2012 08:45
Workgroup #:	WG414893	**Analyst:**	PDM	**Run Date:**	11/21/2012 09:27
Collect Date:	11/08/2012 00:01	**Dilution:**	1	**File ID:**	HY.112112.092713
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	RL	MDL
Mercury, Dissolved	7439-97-6	0.000151	J	0.000200	0.000100

J	The analyte was positively identified, but the quantitation was below the RL.

Sample #:	L12110393-05	**PrePrep Method:**	N/A	**Instrument:**	HPMS6
Client ID:	TB-110912	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	11/12/2012 19:51
Workgroup #:	WG414233	**Analyst:**	FJB	**Run Date:**	11/14/2012 15:55
Collect Date:	11/08/2012 12:41	**Dilution:**	1	**File ID:**	6M112676
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	RL	MDL
1,1,1-Trichloroethane	71-55-6		U	1.00	0.250
1,1,2,2-Tetrachloroethane	79-34-5		U	1.00	0.200
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1		U	5.00	2.00
1,1,2-Trichloroethane	79-00-5		U	1.00	0.250
1,1-Dichloroethane	75-34-3		U	1.00	0.125
1,1-Dichloroethene	75-35-4		U	1.00	0.500
1,2,3-Trichlorobenzene	87-61-6		U	1.00	0.500
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.200
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		U	1.00	0.250
1,2-Dichlorobenzene	95-50-1		U	1.00	0.125
1,2-Dichloroethane	107-06-2		U	1.00	0.250
cis-1,2-Dichloroethene	156-59-2		U	1.00	0.250
trans-1,2-Dichloroethene	156-60-5		U	1.00	0.250
1,2-Dichloropropane	78-87-5		U	1.00	0.200
1,3-Dichlorobenzene	541-73-1		U	1.00	0.250
1,4-Dichlorobenzene	106-46-7		U	1.00	0.125
2-Butanone	78-93-3		U	10.0	2.50
2-Hexanone	591-78-6		U	10.0	2.50
4-Methyl-2-pentanone	108-10-1		U	10.0	2.50
Acetone	67-64-1		U	10.0	2.50
Benzene	71-43-2		U	1.00	0.125

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
Bromochloromethane	74-97-5		U	1.00	0.200
Bromodichloromethane	75-27-4		U	1.00	0.250
Bromoform	75-25-2		U	1.00	0.500
Bromomethane	74-83-9		U	1.00	0.500
Carbon disulfide	75-15-0		U	1.00	0.500
Carbon tetrachloride	56-23-5		U	1.00	0.250
Chlorobenzene	108-90-7		U	1.00	0.125
Chloroethane	75-00-3		U	1.00	0.500
Chloroform	67-66-3		U	1.00	0.125
Chloromethane	74-87-3		U	1.00	0.500
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.250
Cyclohexane	110-82-7		U	5.00	1.00
Dibromochloromethane	124-48-1		U	1.00	0.250
Dichlorodifluoromethane	75-71-8		U	1.00	0.250
Ethyl benzene	100-41-4		U	1.00	0.250
Isopropylbenzene	98-82-8		U	1.00	0.250
Methyl acetate	79-20-9		U	5.00	1.00
Methyl tert-butyl ether	1634-04-4		U	1.00	0.500
Methylcyclohexane	108-87-2		U	5.00	1.00
Methylene chloride	75-09-2		U	5.00	0.250
m,p-Xylene	179601-23-1		U	1.00	0.500
o-Xylene	95-47-6		U	1.00	0.250
Styrene	100-42-5		U	1.00	0.125
Tetrachloroethene	127-18-4		U	1.00	0.250
Toluene	108-88-3		U	1.00	0.250
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500
Trichloroethene	79-01-6		U	1.00	0.250
Trichlorofluoromethane	75-69-4		U	1.00	0.250
Vinyl chloride	75-01-4		U	1.00	0.250
Epichlorohydrin	106-89-8			0.000	0.000

Surrogate	Recovery	Lower Limit	Upper Limit	Q
1,2-Dichloroethane-d4	100	80	120	
Dibromofluoromethane	101	86	118	
p-Bromofluorobenzene	103	86	115	
Toluene-d8	96.7	88	110	

U	Not detected at or above adjusted sample detection limit.

Certificate of Analysis

2.0 Full Sample Data Package

2.1 Volatiles Data

2.1.1 Volatiles GCMS Data (8260)

2.1.1.1 Summary Data

Login Number: L12110393
Department: Volatiles
Analyst: Franci Bolden

METHOD

Preparation SW-846 5030C/5035A

Analysis SW-846 8260B

HOLDING TIMES

Sample Preparation: All holding times were met.

Sample Analysis: All holding times were met.

PREPARATION

Sample preparation proceeded normally.

CALIBRATION

Initial Calibration: For all compounds that yielded a %RSD greater than 15%, linear or higher order equations were applied. All acceptance criteria were met.

Alternate Source Standards: The percent difference was out of range for the following analytes: dichlorodifluoromethane. Please see the applicable QC report for a detailed presentation of the failures.

Continuing Calibration and Tune: All acceptance criteria were met.

BATCH QA/QC

Method Blank: All acceptance criteria were met.

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

Matrix Spikes: The MS/MSD results were not associated with this sample delivery group (SDG), due to insufficient volume of sample. The laboratory included an LCS and LCS duplicate in the preparation batch in lieu of the NELAC prescribed MS/MSD. Microbac Laboratories recommends site specific MS/MSD samples to avoid possible data qualifications.

SAMPLES

Internal Standards: All acceptance criteria were met.

Surrogates: All acceptance criteria were met.

Other: Samples 01, 03, were run at a dilution. Reporting limits elevated for samples 01 and 02 due to foaming during purging and the matrix.

Manual Integration Reason Codes

Reason #1: Data System Fails to Select Correct Peak. In some cases the chromatography system selects and integrates the 'wrong peak'. In this case the analyst must correct the selection and force the system to integrate the proper peak. Other times the system may miss the peak completely.

Reason #2: Data System Splits the Peak Incorrectly or Integrates a False Peak as a Rider Peak. This phenomena is common at low concentrations where the signal:noise ratio is low. A single compound (peak) is incorrectly split into multiple peaks or integrated as a main peak with one or more rider peaks resulting in low area counts for the target compound.

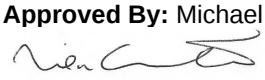
Reason #3: Improperly Integrated Isomers and/or coeluting compounds. This system often fails to distinguish coeluting compounds and or isomers. The integration areas and concentrations are wrong, and they must be corrected by manual integration. Prime examples are benzo(k)fluoranthene and benzo(b)fluoranthene which are often unresolved and integrated improperly when both are present at low concentrations in standards or samples.

Reason #4: System Establishes Incorrect Baseline. There are numerous situations in chromatography where the system establishes the baseline incorrectly. Some baseline errors will be obvious to the analyst and should be corrected via manual procedures.

Reason #5: Miscellaneous. Other situations involving integration errors may require in-depth review and technical judgment. These cases should be brought to the attention of the laboratory management. If the form of manual integration is not clearly covered by these four cases, then review and approval by the Managing Director or the QAO will be 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: 56055
Approved By: Michael Albertson



Certificate of Analysis

Sample #:	L12110393-01	**PrePrep Method:**	N/A	**Instrument:**	HPMS6
Client ID:	BLDG 4-PIT-SSP1-GW-11082012	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	11/12/2012 19:51
Workgroup #:	WG414233	**Analyst:**	FJB	**Run Date:**	11/14/2012 22:32
Collect Date:	11/08/2012 14:11	**Dilution:**	10	**File ID:**	6M112689
Sample Tag:	DL01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	RL	MDL
1,1,1-Trichloroethane	71-55-6		U	10.0	2.50
1,1,2,2-Tetrachloroethane	79-34-5		U	10.0	2.00
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1		U	50.0	20.0
1,1,2-Trichloroethane	79-00-5		U	10.0	2.50
1,1-Dichloroethane	75-34-3		U	10.0	1.25
1,1-Dichloroethene	75-35-4		U	10.0	5.00
1,2,3-Trichlorobenzene	87-61-6		U	10.0	5.00
1,2,4-Trichlorobenzene	120-82-1		U	10.0	2.00
1,2-Dibromo-3-chloropropane	96-12-8		U	50.0	10.0
1,2-Dibromoethane	106-93-4		U	10.0	2.50
1,2-Dichlorobenzene	95-50-1		U	10.0	1.25
1,2-Dichloroethane	107-06-2		U	10.0	2.50
cis-1,2-Dichloroethene	156-59-2		U	10.0	2.50
trans-1,2-Dichloroethene	156-60-5		U	10.0	2.50
1,2-Dichloropropane	78-87-5		U	10.0	2.00
1,3-Dichlorobenzene	541-73-1		U	10.0	2.50
1,4-Dichlorobenzene	106-46-7		U	10.0	1.25
2-Butanone	78-93-3		U	100	25.0
2-Hexanone	591-78-6		U	100	25.0
4-Methyl-2-pentanone	108-10-1	2750		100	25.0
Acetone	67-64-1	712		100	25.0
Benzene	71-43-2		U	10.0	1.25
Bromochloromethane	74-97-5		U	10.0	2.00
Bromodichloromethane	75-27-4		U	10.0	2.50
Bromoform	75-25-2		U	10.0	5.00
Bromomethane	74-83-9		U	10.0	5.00
Carbon disulfide	75-15-0	73.6		10.0	5.00
Carbon tetrachloride	56-23-5		U	10.0	2.50
Chlorobenzene	108-90-7	14.6		10.0	1.25
Chloroethane	75-00-3		U	10.0	5.00
Chloroform	67-66-3	127		10.0	1.25
Chloromethane	74-87-3		U	10.0	5.00

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
cis-1,3-Dichloropropene	10061-01-5		U	10.0	2.50
Cyclohexane	110-82-7		U	50.0	10.0
Dibromochloromethane	124-48-1		U	10.0	2.50
Dichlorodifluoromethane	75-71-8		U	10.0	2.50
Ethyl benzene	100-41-4		U	10.0	2.50
Isopropylbenzene	98-82-8		U	10.0	2.50
Methyl acetate	79-20-9		U	50.0	10.0
Methyl tert-butyl ether	1634-04-4		U	10.0	5.00
Methylcyclohexane	108-87-2		U	50.0	10.0
Methylene chloride	75-09-2	14.3	J	50.0	2.50
m,p-Xylene	179601-23-1		U	10.0	5.00
o-Xylene	95-47-6		U	10.0	2.50
Styrene	100-42-5		U	10.0	1.25
Tetrachloroethene	127-18-4		U	10.0	2.50
Toluene	108-88-3	51.6		10.0	2.50
trans-1,3-Dichloropropene	10061-02-6		U	10.0	5.00
Trichloroethene	79-01-6		U	10.0	2.50
Trichlorofluoromethane	75-69-4		U	10.0	2.50
Vinyl chloride	75-01-4		U	10.0	2.50
Epichlorohydrin	106-89-8			0.000	0.000

Surrogate	Recovery	Lower Limit	Upper Limit	Q
1,2-Dichloroethane-d4	93.3	80	120	
Dibromofluoromethane	99.9	86	118	
p-Bromofluorobenzene	102	86	115	
Toluene-d8	97.4	88	110	

J	The analyte was positively identified, but the quantitation was below the RL.
U	Not detected at or above adjusted sample detection limit.

Sample #: L12110393-03
Client ID: DUP-GW-110812
Matrix: Water
Workgroup #: WG414233
Collect Date: 11/08/2012 00:01
Sample Tag: DL01

PrePrep Method: N/A
Prep Method: 5030B/5030C/5035A
Analytical Method: 8260B
Analyst: FJB
Dilution: 10
Units: ug/L

Instrument: HPMS6
Prep Date: N/A
Cal Date: 11/12/2012 19:51
Run Date: 11/14/2012 23:02
File ID: 6M112690

Analyte	CAS #	Result	Qual	RL	MDL
1,1,1-Trichloroethane	71-55-6		U	10.0	2.50
1,1,2,2-Tetrachloroethane	79-34-5		U	10.0	2.00
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1		U	50.0	20.0
1,1,2-Trichloroethane	79-00-5		U	10.0	2.50

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
1,1-Dichloroethane	75-34-3		U	10.0	1.25
1,1-Dichloroethene	75-35-4		U	10.0	5.00
1,2,3-Trichlorobenzene	87-61-6		U	10.0	5.00
1,2,4-Trichlorobenzene	120-82-1		U	10.0	2.00
1,2-Dibromo-3-chloropropane	96-12-8		U	50.0	10.0
1,2-Dibromoethane	106-93-4		U	10.0	2.50
1,2-Dichlorobenzene	95-50-1		U	10.0	1.25
1,2-Dichloroethane	107-06-2		U	10.0	2.50
cis-1,2-Dichloroethene	156-59-2	2.56	J	10.0	2.50
trans-1,2-Dichloroethene	156-60-5		U	10.0	2.50
1,2-Dichloropropane	78-87-5		U	10.0	2.00
1,3-Dichlorobenzene	541-73-1		U	10.0	2.50
1,4-Dichlorobenzene	106-46-7		U	10.0	1.25
2-Butanone	78-93-3		U	100	25.0
2-Hexanone	591-78-6		U	100	25.0
4-Methyl-2-pentanone	108-10-1	2750		100	25.0
Acetone	67-64-1	658		100	25.0
Benzene	71-43-2		U	10.0	1.25
Bromochloromethane	74-97-5		U	10.0	2.00
Bromodichloromethane	75-27-4		U	10.0	2.50
Bromoform	75-25-2		U	10.0	5.00
Bromomethane	74-83-9		U	10.0	5.00
Carbon disulfide	75-15-0	84.6		10.0	5.00
Carbon tetrachloride	56-23-5		U	10.0	2.50
Chlorobenzene	108-90-7	14.6		10.0	1.25
Chloroethane	75-00-3		U	10.0	5.00
Chloroform	67-66-3	126		10.0	1.25
Chloromethane	74-87-3		U	10.0	5.00
cis-1,3-Dichloropropene	10061-01-5		U	10.0	2.50
Cyclohexane	110-82-7		U	50.0	10.0
Dibromochloromethane	124-48-1		U	10.0	2.50
Dichlorodifluoromethane	75-71-8		U	10.0	2.50
Ethyl benzene	100-41-4		U	10.0	2.50
Isopropylbenzene	98-82-8		U	10.0	2.50
Methyl acetate	79-20-9		U	50.0	10.0
Methyl tert-butyl ether	1634-04-4		U	10.0	5.00
Methylcyclohexane	108-87-2		U	50.0	10.0
Methylene chloride	75-09-2	14.6	J	50.0	2.50
m,p-Xylene	179601-23-1		U	10.0	5.00

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
o-Xylene	95-47-6		U	10.0	2.50
Styrene	100-42-5		U	10.0	1.25
Tetrachloroethene	127-18-4		U	10.0	2.50
Toluene	108-88-3	50.9		10.0	2.50
trans-1,3-Dichloropropene	10061-02-6		U	10.0	5.00
Trichloroethene	79-01-6		U	10.0	2.50
Trichlorofluoromethane	75-69-4		U	10.0	2.50
Vinyl chloride	75-01-4		U	10.0	2.50
Epichlorohydrin	106-89-8			0.000	0.000

Surrogate	Recovery	Lower Limit	Upper Limit	Q
1,2-Dichloroethane-d4	96.0	80	120	
Dibromofluoromethane	100	86	118	
p-Bromofluorobenzene	98.3	86	115	
Toluene-d8	96.8	88	110	

J	The analyte was positively identified, but the quantitation was below the RL.
U	Not detected at or above adjusted sample detection limit.

Sample #: L12110393-05
Client ID: TB-110912
Matrix: Water
Workgroup #: WG414233
Collect Date: 11/08/2012 12:41
Sample Tag: 01

PrePrep Method: N/A
Prep Method: 5030B/5030C/5035A
Analytical Method: 8260B
Analyst: FJB
Dilution: 1
Units: ug/L

Instrument: HPMS6
Prep Date: N/A
Cal Date: 11/12/2012 19:51
Run Date: 11/14/2012 15:55
File ID: 6M112676

Analyte	CAS #	Result	Qual	RL	MDL
1,1,1-Trichloroethane	71-55-6		U	1.00	0.250
1,1,2,2-Tetrachloroethane	79-34-5		U	1.00	0.200
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1		U	5.00	2.00
1,1,2-Trichloroethane	79-00-5		U	1.00	0.250
1,1-Dichloroethane	75-34-3		U	1.00	0.125
1,1-Dichloroethene	75-35-4		U	1.00	0.500
1,2,3-Trichlorobenzene	87-61-6		U	1.00	0.500
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.200
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		U	1.00	0.250
1,2-Dichlorobenzene	95-50-1		U	1.00	0.125
1,2-Dichloroethane	107-06-2		U	1.00	0.250
cis-1,2-Dichloroethene	156-59-2		U	1.00	0.250
trans-1,2-Dichloroethene	156-60-5		U	1.00	0.250
1,2-Dichloropropane	78-87-5		U	1.00	0.200

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
1,3-Dichlorobenzene	541-73-1		U	1.00	0.250
1,4-Dichlorobenzene	106-46-7		U	1.00	0.125
2-Butanone	78-93-3		U	10.0	2.50
2-Hexanone	591-78-6		U	10.0	2.50
4-Methyl-2-pentanone	108-10-1		U	10.0	2.50
Acetone	67-64-1		U	10.0	2.50
Benzene	71-43-2		U	1.00	0.125
Bromochloromethane	74-97-5		U	1.00	0.200
Bromodichloromethane	75-27-4		U	1.00	0.250
Bromoform	75-25-2		U	1.00	0.500
Bromomethane	74-83-9		U	1.00	0.500
Carbon disulfide	75-15-0		U	1.00	0.500
Carbon tetrachloride	56-23-5		U	1.00	0.250
Chlorobenzene	108-90-7		U	1.00	0.125
Chloroethane	75-00-3		U	1.00	0.500
Chloroform	67-66-3		U	1.00	0.125
Chloromethane	74-87-3		U	1.00	0.500
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.250
Cyclohexane	110-82-7		U	5.00	1.00
Dibromochloromethane	124-48-1		U	1.00	0.250
Dichlorodifluoromethane	75-71-8		U	1.00	0.250
Ethyl benzene	100-41-4		U	1.00	0.250
Isopropylbenzene	98-82-8		U	1.00	0.250
Methyl acetate	79-20-9		U	5.00	1.00
Methyl tert-butyl ether	1634-04-4		U	1.00	0.500
Methylcyclohexane	108-87-2		U	5.00	1.00
Methylene chloride	75-09-2		U	5.00	0.250
m,p-Xylene	179601-23-1		U	1.00	0.500
o-Xylene	95-47-6		U	1.00	0.250
Styrene	100-42-5		U	1.00	0.125
Tetrachloroethene	127-18-4		U	1.00	0.250
Toluene	108-88-3		U	1.00	0.250
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500
Trichloroethene	79-01-6		U	1.00	0.250
Trichlorofluoromethane	75-69-4		U	1.00	0.250
Vinyl chloride	75-01-4		U	1.00	0.250
Epichlorohydrin	106-89-8			0.000	0.000

Surrogate	Recovery	Lower Limit	Upper Limit	Q
1,2-Dichloroethane-d4	100	80	120	

Certificate of Analysis

Dibromofluoromethane	101	86	118	
p-Bromofluorobenzene	103	86	115	
Toluene-d8	96.7	88	110	

U	Not detected at or above adjusted sample detection limit.

2.1.1.2 QC Summary Data

Example 8260 Calculations

1.0 Calculating the Response Factor (RF) from the initial calibration (ICAL) data:

RF = [(Ax) (Cis)] / [(Ais) (Cx)]

where:	Example
Ax = Area of the characteristic ion for the compound being measured:	3399156
Cis = Concentration of the specific internal standard (ug/mL)	25
Ais = Area of the characteristic ion of the specific internal standard	846471
Cx = Concentration of the compound in the standard being measured (ug/mL)	100
RF = Calculated Response Factor	**1.0039**

2.0 Calculating the concentration (C) of a compound in water using the average RF: *

Cx = [(Ax) (Cis) (Vn)(D)] / [(Ais) (RF) (Vs)]

where:	**Example**
Ax = Area of the characteristic ion for the compound being measured	**3122498**
Cis = Concentration of the specific internal standard (ug/L)	**25**
D = Dilution factor for sample as a multiplier (10x = 10)	**1**
Ais = Area of the characteristic ion of the specific internal standard	**611048**
RF = Average RF from the ICAL	**1.004**
Vs = Purge volume of sample (mL)	**10**
Vn = Nominal purge volume of sample (mL) (10.0 mL)	**10**
Cx = Concentration of the compound in the sample being measured (ug/L)	**127.2428**

3.0 Calculating the concentration (C) of a compound in soil using the average RF: *

Cx = [(Ax) (Cis) (Wn)(D)] / [(Ais) (RF) (Ws)]

where:	**Example**
Ax = Area of the characteristic ion for the compound being measured	**3122498**
Cis = Concentration of the specific internal standard (ug/L)	**25**
D = Dilution factor for sample as a multiplier (10x = 10)	**1**
Ais = Area of the characteristic ion of the specific internal standard	**611048**
RF = Average RF from the ICAL	**1.004**
Ws = Weight of sample purged (g)	**5**
Wn = Nominal purge weight (g) (5.0 g)	**5**
Cx = Concentration of the compound in the sample being measured (ug/L)	**127.2428**

Dry weight correction:

Percent solids (PCT_S)	**50**
Cd = (Cx) (100)/PCT_S	**254.4856**

* Concentrations appearing on the instrument quantitation reports are on-column results and do not take into account initial volume, final volume, and the dilution factor.

4.0 Concentration from Linear Regression

Step 1: Retrieve Curve Data From Plot, y = mx + b

y = response ratio = response of analyte / response of IS = Ax/Ais

x = amount ratio = concentration analyte/concentration internal standard = Cx / Cis

m = slope from curve = 0.213

b = intercept from curve = - 0.00642

Step 2: Calculate y from Quantitation Report

y = 86550/593147 = 0.1459

Step 3: Solve for x

x = (y - b)/m = [(0.1459 -(- 0.00642)]/ 0.213 = 0.7152

Step 4: Solve for analyte concentration Cx

Cx = Cis (x) = (25.0)(0.7152) = 17.88

Example Spreadsheet Calculation:

Slope from curve, m:	**0.213**
Intercept from curve, b:	**-0.00642**
Area of analyte, Ax:	**86550**
Area of Internal Standard , Ais:	**593147**
Concentration of IS, Cis	**25.00**
Response Ratio:	**0.145917**
Amount Ratio:	**0.715195**
Concentration:	**17.87988**
Units of Internal Standard:	**ug/L**

5.0 Concentration from Quadratic Regression

Step 1 - Retrieve Curve Data from Plot, y = Ax^2 + Bx + C
Where:
Ax^2 + Bx + (C - y) = 0
A, B, C = constants from the ICAL quadratic regression
y = Response ratio = Area of analyte/Area of internal standard (IS)
x = Amount ratio = Concentration of analyte/concentration of IS

Step 2: Calculate y from Quantitation Report

y = Ax/Ais

Step 3: Solve for x using the quadratic formula
Ax^2 + Bx + C - y = 0

$$x = \frac{b \pm \sqrt{\left(b^2 - 4a(c - y)\right)}}{2a}$$ (Two possible solutions)

Step 4: Solve for analyte concentration Cx

Cx = (Cis)(Amount ratio)

Example Spreadsheet Calculation:

Value of A from plot:	**-0.00629**	
Value of B from plot:	**0.511**	
Value of C from plot:	**-0.0276**	
Area of unknown from quantitation report:	**293821**	
Area of IS from quantiation report:	**784848**	
Response ratio, y:	**0.374367**	
C - y:	**-0.40197**	
Root 1 - Computed amount ratio , X1:	**80.44567**	
Root 2 - Computed amount ratio , X2:	**0.794396**	use this solution
Concentration of IS, Cis:	**25.00**	
Concentration of analyte, Cx:	**19.86**	ug/L

Microbac Laboratories Inc.

Instrument Run Log

Instrument: HPMS6 Dataset: 012512
Analyst1: ADC Analyst2: NA
Method: 8260B/OVAP SOP: MSV01 Rev: 14/0
Method: 624 SOP: MSV10 Rev: 8
Method: 5030B/5030C/5035A SOP: PAT01 Rev: 13
Maintenance Log ID: 40412

Internal Standard: STD49576 Surrogate Standard: STD49251
CCV: STD49665; STD49721 LCS: STD49523; STD49518 MS/MSD: NA

Column 1 ID: RTX502.2 Column 2 ID: NA
Workgroups: WG387849; WG387881

Comments:

File ID	Sample Information	pH	Mat	Dil	Reference	Date/Time
6M105367	WG387846-01 50ng BFB STD 8260	NA	1	1	STD49582	01/25/12 08:08
6M105368	WG387846-02 50ug/L CCV STD 8260	NA	1	1	STD49665	01/25/12 08:34
6M105369	WG387XXX-01 100ug/L A9 CCV STD 8260	NA	1	1	STD49484	01/25/12 09:07
6M105370	WG387849-01 VBLK0125 BLANK STD 826	NA	1	1		01/25/12 09:40
6M105371	WG388587-01 5ug/L 826A9FOO QC	NA	1	1	STD49721	01/25/12 10:12
6M105372	WG388587-02 20ug/L 826A9FOO QC	NA	1	1	STD49721	01/25/12 10:45
6M105373	WG388587-03 50ug/L 826A9FOO QC	NA	1	1	STD49721	01/25/12 11:17
6M105374	WG388587-04 100ug/L 826A9FOO QC	NA	1	1	STD49721	01/25/12 11:49
6M105375	WG388587-05 200ug/L 826A9FOO QC	NA	1	1	STD49721	01/25/12 12:22
6M105376	WG388587-06 300ug/L 826A9FOO QC	NA	1	1	STD49721	01/25/12 12:55
6M105377	WG388587-07 400ug/L 826A9FOO QC	NA	1	1	STD49721	01/25/12 13:27
6M105378	WG388587-08 100ug/L ALT 826A9FOO Q	NA	1	1	STD49721	01/25/12 14:00
6M105379	WG387849-02 20ug/L LCS STD 8260	NA	1	1	STD49523	01/25/12 14:32
6M105380	WG387849-03 20ug/L LCSDUP STD 8260	NA	1	1	STD49523	01/25/12 15:05
6M105381	L12010470-02 B 100X 826-SPE D1	<2	1	100		01/25/12 15:37
6M105382	L12010470-03 B 100X 826-SPE D1	<2	1	100		01/25/12 16:09
6M105383	L12010470-04 B 100X 826-SPE D1	<2	1	100		01/25/12 16:42
6M105384	L12010470-05 B 100X 826-SPE D1	<2	1	100		01/25/12 17:14
6M105385	L12010470-01 B 500X 826-SPE D1	<2	1	500		01/25/12 17:47
6M105386	L12010534-01 B 200X 826-SPE D1	<2	1	200		01/25/12 18:19
6M105387	L12010534-02 B 2X 826-SPE D1	<2	1	2		01/25/12 18:51
6M105388	L12010534-03 B 2X 826-SPE D1	<2	1	2		01/25/12 19:24
6M105389	L12010481-15 B 25X 826-SPE D1	<2	1	25		01/25/12 19:56
6M105390	RINSE	NA	1	1		01/25/12 20:29
6M105391	RINSE	NA	1	1		01/25/12 21:01
6M105392	RINSE	NA	1	1		01/25/12 21:33

Comments

Seq.	Rerun	Dil.	Reason	Analytes
3				
File ID: 6M105369				
Not needed, DNR.				
19	X	2000	Over Calibration Range	CIS12-DCE

Approved: January 26, 2012

Page: 1

Microbac Laboratories Inc.

Instrument Run Log

Instrument:	HPMS6	Dataset:	012512		
Analyst1:	ADC	Analyst2:	NA		
Method:	8260B/OVAP	SOP:	MSV01	Rev:	14/0
Method:	624	SOP:	MSV10	Rev:	8
Method:	5030B/5030C/5035A	SOP:	PAT01	Rev:	13
Maintenance Log ID:	40412				

Internal Standard: STD49576 Surrogate Standard: STD49251

CCV: STD49665; STD49721 LCS: STD49523; STD49518 MS/MSD: NA

Column 1 ID: RTX502.2 Column 2 ID: NA

Workgroups: WG387849; WG387881

Comments:

Comments

Seq.	Rerun	Dil.	Reason	Analytes
File ID: 6M105385				
20	X	500	Over Calibration Range	TCE
File ID: 6M105386				

Approved: January 26, 2012

Microbac Laboratories Inc.

Instrument Run Log

Instrument: HPMS6 Dataset: 111212
Analyst1: ADC Analyst2: NA
Method: 8260B SOP: MSV01 Rev: 15
Method: 5030C SOP: PAT01 Rev: 13
Method: 624 SOP: MSV10 Rev: 8
Maintenance Log ID: 43972

Internal Standard: STD54653 Surrogate Standard: STD54653
CCV: STD54883 LCS: STD54851 MS/MSD: STD54851

Column 1 ID: RTX502.2 Column 2 ID: NA
Workgroups: WG414018 (ICAL)

Comments:

File ID	Sample Information	pH	Mat	Dil	Reference	Date/Time
6M112620	WG414018-01 50NG/L BFB STD	NA	1	1	STD54051	11/12/12 14:09
6M112621	RINSE	NA	1	1		11/12/12 14:41
6M112622	WG414018-02 0.3 ug/L STD 8260	NA	1	1	STD54883	11/12/12 15:14
6M112623	WG414018-03 0.4 ug/L STD 8260	NA	1	1	STD54883	11/12/12 15:44
6M112624	WG414018-04 1.0ug/L STD 8260	NA	1	1	STD54883	11/12/12 16:15
6M112625	WG414018-05 2.0 ug/L STD 8260	NA	1	1	STD54883	11/12/12 16:46
6M112626	WG414018-06 5.0 ug/L STD 8260	NA	1	1	STD54883	11/12/12 17:17
6M112627	WG414018-07 20.0 ug/L STD 8260	NA	1	1	STD54883	11/12/12 17:48
6M112628	WG414018-08 50.0 ug/L STD 8260	NA	1	1	STD54883	11/12/12 18:19
6M112629	WG414018-09 100.0 ug/L STD 8260	NA	1	1	STD54883	11/12/12 18:49
6M112630	WG414018-10 200.0 ug/L STD 8260	NA	1	1	STD54883	11/12/12 19:20
6M112631	WG414018-11 300.0 ug/L STD 8260	NA	1	1	STD54883	11/12/12 19:51
6M112632	RINSE	NA	1	1		11/12/12 20:22
6M112633	WG414018-12 50.0 ug/L ALTSRC 8260	NA	1	1	STD54557	11/12/12 20:52
6M112634	rinse	NA	1	1		11/13/12 09:36
6M112635	rinse	NA	1	1		11/13/12 10:06

Approved: November 15, 2012

Page: 1

Microbac Laboratories Inc.

Instrument Run Log

Instrument: HPMS6 Dataset: 111412
Analyst1: ADC Analyst2: NA
Method: 8260B SOP: MSV01 Rev: 15
Method: 5030C SOP: PAT01 Rev: 13
Method: 624 SOP: MSV10 Rev: 8
Maintenance Log ID: 43991

Internal Standard: STD54653 Surrogate Standard: STD54653
CCV: STD54883 LCS: STD54851 MS/MSD: STD54851

Column 1 ID: RTX502.2 Column 2 ID: NA
Workgroups: WG414233

Comments:

File ID	Sample Information	pH	Mat	Dil	Reference	Date/Time
6M112667	WG414232-01 BFB 50ng 8260	NA	1	1	STD54051	11/14/12 11:22
6M112668	WG414232-02 50ug/L CCV 8260	NA	1	1	STD54883	11/14/12 11:47
6M112669	WG414XXX-01 100ug/L CCV A9	NA	1	1	STDXXXXX	11/14/12 12:17
6M112670	WG414233-01 VBLK1114 BLANK 8260	NA	1	1		11/14/12 12:48
6M112671	WG414233-02 20ug/L LCS 8260	NA	1	1	STD54851	11/14/12 13:19
6M112672	WG414233-03 20ug/L LCS DUP 8260	NA	1	1	STD54851	11/14/12 13:50
6M112673	L12110306-01 50X B 826-SPE D1	<2	1	50		11/14/12 14:21
6M112674	L12110248-01 TB A 826-LOW	<2	1	1		11/14/12 14:52
6M112675	L12110322-12 TB A 826-SPE	<2	1	1		11/14/12 15:23
6M112676	L12110393-05 TB A 826-SPE	<2	1	1		11/14/12 15:55
6M112677	L12110248-02 A 826-LOW	<2	1	1		11/14/12 16:26
6M112678	L12110248-03 A 826-LOW	<2	1	1		11/14/12 16:57
6M112679	L12110248-04 A 826-LOW	<2	1	1		11/14/12 17:28
6M112680	L12110248-05 A 826-LOW	<2	1	1		11/14/12 17:59
6M112681	L12110374-01 A 826-SPE1	<2	1	1		11/14/12 18:29
6M112682	L12110286-01 A 826-SPE	<2	1	1		11/14/12 19:00
6M112683	L12110286-02 A 826-SPE	<2	1	1		11/14/12 19:30
6M112684	L12110322-07 A 826-SPE	<2	1	1		11/14/12 20:01
6M112685	L12110322-08 A 826-SPE	<2	1	1		11/14/12 20:31
6M112686	L12110322-09 A 826-SPE	<2	1	1		11/14/12 21:01
6M112687	L12110322-10 A 826-SPE	<2	1	1		11/14/12 21:32
6M112688	L12110322-11 A 826-SPE	<2	1	1		11/14/12 22:02
6M112689	L12110393-01 10X A 826-SPE	5	1	10		11/14/12 22:32
6M112690	L12110393-03 10X A 826-SPE	5	1	10		11/14/12 23:02
6M112691	RINSE	NA	1	1		11/14/12 23:32
6M112692	ANTIFOAM BLANK 8 DROPS	NA	1	1		11/15/12 00:02
6M112693	CCV	NA	1	1		11/15/12 00:33
6M112694	RINSE	NA	1	1		11/15/12 01:03

Approved: November 15, 2012

Page: 1

Microbac Laboratories Inc.

Data Checklist

Date: 25-JAN-2012
Analyst: ADC
Analyst: NA
Method: 8260B/624/OVAP
Instrument: HPMS6
Curve Workgroup: NA
Runlog ID: 44829
Analytical Workgroups: WG387849; WG387881

System Performance Check	NA
BFB	X
Initial Calibration	X
Average RF	X
Linear Reg or Higher Order Curve	X
Second Source standard % Difference	X
Continuing Calibration /Check Standards	X
Project/Client Specific Requirements	X
Special Standards	X
Blanks	X
TCL's	X
Surrogates	X
LCS (Laboratory Control Sample)	X
Recoveries	X
Surrogates	X
MS/MSD/Duplicates	NA
Samples	X
TCL Hits	X
Spectra of TCL Hits	TMB
Surrogates	X
Internal Standards Criteria	X
Library Searches	NA
Calculations & Correct Factors	X
Dilutions Run	X
Reruns	X
Manual Integrations	NA
Case Narrative	X
Results Reporting/Data Qualifiers	X
KOBRA Workgroup Data	X
Check for Completeness	X
Primary Reviewer	TMB
Secondary Reviewer	MDA
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
Check the reasonableness of the results	X

Primary Reviewer:
26-JAN-2012
Tiffany Bailey

Secondary Reviewer:
26-JAN-2012

CHECKLIST1 - Modified 03/05/2008
Generated: FEB-02-2012 14:41:12

Microbac Laboratories Inc.

Data Checklist

Date: 12-NOV-2012
Analyst: ADC
Analyst: NA
Method: 8260
Instrument: HPMS6
Curve Workgroup: WG414018
Runlog ID: 50018
Analytical Workgroups:

System Performance Check	NA
BFB	X
Initial Calibration	X
Average RF	X
Linear Reg or Higher Order Curve	X
Second Source standard % Difference	X
Continuing Calibration /Check Standards	X
Project/Client Specific Requirements	X
Special Standards	NA
Blanks	X
TCL's	X
Surrogates	X
LCS (Laboratory Control Sample)	X
Recoveries	X
Surrogates	X
MS/MSD/Duplicates	NA
Samples	NA
TCL Hits	NA
Spectra of TCL Hits	NA
Surrogates	NA
Internal Standards Criteria	NA
Library Searches	NA
Calculations & Correct Factors	NA
Dilutions Run	NA
Reruns	NA
Manual Integrations	NA
Case Narrative	NA
Results Reporting/Data Qualifiers	NA
KOBRA Workgroup Data	NA
Check for Completeness	NA
Primary Reviewer	ADC
Secondary Reviewer	MDA
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
Check the reasonableness of the results	X

Primary Reviewer:
14-NOV-2012

Secondary Reviewer:
14-NOV-2012

CHECKLIST1 - Modified 03/05/2008
Generated: NOV-14-2012 15:19:16

Microbac Laboratories Inc.

Data Checklist

Date: 14-NOV-2012
Analyst: ADC
Analyst: NA
Method: 8260
Instrument: HPMS6
Curve Workgroup: NA
Runlog ID: 50041
Analytical Workgroups: WG414233

System Performance Check	NA
BFB	X
Initial Calibration	X
Average RF	X
Linear Reg or Higher Order Curve	X
Second Source standard % Difference	X
Continuing Calibration /Check Standards	X
Project/Client Specific Requirements	X
Special Standards	NA
Blanks	X
TCL's	X
Surrogates	X
LCS (Laboratory Control Sample)	X
Recoveries	X
Surrogates	X
MS/MSD/Duplicates	NA
Samples	X
TCL Hits	X
Spectra of TCL Hits	ADC
Surrogates	X
Internal Standards Criteria	X
Library Searches	X
Calculations & Correct Factors	X
Dilutions Run	X
Reruns	NA
Manual Integrations	NA
Case Narrative	X
Results Reporting/Data Qualifiers	X
KOBRA Workgroup Data	X
Check for Completeness	X
Primary Reviewer	ADC
Secondary Reviewer	MDA
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
Check the reasonableness of the results	X

Primary Reviewer:
15-NOV-2012

Secondary Reviewer:
15-NOV-2012

CHECKLIST1 - Modified 03/05/2008
Generated: NOV-15-2012 13:01:39

Microbac Laboratories Inc.

HOLDING TIMES
EQUIVALENT TO AFCEE FORM 9

Analytical Method: 8260B AAB#: WG414233

Login Number: L12110393

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
BLDG 4-PIT-SSP1-GW-11082	01	11/08/12					11/14/2012	6.3	14		11/14/12	6.3	14	
DUP-GW-110812	03	11/08/12					11/14/2012	7	14		11/14/12	7	14	
TB-110912	05	11/08/12					11/14/2012	6.1	14		11/14/12	6.1	14	

* = SEE PROJECT QAPP REQUIREMENTS

HOLD_TIMES - Modified 03/06/2008
PDF File ID: 2666132
Report generated 11/15/2012 15:00

Microbac Laboratories Inc.
SURROGATE STANDARDS

Login Number: L12110393
Instrument Id: HPMS6
Workgroup (AAB#): WG414233

Method: 8260
CAL ID: HPMS6-12-NOV-12
Matrix: Water

Sample Number	Dilution	Tag	1	2	3	4
L12110393-01	10.0	DL01	93.3	99.9	102	97.4
L12110393-03	10.0	DL01	96.0	100	98.3	96.8
L12110393-05	1.00	01	100	101	103	96.7
WG414233-01	1.00	01	98.6	101	104	95.7
WG414233-02	1.00	01	99.3	102	103	95.9
WG414233-03	1.00	01	99.4	100	102	97.4

Surrogates	Surrogate Limits		
1 - 1,2-Dichloroethane-d4	80	-	120
2 - Dibromofluoromethane	86	-	118
3 - p-Bromofluorobenzene	86	-	115
4 - Toluene-d8	88	-	110

Underline = Result out of surrogate limits

DL = surrogate diluted out
ND = surrogate not detected

SURROGATES - Modified 03/06/2008
PDF File ID: 2665894
Report generated: 11/15/2012 15:00

Microbac Laboratories Inc.

METHOD BLANK SUMMARY

Login Number:	L12110393	Work Group:	WG414233
Blank File ID:	6M112670	Blank Sample ID:	WG414233-01
Prep Date:	11/14/12 12:48	Instrument ID:	HPMS6
Analyzed Date:	11/14/12 12:48	Method:	8260B
Analyst:	FJB		

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG414233-02	6M112671	11/14/12 13:19	01
LCS2	WG414233-03	6M112672	11/14/12 13:50	01
TB-110912	L12110393-05	6M112676	11/14/12 15:55	01
BLDG 4-PIT-SSP1-GW-11082012	L12110393-01	6M112689	11/14/12 22:32	DL01
DUP-GW-110812	L12110393-03	6M112690	11/14/12 23:02	DL01

Report Name: BLANK_SUMMARY
PDF File ID: 2666133
Report generated 11/15/2012 15:00

Microbac Laboratories Inc.
METHOD BLANK REPORT

Login Number: L12110393 Prep Date: 11/14/12 12:48 Sample ID: WG414233-01
Instrument ID: HPMS6 Run Date: 11/14/12 12:48 Prep Method: 5030B/5030C/503
File ID: 6M112670 Analyst: FJB Method: 8260B
Workgroup (AAB#): WG414233 Matrix: Water Units: ug/L
Contract #: Cal ID: HPMS6-12-NOV-12

Analytes	MDL	RL	Concentration	Dilution	Qualifier
1,1,1-Trichloroethane	0.250	1.00	0.250	1	U
1,1,2,2-Tetrachloroethane	0.200	1.00	0.200	1	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	2.00	5.00	2.00	1	U
1,1,2-Trichloroethane	0.250	1.00	0.250	1	U
1,1-Dichloroethane	0.125	1.00	0.125	1	U
1,1-Dichloroethene	0.500	1.00	0.500	1	U
1,2,3-Trichlorobenzene	0.500	1.00	0.500	1	U
1,2,4-Trichlorobenzene	0.200	1.00	0.200	1	U
1,2-Dibromo-3-chloropropane	1.00	5.00	1.00	1	U
1,2-Dibromoethane	0.250	1.00	0.250	1	U
1,2-Dichlorobenzene	0.125	1.00	0.125	1	U
1,2-Dichloroethane	0.250	1.00	0.250	1	U
cis-1,2-Dichloroethene	0.250	1.00	0.250	1	U
trans-1,2-Dichloroethene	0.250	1.00	0.250	1	U
1,2-Dichloropropane	0.200	1.00	0.200	1	U
1,3-Dichlorobenzene	0.250	1.00	0.250	1	U
1,4-Dichlorobenzene	0.125	1.00	0.125	1	U
2-Butanone	2.50	10.0	2.50	1	U
2-Hexanone	2.50	10.0	2.50	1	U
4-Methyl-2-pentanone	2.50	10.0	2.50	1	U
Acetone	2.50	10.0	2.50	1	U
Benzene	0.125	1.00	0.125	1	U
Bromochloromethane	0.200	1.00	0.200	1	U
Bromodichloromethane	0.250	1.00	0.250	1	U
Bromoform	0.500	1.00	0.500	1	U
Bromomethane	0.500	1.00	0.500	1	U
Carbon disulfide	0.500	1.00	0.500	1	U
Carbon tetrachloride	0.250	1.00	0.250	1	U
Chlorobenzene	0.125	1.00	0.125	1	U
Chloroethane	0.500	1.00	0.500	1	U
Chloroform	0.125	1.00	0.125	1	U
Chloromethane	0.500	1.00	0.500	1	U
cis-1,3-Dichloropropene	0.250	1.00	0.250	1	U
Cyclohexane	1.00	5.00	1.00	1	U
Dibromochloromethane	0.250	1.00	0.250	1	U
Dichlorodifluoromethane	0.250	1.00	0.250	1	U
Ethyl benzene	0.250	1.00	0.250	1	U
Isopropylbenzene	0.250	1.00	0.250	1	U
Methyl acetate	1.00	5.00	1.00	1	U
Methyl tert-butyl ether	0.500	1.00	0.500	1	U
Methylcyclohexane	1.00	5.00	1.00	1	U
Methylene chloride	0.250	5.00	0.250	1	U

Report Name:BLANK
PDF ID: 2666134
15-NOV-2012 15:00

Microbac Laboratories Inc.

METHOD BLANK REPORT

Login Number: L12110393 Prep Date: 11/14/12 12:48 Sample ID: WG414233-01
Instrument ID: HPMS6 Run Date: 11/14/12 12:48 Prep Method: 5030B/5030C/503
File ID: 6M112670 Analyst: FJB Method: 8260B
Workgroup (AAB#): WG414233 Matrix: Water Units: ug/L
Contract #: Cal ID: HPMS6-12-NOV-12

Analytes	MDL	RL	Concentration	Dilution	Qualifier
m,p-Xylene	0.500	1.00	0.500	1	U
o-Xylene	0.250	1.00	0.250	1	U
Styrene	0.125	1.00	0.125	1	U
Tetrachloroethene	0.250	1.00	0.250	1	U
Toluene	0.250	1.00	0.250	1	U
trans-1,3-Dichloropropene	0.500	1.00	0.500	1	U
Trichloroethene	0.250	1.00	0.250	1	U
Trichlorofluoromethane	0.250	1.00	0.250	1	U
Vinyl chloride	0.250	1.00	0.250	1	U

Surrogates	% Recovery	Surrogate Limits	Qualifier
1,2-Dichloroethane-d4	98.6	80 - 120	PASS
Dibromofluoromethane	101	86 - 118	PASS
p-Bromofluorobenzene	104	86 - 115	PASS
Toluene-d8	95.7	88 - 110	PASS

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

Report Name:BLANK
PDF ID: 2666134
15-NOV-2012 15:00

Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L12110393 Analyst: FJB Prep Method: 5030B/5030C/503
Instrument ID: HPMS6 Matrix: Water Method: 8260B
Workgroup (AAB#): WG414233 Units: ug/L
QC Key: WATERLOO Lot #: STD54851

Sample ID: WG414233-02 LCS File ID: 6M112671 Run Date: 11/14/2012 13:19
Sample ID: WG414233-03 LCS2 File ID: 6M112672 Run Date: 11/14/2012 13:50

Analytes	LCS			LCS2			%RPD	%Rec Limits	RPD Lmt	Q
	Known	Found	% REC	Known	Found	% REC				
1,1,1-Trichloroethane	20.0	21.2	106	20.0	21.2	106	0.0816	80 - 134	30	
1,1,2,2-Tetrachloroethane	20.0	21.5	108	20.0	22.2	111	3.06	79 - 125	30	
1,1,2-Trichloro-1,2,2-Trifluoroethane	20.0	24.1	121	20.0	24.1	120	0.211	80 - 130	30	
1,1,2-Trichloroethane	20.0	19.3	96.6	20.0	19.9	99.6	3.04	80 - 125	30	
1,1-Dichloroethane	20.0	20.7	103	20.0	20.6	103	0.275	80 - 125	30	
1,1-Dichloroethene	20.0	21.3	106	20.0	21.0	105	1.27	80 - 132	30	
1,2,3-Trichlorobenzene	20.0	20.9	105	20.0	21.6	108	3.04	55 - 140	30	
1,2,4-Trichlorobenzene	20.0	20.7	103	20.0	21.0	105	1.74	65 - 135	30	
1,2-Dibromo-3-chloropropane	20.0	20.0	99.8	20.0	20.6	103	3.33	50 - 130	30	
1,2-Dibromoethane	20.0	19.4	96.9	20.0	19.3	96.6	0.256	80 - 125	30	
1,2-Dichlorobenzene	20.0	18.9	94.5	20.0	19.2	95.9	1.49	80 - 125	30	
1,2-Dichloroethane	20.0	21.6	108	20.0	21.7	109	0.397	80 - 129	30	
cis-1,2-Dichloroethene	20.0	21.3	107	20.0	20.8	104	2.71	70 - 125	30	
trans-1,2-Dichloroethene	20.0	22.1	110	20.0	21.3	107	3.39	80 - 127	30	
1,2-Dichloropropane	20.0	21.8	109	20.0	21.9	109	0.474	80 - 120	30	
1,3-Dichlorobenzene	20.0	18.9	94.5	20.0	18.8	94.1	0.401	80 - 120	30	
1,4-Dichlorobenzene	20.0	20.0	100	20.0	20.0	100	0.0379	80 - 120	30	
2-Butanone	20.0	21.1	105	20.0	21.8	109	3.38	30 - 150	30	
2-Hexanone	20.0	18.0	89.9	20.0	19.2	96.1	6.68	55 - 130	30	
4-Methyl-2-pentanone	20.0	20.2	101	20.0	20.2	101	0.217	64 - 140	30	
Acetone	20.0	22.3	111	20.0	22.3	111	0.122	40 - 142	30	
Benzene	20.0	20.4	102	20.0	20.3	101	0.780	80 - 121	30	
Bromochloromethane	20.0	21.4	107	20.0	21.3	107	0.529	65 - 130	30	
Bromodichloromethane	20.0	20.8	104	20.0	20.8	104	0.179	80 - 131	30	
Bromoform	20.0	17.8	89.2	20.0	18.2	90.9	1.93	70 - 130	30	
Bromomethane	20.0	20.8	104	20.0	21.0	105	1.27	30 - 145	30	
Carbon disulfide	20.0	22.2	111	20.0	22.0	110	0.993	58 - 138	30	
Carbon tetrachloride	20.0	21.7	109	20.0	21.7	109	0.169	65 - 140	30	
Chlorobenzene	20.0	18.1	90.6	20.0	18.1	90.4	0.248	80 - 120	30	
Chloroethane	20.0	22.3	112	20.0	21.7	109	2.79	60 - 135	30	
Chloroform	20.0	21.2	106	20.0	21.0	105	1.10	80 - 125	30	
Chloromethane	20.0	21.9	109	20.0	20.8	104	5.08	40 - 125	30	
cis-1,3-Dichloropropene	20.0	23.2	116	20.0	22.8	114	2.00	70 - 130	30	
Cyclohexane	20.0	19.1	95.4	20.0	19.3	96.7	1.39	80 - 130	30	
Dibromochloromethane	20.0	21.8	109	20.0	21.7	108	0.252	60 - 135	30	
Dichlorodifluoromethane	20.0	28.9	144	20.0	28.5	143	1.19	50 - 133	30	*
Ethyl benzene	20.0	19.2	96.0	20.0	18.9	94.6	1.40	80 - 122	30	
Isopropylbenzene	20.0	18.1	90.7	20.0	18.0	90.2	0.461	80 - 122	30	
Methyl acetate	20.0	18.5	92.3	20.0	18.8	93.8	1.61	80 - 130	30	
Methyl tert-butyl ether	20.0	21.6	108	20.0	21.5	108	0.349	65 - 125	30	

LCS_LCS2 - Modified 03/06/2008
PDF File ID: 2665889
Report generated: 11/15/2012 15:00

Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L12110393 Analyst: FJB Prep Method: 5030B/5030C/503
Instrument ID: HPMS6 Matrix: Water Method: 8260B
Workgroup (AAB#): WG414233 Units: ug/L
QC Key: WATERLOO Lot #: STD54851

Sample ID: WG414233-02 LCS File ID: 6M112671 Run Date: 11/14/2012 13:19
Sample ID: WG414233-03 LCS2 File ID: 6M112672 Run Date: 11/14/2012 13:50

Analytes	LCS			LCS2			%RPD	%Rec Limits	RPD Lmt	Q
	Known	Found	% REC	Known	Found	% REC				
Methylcyclohexane	20.0	20.6	103	20.0	20.2	101	1.84	80 - 130	30	
Methylene chloride	20.0	21.0	105	20.0	21.0	105	0.329	80 - 123	30	
m,p-Xylene	40.0	37.0	92.4	40.0	36.7	91.8	0.719	80 - 122	30	
o-Xylene	20.0	18.0	90.0	20.0	17.9	89.4	0.592	80 - 122	30	
Styrene	20.0	19.9	99.6	20.0	19.9	99.7	0.116	80 - 123	30	
Tetrachloroethene	20.0	20.2	101	20.0	20.3	102	0.661	80 - 124	30	
Toluene	20.0	19.7	98.5	20.0	19.6	97.9	0.595	80 - 124	30	
trans-1,3-Dichloropropene	20.0	17.8	88.9	20.0	17.9	89.5	0.614	80 - 130	30	
Trichloroethene	20.0	21.1	105	20.0	20.7	104	1.79	80 - 122	30	
Trichlorofluoromethane	20.0	23.4	117	20.0	23.5	117	0.219	62 - 151	30	
Vinyl chloride	20.0	20.7	104	20.0	20.0	99.8	3.78	65 - 140	30	

Surogates	LCS	LCS2	Surrogate Limits	Qualifier
	% Recovery	% Recovery		
1,2-Dichloroethane-d4	99.3	99.4	80 - 120	PASS
Dibromofluoromethane	102	100	86 - 118	PASS
p-Bromofluorobenzene	103	102	86 - 115	PASS
Toluene-d8	95.9	97.4	88 - 110	PASS

* EXCEEDS %REC LIMIT

EXCEEDS RPD LIMIT

LCS_LCS2 - Modified 03/06/2008
PDF File ID: 2665889
Report generated: 11/15/2012 15:00

BFB

Login Number: L12110393
Instrument: HPMS6
Analyst: ADC
Workgroup: WG387846

Tune ID: WG387846-01
Run Date: 01/25/2012
Run Time: 08:08
File ID: 6M105367
Cal ID: HPMS6-29-NOV-11

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50.0	95.0	15.0	40.0	20.4	3936	PASS
75.0	95.0	30.0	60.0	46.9	9059	PASS
95.0	95.0	100	100	100	19320	PASS
96.0	95.0	5.00	9.00	6.53	1262	PASS
173	174	0	2.00	0	0	PASS
174	95.0	50.0	100	91.6	17704	PASS
175	174	5.00	9.00	6.91	1223	PASS
176	174	95.0	101	96.1	17017	PASS
177	176	5.00	9.00	5.94	1011	PASS

This check relates to the following samples:

Lab ID	Client ID	Tag	Date Analyzed	Q
WG388587-01	STD	01	01/25/2012 10:12	
WG388587-02	STD	01	01/25/2012 10:45	
WG388587-03	STD	01	01/25/2012 11:17	
WG388587-04	STD-CCV	01	01/25/2012 11:49	
WG388587-05	STD	01	01/25/2012 12:22	
WG388587-06	STD	01	01/25/2012 12:55	
WG388587-07	STD	01	01/25/2012 13:27	
WG388587-08	SSCV	01	01/25/2012 14:00	

* Sample past 12 hour tune limit

TUNE - Modified 03/06/2008
PDF File ID: 2666135
Report generated 11/15/2012 15:00

BFB

Login Number: L12110393
Instrument: HPMS6
Analyst: ADC
Workgroup: WG414018

Tune ID: WG414018-01
Run Date: 11/12/2012
Run Time: 14:09
File ID: 6M112620
Cal ID: HPMS6 - 12-NOV-12

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50.0	95.0	15.0	40.0	21.7	7367	PASS
75.0	95.0	30.0	60.0	48.4	16430	PASS
95.0	95.0	100	100	100	33957	PASS
96.0	95.0	5.00	9.00	6.89	2339	PASS
173	174	0	2.00	0	0	PASS
174	95.0	50.0	100	73.9	25106	PASS
175	174	5.00	9.00	7.42	1863	PASS
176	174	95.0	101	98.0	24594	PASS
177	176	5.00	9.00	6.51	1600	PASS

This check relates to the following samples:

Lab ID	Client ID	Tag	Date Analyzed	Q
WG414018-02	STD	01	11/12/2012 15:14	
WG414018-03	STD	01	11/12/2012 15:44	
WG414018-04	STD	01	11/12/2012 16:15	
WG414018-05	STD	01	11/12/2012 16:46	
WG414018-06	STD	01	11/12/2012 17:17	
WG414018-07	STD	01	11/12/2012 17:48	
WG414018-08	STD-CCV	01	11/12/2012 18:19	
WG414018-09	STD	01	11/12/2012 18:49	
WG414018-10	STD	01	11/12/2012 19:20	
WG414018-11	STD	01	11/12/2012 19:51	
WG414018-12	SSCV	01	11/12/2012 20:52	

* Sample past 12 hour tune limit

TUNE - Modified 03/06/2008
PDF File ID: 2666135
Report generated 11/15/2012 15:00

Microbac Laboratories Inc.
ORGANIC INSTRUMENT CHECK

BFB

Login Number: L12110393
Instrument: HPMS6
Analyst: FJB
Workgroup: WG414232

Tune ID: WG414232-01
Run Date: 11/14/2012
Run Time: 11:22
File ID: 6M112667
Cal ID: HPMS6 - 12-NOV-12

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50.0	95.0	15.0	40.0	23.1	1664	PASS
75.0	95.0	30.0	60.0	48.5	3499	PASS
95.0	95.0	100	100	100	7210	PASS
96.0	95.0	5.00	9.00	7.05	508	PASS
173	174	0	2.00	0	0	PASS
174	95.0	50.0	100	75.7	5457	PASS
175	174	5.00	9.00	5.79	316	PASS
176	174	95.0	101	96.4	5259	PASS
177	176	5.00	9.00	5.89	310	PASS

This check relates to the following samples:

Lab ID	Client ID	Tag	Date Analyzed	Q
WG414232-02	CCV	01	11/14/2012 11:47	
WG414233-01	BLANK	01	11/14/2012 12:48	
WG414233-01	BLANK	01	11/14/2012 12:48	
WG414233-02	LCS	01	11/14/2012 13:19	
WG414233-03	LCS2	01	11/14/2012 13:50	
L12110393-05	TB-110912	01	11/14/2012 15:55	
L12110393-01	BLDG 4-PIT-SSP1-GW-11082012	DL01	11/14/2012 22:32	
L12110393-03	DUP-GW-110812	DL01	11/14/2012 23:02	

* Sample past 12 hour tune limit

TUNE - Modified 03/06/2008
PDF File ID: 2666135
Report generated 11/15/2012 15:00

Calibration Table Report
Method: A9FOOWTR.M
Title: A9-FOO Water - IC: 01/25/12 - HPMS6
Last Calibration: Thu Feb 02 09:44:46 2012
Curve: WG388587
Calibration Files

Compound	5 6M105371.D	20 6M105372.D	50 6M105373.D	100 6M105374.D	200 6M105375.D	300 6M105376.D	400 6M105377.D	Avg	%RSD	R^2 LINEAR
Fluorobenzene	ISTD									
Acetonitrile	0.018	0.021	0.024	0.024	0.024	0.025	0.025	0.023	11.902	
3-Chloro-1-propene	0.472	0.497	0.558	0.566	0.573	0.567	0.568	0.543	7.526	
2-Chloro-1,3-butadiene	0.409	0.461	0.530	0.541	0.554	0.549	0.549	0.513	10.953	
Ethyl Acetate	0.123	0.135	0.147	0.153	0.159	0.163	0.167	0.150	10.598	
Methacrylonitrile	0.050	0.054	0.064	0.065	0.068	0.070	0.070	0.063	12.553	
Isobutyl Alcohol		0.006	0.006	0.007	0.007	0.007	0.007	0.007	7.775	
1-Butanol			0.002	0.001	0.002	0.002	0.002	0.002	30.823	FAIL
Methyl methacrylate	0.107	0.132	0.158	0.168	0.176	0.183	0.184	0.158	18.144	1.000
2-Nitropropane	0.030	0.037	0.043	0.047	0.050	0.053	0.055	0.045	19.886	0.999
Chlorobenzene-d5	ISTD									
1,4-Dichlorobenzene-d4	ISTD									
Cyclohexanone		0.017	0.023	0.025	0.029	0.032	0.032	0.026	22.204	0.998

Thu Feb 02 09:47:01 2012

Calibration Table Report
Method: 8260WTR.M
Title: 8260B/624_WATER SOP:OVLMSV01 011/12/12 - HPMS6
Last Calibration: Tue Nov 13 09:04:10 2012
Curve: WG414018
Calibration Files

Compound	0.3 6M112622.D	0.4 6M112623.D	1 6M112624.D	2 6M112625.D	5 6M112626.D	20 6M112627.D	50 6M112628.D	100 6M112629.D	200 6M112630.D	300 6M112631.D	Avg	%RSD	R^2 Linear	R^2 Quadratic
Fluorobenzene	ISTD													
Dichlorodifluoromethane			0.167	0.160	0.180	0.211	0.204	0.215	0.220	0.218	0.197	12.230		
Chloromethane			0.449	0.346	0.334	0.335	0.340	0.337	0.339	0.318	0.350	11.656		
Vinyl Chloride		0.327	0.330	0.302	0.292	0.302	0.285	0.263	0.256	0.238	0.288	10.844		
1,3-Butadiene				0.234	0.201	0.216	0.158	0.101	0.075		0.164	39.322		1.007
Bromomethane			0.145	0.154	0.159	0.174	0.186	0.195	0.213	0.218	0.180	15.023	0.997	
Chloroethane			0.156	0.168	0.174	0.179	0.181	0.182	0.186	0.186	0.176	5.935		
Trichlorofluoromethane		0.360	0.374	0.398	0.402	0.422	0.420	0.436	0.447	0.436	0.410	7.170		
Diethyl ether			0.102	0.109	0.115	0.108	0.113	0.116		0.124	0.112	6.437		
Isoprene			0.411	0.405	0.414	0.457	0.449	0.465	0.483	0.498	0.448	7.730		
Acrolein				0.009	0.010	0.010	0.011	0.012		0.013	0.011	14.952		
1,1,2-Trichloro-1,2,2-Trifluoroet			0.200	0.224	0.226	0.236	0.233	0.245	0.253	0.254	0.234	7.613		
Acetone					0.035	0.031	0.033	0.033	0.034	0.032	0.033	4.541		
1,1-Dichloroethene		0.390	0.404	0.384	0.394	0.407	0.412	0.421	0.435	0.430	0.409	4.341		
Tert-Butyl Alcohol				0.009	0.010	0.009	0.009	0.009		0.009	0.009	3.685		
Dimethyl Sulfide			0.283	0.279	0.295	0.316	0.310	0.310	0.324	0.327	0.306	5.848		
Iodomethane					0.115	0.181	0.207	0.208	0.207	0.195	0.185	19.525	0.999	
Methyl acetate			0.101	0.104	0.105	0.109	0.107	0.107	0.107	0.109	0.106	2.568		
Methylene Chloride		0.252	0.234	0.228	0.232	0.232	0.241	0.244	0.260	0.267	0.243	5.641		
Carbon Disulfide			0.670	0.683	0.683	0.739	0.731	0.732	0.774	0.783	0.724	5.866		
Acrylonitrile			0.036	0.045	0.047	0.046	0.049	0.050		0.058	0.047	13.950		
Methyl Tert Butyl Ether			0.440	0.452	0.455	0.458	0.480	0.482	0.493	0.500	0.470	4.570		
trans-1,2-Dichloroethene		0.212	0.238	0.233	0.239	0.244	0.251	0.256	0.270	0.275	0.246	7.775		
n-Hexane			0.265	0.261	0.259	0.284	0.269	0.278	0.283	0.280	0.272	3.738		
Diisopropyl ether			0.699	0.725	0.758	0.716	0.734	0.754		0.748	0.734	2.975		
Vinyl Acetate					0.246	0.260	0.280	0.267	0.269	0.263	0.264	4.281		
1,1-Dichloroethane		0.499	0.448	0.462	0.476	0.471	0.492	0.499	0.518	0.524	0.488	5.215		
Ethyl-Tert-Butyl ether			0.609	0.635	0.674	0.636	0.655	0.678		0.683	0.653	4.203		
2-Butanone					0.049	0.047	0.049	0.050	0.049	0.049	0.049	2.316		
Propionitrile			0.011	0.015	0.017	0.016	0.016	0.016		0.016	0.015	13.421		
2,2-Dichloropropane		0.343	0.321	0.351	0.355	0.375	0.386	0.390	0.400	0.403	0.369	7.695		
cis-1,2-Dichloroethene		0.258	0.256	0.248	0.246	0.259	0.272	0.275	0.290	0.299	0.267	6.850		
Chloroform	0.411	0.442	0.422	0.412	0.421	0.431	0.444	0.450	0.469	0.476	0.438	5.147		
1-Bromopropane			0.010	0.037	0.042	0.048	0.047	0.047	0.049	0.050	0.041	32.727	1.000	
Bromochloromethane		0.072	0.137	0.135	0.142	0.147	0.153	0.154	0.151	0.149	0.138	18.538	1.000	
Tetrahydrofuran			0.027	0.031	0.032	0.029	0.030	0.030		0.031	0.030	5.286		
Dibromofluoromethane			0.253	0.258	0.243	0.256	0.251	0.257	0.265	0.266	0.256	2.914		
1,1,1-Trichloroethane		0.380	0.351	0.363	0.383	0.392	0.410	0.420	0.447	0.454	0.400	8.922		
Cyclohexane			0.434	0.415	0.411	0.442	0.421	0.441	0.463	0.465	0.437	4.708		
1,1-Dichloropropene		0.304	0.310	0.312	0.317	0.331	0.342	0.347	0.364	0.368	0.333	7.136		
Tert-Amyl-Methyl ether			0.446	0.466	0.493	0.469	0.488	0.513		0.542	0.488	6.585		
Carbon Tetrachloride		0.316	0.328	0.328	0.35	0.364	0.377	0.396	0.399	0.424	0.3645	10.291		
1,2-Dichloroethane-d4				0.25	0.252	0.242	0.241	0.244	0.244	0.246	0.2456	1.6734		
Heptane										0.011	0.011	0		
1,2-Dichloroethane		0.283	0.28	0.291	0.3	0.3	0.315	0.319	0.333	0.335	0.3062	6.6477		
Benzene		1.031	0.892	0.891	0.916	0.918	0.954	0.975	1.026	1.039	0.9603	6.254		
Trichloroethene		0.313	0.273	0.246	0.259	0.255	0.267	0.275	0.292	0.3	0.2757	7.9765		
Methylcyclohexane			0.274	0.288	0.289	0.312	0.299	0.312	0.322	0.326	0.3028	5.9953		
1,2-Dichloropropane		0.201	0.217	0.236	0.243	0.248	0.257	0.26	0.272	0.276	0.2455	10.001		
1,4-Dioxane					0.001	0.001	0.001	0.001		0.001	0.0007	17.721	0.997	
Bromodichloromethane		0.29	0.263	0.276	0.294	0.302	0.317	0.327	0.341	0.345	0.3062	9.3093		
Dibromomethane		0.031	0.093	0.102	0.112	0.115	0.119	0.123	0.128	0.131	0.1058	28.885	0.999	
2-Chloroethyl Vinyl Ether				0.067	0.084	0.088	0.1	0.103	0.107	0.108	0.0938	15.921	0.999	
4-Methyl-2-Pentanone					0.036	0.042	0.046	0.047	0.048	0.048	0.0446	10.208		
cis-1,3-Dichloropropene		0.304	0.28	0.292	0.326	0.345	0.366	0.373	0.393		0.335	12.255		
Dimethyl Disulfide				0.152	0.173	0.201	0.208	0.214	0.229	0.237	0.2022	14.995		
Chlorobenzene-d5	ISTD													
Toluene-d8			1.308	1.236	1.183	1.193	1.183	1.198	1.238	1.27	1.2263	3.7052		
Toluene		1.392	1.304	1.322	1.333	1.382	1.445	1.467	1.536	1.554	1.415	6.4493		
Ethyl Methacrylate			0.175	0.35	0.267	0.268	0.27	0.266	0.274	0.283	0.269	17.532	0.999	
Paraldehyde											0	0		
trans-1,3-Dichloropropene			0.269	0.309	0.345	0.402	0.431	0.44	0.459	0.478	0.3916	19.374	0.998	
1,1,2-Trichloroethane		0.131	0.167	0.199	0.206	0.214	0.223	0.221	0.229	0.238	0.2032	16.744	0.999	
2-Hexanone					0.07	0.088	0.102	0.104	0.105	0.106	0.0956	14.833		
1,3-Dichloropropane		0.248	0.344	0.337	0.358	0.373	0.385	0.383	0.391	0.405	0.358	13.126		
Tetrachloroethene		0.31	0.293	0.331	0.334	0.342	0.355	0.363	0.381	0.401	0.3455	9.7493		
Dibromochloromethane		0.233	0.222	0.247	0.266	0.288	0.313	0.32			0.2701	14.225		
1,2-Dibromoethane		0.124	0.161	0.187	0.2	0.212	0.226	0.226	0.232	0.239	0.2008	18.883	0.999	
1-Chlorohexane		0.421	0.405	0.391	0.409	0.448	0.442	0.442	0.46	0.476	0.4326	6.4439		
Chlorobenzene		0.907	0.895	0.872	0.902	0.919	0.959	0.976	1.034	1.072	0.9483	7.1449		
1,1,1,2-Tetrachloroethane		0.307	0.286	0.286	0.311	0.327	0.357	0.374	0.407	0.424	0.3422	14.955		
Ethylbenzene		0.501	0.46	0.467	0.47	0.488	0.521	0.543	0.597	0.621	0.5186	11.22		
m-,p-Xylene		0.595	0.581	0.575	0.577	0.596	0.64	0.671	0.72	0.709	0.6293	9.1991		
o-Xylene		0.568	0.541	0.538	0.553	0.574	0.598	0.615	0.658	0.685	0.5922	8.7588		
Styrene		0.86	0.813	0.837	0.905	0.962	1.03	1.067	1.145	1.175	0.9769	13.731		
Bromoform			0.12	0.122	0.133	0.151	0.169	0.176	0.186	0.195	0.1565	18.606	0.997	
Isopropylbenzene		1.414	1.313	1.314	1.339	1.39	1.471	1.502	1.559	1.564	1.4296	6.9329		
1,4-Dichlorobenzene-d4	ISTD													
1,1,2,2-Tetrachloroethane		0.381	0.398	0.46	0.452	0.457	0.471	0.459	0.473	0.47	0.4468	7.4935		
p-Bromofluorobenzene			0.921	0.957	0.892	0.887	0.888	0.877	0.918	0.911	0.9064	2.8557		

1,2,3-Trichloropropane			0.028	0.109	0.123	0.127	0.133	0.13	0.135	0.136	0.1152	31.34	1
trans-1,4-Dichloro-2-Butene				0.084	0.117	0.153	0.161	0.162	0.169	0.169	0.1451	22.332	1
n-Propylbenzene		3.245	3.115	3.121	3.148	3.232	3.357	3.353	3.521	3.419	3.2791	4.3357	
Bromobenzene	0.544	0.638	0.626	0.689	0.704	0.727	0.763	0.761	0.823	0.842	0.7116	12.915	
1,3,5-Trimethylbenzene		2.493	2.219	2.21	2.224	2.311	2.438	2.462	2.643	2.646	2.4051	7.2168	
2-Chlorotoluene		2.446	2.361	2.181	2.317	2.286	2.158	2.431	2.729	2.634	2.3935	8.0036	
4-Chlorotoluene		2.151	1.946	2.086	2.086	2.162	2.258	2.281	2.336	2.426	2.1928	6.7151	
a-Methylstyrene			1.153	1.177	1.293	1.435	1.463	1.481	1.626	1.638	1.4082	13.172	
tert-Butylbenzene			0.423	0.402	0.426	0.433	0.455	0.463	0.502	0.514	0.4522	8.6931	
1,2,4-Trimethylbenzene		2.543	2.318	2.324	2.333	2.374	2.521	2.569	2.765	2.742	2.4987	6.9856	
sec-Butylbenzene		2.453	2.471	2.489	2.489	2.563	2.676	2.702	2.838	2.804	2.6094	5.7161	
p-Isopropyltoluene		2.308	2.074	2.095	2.071	2.183	2.273	2.304	2.447	2.432	2.2431	6.4923	
1,3-Dichlorobenzene		1.291	1.216	1.267	1.294	1.326	1.39	1.403	1.517	1.547	1.3613	8.3027	
1,4-Dichlorobenzene	1.316	1.406	1.28	1.304	1.312	1.35	1.412	1.426	1.546	1.569	1.3922	7.2305	
n-Butylbenzene		1.996	1.777	1.771	1.823	1.872	1.945	1.95	2.051	2.034	1.9134	5.5947	
1,2-Dichlorobenzene	1.085	1.172	1.148	1.113	1.173	1.174	1.226	1.233	1.322	1.344	1.199	6.9921	
1,2-Dibromo-3-Chloropropane				0.046	0.057	0.066	0.072	0.072	0.075	0.075	0.0661	16.802	1
1,2,4-Trichlorobenzene		0.66	0.702	0.674	0.695	0.712	0.741	0.743	0.802	0.82	0.7278	7.5107	
Hexachlorobutadiene			0.241	0.269	0.294	0.295	0.303	0.307	0.319	0.325	0.2941	9.4099	
Naphthalene		1.202	1.198	1.194	1.228	1.22	1.286	1.28	1.366	1.398	1.2635	5.9621	
1,2,3-Trichlorobenzene	0.552	0.594	0.497	0.577	0.607	0.595	0.619	0.617	0.657	0.672	0.5986	8.3793	

Wed Nov 14 12:43:43 2012

Microbac Laboratories Inc.
ALTERNATE SOURCE CALIBRATION REPORT

Login Number: L12110393 Run Date: 11/12/2012 Sample ID: WG414018-12
Instrument ID: HPMS6 Run Time: 20:52 Method: 8260B
File ID: 6M112633 Analyst: ADC QC Key: WATERLOO
ICal Workgroup: WG414018 Cal ID: HPMS6 - 12-NOV-12

Analyte		Expected	Found	Units	RF	%D	UCL	Q
1,1-Dichloroethene	CCC	50.0	51.1	ug/L	0.417	2.10	25	
1,2-Dichloropropane	CCC	50.0	54.3	ug/L	0.267	8.70	25	
Chloroform	CCC	50.0	52.0	ug/L	0.455	4.00	25	
Ethylbenzene	CCC	50.0	49.9	ug/L	0.517	0.200	25	
Toluene	CCC	50.0	50.4	ug/L	1.43	0.700	25	
Vinyl Chloride	CCC	50.0	44.3	ug/L	0.255	11.5	25	
1,1,2,2-Tetrachloroethane	SPCC	50.0	53.5	ug/L	0.478	7.00	25	
1,1-Dichloroethane	SPCC	50.0	50.8	ug/L	0.495	1.60	25	
Bromoform	SPCC	50.0	46.8	ug/L	0.172	6.40	25	
Chlorobenzene	SPCC	50.0	46.8	ug/L	0.888	6.40	25	
Chloromethane	SPCC	50.0	46.9	ug/L	0.328	6.20	25	
1,1,1-Trichloroethane		50.0	52.2	ug/L	0.417	4.30	25	
1,1,2-Trichloro-1,2,2-Trifluoroethane		50.0	57.2	ug/L	0.268	14.5	25	
1,1,2-Trichloroethane		50.0	50.0	ug/L	0.230	0.100	25	
1,2,3-Trichlorobenzene		50.0	51.8	ug/L	0.620	3.60	25	
1,2,4-Trichlorobenzene		50.0	50.9	ug/L	0.741	1.80	25	
1,2-Dibromo-3-Chloropropane		50.0	50.3	ug/L	0.0737	0.700	25	
1,2-Dibromoethane		50.0	49.1	ug/L	0.228	1.80	25	
1,2-Dichlorobenzene		50.0	47.3	ug/L	1.13	5.40	25	
1,2-Dichloroethane		50.0	53.2	ug/L	0.326	6.40	25	
cis-1,2-Dichloroethene		50.0	52.1	ug/L	0.278	4.10	25	
trans-1,2-Dichloroethene		50.0	53.1	ug/L	0.262	6.20	25	
1,3-Dichlorobenzene		50.0	47.2	ug/L	1.29	5.50	25	
1,4-Dichlorobenzene		50.0	50.3	ug/L	1.40	0.600	25	
2-Butanone		50.0	50.7	ug/L	0.0494	1.40	25	
2-Hexanone		50.0	50.0	ug/L	0.0956	0	25	
4-Methyl-2-Pentanone		50.0	49.7	ug/L	0.0444	0.600	25	
Acetone		50.0	51.2	ug/L	0.0337	2.50	25	
Benzene		50.0	50.4	ug/L	0.968	0.800	25	
Bromochloromethane		50.0	52.0	ug/L	0.156	3.90	25	
Bromodichloromethane		50.0	52.3	ug/L	0.320	4.50	25	
Bromomethane		50.0	45.8	ug/L	0.190	8.40	25	
Carbon Disulfide		50.0	51.7	ug/L	0.749	3.40	25	
Carbon Tetrachloride		50.0	52.6	ug/L	0.384	5.30	25	
Chloroethane		50.0	52.5	ug/L	0.185	5.00	25	
cis-1,3-Dichloropropene		50.0	57.9	ug/L	0.388	15.8	25	
Cyclohexane		50.0	44.5	ug/L	0.389	10.9	25	
Dibromochloromethane		50.0	56.7	ug/L	0.306	13.4	25	
Dichlorodifluoromethane		50.0	67.8	ug/L	0.267	35.5	25	*
Isopropylbenzene		50.0	47.2	ug/L	1.35	5.60	25	
Methyl acetate		50.0	44.4	ug/L	0.0941	11.2	25	
Methyl Tert Butyl Ether		50.0	50.5	ug/L	0.475	1.00	25	

ALT - Modified 09/06/2007
Version 1.5 PDF File ID: 2665891
Report generated 11/15/2012 15:00

Microbac Laboratories Inc.
ALTERNATE SOURCE CALIBRATION REPORT

Login Number: L12110393 Run Date: 11/12/2012 Sample ID: WG414018-12
Instrument ID: HPMS6 Run Time: 20:52 Method: 8260B
File ID: 6M112633 Analyst: ADC QC Key: WATERLOO
ICal Workgroup: WG414018 Cal ID: HPMS6 - 12-NOV-12

Analyte		Expected	Found	Units	RF	%D	UCL	Q
Methylcyclohexane		50.0	47.1	ug/L	0.285	5.90	25	
Methylene Chloride		50.0	50.5	ug/L	0.246	0.900	25	
m-,p-Xylene		100	97.4	ug/L	0.613	2.60	25	
o-Xylene		50.0	46.8	ug/L	0.554	6.40	25	
Styrene		50.0	53.4	ug/L	1.04	6.80	25	
Tetrachloroethene		50.0	50.5	ug/L	0.349	1.00	25	
trans-1,3-Dichloropropene		50.0	46.5	ug/L	0.424	7.00	25	
Trichloroethene		50.0	50.6	ug/L	0.279	1.20	25	
Trichlorofluoromethane		50.0	54.8	ug/L	0.450	9.70	25	

* Exceeds %D Limit

CCC Calibration Check Compounds
SPCC System Performance Check Compounds

ALT - Modified 09/06/2007
Version 1.5 PDF File ID: 2665891
Report generated 11/15/2012 15:00

Microbac Laboratories Inc.

CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12110393 Run Date: 11/14/2012 Sample ID: WG414232-02

Instrument ID: HPMS6 Run Time: 11:47 Method: 8260B

File ID: 6M112668 Analyst: FJB QC Key: WATERLOO

Workgroup (AAB#): WG414233 Cal ID: HPMS6 - 12-NOV-12

Matrix: WATER

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
1,1-Dichloroethene	CCC	50.0	53.2	ug/L	0.435	6.38	20	
1,2-Dichloropropane	CCC	50.0	50.2	ug/L	0.246	0.357	20	
Chloroform	CCC	50.0	51.5	ug/L	0.451	3.00	20	
Ethylbenzene	CCC	50.0	48.1	ug/L	0.499	3.71	20	
Toluene	CCC	50.0	49.5	ug/L	1.40	1.05	20	
Vinyl Chloride	CCC	50.0	47.1	ug/L	0.272	5.74	20	
1,1,2,2-Tetrachloroethane	SPCC	50.0	48.9	ug/L	0.437	2.23	20	
1,1-Dichloroethane	SPCC	50.0	51.4	ug/L	0.501	2.76	20	
Bromoform	SPCC	50.0	41.6	ug/L	0.153	16.8	20	
Chlorobenzene	SPCC	50.0	48.4	ug/L	0.918	3.25	20	
Chloromethane	SPCC	50.0	47.1	ug/L	0.329	5.87	20	
Xylenes		150	147	ug/L	0.598	1.83	20	
1,1,1-Trichloroethane		50.0	51.4	ug/L	0.412	2.87	20	
1,1,2-Trichloro-1,2,2-Trifluoroethane		50.0	54.7	ug/L	0.256	9.40	20	
1,1,2-Trichloroethane		50.0	43.8	ug/L	0.202	12.4	20	
1,2,3-Trichlorobenzene		50.0	49.2	ug/L	0.589	1.62	20	
1,2,4-Trichlorobenzene		50.0	49.9	ug/L	0.727	0.140	20	
1,2-Dibromo-3-Chloropropane		50.0	44.6	ug/L	0.0651	10.9	20	
1,2-Dibromoethane		50.0	44.0	ug/L	0.204	12.0	20	
1,2-Dichlorobenzene		50.0	49.9	ug/L	1.20	0.174	20	
1,2-Dichloroethane		50.0	49.4	ug/L	0.302	1.28	20	
cis-1,2-Dichloroethene		50.0	51.3	ug/L	0.274	2.64	20	
trans-1,2-Dichloroethene		50.0	53.2	ug/L	0.262	6.41	20	
1,3-Dichlorobenzene		50.0	51.0	ug/L	1.39	2.01	20	
1,4-Dichlorobenzene		50.0	50.6	ug/L	1.41	1.11	20	
2-Butanone		50.0	44.6	ug/L	0.0434	10.8	20	
2-Hexanone		50.0	41.9	ug/L	0.0801	16.3	20	
4-Methyl-2-Pentanone		50.0	42.2	ug/L	0.0377	15.5	20	
Acetone		50.0	47.5	ug/L	0.0313	4.97	20	
Benzene		50.0	49.6	ug/L	0.952	0.848	20	
Bromochloromethane		50.0	49.1	ug/L	0.148	1.90	20	
Bromodichloromethane		50.0	50.5	ug/L	0.309	0.958	20	
Bromomethane		50.0	55.7	ug/L	0.201	11.5	20	
Carbon Disulfide		50.0	52.5	ug/L	0.760	4.99	20	
Carbon Tetrachloride		50.0	52.7	ug/L	0.384	5.32	20	
Chloroethane		50.0	54.4	ug/L	0.192	8.84	20	
cis-1,3-Dichloropropene		50.0	51.4	ug/L	0.345	2.89	20	
Cyclohexane		50.0	49.5	ug/L	0.432	1.01	20	
Dibromochloromethane		50.0	53.7	ug/L	0.290	7.37	20	
Dichlorodifluoromethane		50.0	57.6	ug/L	0.227	15.2	20	
Isopropylbenzene		50.0	49.1	ug/L	1.40	1.77	20	
Methyl acetate		50.0	47.0	ug/L	0.0997	5.97	20	

CCV - Modified 03/05/2008

PDF File ID: 2665892

Report generated 11/15/2012 15:00

Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12110393 Run Date: 11/14/2012 Sample ID: WG414232-02
Instrument ID: HPMS6 Run Time: 11:47 Method: 8260B
File ID: 6M112668 Analyst: FJB QC Key: WATERLOO
Workgroup (AAB#): WG414233 Cal ID: HPMS6 - 12-NOV-12
Matrix: WATER

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
Methyl Tert Butyl Ether		50.0	48.2	ug/L	0.453	3.66	20	
Methylcyclohexane		50.0	50.8	ug/L	0.308	1.65	20	
Methylene Chloride		50.0	50.5	ug/L	0.246	0.959	20	
m-,p-Xylene		100	98.7	ug/L	0.621	1.29	20	
o-Xylene		50.0	48.5	ug/L	0.575	2.92	20	
Styrene		50.0	49.6	ug/L	0.969	0.846	20	
Tetrachloroethene		50.0	50.8	ug/L	0.351	1.62	20	
trans-1,3-Dichloropropene		50.0	43.4	ug/L	0.395	13.3	20	
Trichloroethene		50.0	48.0	ug/L	0.265	3.99	20	
Trichlorofluoromethane		50.0	56.5	ug/L	0.464	13.0	20	

* Exceeds %D Criteria

CCC Calibration Check Compounds
SPCC System Performance Check Compounds

CCV - Modified 03/05/2008
PDF File ID: 2665892
Report generated 11/15/2012 15:00

Microbac Laboratories Inc.

INTERNAL STANDARD AREA SUMMARY
(COMPARED TO CCV)

Login Number: L12110393
Instrument ID: HPMS6
Workgroup (AAB#): WG414233

CCV Number: WG414232-02
CAL ID: HPMS6-12-NOV-12
Matrix: WATER

Sample Number	Dilution	Tag	IS-1	IS-2	IS-3
WG414232-02	NA	NA	192038	415446	597787
Upper Limit	NA	NA	384076	830892	1195574
Lower Limit	NA	NA	96019	207723	298894
L12110393-01	10.0	DL01	141488	298436	399486
L12110393-03	10.0	DL01	145396	302095	403386
L12110393-05	1.00	01	150798	321207	434864
WG414233-01	1.00	01	161986	350893	468293
WG414233-02	1.00	01	168074	353024	478476
WG414233-03	1.00	01	168101	349885	475235

IS-1 - 1,4-Dichlorobenzene-d4
IS-2 - Chlorobenzene-d5
IS-3 - Fluorobenzene

Underline = Response outside limits

INTERNAL_STD - Modified 03/06/2008
PDF File ID: 2666136
Report generated 11/15/2012 15:00

Microbac Laboratories Inc.

INTERNAL STANDARD RETENTION TIME SUMMARY
(COMPARED TO CCV)

Login Number: L12110393
Instrument ID: HPMS6
Workgroup (AAB#): WG414233

CCV Number: WG414232-02
CAL ID: HPMS6-12-NOV-12
Matrix: WATER

Sample Number	Dilution	Tag	IS-1	IS-2	IS-3
WG414232-02	NA	NA	18.35	14.8	10.32
Upper Limit	NA	NA	18.85	15.3	10.82
Lower Limit	NA	NA	17.85	14.3	9.82
L12110393-01	10.0	DL01	18.35	14.79	10.31
L12110393-03	10.0	DL01	18.35	14.8	10.32
L12110393-05	1.00	01	18.35	14.8	10.32
WG414233-01	1.00	01	18.35	14.79	10.32
WG414233-02	1.00	01	18.35	14.79	10.32
WG414233-03	1.00	01	18.36	14.79	10.32

IS-1 - 1,4-Dichlorobenzene-d4
IS-2 - Chlorobenzene-d5
IS-3 - Fluorobenzene

Underline = Response outside limits

INTERNAL_STD_RT - Modified 03/06/2008
PDF File ID: 2666137
Report generated 11/15/2012 15:00

2.1.1.3 Sample Data

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\111412\6M112689.D Vial: 23
Acq On : 14 Nov 2012 22:32 Operator: FJB
Sample : L12110393-01 10X A 826-SPE Inst : HPMS6
Misc : 1,10 foamy/cloudy/sulfur odor Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 15 09:24:44 2012 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:OVLMSV01 011/12/12 - HPMS6
Last Update : Tue Nov 13 09:04:10 2012
Response via : Initial Calibration
DataAcq Meth : 8260WTR

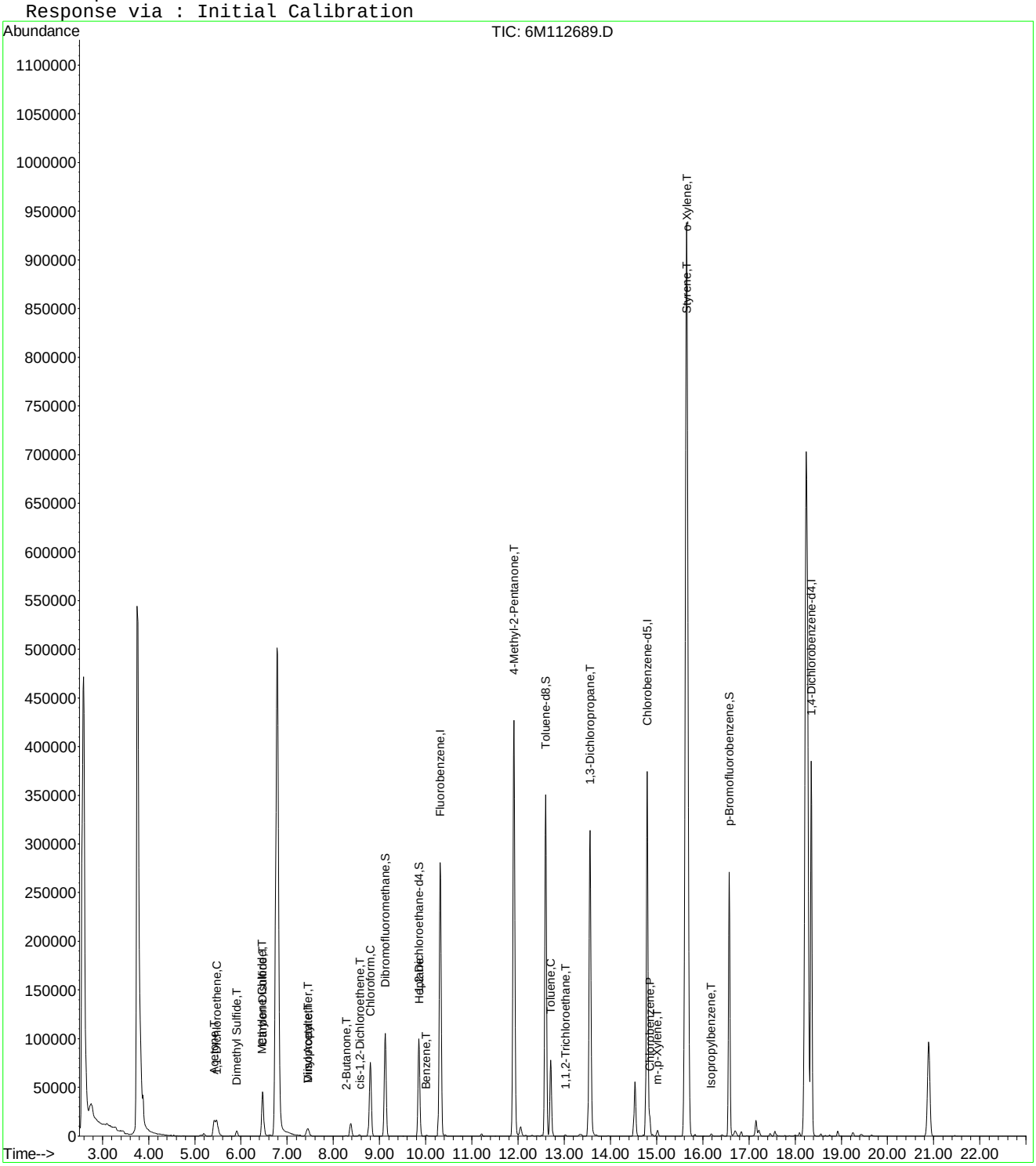
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene	10.31	96	399486	25.00	ug/L		0.00
57) Chlorobenzene-d5	14.79	117	298436	25.00	ug/L		0.00
78) 1,4-Dichlorobenzene-d4	18.35	152	141488	25.00	ug/L		0.00
System Monitoring Compounds							
37) Dibromofluoromethane	9.12	111	102312	24.9870	ug/L		0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 99.96%				
43) 1,2-Dichloroethane-d4	9.85	65	91544	23.3302	ug/L		0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 93.32%				
58) Toluene-d8	12.60	98	356288	24.3388	ug/L		0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 97.36%				
80) p-Bromofluorobenzene	16.57	95	130439	25.4280	ug/L		0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 101.72%				
Target Compounds							Qvalue
13) Acetone	5.42	43	37457	71.2037	ug/L		83
14) 1,1-Dichloroethene	5.48	61	2742	0.4200	ug/L	#	24
16) Dimethyl Sulfide	5.91	62	4788	0.9803	ug/L		97
19) Methylene Chloride	6.46	84	5573	1.4341	ug/L		99
20) Carbon Disulfide	6.47	76	85227	7.3635	ug/L		100
25) Diisopropyl ether	7.45	45	17322	1.4778	ug/L		96
26) Vinyl Acetate	7.45	43	8384	1.9865	ug/L	#	76
29) 2-Butanone	8.28	43	896	1.1511	ug/L	#	54
32) cis-1,2-Dichloroethene	8.57	96	999	0.2341	ug/L		84
33) Chloroform	8.80	83	88731	12.6866	ug/L		99
44) Heptane	9.86	57	5994	33.9926	ug/L	#	1
46) Benzene	10.01	78	1954	0.1273	ug/L	#	59
54) 4-Methyl-2-Pentanone	11.91	58	196398	275.3415	ug/L		97
59) Toluene	12.71	91	87142	5.1589	ug/L		99
63) 1,1,2-Trichloroethane	13.03	97	1693	0.8696	ug/L	#	12
65) 1,3-Dichloropropane	13.56	76	977	0.2286	ug/L	#	1
70) Chlorobenzene	14.85	112	16491	1.4568	ug/L		95
73) m-,p-Xylene	15.02	106	3223	0.4290	ug/L		88
74) o-Xylene	15.66	106	2518	0.3562	ug/L		67
75) Styrene	15.65	104	18299	1.5691	ug/L	#	27
77) Isopropylbenzene	16.18	105	3084	0.1807	ug/L	#	63

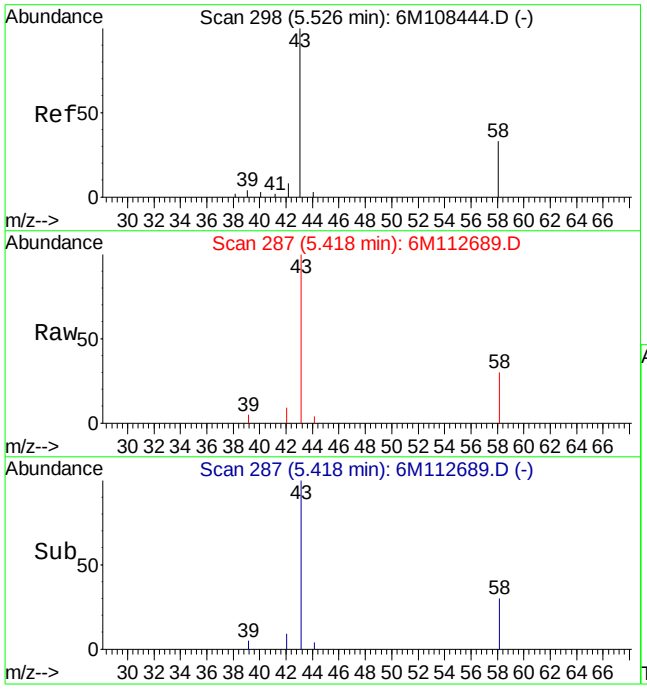
(#) = qualifier out of range (m) = manual integration
6M112689.D 8260WTR.M Thu Nov 15 09:24:45 2012 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\111412\6M112689.D Vial: 23
Acq On : 14 Nov 2012 22:32 Operator: FJB
Sample : L12110393-01 10X A 826-SPE Inst : HPMS6
Misc : 1,10 foamy/cloudy/sulfur odor Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 15 9:24 2012 Quant Results File: 8260WTR.RES

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:OVLMSV01 011/12/12 - HPMS6
Last Update : Tue Nov 13 09:04:10 2012
Response via : Initial Calibration

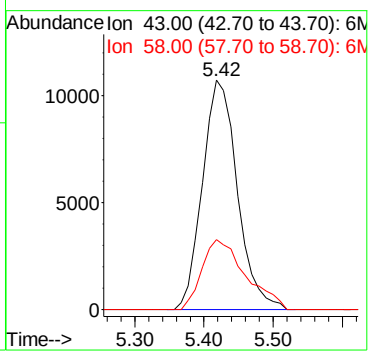


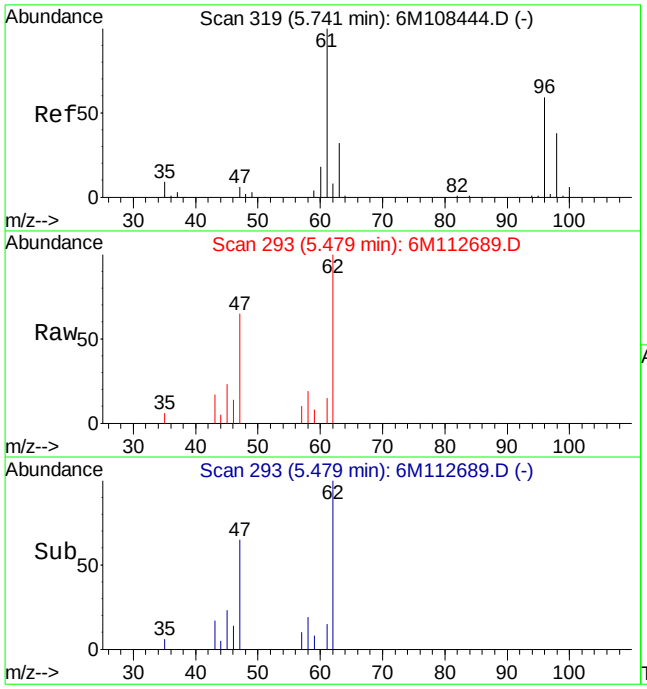


#13
Acetone
Concen: 71.20 ug/L
RT: 5.42 min Scan# 287
Delta R.T. -0.01 min
Lab File: 6M112689.D
Acq: 14 Nov 2012 22:32

Tgt Ion: 43 Resp: 37457

Ion	Ratio	Lower	Upper
43	100		
58	37.9	17.3	40.5

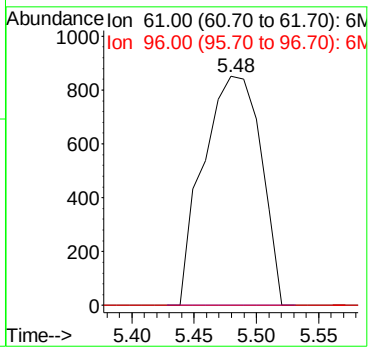


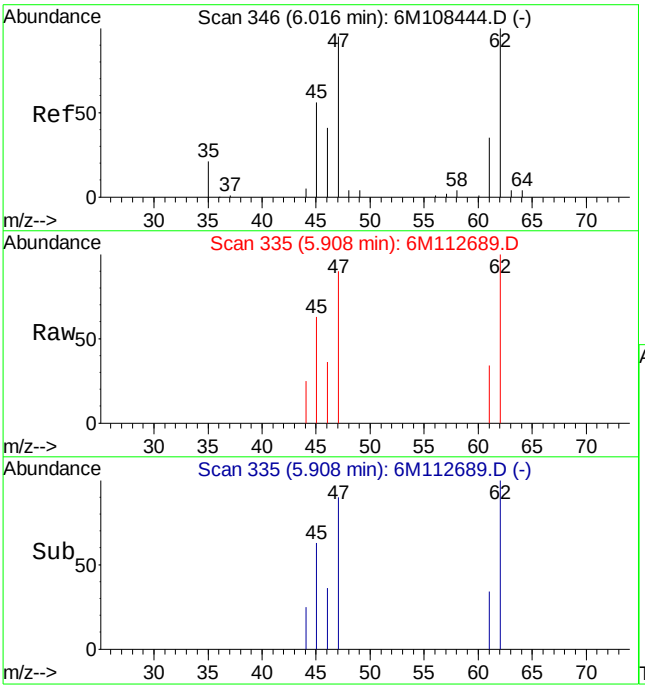


#14
1,1-Dichloroethene
Concen: 0.42 ug/L
RT: 5.48 min Scan# 293
Delta R.T. -0.16 min
Lab File: 6M112689.D
Acq: 14 Nov 2012 22:32

Tgt Ion: 61 Resp: 2742

Ion	Ratio	Lower	Upper
61	100		
96	0.0	32.7	76.3#

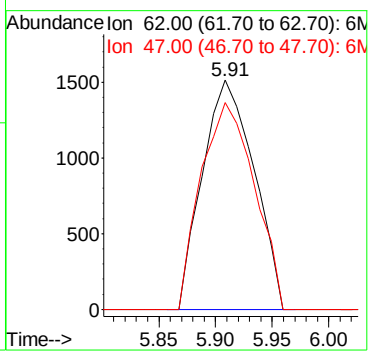


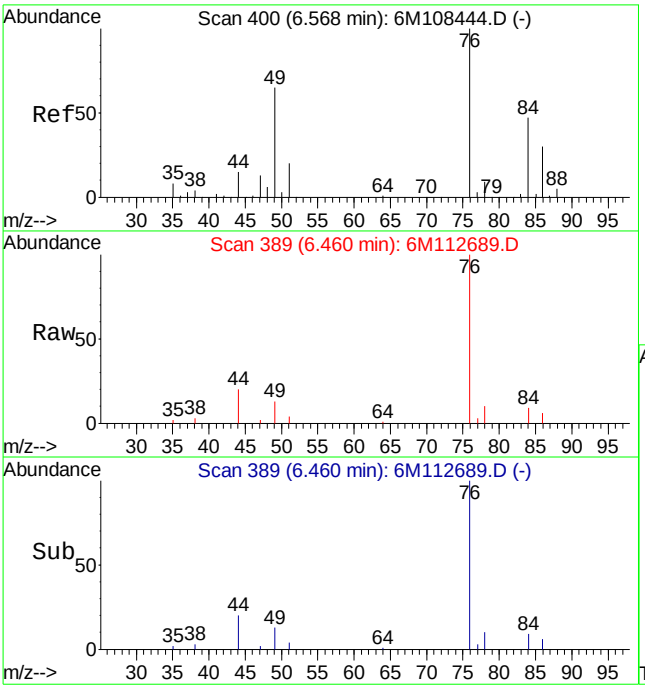


#16
Dimethyl Sulfide
Concen: 0.98 ug/L
RT: 5.91 min Scan# 335
Delta R.T. -0.01 min
Lab File: 6M112689.D
Acq: 14 Nov 2012 22:32

Tgt Ion: 62 Resp: 4788

Ion	Ratio	Lower	Upper
62	100		
47	93.6	57.8	134.8

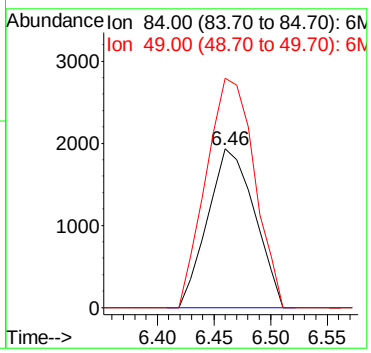


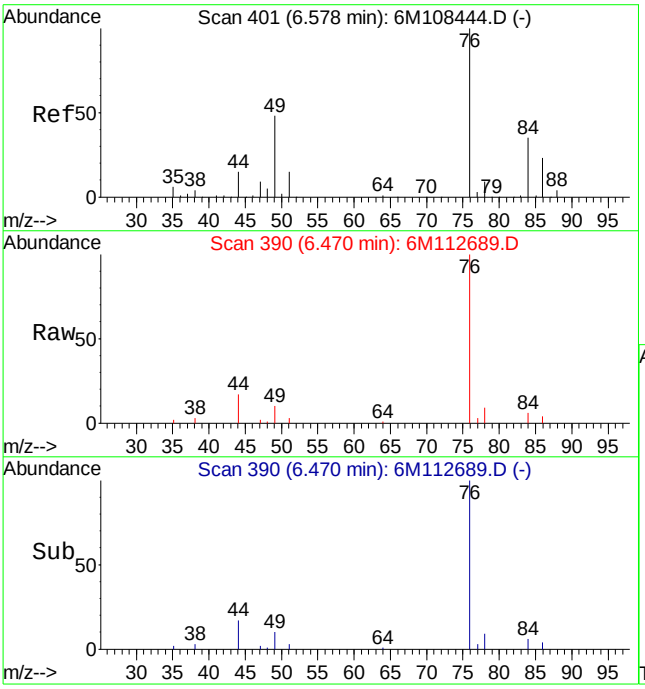


#19
Methylene Chloride
Concen: 1.43 ug/L
RT: 6.46 min Scan# 389
Delta R.T. -0.01 min
Lab File: 6M112689.D
Acq: 14 Nov 2012 22:32

Tgt Ion: 84 Resp: 5573

Ion	Ratio	Lower	Upper
84	100		
49	148.9	88.6	206.8

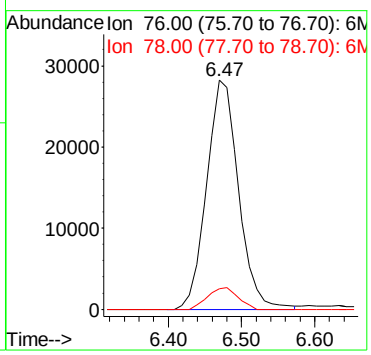


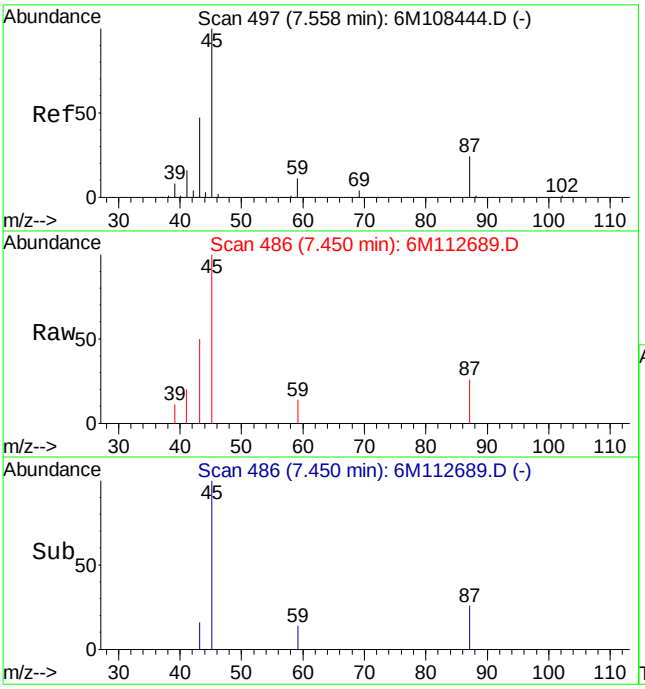


#20
Carbon Disulfide
Concen: 7.36 ug/L
RT: 6.47 min Scan# 390
Delta R.T. -0.01 min
Lab File: 6M112689.D
Acq: 14 Nov 2012 22:32

Tgt Ion: 76 Resp: 85227

Ion	Ratio	Lower	Upper
76	100		
78	9.0	5.3	12.5

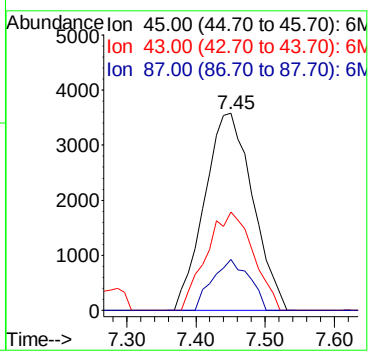


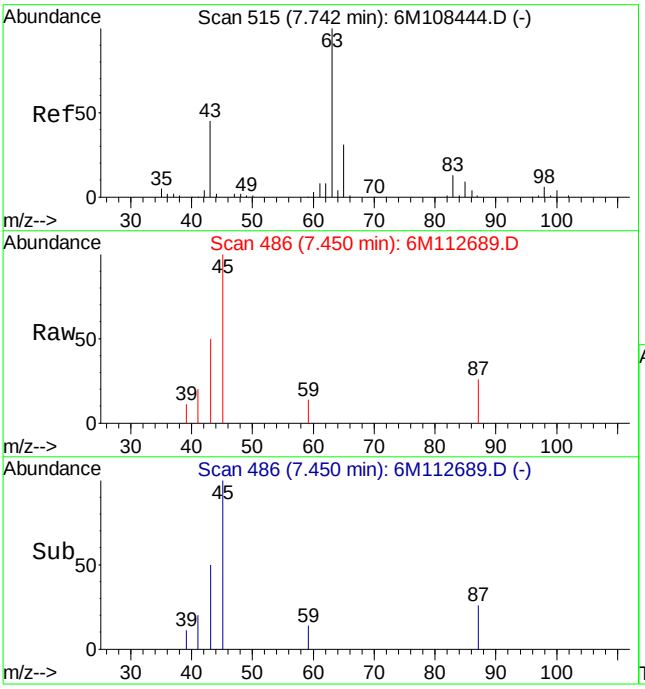


#25
Diisopropyl ether
Concen: 1.48 ug/L
RT: 7.45 min Scan# 486
Delta R.T. 0.00 min
Lab File: 6M112689.D
Acq: 14 Nov 2012 22:32

Tgt Ion: 45 Resp: 17322

Ion	Ratio	Lower	Upper
45	100		
43	48.4	28.1	65.5
87	19.9	14.2	33.2

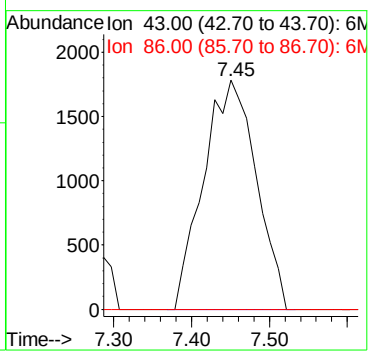


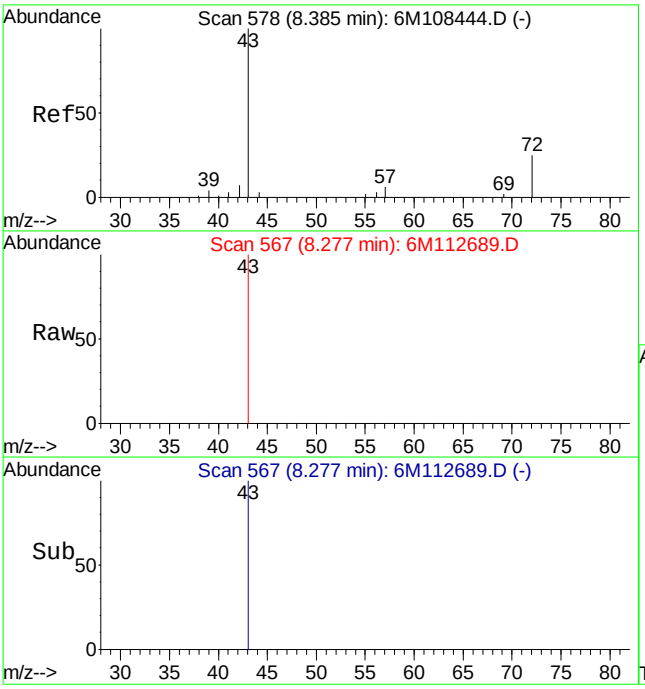


#26
Vinyl Acetate
Concen: 1.99 ug/L
RT: 7.45 min Scan# 486
Delta R.T. -0.18 min
Lab File: 6M112689.D
Acq: 14 Nov 2012 22:32

Tgt Ion: 43 Resp: 8384

Ion	Ratio	Lower	Upper
43	100		
86	0.0	5.3	12.3#

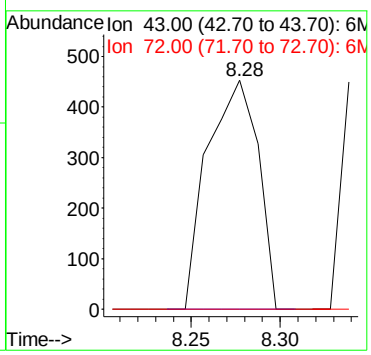


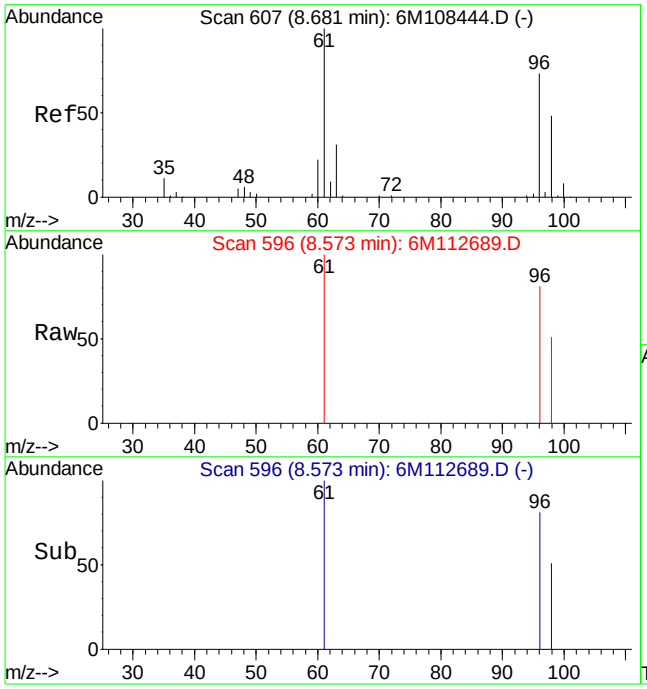


#29
2-Butanone
Concen: 1.15 ug/L
RT: 8.28 min Scan# 567
Delta R.T. 0.01 min
Lab File: 6M112689.D
Acq: 14 Nov 2012 22:32

Tgt Ion: 43 Resp: 896

Ion	Ratio	Lower	Upper
43	100		
72	0.0	12.9	30.1#

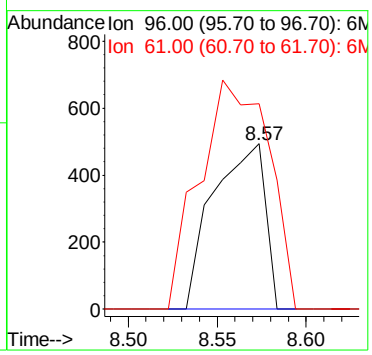


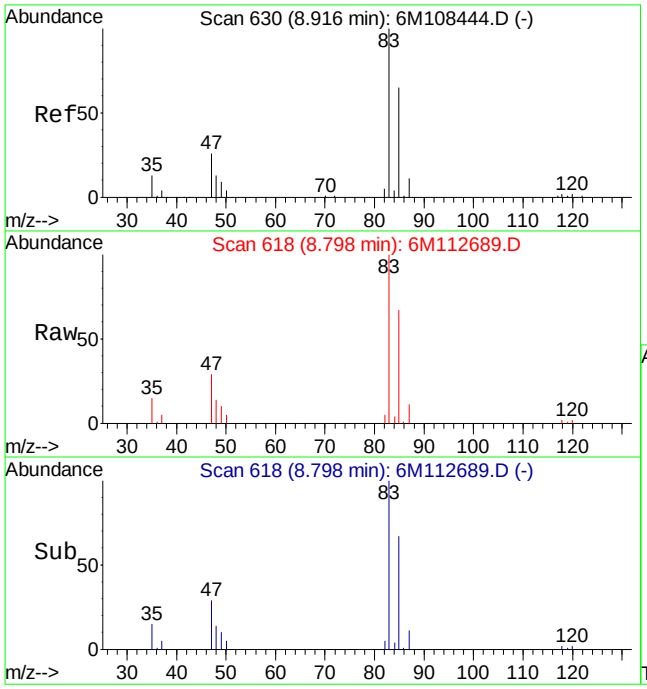


#32
cis-1,2-Dichloroethene
Concen: 0.23 ug/L
RT: 8.57 min Scan# 596
Delta R.T. 0.00 min
Lab File: 6M112689.D
Acq: 14 Nov 2012 22:32

Tgt Ion: 96 Resp: 999

Ion	Ratio	Lower	Upper
96	100		
61	185.6	98.8	230.4

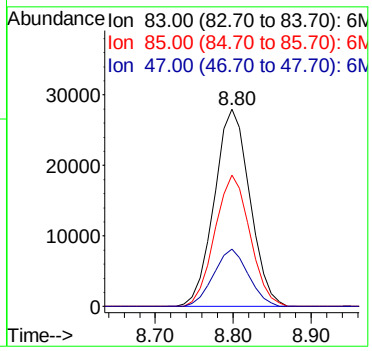


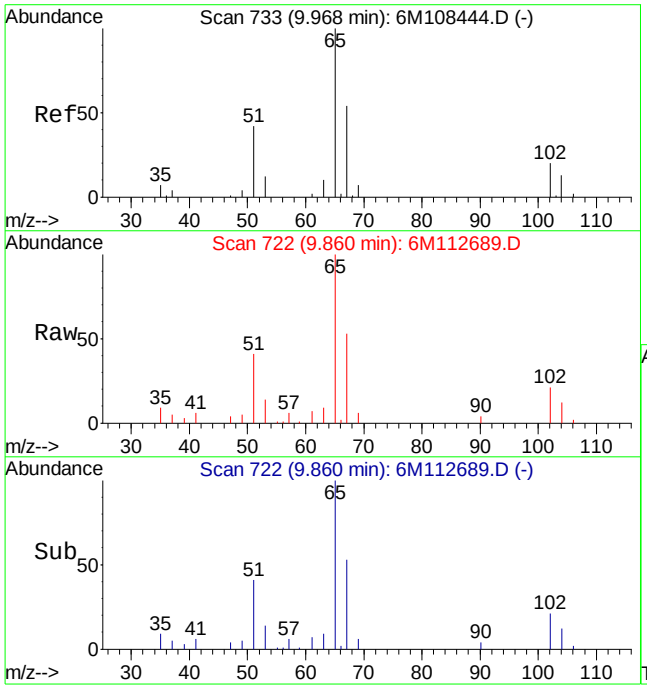


#33
Chloroform
Concen: 12.69 ug/L
RT: 8.80 min Scan# 618
Delta R.T. -0.01 min
Lab File: 6M112689.D
Acq: 14 Nov 2012 22:32

Tgt Ion: 83 Resp: 88731

Ion	Ratio	Lower	Upper
83	100		
85	65.8	39.1	91.1
47	28.4	16.9	39.5

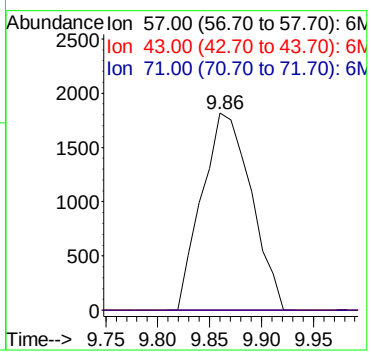


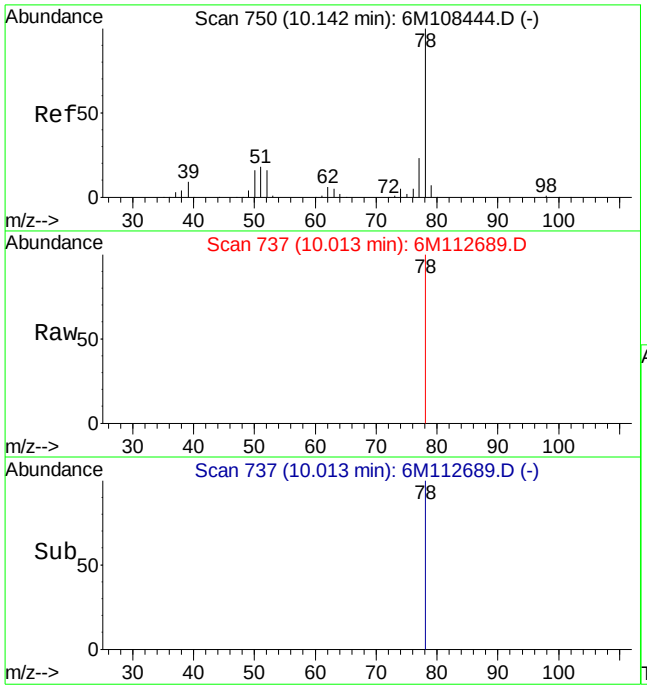


#44
Heptane
Concen: 33.99 ug/L
RT: 9.86 min Scan# 722
Delta R.T. 0.08 min
Lab File: 6M112689.D
Acq: 14 Nov 2012 22:32

Tgt Ion: 57 Resp: 5994

Ion	Ratio	Lower	Upper
57	100		
43	0.0	1074.4	2507.0#
71	0.0	309.8	722.8#

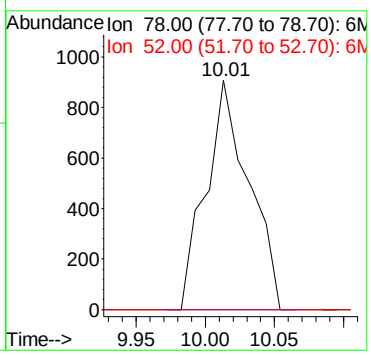


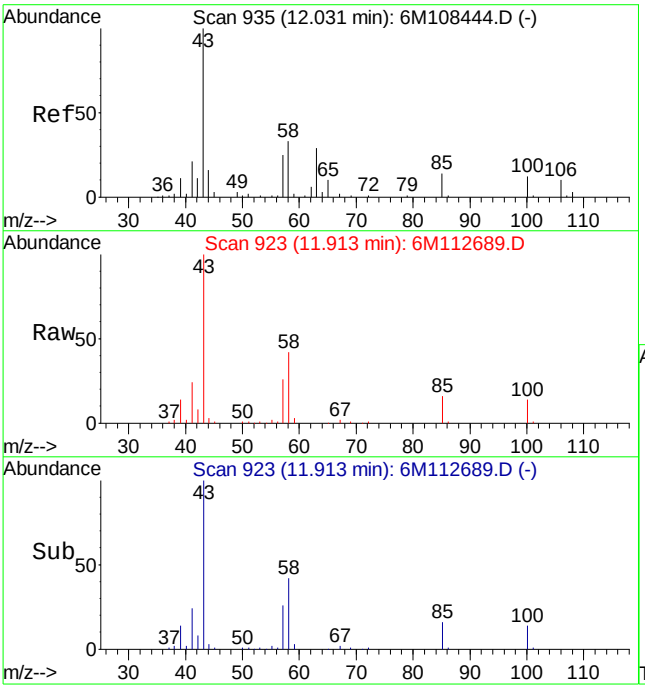


#46
Benzene
Concen: 0.13 ug/L
RT: 10.01 min Scan# 737
Delta R.T. -0.01 min
Lab File: 6M112689.D
Acq: 14 Nov 2012 22:32

Tgt Ion: 78 Resp: 1954

Ion	Ratio	Lower	Upper
78	100		
52	0.0	11.1	25.9#

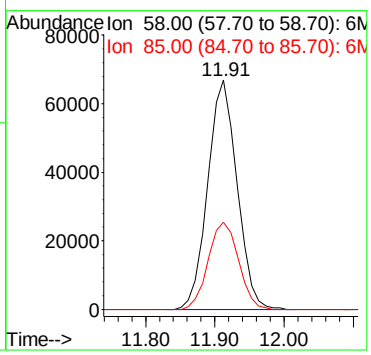


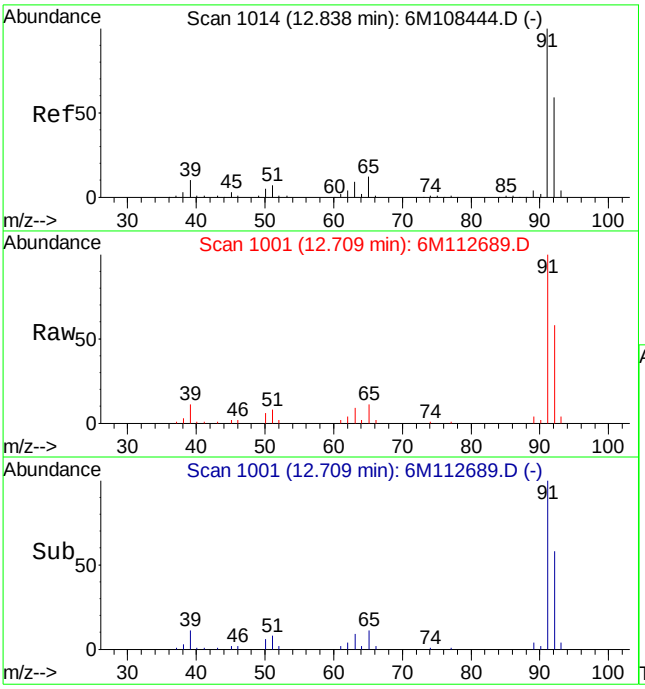


#54
4-Methyl-2-Pentanone
Concen: 275.34 ug/L
RT: 11.91 min Scan# 923
Delta R.T. -0.01 min
Lab File: 6M112689.D
Acq: 14 Nov 2012 22:32

Tgt Ion: 58 Resp: 196398

Ion	Ratio	Lower	Upper
58	100		
85	39.2	22.6	52.6

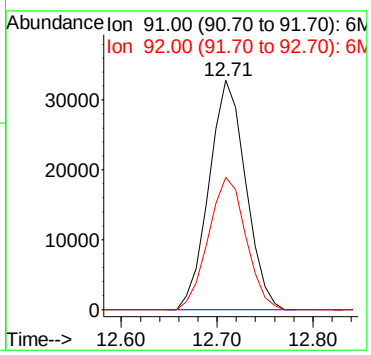


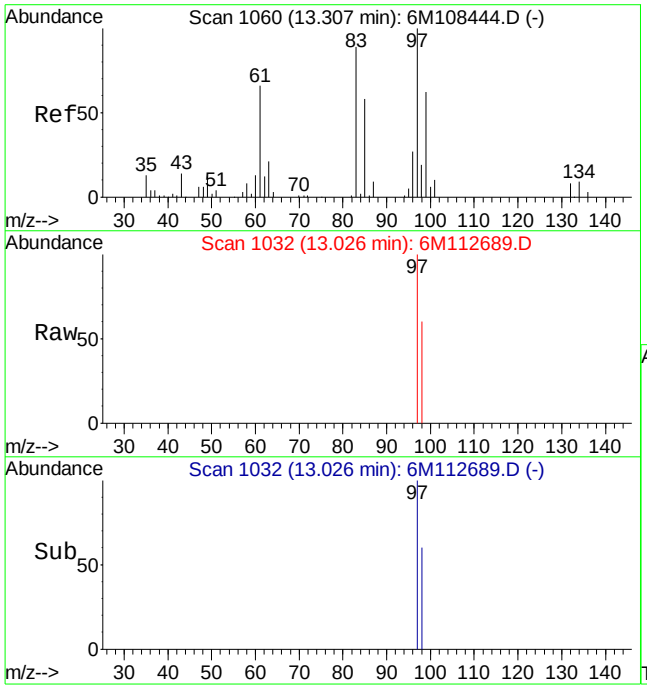


#59
Toluene
Concen: 5.16 ug/L
RT: 12.71 min Scan# 1001
Delta R.T. -0.01 min
Lab File: 6M112689.D
Acq: 14 Nov 2012 22:32

Tgt Ion: 91 Resp: 87142

Ion	Ratio	Lower	Upper
91	100		
92	58.7	35.7	83.3

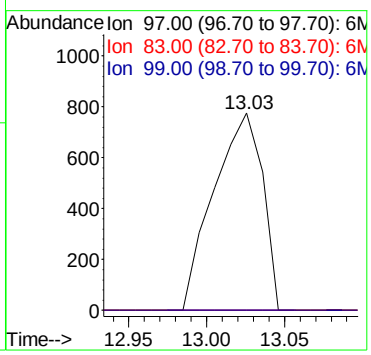


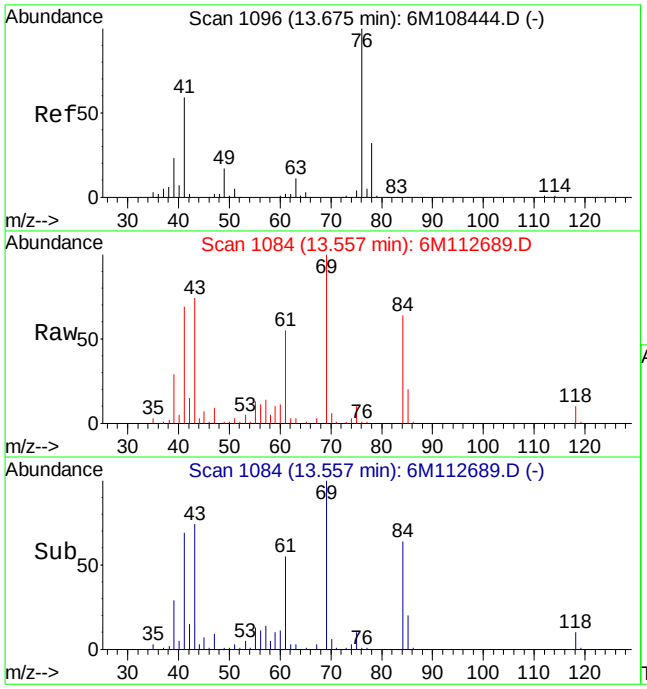


#63
1,1,2-Trichloroethane
Concen: 0.87 ug/L
RT: 13.03 min Scan# 1032
Delta R.T. -0.16 min
Lab File: 6M112689.D
Acq: 14 Nov 2012 22:32

Tgt Ion: 97 Resp: 1693

Ion	Ratio	Lower	Upper
97	100		
83	0.0	50.3	117.5#
99	0.0	37.3	87.1#

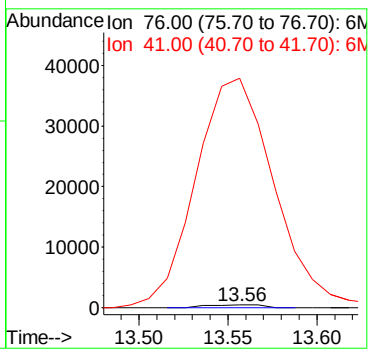


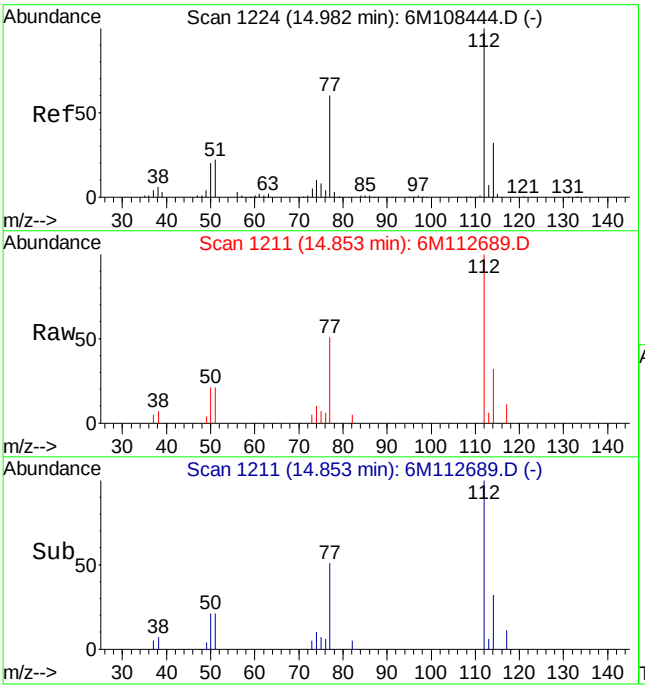


#65
1,3-Dichloropropane
Concen: 0.23 ug/L
RT: 13.56 min Scan# 1084
Delta R.T. 0.01 min
Lab File: 6M112689.D
Acq: 14 Nov 2012 22:32

Tgt Ion: 76 Resp: 977

Ion	Ratio	Lower	Upper
76	100		
41	12029.4	40.1	93.5#

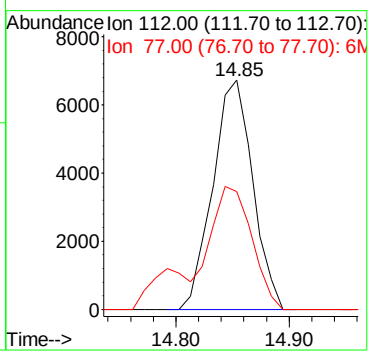


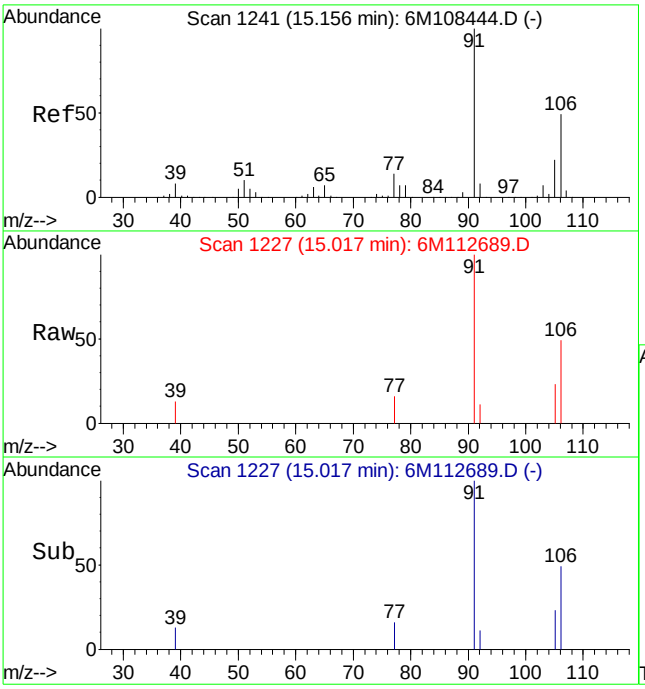


#70
Chlorobenzene
Concen: 1.46 ug/L
RT: 14.85 min Scan# 1211
Delta R.T. 0.00 min
Lab File: 6M112689.D
Acq: 14 Nov 2012 22:32

Tgt Ion:112 Resp: 16491

Ion	Ratio	Lower	Upper
112	100		
77	55.7	35.8	83.4

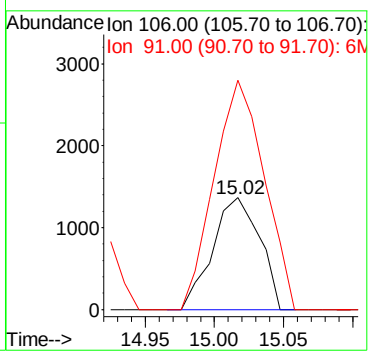


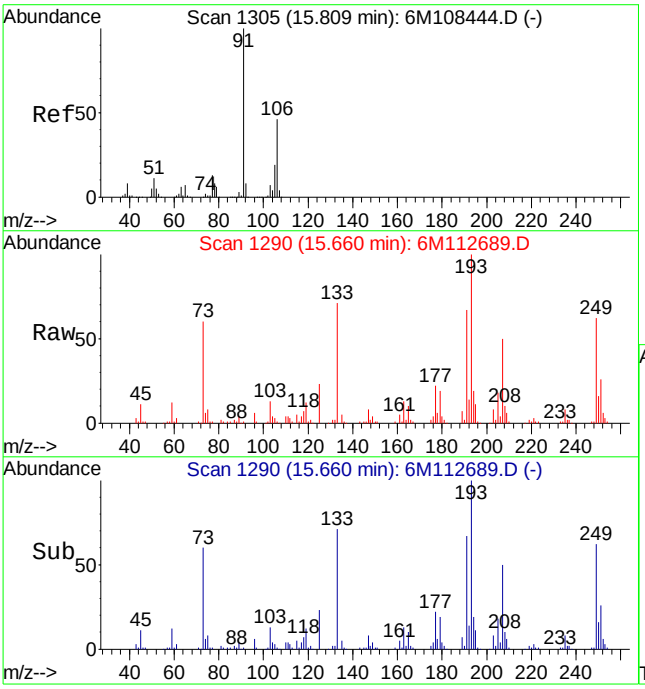


#73
m-,p-Xylene
Concen: 0.43 ug/L
RT: 15.02 min Scan# 1227
Delta R.T. 0.00 min
Lab File: 6M112689.D
Acq: 14 Nov 2012 22:32

Tgt Ion:106 Resp: 3223

Ion	Ratio	Lower	Upper
106	100		
91	218.4	120.5	281.1

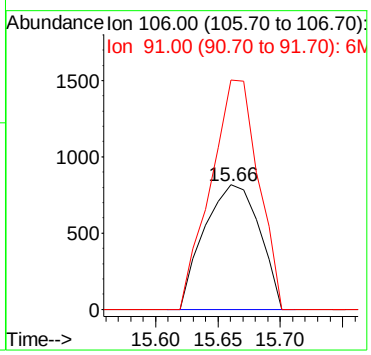


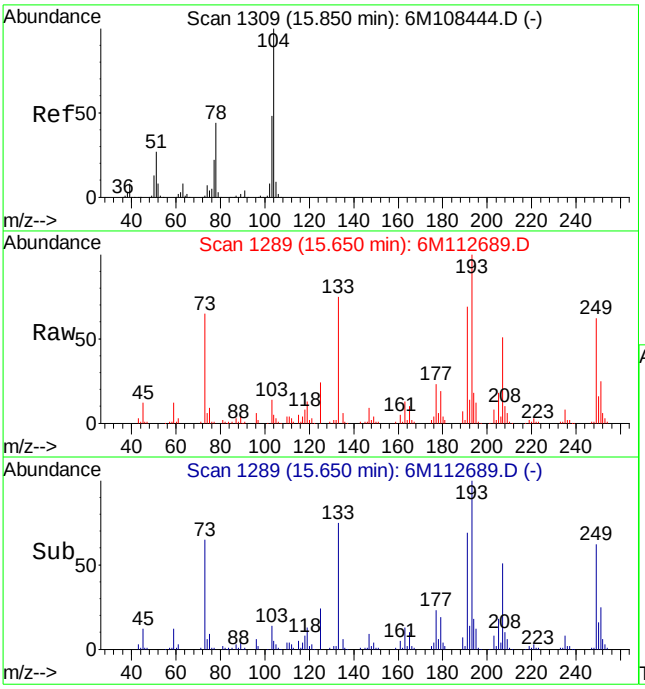


#74
o-Xylene
Concen: 0.36 ug/L
RT: 15.66 min Scan# 1290
Delta R.T. -0.01 min
Lab File: 6M112689.D
Acq: 14 Nov 2012 22:32

Tgt Ion:106 Resp: 2518

Ion	Ratio	Lower	Upper
106	100		
91	159.5	126.8	296.0

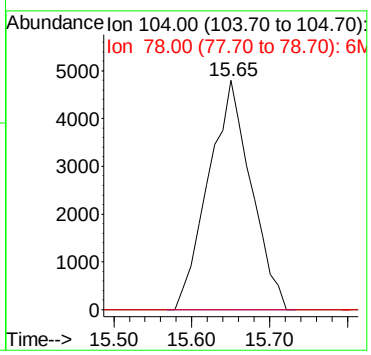


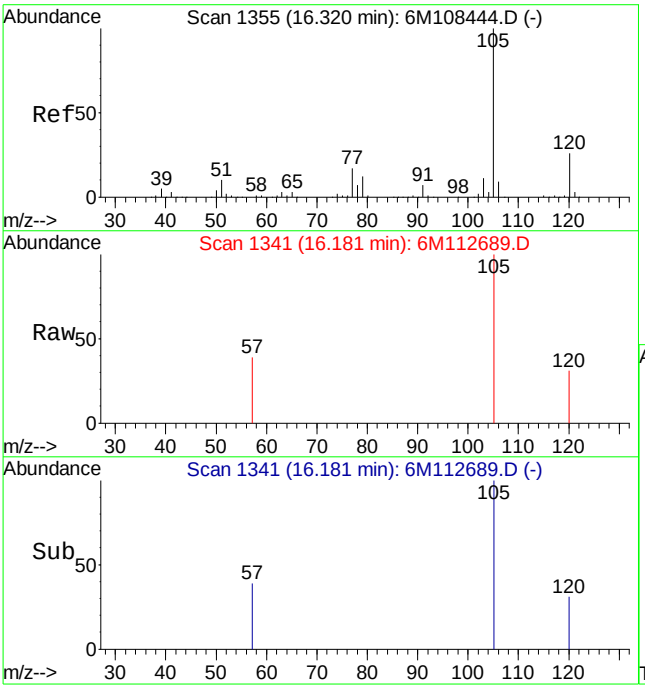


#75
Styrene
Concen: 1.57 ug/L
RT: 15.65 min Scan# 1289
Delta R.T. -0.07 min
Lab File: 6M112689.D
Acq: 14 Nov 2012 22:32

Tgt Ion:104 Resp: 18299

Ion	Ratio	Lower	Upper
104	100		
78	0.0	30.0	70.0#

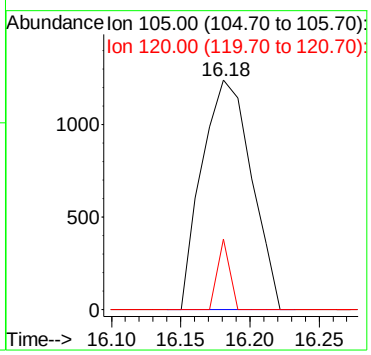




#77
Isopropylbenzene
Concen: 0.18 ug/L
RT: 16.18 min Scan# 1341
Delta R.T. 0.00 min
Lab File: 6M112689.D
Acq: 14 Nov 2012 22:32

Tgt Ion:105 Resp: 3084

Ion	Ratio	Lower	Upper
105	100		
120	7.5	16.1	37.7#



LSC Area Percent Report

Data File : C:\MSDCHEM\1\DATA\111412\6M112689.D Vial: 23
Acq On : 14 Nov 2012 22:32 Operator: FJB
Sample : L12110393-01 10X A 826-SPE Inst : HPMS6
Misc : 1,10 foamy/cloudy/sulfur odor Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:OVLMSV01 011/12/12 - HPMS6
Smoothing : ON Filtering: 5
Sampling : 1 Min Area: 100 Area counts
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

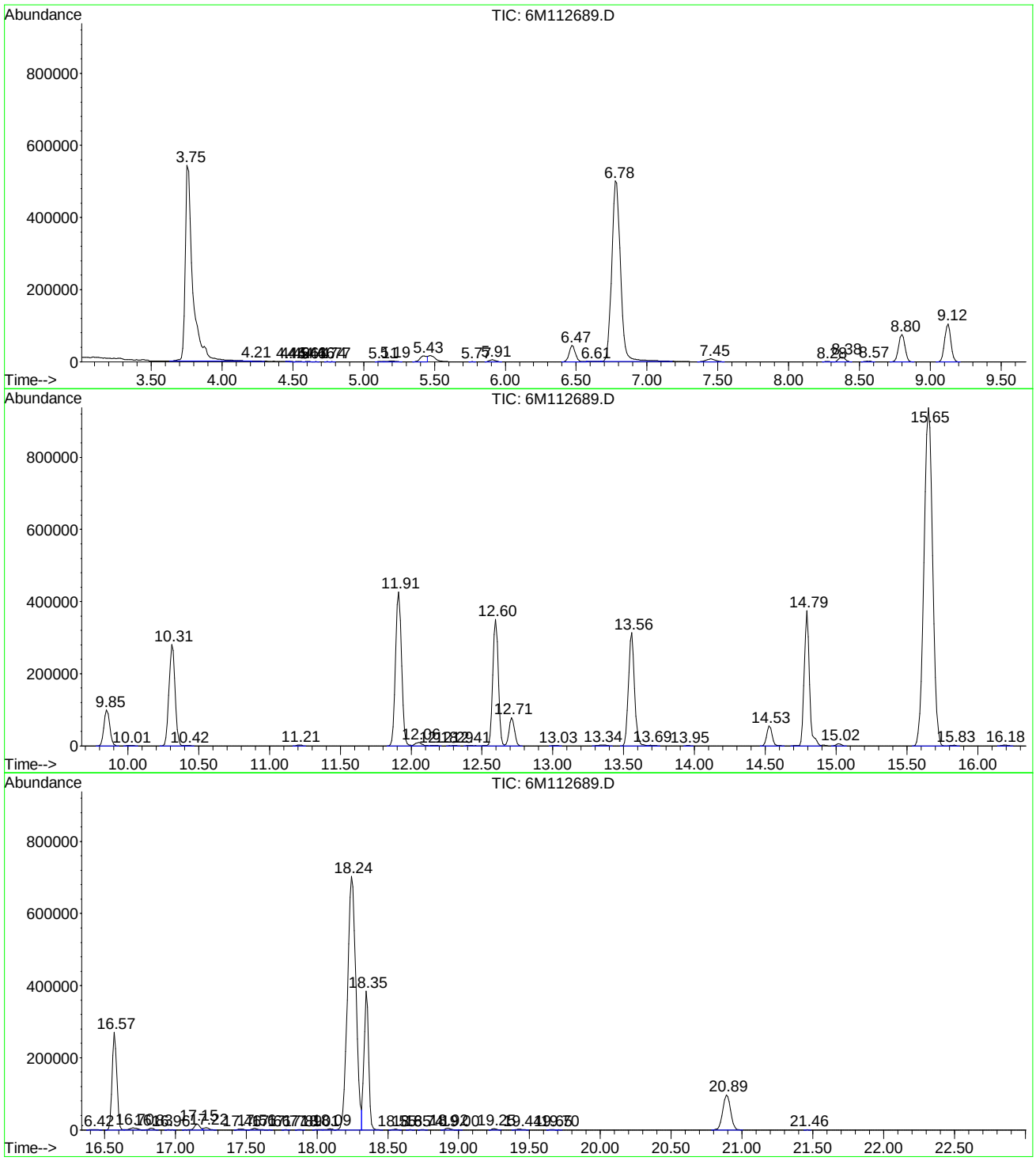
Signal : TIC

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	3.754	112	124	168	rVV	542915	1972245	49.76%	10.111%
2	4.213	168	169	177	rVB3	887	3021	0.08%	0.015%
3	4.458	192	193	195	rBV3	330	229	0.01%	0.001%
4	4.489	195	196	198	rVB3	1033	835	0.02%	0.004%
5	4.540	198	201	204	rBB3	963	1403	0.04%	0.007%
6	4.611	205	208	211	rBB	336	787	0.02%	0.004%
7	4.662	212	213	215	rBB	339	208	0.01%	0.001%
8	4.744	219	221	223	rBB	348	213	0.01%	0.001%
9	4.775	223	224	226	rBB	355	217	0.01%	0.001%
10	5.112	254	257	260	rBV	825	2060	0.05%	0.011%
11	5.193	260	265	272	rVB2	2462	8175	0.21%	0.042%
12	5.428	280	288	290	rBV	15950	55321	1.40%	0.284%
13	5.765	319	321	323	rBB	301	184	0.00%	0.001%
14	5.908	330	335	341	rBB2	5287	15105	0.38%	0.077%
15	6.470	383	390	400	rBV	45488	135903	3.43%	0.697%
16	6.613	400	404	410	rVV	872	2828	0.07%	0.014%
17	6.776	410	420	459	rBV	500916	2161007	54.53%	11.079%
18	7.450	477	486	495	rBB	7860	34123	0.86%	0.175%
19	8.277	563	567	570	rBB	453	896	0.02%	0.005%
20	8.379	571	577	583	rBB	12657	41064	1.04%	0.211%
21	8.573	590	596	599	rBB	1422	3255	0.08%	0.017%
22	8.798	610	618	626	rBB	75751	234453	5.92%	1.202%
23	9.125	642	650	658	rBB	105305	317442	8.01%	1.627%
24	9.850	714	721	729	rBB	99865	279609	7.05%	1.433%
25	10.013	733	737	742	rBB	907	1951	0.05%	0.010%
26	10.309	758	766	775	rBV	280998	836595	21.11%	4.289%
27	10.422	775	777	781	rVB	1202	2655	0.07%	0.014%
28	11.208	850	854	858	rBB	1995	4627	0.12%	0.024%
29	11.913	915	923	932	rBV	427084	1257480	31.73%	6.447%
30	12.056	932	937	944	rVB2	9555	29894	0.75%	0.153%
31	12.178	944	949	952	rBB	891	2109	0.05%	0.011%
32	12.290	956	960	965	rBB	517	1418	0.04%	0.007%
33	12.413	968	972	978	rBB	425	1383	0.03%	0.007%
34	12.597	979	990	996	rBV	350606	941386	23.75%	4.826%
35	12.709	996	1001	1008	rVB	78038	204310	5.16%	1.047%
36	13.026	1027	1032	1035	rBB	1242	2222	0.06%	0.011%
37	13.342	1057	1063	1070	rBB2	1887	7703	0.19%	0.039%
38	13.557	1076	1084	1095	rBV	313895	927989	23.41%	4.758%
39	13.689	1095	1097	1103	rVB2	1442	3064	0.08%	0.016%
40	13.955	1120	1123	1126	rBB	355	611	0.02%	0.003%
41	14.527	1173	1179	1189	rBB	55515	140604	3.55%	0.721%
42	14.792	1194	1205	1215	rBV	374337	953584	24.06%	4.889%

43	15.017	1222	1227	1232	rBB	5954	13202	0.33%	0.068%
44	15.650	1278	1289	1301	rBB	938596	3963284	100.00%	20.319%
45	15.834	1302	1307	1310	rBB	1563	2699	0.07%	0.014%
46	16.181	1337	1341	1347	rBB2	2105	5379	0.14%	0.028%
47	16.416	1360	1364	1370	rBB	1109	3186	0.08%	0.016%
48	16.569	1373	1379	1386	rBV	271237	620035	15.64%	3.179%
49	16.702	1386	1392	1399	rVB2	5448	19501	0.49%	0.100%
50	16.834	1400	1405	1409	rBB	4470	10797	0.27%	0.055%
51	16.957	1414	1417	1421	rBB	377	629	0.02%	0.003%
52	17.151	1426	1436	1440	rBV	16255	43297	1.09%	0.222%
53	17.223	1440	1443	1449	rVB2	5787	14448	0.36%	0.074%
54	17.457	1462	1466	1471	rBB2	2383	5418	0.14%	0.028%
55	17.560	1472	1476	1484	rBB	4780	13027	0.33%	0.067%
56	17.662	1485	1486	1488	rBB	300	184	0.00%	0.001%
57	17.774	1495	1497	1500	rBB	629	610	0.02%	0.003%
58	17.886	1504	1508	1510	rBB	329	574	0.01%	0.003%
59	18.009	1516	1520	1523	rBV	762	2007	0.05%	0.010%
60	18.090	1523	1528	1531	rVB3	3418	6796	0.17%	0.035%
61	18.244	1532	1543	1550	rBV	703151	2928022	73.88%	15.011%
62	18.346	1550	1553	1564	rVB	385362	860408	21.71%	4.411%
63	18.550	1569	1573	1577	rBB	2238	4253	0.11%	0.022%
64	18.652	1581	1583	1586	rBB	722	684	0.02%	0.004%
65	18.744	1589	1592	1595	rBB	1032	1263	0.03%	0.006%
66	18.918	1605	1609	1615	rBB2	5081	11193	0.28%	0.057%
67	18.999	1616	1617	1619	rBB2	301	184	0.00%	0.001%
68	19.255	1638	1642	1646	rBB	3452	6825	0.17%	0.035%
69	19.438	1654	1660	1665	rBB2	1668	5668	0.14%	0.029%
70	19.653	1678	1681	1685	rBB	1035	1607	0.04%	0.008%
71	19.704	1685	1686	1688	rBB	311	191	0.00%	0.001%
72	20.888	1792	1802	1813	rBB	96486	369801	9.33%	1.896%
73	21.460	1856	1858	1860	rBB	623	382	0.01%	0.002%

Sum of corrected areas: 19505722

File : C:\MSDCHEM\1\DATA\111412\6M112689.D
Operator : FJB
Acquired : 14 Nov 2012 22:32 using AcqMethod 8260WTR
Instrument : HPMS6
Sample Name: L12110393-01 10X A 826-SPE
Misc Info : 1,10 foamy/cloudy/sulfur odor
Vial Number: 23
Quant File :8260WTR.RES (RTE Integrator)



Data File : C:\MSDCHEM\1\DATA\111412\6M112689.D Vial: 23
Acq On : 14 Nov 2012 22:32 Operator: FJB
Sample : L12110393-01 10X A 826-SPE Inst : HPMS6
Misc : 1,10 foamy/cloudy/sulfur odor Multiplr: 1.00
MS Integration Params: RTEINT.P

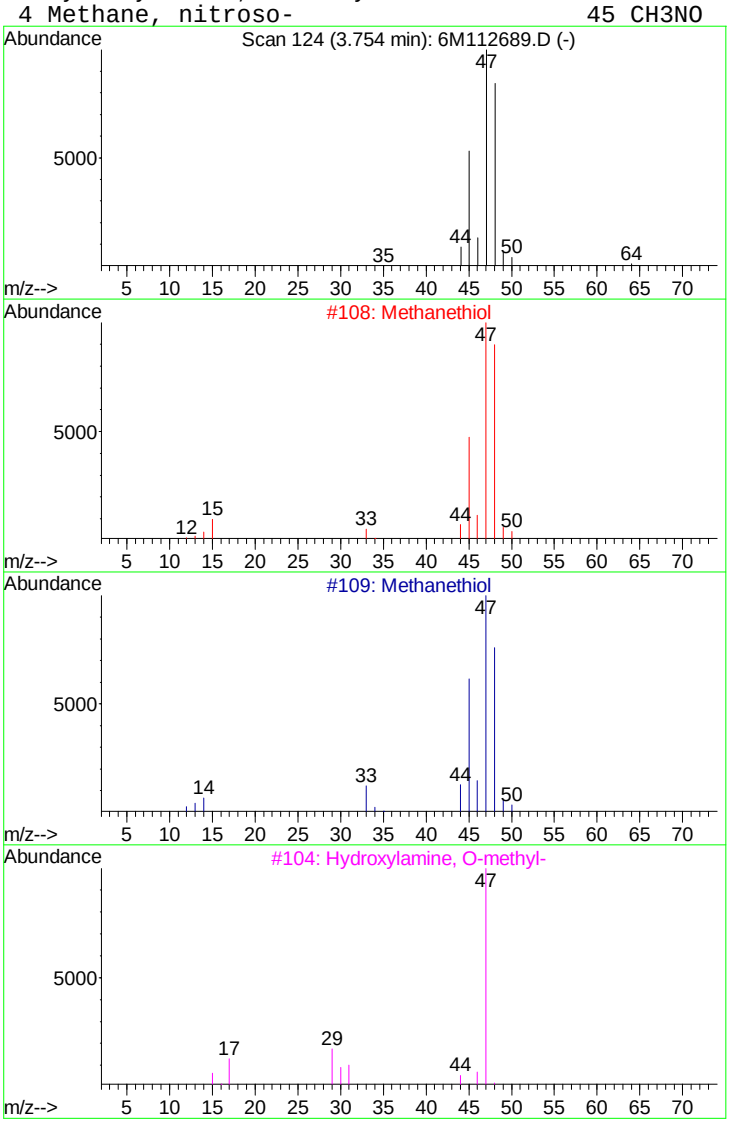
Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:OVLMSV01 011/12/12 - HPMS6
Library : C:\DATABASE\NIST02.L

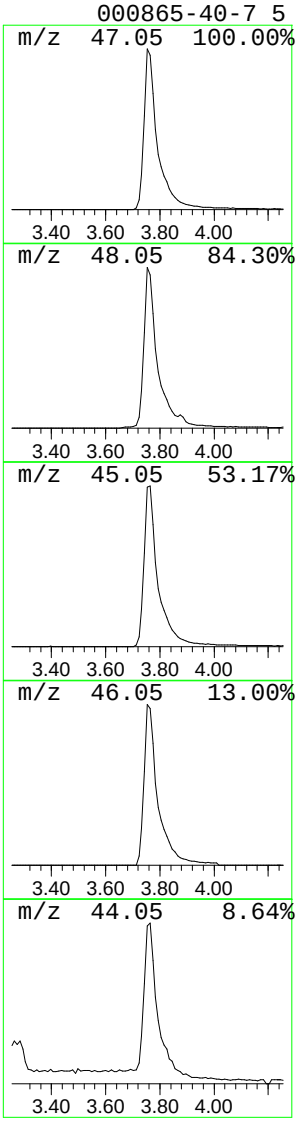
****

Peak Number 1 Methanethiol Concentration Rank 4

R.T.	EstConc	Area	Relative to ISTD	R.T.
3.75	58.94 ug/L	1972250	Fluorobenzene	10.31

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Methanethiol	48	CH4S	000074-93-1	90
2	Methanethiol	48	CH4S	000074-93-1	90
3	Hydroxylamine, O-methyl-	47	CH5NO	000067-62-9	7
4	Methane, nitroso-	45	CH3NO	000865-40-7	5





Data File : C:\MSDCHEM\1\DATA\111412\6M112689.D Vial: 23
Acq On : 14 Nov 2012 22:32 Operator: FJB
Sample : L12110393-01 10X A 826-SPE Inst : HPMS6
Misc : 1,10 foamy/cloudy/sulfur odor Multiplr: 1.00
MS Integration Params: RTEINT.P

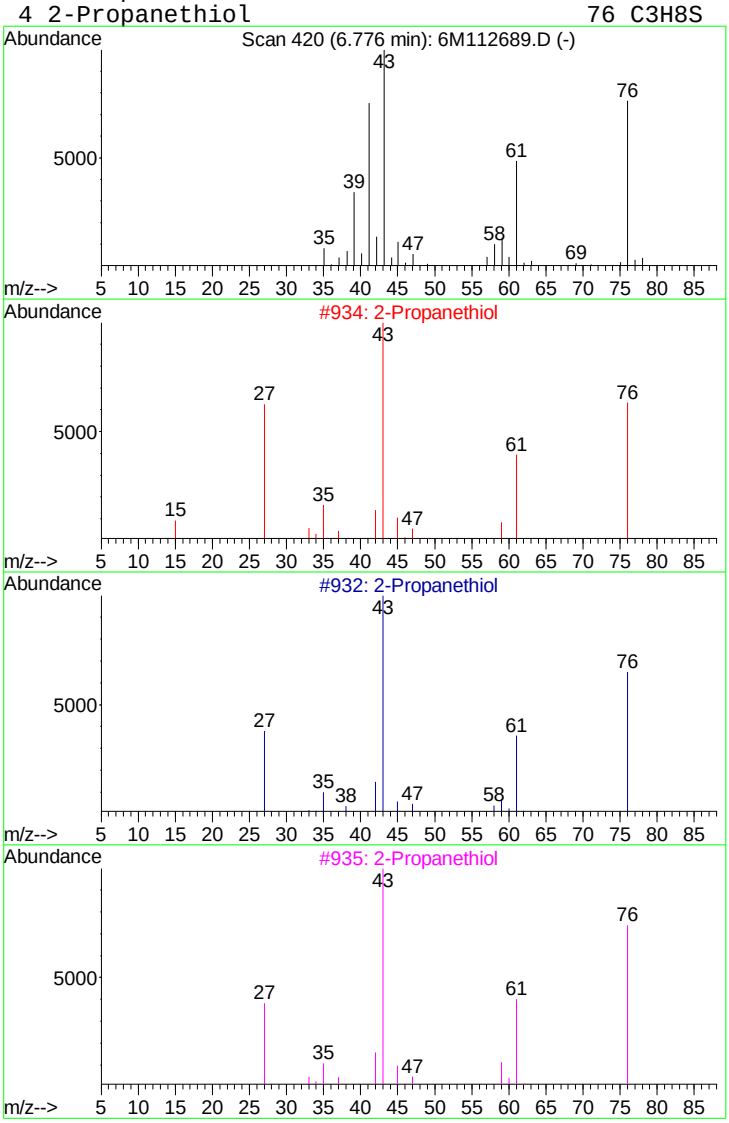
Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:OVLMSV01 011/12/12 - HPMS6
Library : C:\DATABASE\NIST02.L

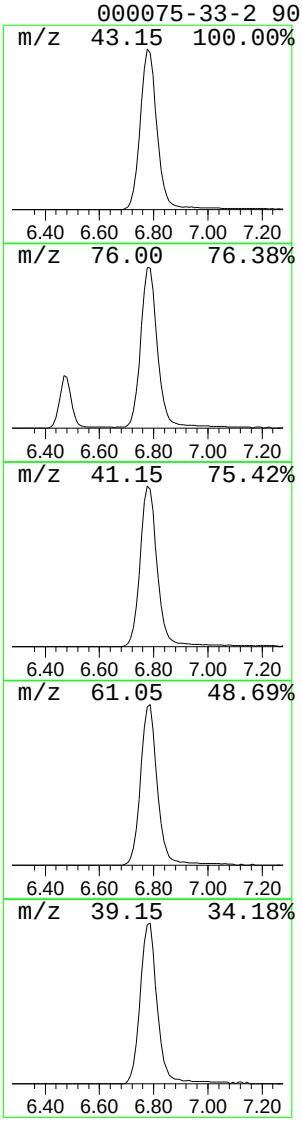
****

Peak Number 2 2-Propanethiol Concentration Rank 3

R.T.	EstConc	Area	Relative to ISTD	R.T.
6.78	64.58 ug/L	2161010	Fluorobenzene	10.31

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	2-Propanethiol	76	C3H8S	000075-33-2	91
2	2-Propanethiol	76	C3H8S	000075-33-2	91
3	2-Propanethiol	76	C3H8S	000075-33-2	90
4	2-Propanethiol	76	C3H8S	000075-33-2	90





Data File : C:\MSDCHEM\1\DATA\111412\6M112689.D Vial: 23
Acq On : 14 Nov 2012 22:32 Operator: FJB
Sample : L12110393-01 10X A 826-SPE Inst : HPMS6
Misc : 1,10 foamy/cloudy/sulfur odor Multiplr: 1.00
MS Integration Params: RTEINT.P

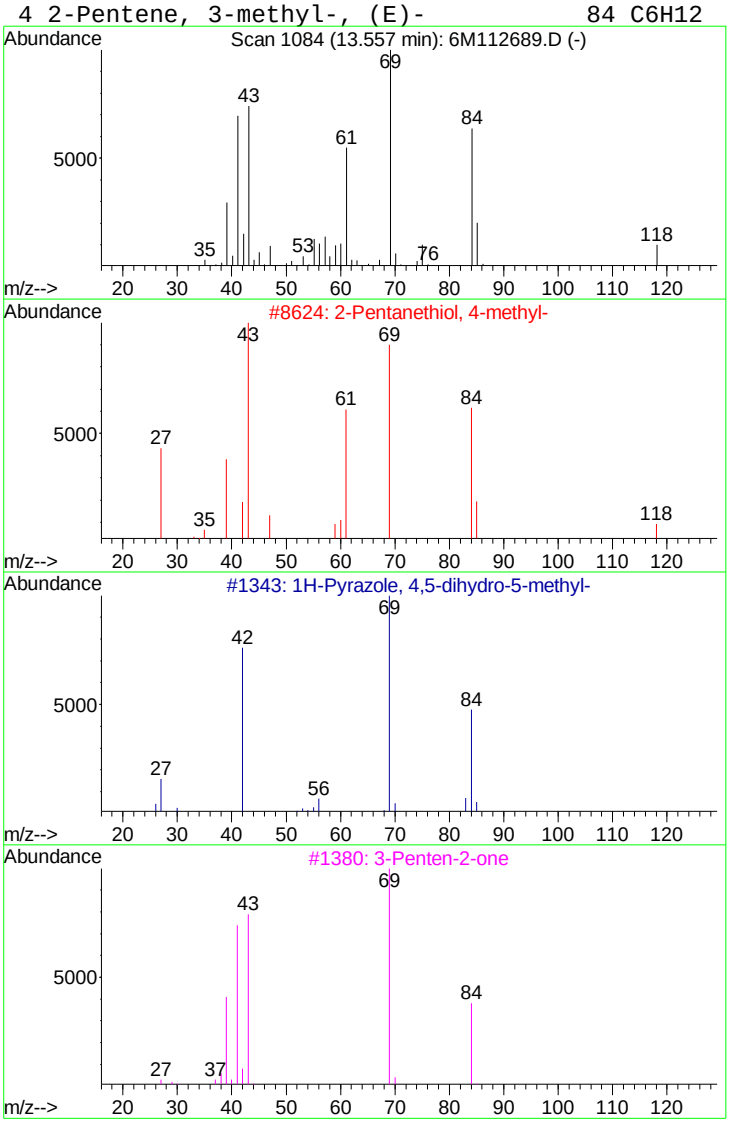
Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:OVLMSV01 011/12/12 - HPMS6
Library : C:\DATABASE\NIST02.L

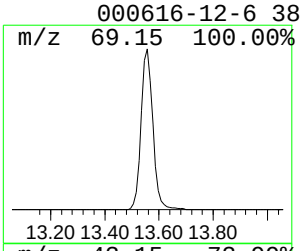
****

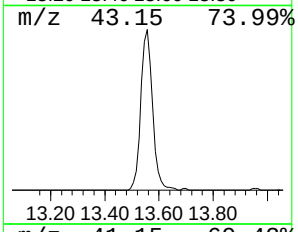
Peak Number 3 2-Pentanethiol, 4-methyl- Concentration Rank 5

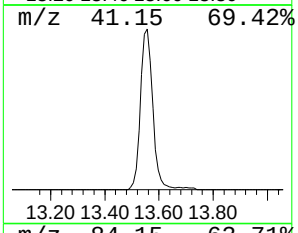
R.T.	EstConc	Area	Relative to ISTD	R.T.
13.56	24.33 ug/L	927989	Chlorobenzene-d5	14.79

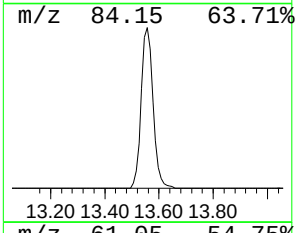
Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	2-Pentanethiol, 4-methyl-	118	C6H14S	001639-05-0	83
2	1H-Pyrazole, 4,5-dihydro-5-methyl-	84	C4H8N2	001568-20-3	43
3	3-Penten-2-one	84	C5H8O	000625-33-2	38
4	2-Pentene, 3-methyl-, (E)-	84	C6H12	000616-12-6	38

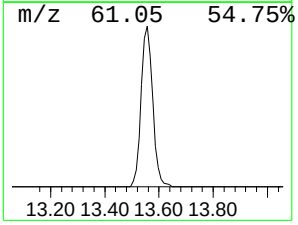












Data File : C:\MSDCHEM\1\DATA\111412\6M112689.D Vial: 23
Acq On : 14 Nov 2012 22:32 Operator: FJB
Sample : L12110393-01 10X A 826-SPE Inst : HPMS6
Misc : 1,10 foamy/cloudy/sulfur odor Multiplr: 1.00
MS Integration Params: RTEINT.P

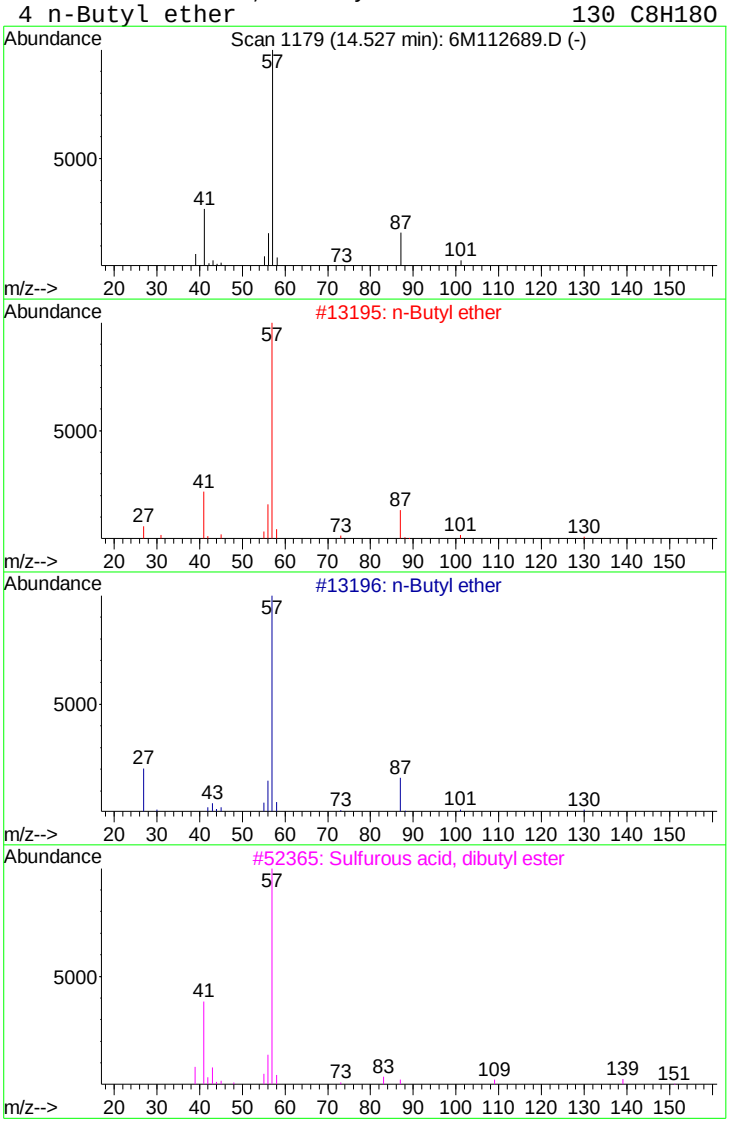
Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:OVLMSV01 011/12/12 - HPMS6
Library : C:\DATABASE\NIST02.L

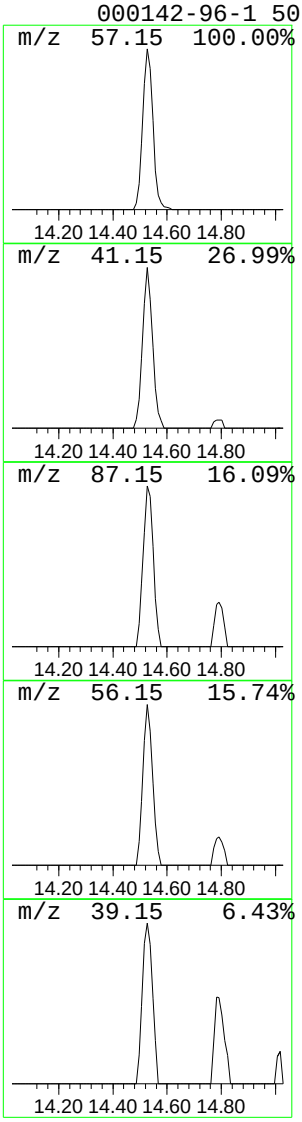
****

Peak Number 4 n-Butyl ether Concentration Rank 7

R.T.	EstConc	Area	Relative to ISTD	R.T.
14.53	3.69 ug/L	140604	Chlorobenzene-d5	14.79

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	n-Butyl ether	130	C8H18O	000142-96-1	78
2	n-Butyl ether	130	C8H18O	000142-96-1	78
3	Sulfurous acid, dibutyl ester	194	C8H18O3S	000626-85-7	59
4	n-Butyl ether	130	C8H18O	000142-96-1	50





Data File : C:\MSDCHEM\1\DATA\111412\6M112689.D Vial: 23
Acq On : 14 Nov 2012 22:32 Operator: FJB
Sample : L12110393-01 10X A 826-SPE Inst : HPMS6
Misc : 1,10 foamy/cloudy/sulfur odor Multiplr: 1.00
MS Integration Params: RTEINT.P

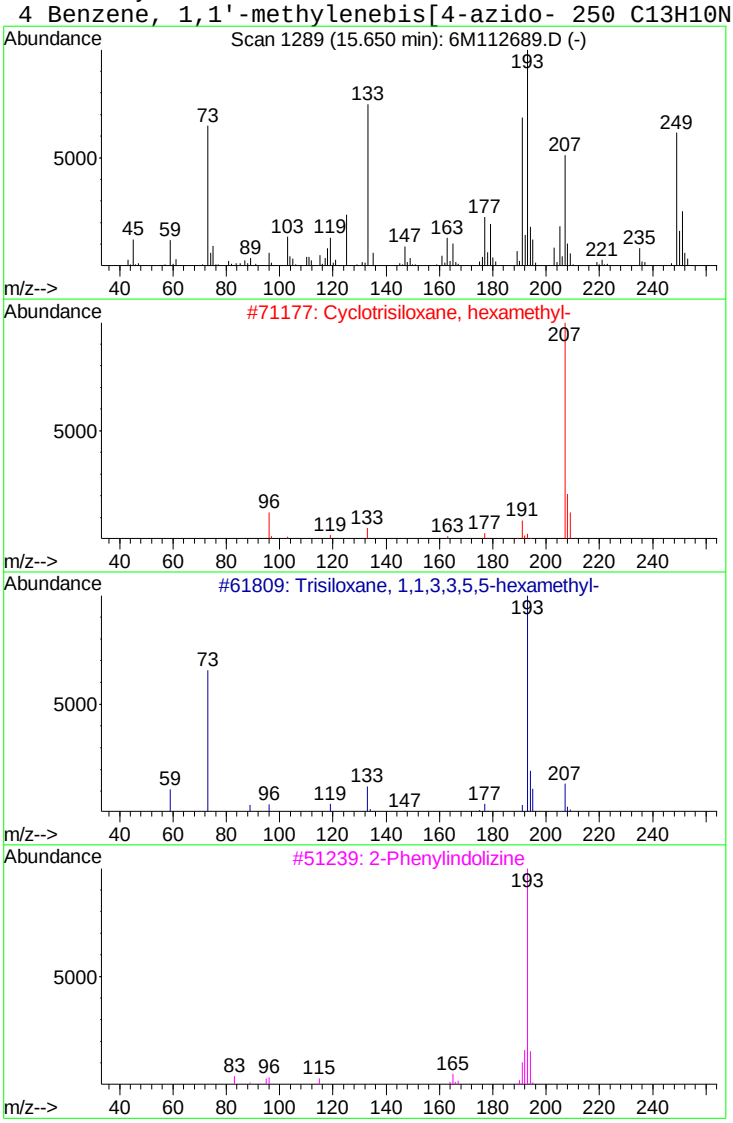
Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:OVLMSV01 011/12/12 - HPMS6
Library : C:\DATABASE\NIST02.L

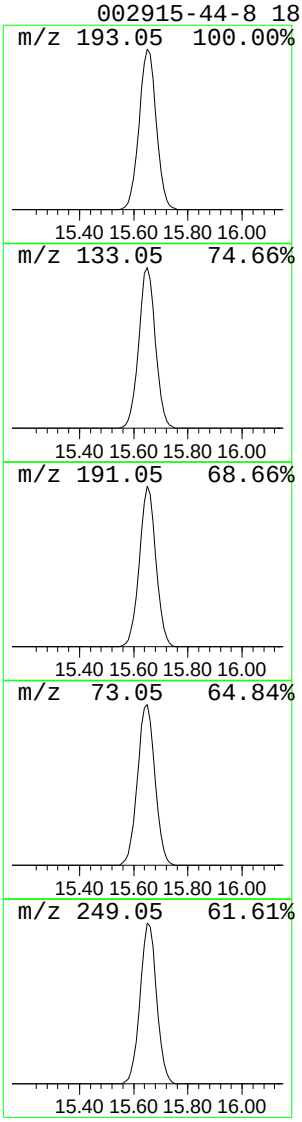
****

Peak Number 5 Cyclotrisiloxane, hexamethyl- Concentration Rank 1

R.T.	EstConc	Area	Relative to ISTD	R.T.
15.65	103.91 ug/L	3963280	Chlorobenzene-d5	14.79

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Cyclotrisiloxane, hexamethyl-	222	C6H18O3Si3	000541-05-9	22
2	Trisiloxane, 1,1,3,3,5,5-hexamet...	208	C6H20O2Si3	001189-93-1	22
3	2-Phenylindolizine	193	C14H11N	025379-20-8	18
4	Benzene, 1,1'-methylenebis[4-azido-	250	C13H10N6	002915-44-8	18





Data File : C:\MSDCHEM\1\DATA\111412\6M112689.D Vial: 23
Acq On : 14 Nov 2012 22:32 Operator: FJB
Sample : L12110393-01 10X A 826-SPE Inst : HPMS6
Misc : 1,10 foamy/cloudy/sulfur odor Multiplr: 1.00
MS Integration Params: RTEINT.P

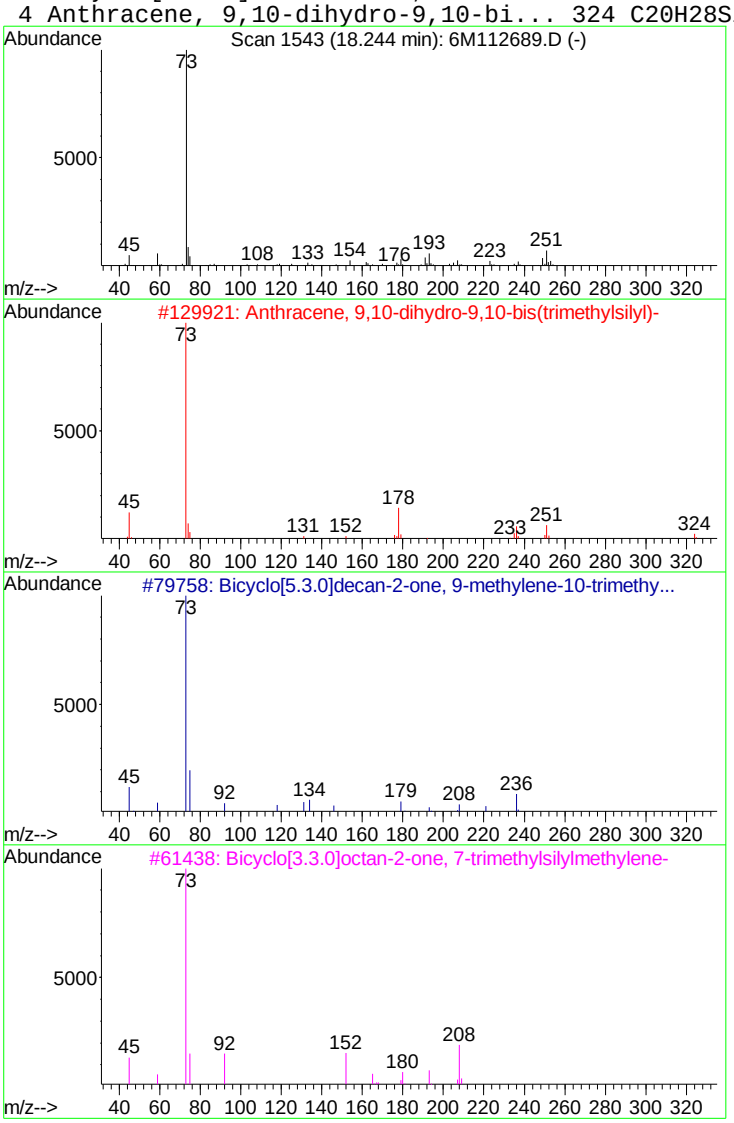
Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:OVLMSV01 011/12/12 - HPMS6
Library : C:\DATABASE\NIST02.L

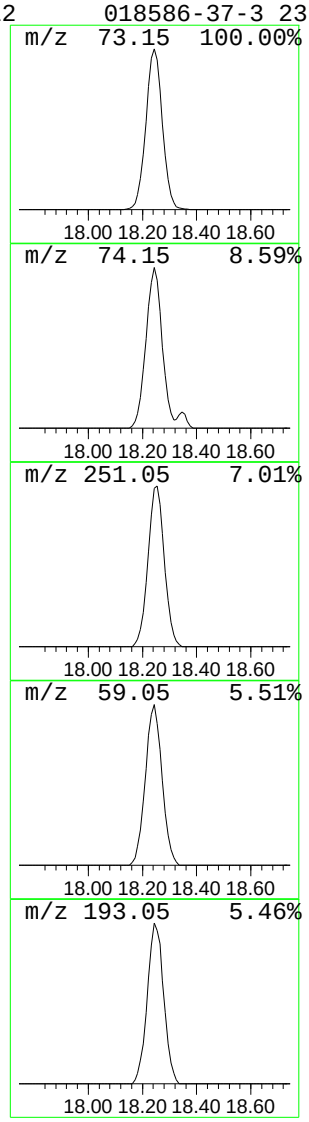
****

Peak Number 6 Anthracene, 9,10-dihydro-9,... Concentration Rank 2

R.T.	EstConc	Area	Relative to ISTD	R.T.
18.24	85.08 ug/L	2928020	1,4-Dichlorobenzene-d4	18.35

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Anthracene, 9,10-dihydro-9,10-bi...	324	C20H28Si2	018586-37-3	37
2	Bicyclo[5.3.0]decan-2-one, 9-met...	236	C14H24OSi	1000153-97-3	33
3	Bicyclo[3.3.0]octan-2-one, 7-tri...	208	C12H20OSi	109613-14-1	28
4	Anthracene, 9,10-dihydro-9,10-bi...	324	C20H28Si2	018586-37-3	23





Data File : C:\MSDCHEM\1\DATA\111412\6M112689.D Vial: 23
Acq On : 14 Nov 2012 22:32 Operator: FJB
Sample : L12110393-01 10X A 826-SPE Inst : HPMS6
Misc : 1,10 foamy/cloudy/sulfur odor Multiplr: 1.00
MS Integration Params: RTEINT.P

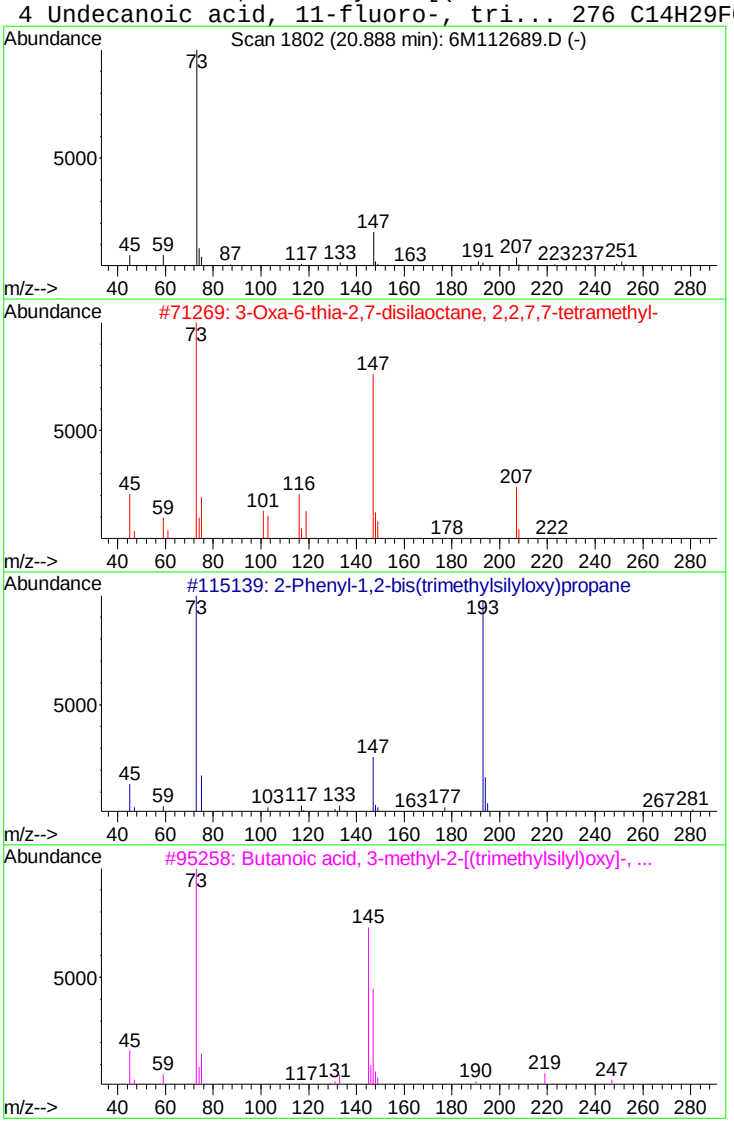
Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:OVLMSV01 011/12/12 - HPMS6
Library : C:\DATABASE\NIST02.L

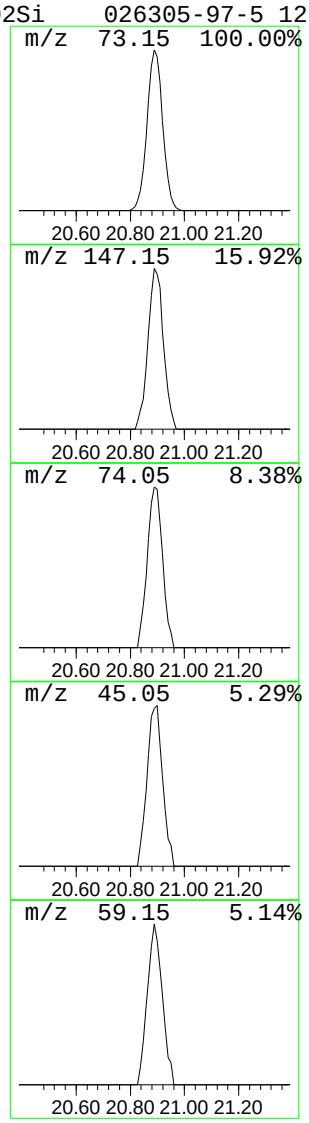
****

Peak Number 7 3-Oxa-6-thia-2,7-disilaocta... Concentration Rank 6

R.T.	EstConc	Area	Relative to ISTD	R.T.
20.89	10.74 ug/L	369801	1,4-Dichlorobenzene-d4	18.35

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	3-Oxa-6-thia-2,7-disilaoctane, 2...	222	C8H22OSSi2	078921-31-0	37
2	2-Phenyl-1,2-bis(trimethylsilylo...	296	C15H28O2Si2	294847-15-7	33
3	Butanoic acid, 3-methyl-2-[(trim...	262	C11H26O3Si2	055124-92-0	28
4	Undecanoic acid, 11-fluoro-, tri...	276	C14H29FO2Si	026305-97-5	12





Tentatively Identified Compound (LSC) summary

Operator ID: FJB Date Acquired: 14 Nov 2012 22:32
Data File: C:\MSDCHEM\1\DATA\111412\6M112689.D
Name: L12110393-01 10X A 826-SPE
Misc: 1,10 foamy/cloudy/sulfur odor
Method: C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title: 8260B/624_WATER SOP:OVLMSV01 011/12/12 - HPMS6
Library Searched: C:\DATABASE\NIST02.L

					Internal Standard			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc
Methanethiol	3.75	58.9	ug/L	1972250	1	10.31	836595	25.0
2-Propanethiol	6.78	64.6	ug/L	2161010	1	10.31	836595	25.0
2-Pentanethiol, 4...	13.56	24.3	ug/L	927989	2	14.79	953584	25.0
n-Butyl ether	14.53	3.7	ug/L	140604	2	14.79	953584	25.0
Cyclotrisiloxane,...	15.65	103.9	ug/L	3963280	2	14.79	953584	25.0
Anthracene, 9,10-...	18.24	85.1	ug/L	2928020	3	18.35	860408	25.0
3-Oxa-6-thia-2,7-...	20.89	10.7	ug/L	369801	3	18.35	860408	25.0

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\111412\6M112690.D Vial: 24
Acq On : 14 Nov 2012 23:02 Operator: FJB
Sample : L12110393-03 10X A 826-SPE Inst : HPMS6
Misc : 1,10 foamy/cloudy/sulfur odor Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 15 09:24:48 2012 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:OVLMSV01 011/12/12 - HPMS6
Last Update : Tue Nov 13 09:04:10 2012
Response via : Initial Calibration
DataAcq Meth : 8260WTR

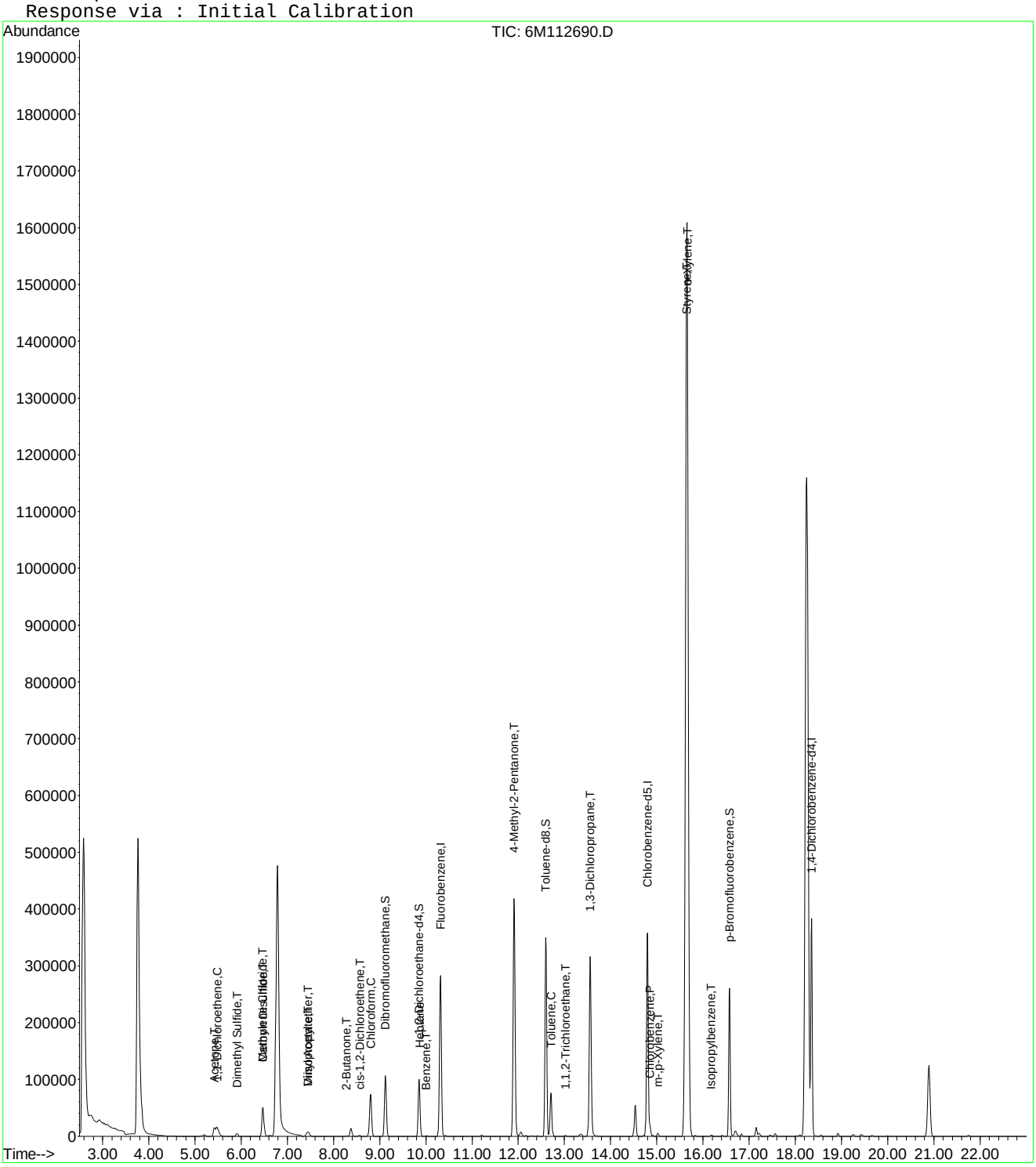
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.32	96	403386	25.00	ug/L	0.00
57) Chlorobenzene-d5	14.80	117	302095	25.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	18.35	152	145396	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.12	111	103682	25.0768	ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 100.32%			
43) 1,2-Dichloroethane-d4	9.85	65	95066	23.9935	ug/L	-0.01
Spiked Amount 25.000	Range 80 - 120		Recovery = 95.96%			
58) Toluene-d8	12.59	98	358588	24.1992	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 96.80%			
80) p-Bromofluorobenzene	16.57	95	129508	24.5680	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 98.28%			
Target Compounds						Qvalue
13) Acetone	5.42	43	34975	65.8428	ug/L	79
14) 1,1-Dichloroethene	5.49	61	3022	0.4584	ug/L #	24
16) Dimethyl Sulfide	5.91	62	4669	0.9467	ug/L	94
19) Methylene Chloride	6.47	84	5729	1.4600	ug/L	99
20) Carbon Disulfide	6.48	76	98923	8.4641	ug/L	99
25) Diisopropyl ether	7.45	45	17593	1.4864	ug/L	97
26) Vinyl Acetate	7.45	43	8086	1.8974	ug/L #	76
29) 2-Butanone	8.27	43	939	1.1947	ug/L #	54
32) cis-1,2-Dichloroethene	8.57	96	1102	0.2558	ug/L	73
33) Chloroform	8.80	83	88750	12.5667	ug/L	99
44) Heptane	9.87	57	6168	34.6411	ug/L #	1
46) Benzene	10.01	78	2066	0.1333	ug/L #	59
54) 4-Methyl-2-Pentanone	11.91	58	198235	275.2300	ug/L	98
59) Toluene	12.71	91	86993	5.0877	ug/L	100
63) 1,1,2-Trichloroethane	13.02	97	1359	0.7428	ug/L #	12
65) 1,3-Dichloropropane	13.55	76	971	0.2244	ug/L #	1
70) Chlorobenzene	14.85	112	16745	1.4613	ug/L	95
73) m-,p-Xylene	15.02	106	3248	0.4271	ug/L	98
74) o-Xylene	15.67	106	4539	0.6343	ug/L #	34
75) Styrene	15.65	104	32035	2.7137	ug/L #	27
77) Isopropylbenzene	16.18	105	3090	0.1789	ug/L #	74

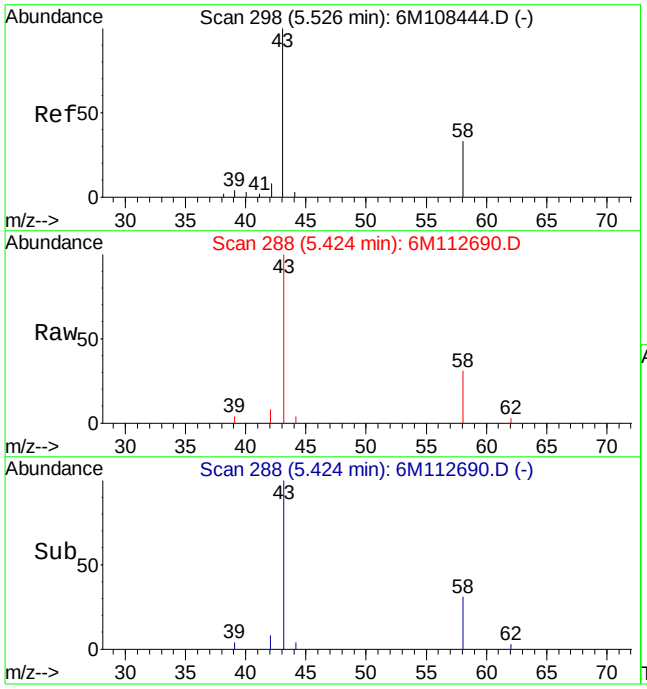
(#) = qualifier out of range (m) = manual integration
6M112690.D 8260WTR.M Thu Nov 15 09:24:49 2012 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\111412\6M112690.D Vial: 24
Acq On : 14 Nov 2012 23:02 Operator: FJB
Sample : L12110393-03 10X A 826-SPE Inst : HPMS6
Misc : 1,10 foamy/cloudy/sulfur odor Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 15 9:24 2012 Quant Results File: 8260WTR.RES

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:OVLMSV01 011/12/12 - HPMS6
Last Update : Tue Nov 13 09:04:10 2012
Response via : Initial Calibration

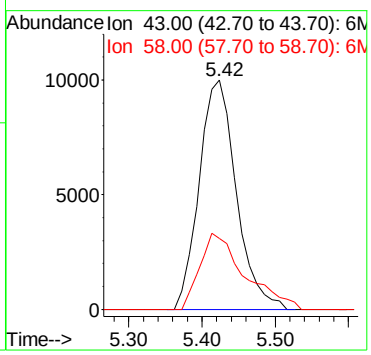


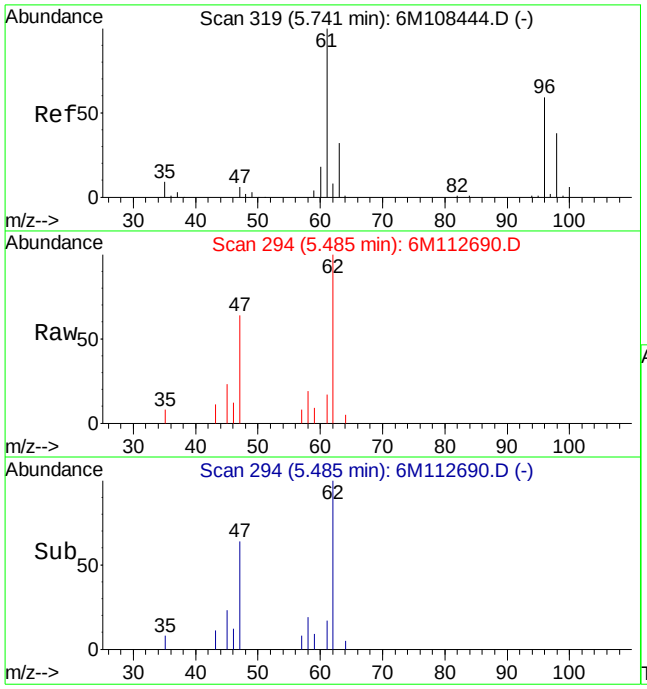


#13
Acetone
Concen: 65.84 ug/L
RT: 5.42 min Scan# 288
Delta R.T. -0.00 min
Lab File: 6M112690.D
Acq: 14 Nov 2012 23:02

Tgt Ion: 43 Resp: 34975

Ion	Ratio	Lower	Upper
43	100		
58	40.1	17.3	40.5

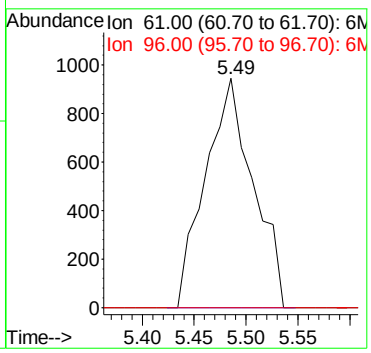


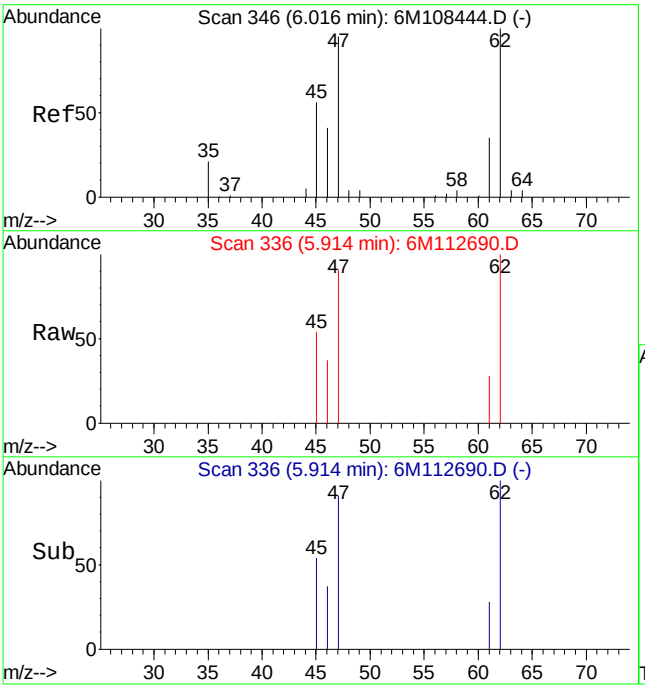


#14
1,1-Dichloroethene
Concen: 0.46 ug/L
RT: 5.49 min Scan# 294
Delta R.T. -0.15 min
Lab File: 6M112690.D
Acq: 14 Nov 2012 23:02

Tgt Ion: 61 Resp: 3022

Ion	Ratio	Lower	Upper
61	100		
96	0.0	32.7	76.3#

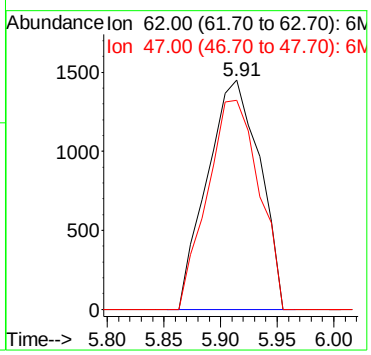


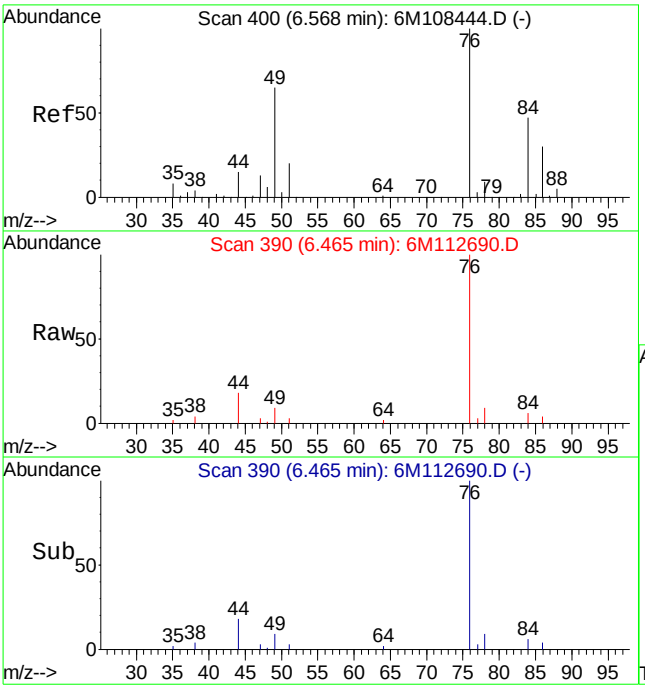


#16
Dimethyl Sulfide
Concen: 0.95 ug/L
RT: 5.91 min Scan# 336
Delta R.T. -0.00 min
Lab File: 6M112690.D
Acq: 14 Nov 2012 23:02

Tgt Ion: 62 Resp: 4669

Ion	Ratio	Lower	Upper
62	100		
47	90.0	57.8	134.8

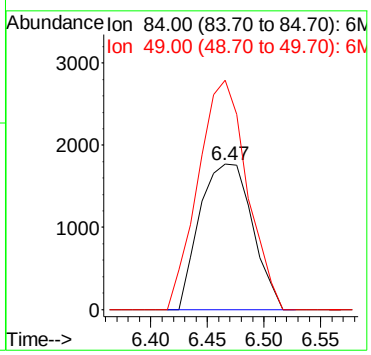


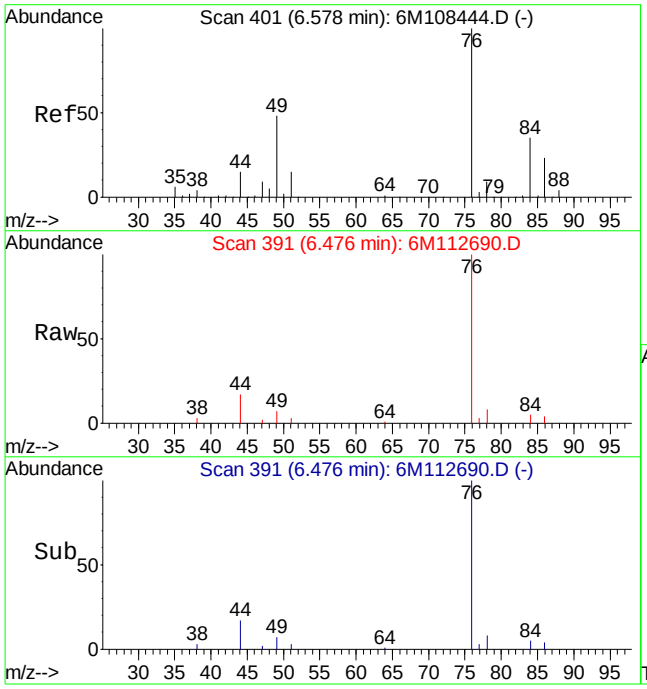


#19
Methylene Chloride
Concen: 1.46 ug/L
RT: 6.47 min Scan# 390
Delta R.T. -0.00 min
Lab File: 6M112690.D
Acq: 14 Nov 2012 23:02

Tgt Ion: 84 Resp: 5729

Ion	Ratio	Lower	Upper
84	100		
49	146.6	88.6	206.8

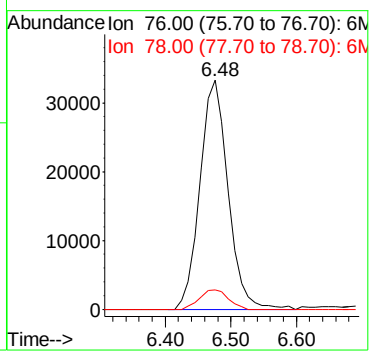


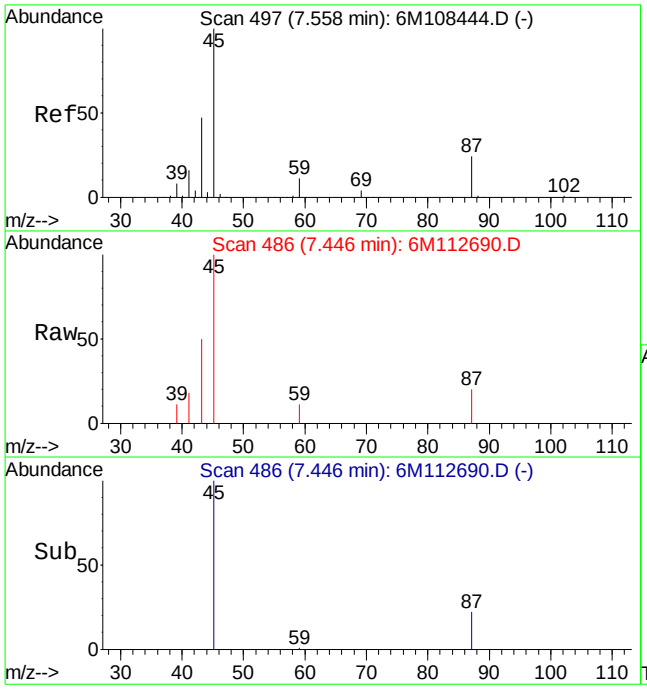


#20
Carbon Disulfide
Concen: 8.46 ug/L
RT: 6.48 min Scan# 391
Delta R.T. -0.00 min
Lab File: 6M112690.D
Acq: 14 Nov 2012 23:02

Tgt Ion: 76 Resp: 98923

Ion	Ratio	Lower	Upper
76	100		
78	8.7	5.3	12.5

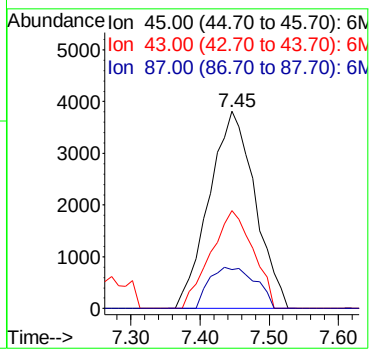


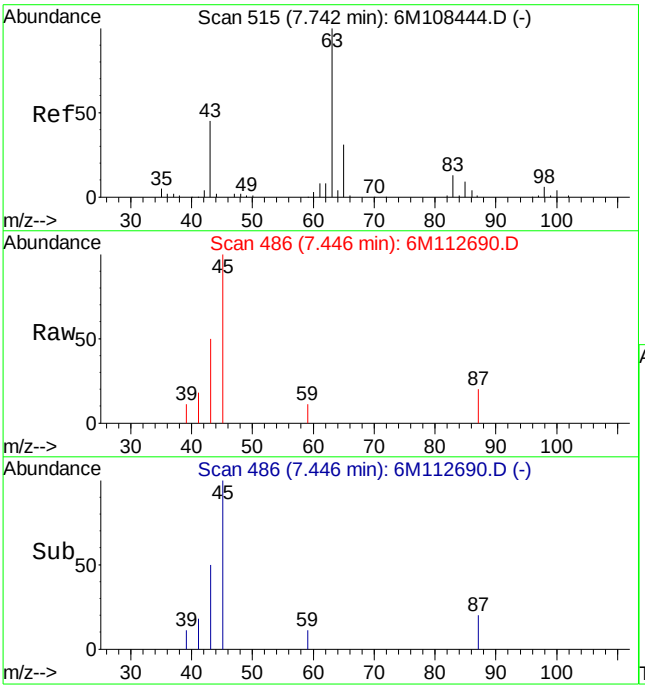


#25
Diisopropyl ether
Concen: 1.49 ug/L
RT: 7.45 min Scan# 486
Delta R.T. -0.00 min
Lab File: 6M112690.D
Acq: 14 Nov 2012 23:02

Tgt Ion: 45 Resp: 17593

Ion	Ratio	Lower	Upper
45	100		
43	46.0	28.1	65.5
87	21.0	14.2	33.2

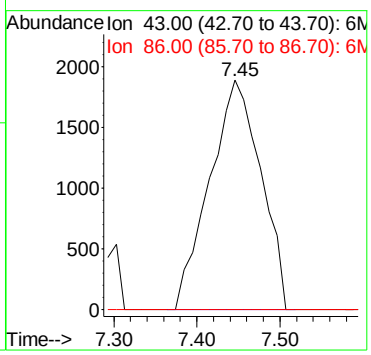


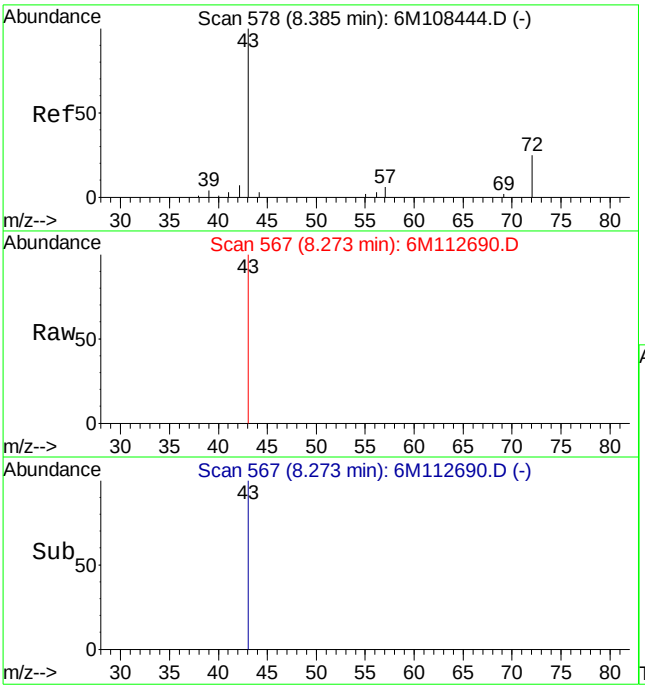


#26
Vinyl Acetate
Concen: 1.90 ug/L
RT: 7.45 min Scan# 486
Delta R.T. -0.19 min
Lab File: 6M112690.D
Acq: 14 Nov 2012 23:02

Tgt Ion: 43 Resp: 8086

Ion	Ratio	Lower	Upper
43	100		
86	0.0	5.3	12.3#

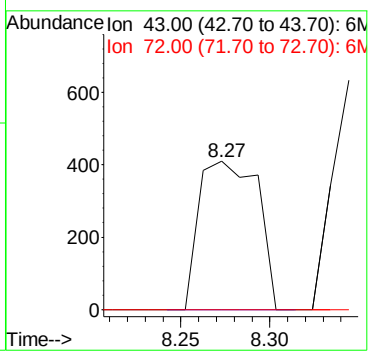


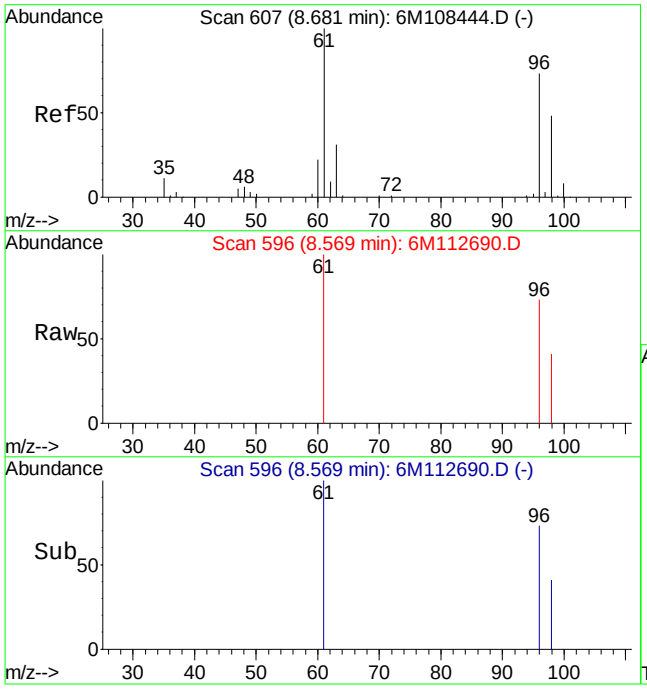


#29
2-Butanone
Concen: 1.19 ug/L
RT: 8.27 min Scan# 567
Delta R.T. 0.01 min
Lab File: 6M112690.D
Acq: 14 Nov 2012 23:02

Tgt Ion: 43 Resp: 939

Ion	Ratio	Lower	Upper
43	100		
72	0.0	12.9	30.1#

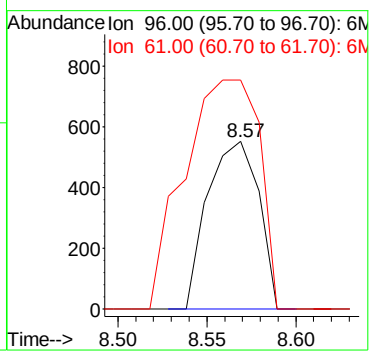


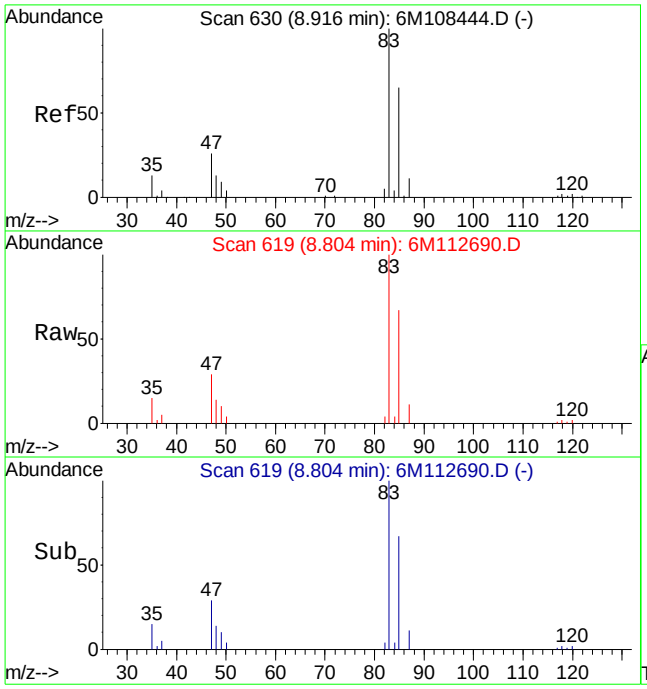


#32
cis-1,2-Dichloroethene
Concen: 0.26 ug/L
RT: 8.57 min Scan# 596
Delta R.T. -0.00 min
Lab File: 6M112690.D
Acq: 14 Nov 2012 23:02

Tgt Ion: 96 Resp: 1102

Ion	Ratio	Lower	Upper
96	100		
61	201.3	98.8	230.4

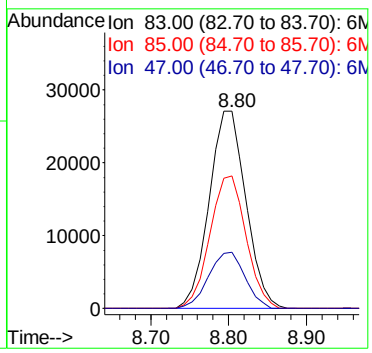


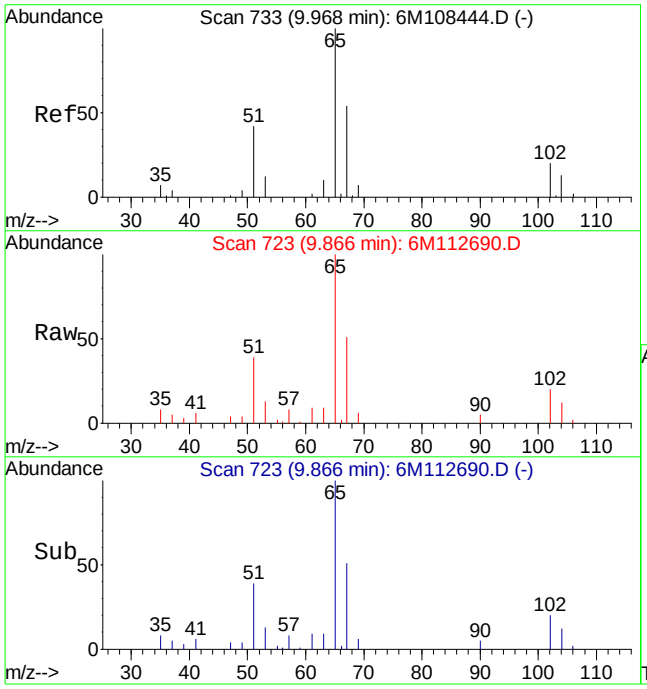


#33
Chloroform
Concen: 12.57 ug/L
RT: 8.80 min Scan# 619
Delta R.T. -0.00 min
Lab File: 6M112690.D
Acq: 14 Nov 2012 23:02

Tgt Ion: 83 Resp: 88750

Ion	Ratio	Lower	Upper
83	100		
85	66.1	39.1	91.1
47	28.5	16.9	39.5

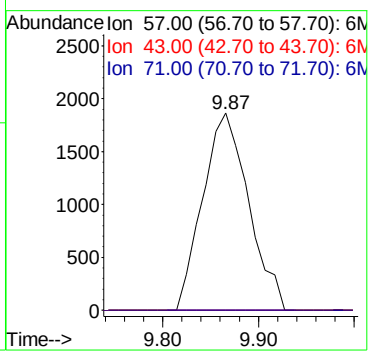


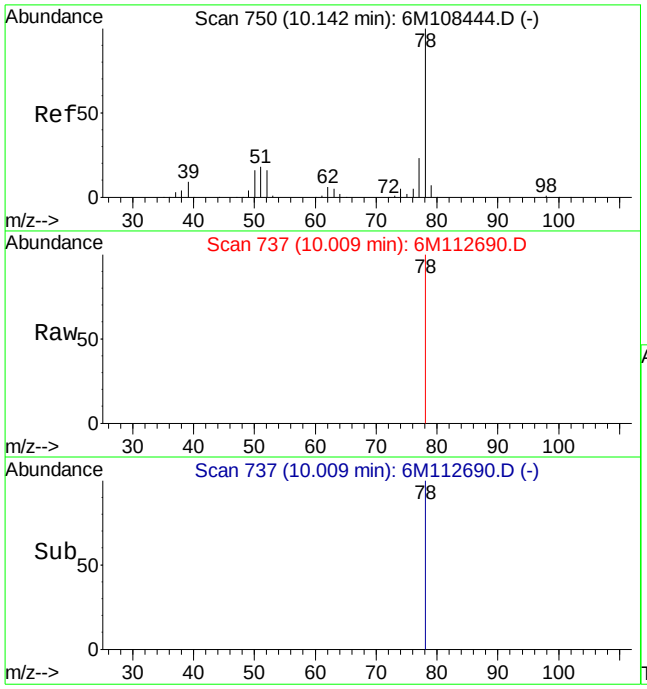


#44
Heptane
Concen: 34.64 ug/L
RT: 9.87 min Scan# 723
Delta R.T. 0.09 min
Lab File: 6M112690.D
Acq: 14 Nov 2012 23:02

Tgt Ion: 57 Resp: 6168

Ion	Ratio	Lower	Upper
57	100		
43	0.0	1074.4	2507.0#
71	0.0	309.8	722.8#

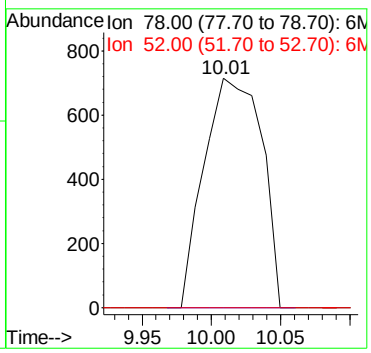


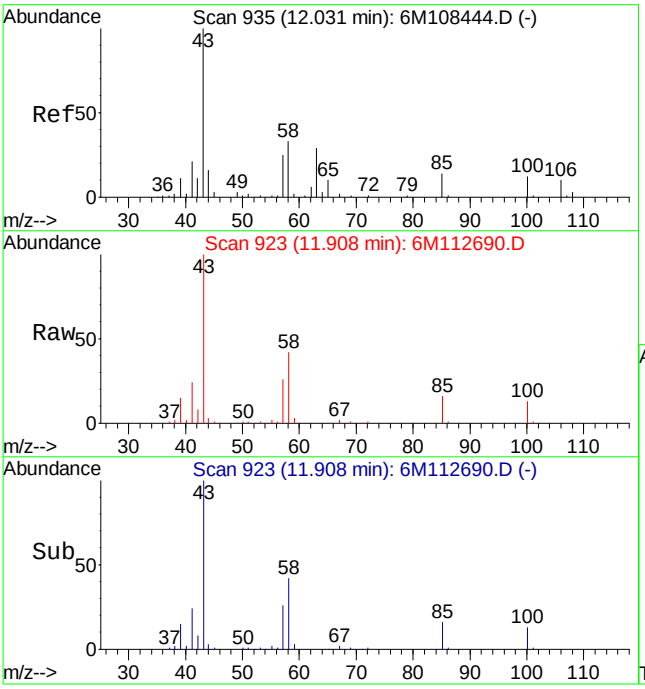


#46
Benzene
Concen: 0.13 ug/L
RT: 10.01 min Scan# 737
Delta R.T. -0.01 min
Lab File: 6M112690.D
Acq: 14 Nov 2012 23:02

Tgt Ion: 78 Resp: 2066

Ion	Ratio	Lower	Upper
78	100		
52	0.0	11.1	25.9#

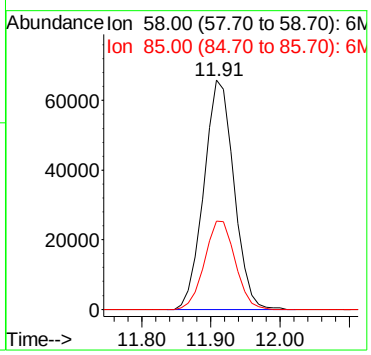


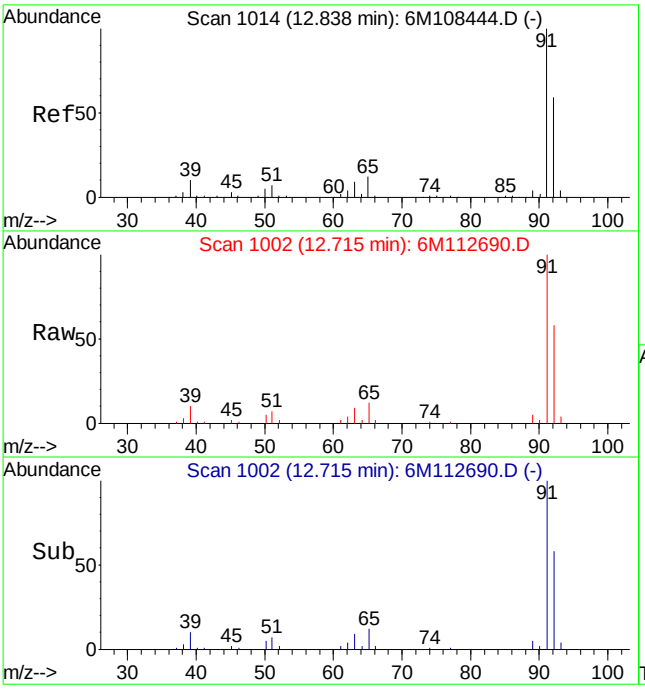


#54
4-Methyl-2-Pentanone
Concen: 275.23 ug/L
RT: 11.91 min Scan# 923
Delta R.T. -0.01 min
Lab File: 6M112690.D
Acq: 14 Nov 2012 23:02

Tgt Ion: 58 Resp: 198235

Ion	Ratio	Lower	Upper
58	100		
85	39.1	22.6	52.6

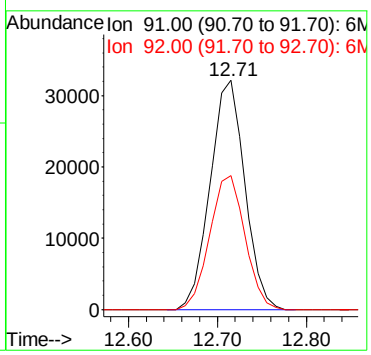


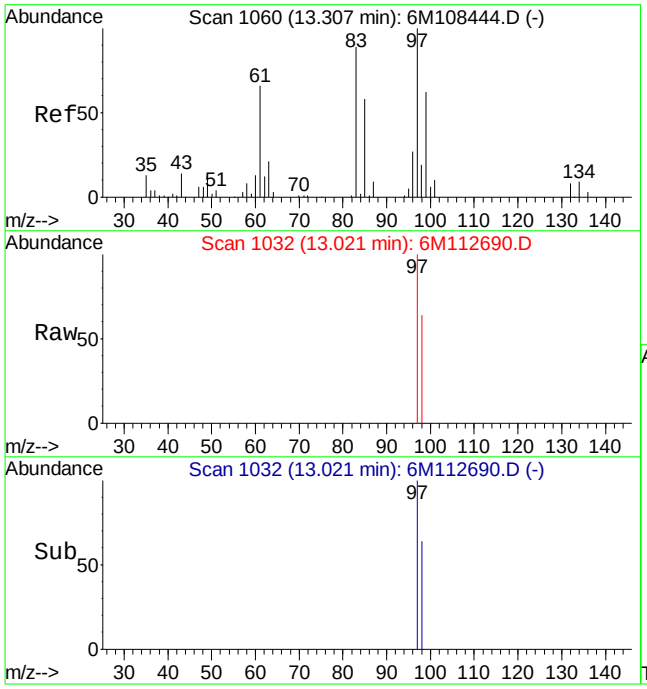


#59
Toluene
Concen: 5.09 ug/L
RT: 12.71 min Scan# 1002
Delta R.T. -0.00 min
Lab File: 6M112690.D
Acq: 14 Nov 2012 23:02

Tgt Ion: 91 Resp: 86993

Ion	Ratio	Lower	Upper
91	100		
92	59.4	35.7	83.3

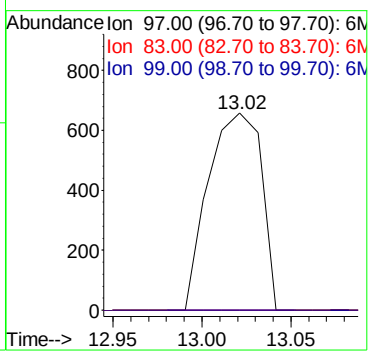


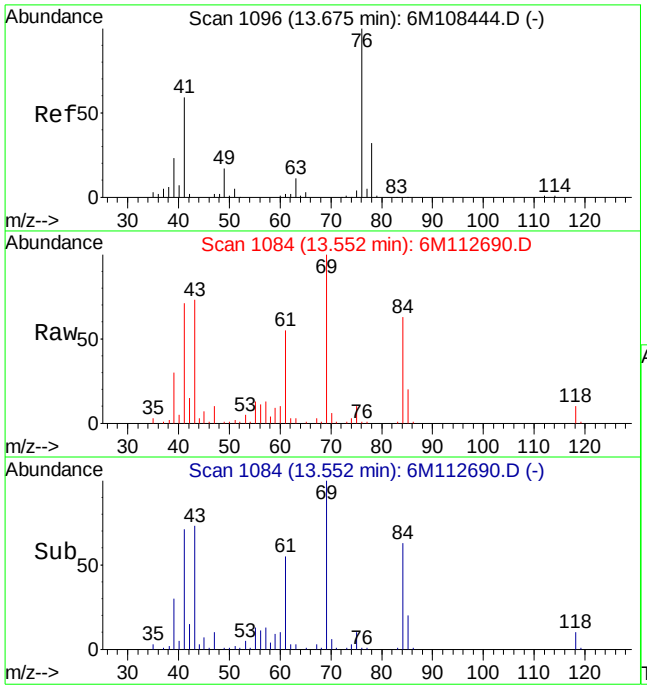


#63
1,1,2-Trichloroethane
Concen: 0.74 ug/L
RT: 13.02 min Scan# 1032
Delta R.T. -0.16 min
Lab File: 6M112690.D
Acq: 14 Nov 2012 23:02

Tgt Ion: 97 Resp: 1359

Ion	Ratio	Lower	Upper
97	100		
83	0.0	50.3	117.5#
99	0.0	37.3	87.1#

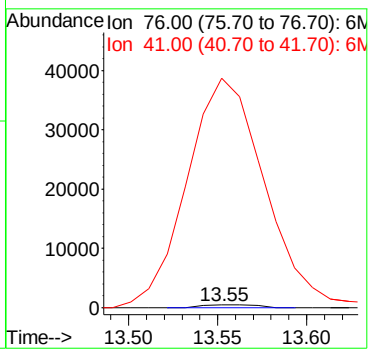


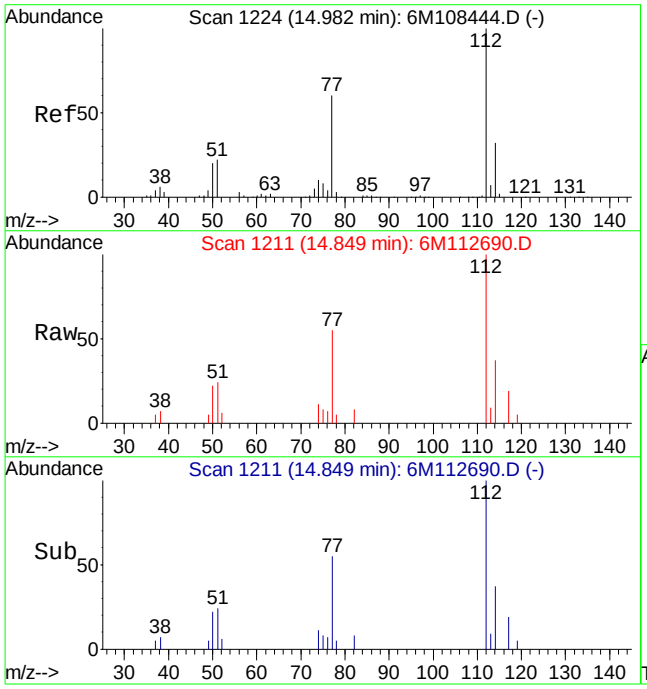


#65
1,3-Dichloropropane
Concen: 0.22 ug/L
RT: 13.55 min Scan# 1084
Delta R.T. 0.01 min
Lab File: 6M112690.D
Acq: 14 Nov 2012 23:02

Tgt Ion: 76 Resp: 971

Ion	Ratio	Lower	Upper
76	100		
41	12421.2	40.1	93.5#

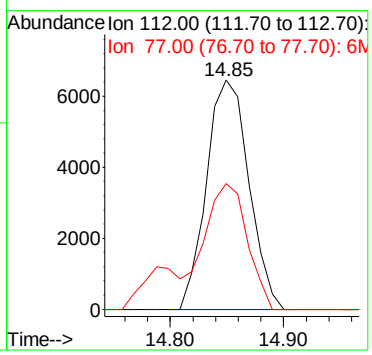


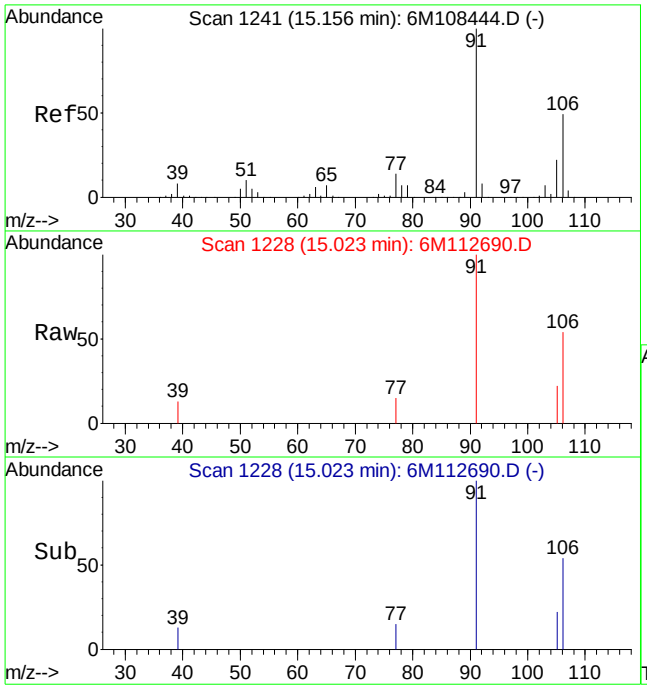


#70
Chlorobenzene
Concen: 1.46 ug/L
RT: 14.85 min Scan# 1211
Delta R.T. -0.00 min
Lab File: 6M112690.D
Acq: 14 Nov 2012 23:02

Tgt Ion:112 Resp: 16745

Ion	Ratio	Lower	Upper
112	100		
77	55.7	35.8	83.4

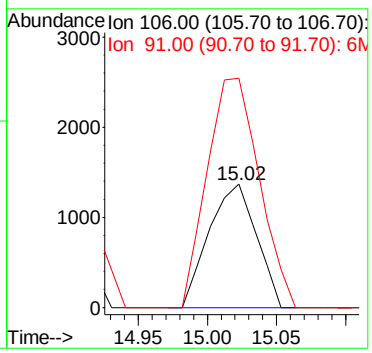


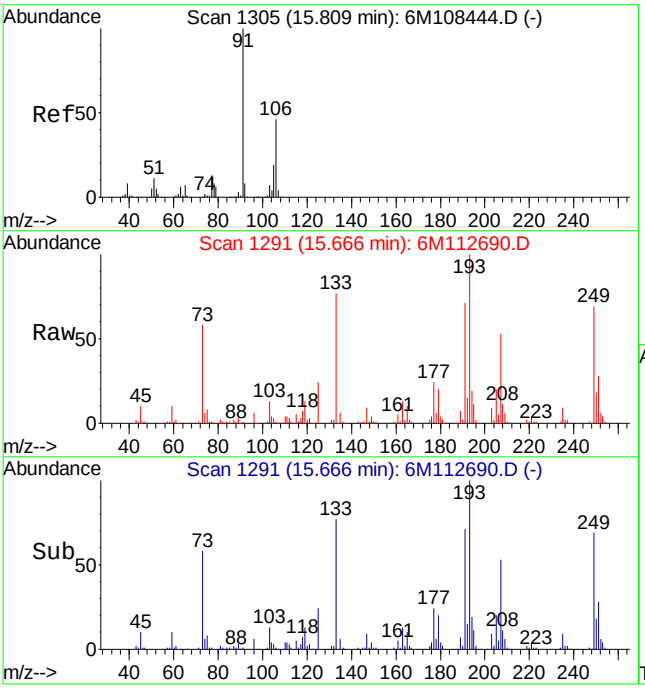


#73
m-,p-Xylene
Concen: 0.43 ug/L
RT: 15.02 min Scan# 1228
Delta R.T. 0.01 min
Lab File: 6M112690.D
Acq: 14 Nov 2012 23:02

Tgt Ion:106 Resp: 3248

Ion	Ratio	Lower	Upper
106	100		
91	204.3	120.5	281.1

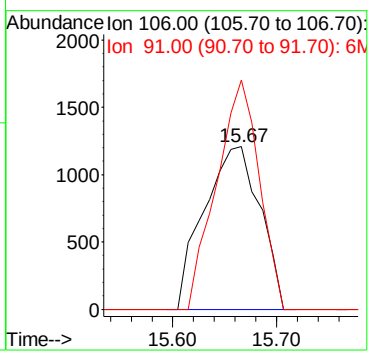


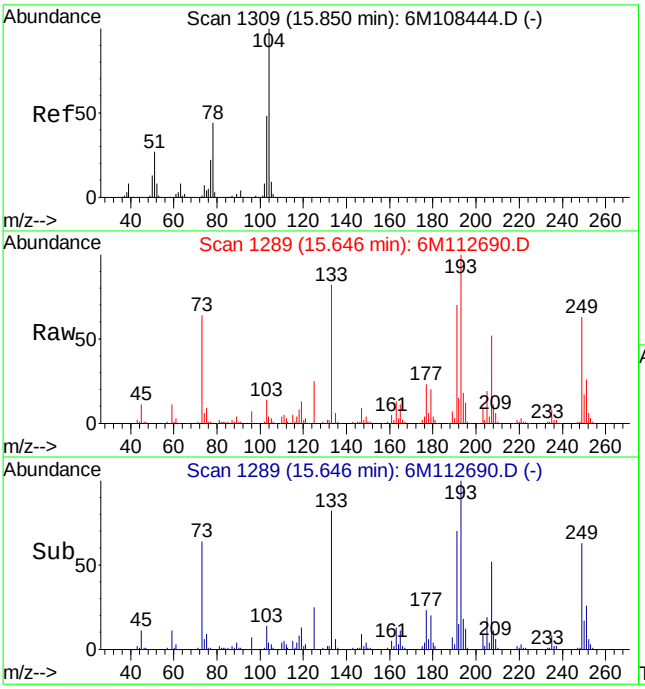


#74
o-Xylene
Concen: 0.63 ug/L
RT: 15.67 min Scan# 1291
Delta R.T. -0.00 min
Lab File: 6M112690.D
Acq: 14 Nov 2012 23:02

Tgt Ion:106 Resp: 4539

Ion	Ratio	Lower	Upper
106	100		
91	107.3	126.8	296.0#

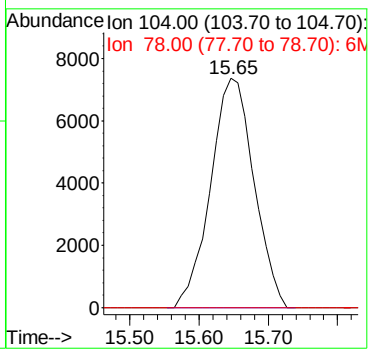


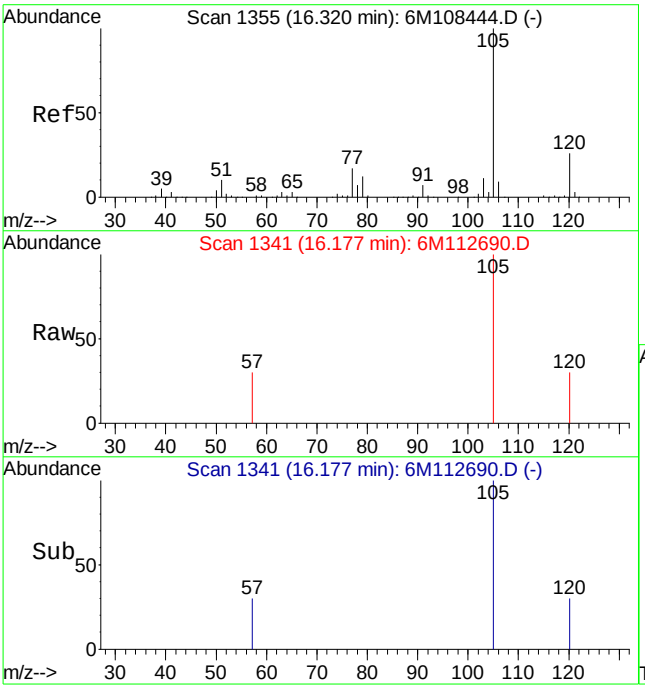


#75
Styrene
Concen: 2.71 ug/L
RT: 15.65 min Scan# 1289
Delta R.T. -0.07 min
Lab File: 6M112690.D
Acq: 14 Nov 2012 23:02

Tgt Ion:104 Resp: 32035

Ion	Ratio	Lower	Upper
104	100		
78	0.0	30.0	70.0#

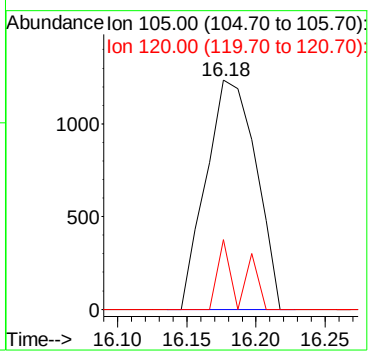




#77
Isopropylbenzene
Concen: 0.18 ug/L
RT: 16.18 min Scan# 1341
Delta R.T. -0.00 min
Lab File: 6M112690.D
Acq: 14 Nov 2012 23:02

Tgt Ion:105 Resp: 3090

Ion	Ratio	Lower	Upper
105	100		
120	13.4	16.1	37.7#



LSC Area Percent Report

Data File : C:\MSDCHEM\1\DATA\111412\6M112690.D Vial: 24
Acq On : 14 Nov 2012 23:02 Operator: FJB
Sample : L12110393-03 10X A 826-SPE Inst : HPMS6
Misc : 1,10 foamy/cloudy/sulfur odor Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:OVLMSV01 011/12/12 - HPMS6
Smoothing : ON Filtering: 5
Sampling : 1 Min Area: 100 Area counts
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

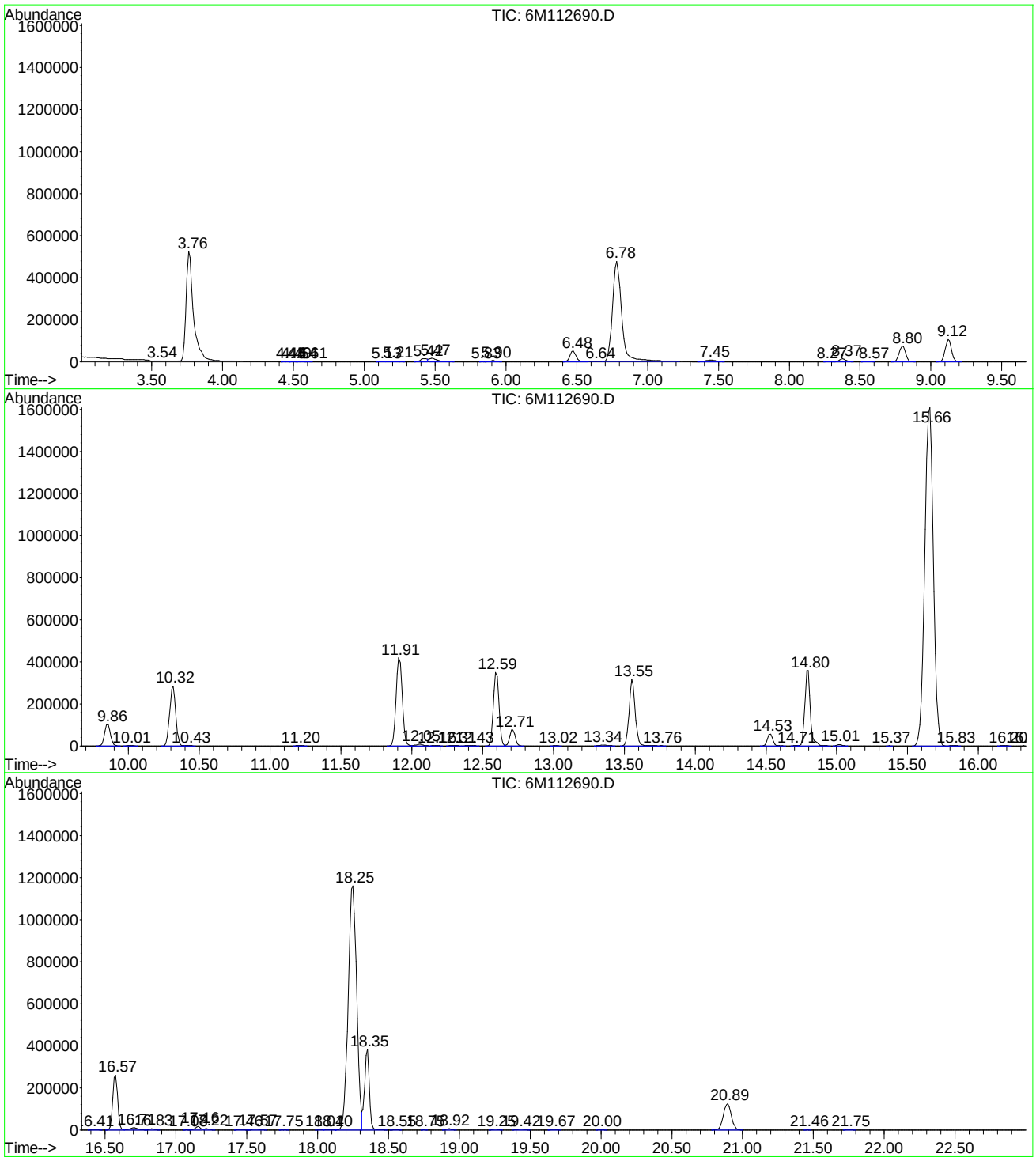
Signal : TIC

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	3.545	101	104	105	rBV2	898	1903	0.03%	0.008%
2	3.759	118	125	156	rVB	522378	1866446	27.36%	7.636%
3	4.454	189	193	195	rBB	382	618	0.01%	0.003%
4	4.495	195	197	200	rBB	384	644	0.01%	0.003%
5	4.535	200	201	206	rBB	359	633	0.01%	0.003%
6	4.607	207	208	210	rBB	334	205	0.00%	0.001%
7	5.128	255	259	261	rBV	636	1564	0.02%	0.006%
8	5.209	261	267	274	rVB	2564	7716	0.11%	0.032%
9	5.424	281	288	290	rBV	14951	47843	0.70%	0.196%
10	5.475	291	293	308	rVB	16341	56098	0.82%	0.230%
11	5.832	326	328	329	rBB	321	197	0.00%	0.001%
12	5.904	330	335	341	rBB	4524	14213	0.21%	0.058%
13	6.476	384	391	401	rBV	50851	154089	2.26%	0.630%
14	6.639	401	407	411	rBV2	695	2942	0.04%	0.012%
15	6.782	411	421	464	rBV	476893	2182921	32.00%	8.931%
16	7.446	477	486	495	rBB2	7963	35369	0.52%	0.145%
17	8.273	564	567	570	rBB	409	937	0.01%	0.004%
18	8.375	571	577	584	rBB2	13754	42099	0.62%	0.172%
19	8.569	590	596	599	rBB	1613	3893	0.06%	0.016%
20	8.804	611	619	627	rBB	73530	234612	3.44%	0.960%
21	9.120	642	650	659	rBB	106539	320654	4.70%	1.312%
22	9.856	714	722	730	rBB	100302	286670	4.20%	1.173%
23	10.009	733	737	742	rBB	715	2065	0.03%	0.008%
24	10.315	759	767	775	rBV	283243	844887	12.38%	3.457%
25	10.427	775	778	782	rVB	1472	2809	0.04%	0.011%
26	11.204	850	854	859	rBB	2071	4507	0.07%	0.018%
27	11.908	915	923	932	rBV	418727	1255786	18.41%	5.138%
28	12.051	932	937	945	rVB	7570	24377	0.36%	0.100%
29	12.163	945	948	953	rBB	1170	2515	0.04%	0.010%
30	12.306	956	962	966	rBB	799	2058	0.03%	0.008%
31	12.429	967	974	978	rBB	650	2352	0.03%	0.010%
32	12.592	983	990	996	rBV	349915	948030	13.90%	3.879%
33	12.715	996	1002	1009	rVB	75942	206447	3.03%	0.845%
34	13.021	1028	1032	1035	rBB	1077	2125	0.03%	0.009%
35	13.338	1058	1063	1072	rBB2	3445	13778	0.20%	0.056%
36	13.552	1076	1084	1102	rBB	316137	937188	13.74%	3.834%
37	13.756	1103	1104	1107	rBB	349	416	0.01%	0.002%
38	14.533	1173	1180	1190	rBB	54533	141144	2.07%	0.577%
39	14.706	1194	1197	1199	rBV	1069	1947	0.03%	0.008%
40	14.798	1199	1206	1221	rVB	358344	963953	14.13%	3.944%
41	15.012	1223	1227	1233	rBB	5461	12254	0.18%	0.050%
42	15.370	1260	1262	1264	rBB	344	211	0.00%	0.001%

43	15.656	1278	1290	1302	rBB	1609423	6822005	100.00%	27.910%
44	15.829	1303	1307	1311	rBB3	1365	2938	0.04%	0.012%
45	16.197	1337	1343	1346	rBB2	2049	5003	0.07%	0.020%
46	16.320	1353	1355	1357	rBB2	324	199	0.00%	0.001%
47	16.411	1361	1364	1370	rBB2	1095	2828	0.04%	0.012%
48	16.575	1373	1380	1386	rBV	260631	619515	9.08%	2.535%
49	16.708	1386	1393	1400	rVB3	9466	34032	0.50%	0.139%
50	16.830	1401	1405	1410	rBB2	4570	9208	0.13%	0.038%
51	17.075	1427	1429	1430	rBB2	319	195	0.00%	0.001%
52	17.157	1431	1437	1440	rBV	15628	38650	0.57%	0.158%
53	17.218	1441	1443	1448	rVB2	5529	11681	0.17%	0.048%
54	17.463	1462	1467	1471	rBB	2266	5083	0.07%	0.021%
55	17.565	1472	1477	1484	rBB	4372	11724	0.17%	0.048%
56	17.749	1493	1495	1499	rBB	326	388	0.01%	0.002%
57	18.035	1518	1523	1524	rBV	377	1054	0.02%	0.004%
58	18.096	1524	1529	1532	rVB2	2149	5142	0.08%	0.021%
59	18.249	1532	1544	1550	rBV	1159672	4818051	70.63%	19.711%
60	18.352	1550	1554	1567	rVB	383196	902458	13.23%	3.692%
61	18.546	1570	1573	1577	rBB	2285	4348	0.06%	0.018%
62	18.750	1591	1593	1595	rBB	344	211	0.00%	0.001%
63	18.923	1606	1610	1615	rBB	5568	11538	0.17%	0.047%
64	19.250	1638	1642	1647	rBB2	3038	6491	0.10%	0.027%
65	19.424	1654	1659	1666	rBB2	2648	9226	0.14%	0.038%
66	19.669	1679	1683	1687	rBB	1093	2299	0.03%	0.009%
67	19.996	1712	1715	1719	rBB	744	1300	0.02%	0.005%
68	20.894	1792	1803	1813	rBB	125274	483522	7.09%	1.978%
69	21.456	1856	1858	1860	rBB	302	185	0.00%	0.001%
70	21.752	1883	1887	1891	rBB	1253	2716	0.04%	0.011%

Sum of corrected areas: 24443105

File : C:\MSDCHEM\1\DATA\111412\6M112690.D
Operator : FJB
Acquired : 14 Nov 2012 23:02 using AcqMethod 8260WTR
Instrument : HPMS6
Sample Name: L12110393-03 10X A 826-SPE
Misc Info : 1,10 foamy/cloudy/sulfur odor
Vial Number: 24
Quant File :8260WTR.RES (RTE Integrator)



Data File : C:\MSDCHEM\1\DATA\111412\6M112690.D Vial: 24
Acq On : 14 Nov 2012 23:02 Operator: FJB
Sample : L12110393-03 10X A 826-SPE Inst : HPMS6
Misc : 1,10 foamy/cloudy/sulfur odor Multiplr: 1.00
MS Integration Params: RTEINT.P

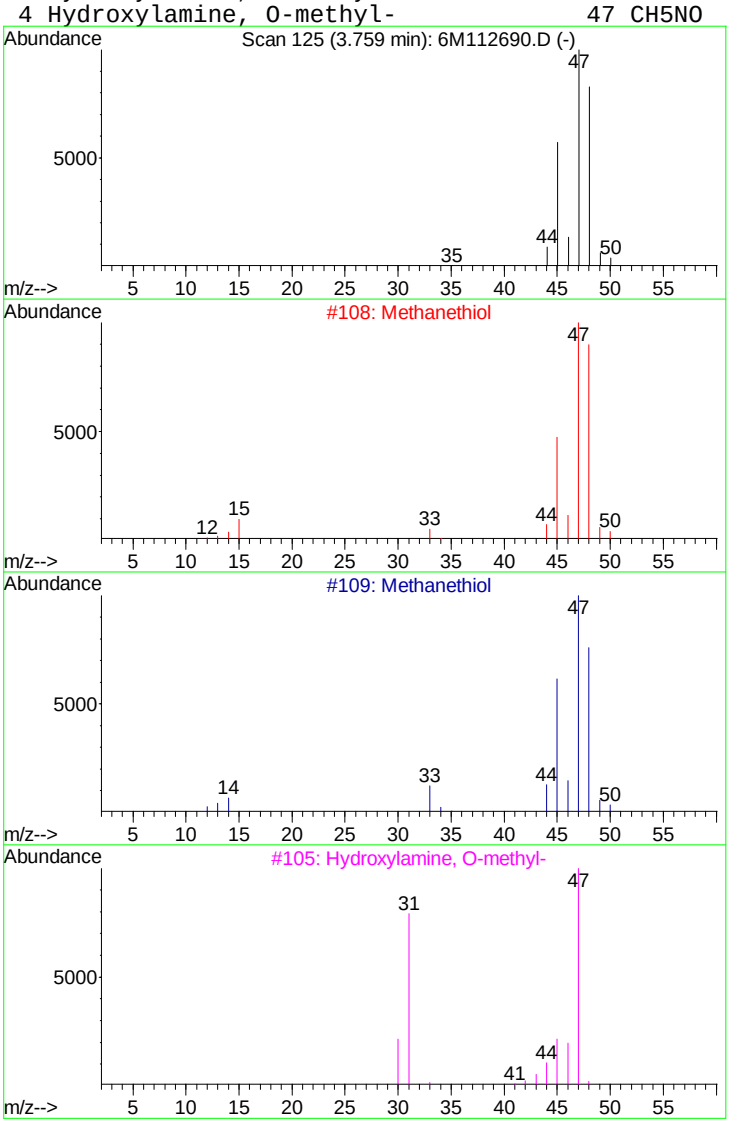
Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:OVLMSV01 011/12/12 - HPMS6
Library : C:\DATABASE\NIST02.L

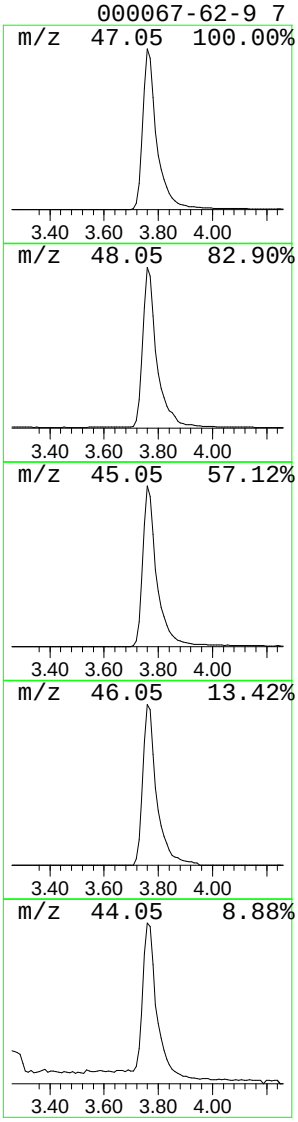
****

Peak Number 1 Methanethiol Concentration Rank 4

R.T.	EstConc	Area	Relative to ISTD	R.T.
3.76	55.23 ug/L	1866450	Fluorobenzene	10.32

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Methanethiol	48	CH4S	000074-93-1	90
2	Methanethiol	48	CH4S	000074-93-1	83
3	Hydroxylamine, O-methyl-	47	CH5NO	000067-62-9	9
4	Hydroxylamine, O-methyl-	47	CH5NO	000067-62-9	7





Data File : C:\MSDCHEM\1\DATA\111412\6M112690.D Vial: 24
Acq On : 14 Nov 2012 23:02 Operator: FJB
Sample : L12110393-03 10X A 826-SPE Inst : HPMS6
Misc : 1,10 foamy/cloudy/sulfur odor Multiplr: 1.00
MS Integration Params: RTEINT.P

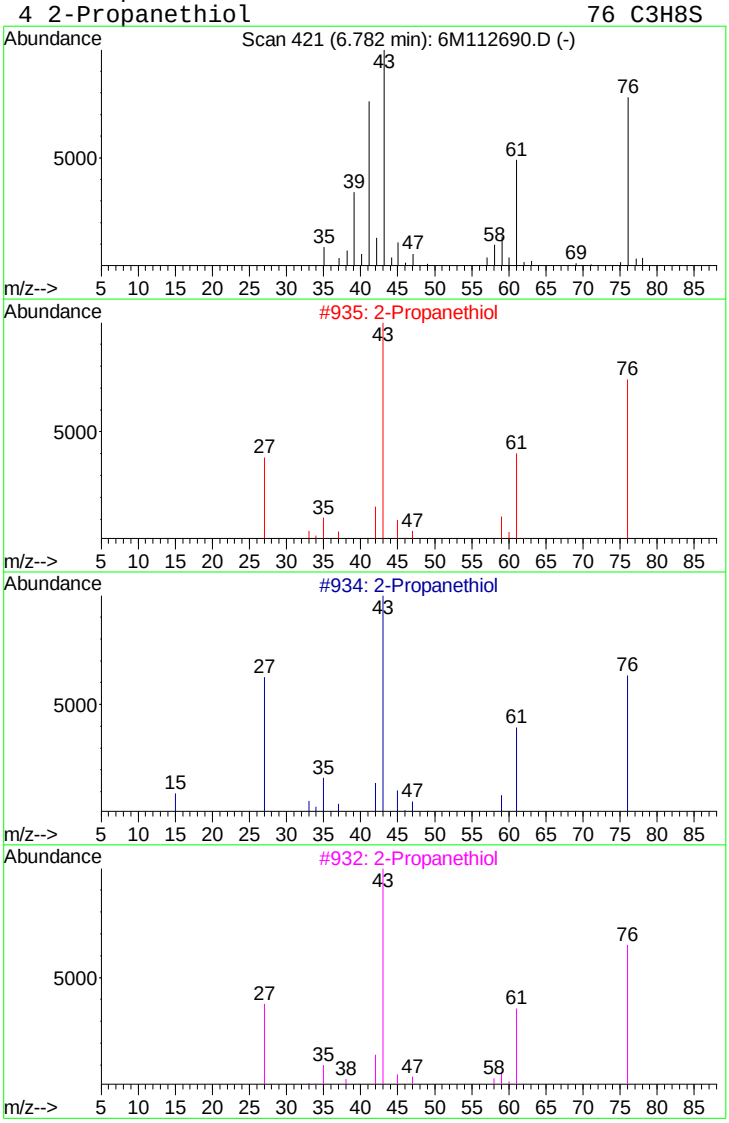
Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:OVLMSV01 011/12/12 - HPMS6
Library : C:\DATABASE\NIST02.L

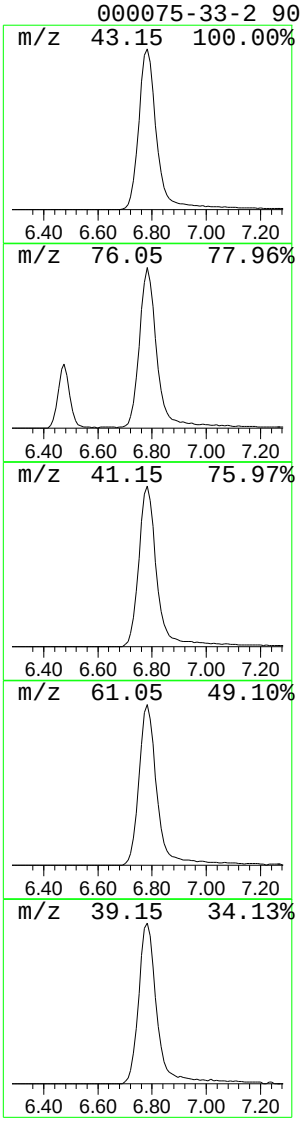
****

Peak Number 2 2-Propanethiol Concentration Rank 3

R.T.	EstConc	Area	Relative to ISTD	R.T.
6.78	64.59 ug/L	2182920	Fluorobenzene	10.32

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	2-Propanethiol	76	C3H8S	000075-33-2	91
2	2-Propanethiol	76	C3H8S	000075-33-2	91
3	2-Propanethiol	76	C3H8S	000075-33-2	91
4	2-Propanethiol	76	C3H8S	000075-33-2	90





Data File : C:\MSDCHEM\1\DATA\111412\6M112690.D Vial: 24
Acq On : 14 Nov 2012 23:02 Operator: FJB
Sample : L12110393-03 10X A 826-SPE Inst : HPMS6
Misc : 1,10 foamy/cloudy/sulfur odor Multiplr: 1.00
MS Integration Params: RTEINT.P

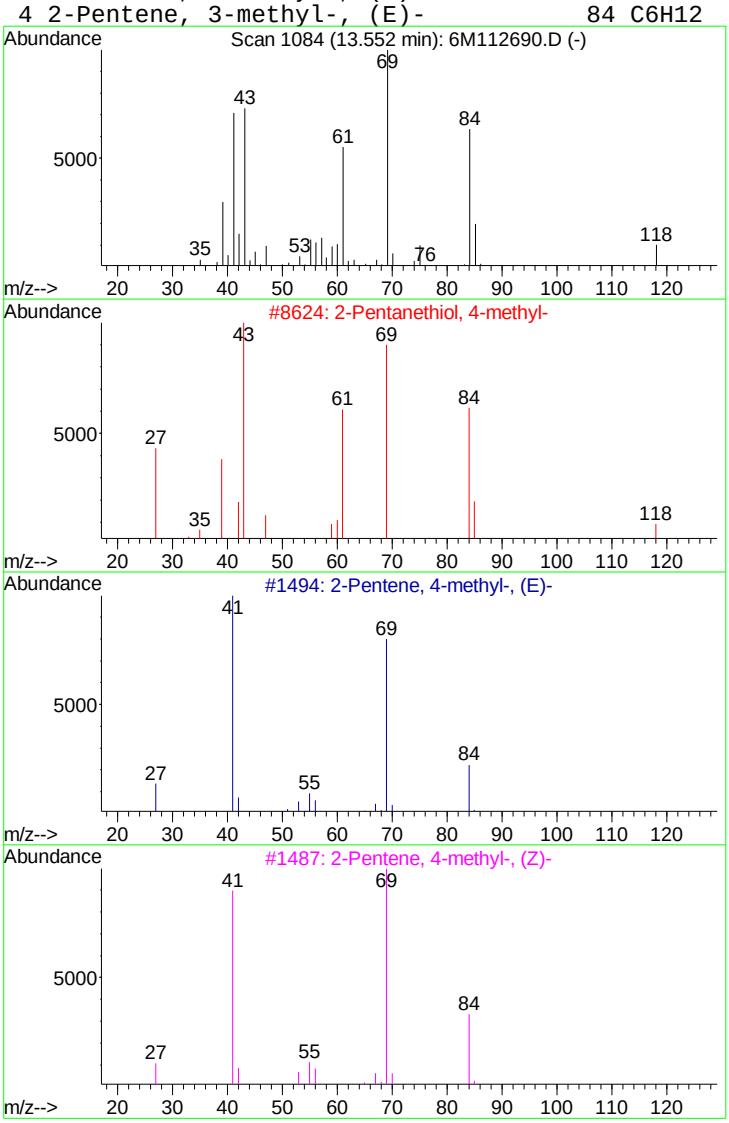
Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:OVLMSV01 011/12/12 - HPMS6
Library : C:\DATABASE\NIST02.L

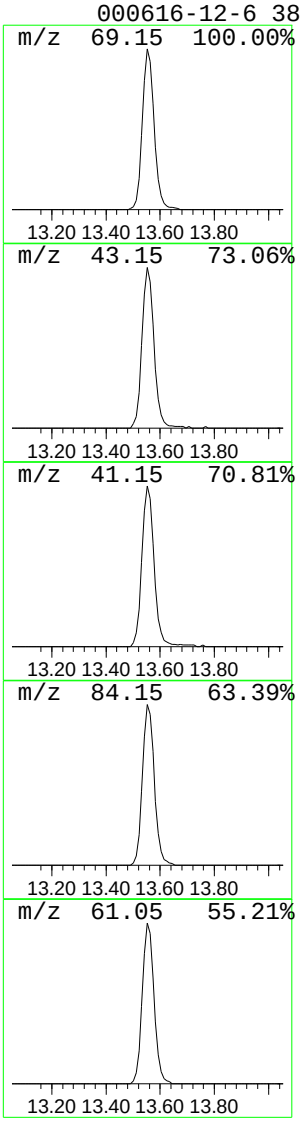
****

Peak Number 3 2-Pentanethiol, 4-methyl- Concentration Rank 5

R.T.	EstConc	Area	Relative to ISTD	R.T.
13.55	24.31 ug/L	937188	Chlorobenzene-d5	14.80

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	2-Pentanethiol, 4-methyl-	118	C6H14S	001639-05-0	86
2	2-Pentene, 4-methyl-, (E)-	84	C6H12	000674-76-0	38
3	2-Pentene, 4-methyl-, (Z)-	84	C6H12	000691-38-3	38
4	2-Pentene, 3-methyl-, (E)-	84	C6H12	000616-12-6	38





Data File : C:\MSDCHEM\1\DATA\111412\6M112690.D Vial: 24
Acq On : 14 Nov 2012 23:02 Operator: FJB
Sample : L12110393-03 10X A 826-SPE Inst : HPMS6
Misc : 1,10 foamy/cloudy/sulfur odor Multiplr: 1.00
MS Integration Params: RTEINT.P

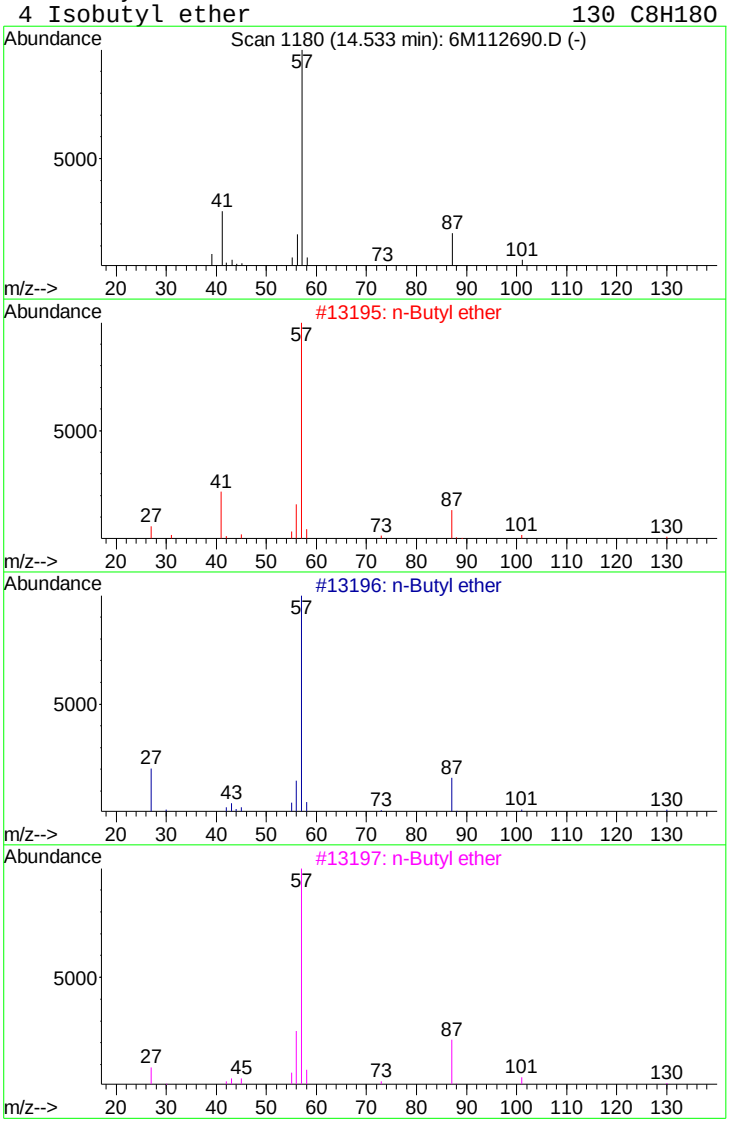
Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:OVLMSV01 011/12/12 - HPMS6
Library : C:\DATABASE\NIST02.L

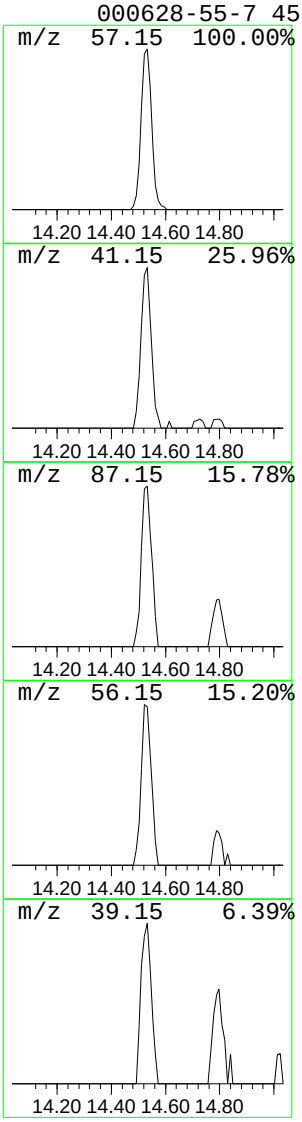
****

Peak Number 4 n-Butyl ether Concentration Rank 7

R.T.	EstConc	Area	Relative to ISTD	R.T.
14.53	3.66 ug/L	141144	Chlorobenzene-d5	14.80

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	n-Butyl ether	130	C8H18O	000142-96-1	78
2	n-Butyl ether	130	C8H18O	000142-96-1	72
3	n-Butyl ether	130	C8H18O	000142-96-1	64
4	Isobutyl ether	130	C8H18O	000628-55-7	45





Data File : C:\MSDCHEM\1\DATA\111412\6M112690.D Vial: 24
Acq On : 14 Nov 2012 23:02 Operator: FJB
Sample : L12110393-03 10X A 826-SPE Inst : HPMS6
Misc : 1,10 foamy/cloudy/sulfur odor Multiplr: 1.00
MS Integration Params: RTEINT.P

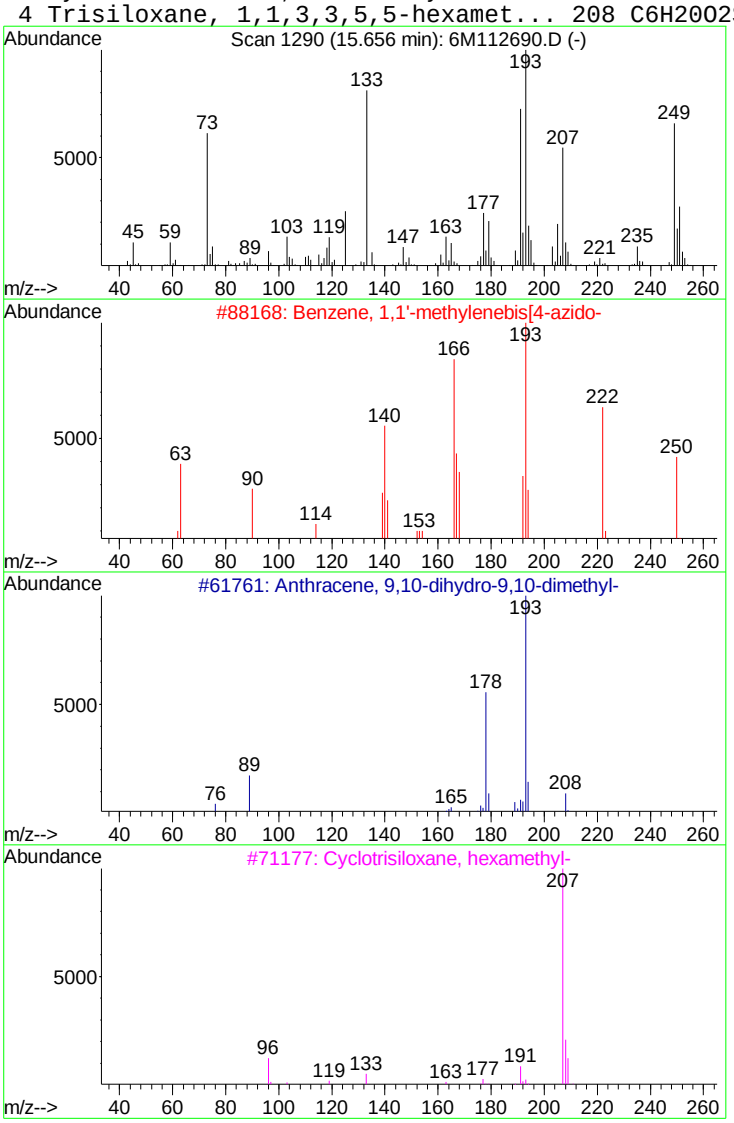
Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:OVLMSV01 011/12/12 - HPMS6
Library : C:\DATABASE\NIST02.L

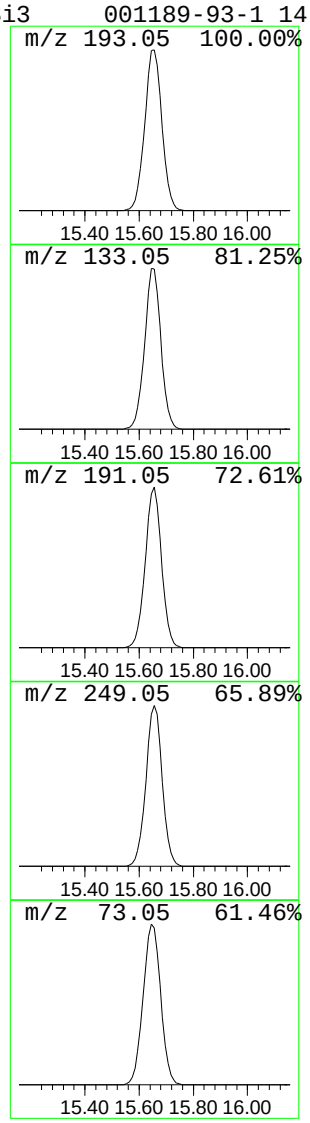
****

Peak Number 5 Benzene, 1,1'-methylenebis[... Concentration Rank 1

R.T.	EstConc	Area	Relative to ISTD	R.T.
15.66	176.93 ug/L	6822010	Chlorobenzene-d5	14.80

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Benzene, 1,1'-methylenebis[4-azido-	250	C13H10N6	002915-44-8	18
2	Anthracene, 9,10-dihydro-9,10-di...	208	C16H16	022566-43-4	18
3	Cyclotrisiloxane, hexamethyl-	222	C6H18O3Si3	000541-05-9	14
4	Trisiloxane, 1,1,3,3,5,5-hexamet...	208	C6H20O2Si3	001189-93-1	14





Data File : C:\MSDCHEM\1\DATA\111412\6M112690.D Vial: 24
Acq On : 14 Nov 2012 23:02 Operator: FJB
Sample : L12110393-03 10X A 826-SPE Inst : HPMS6
Misc : 1,10 foamy/cloudy/sulfur odor Multiplr: 1.00
MS Integration Params: RTEINT.P

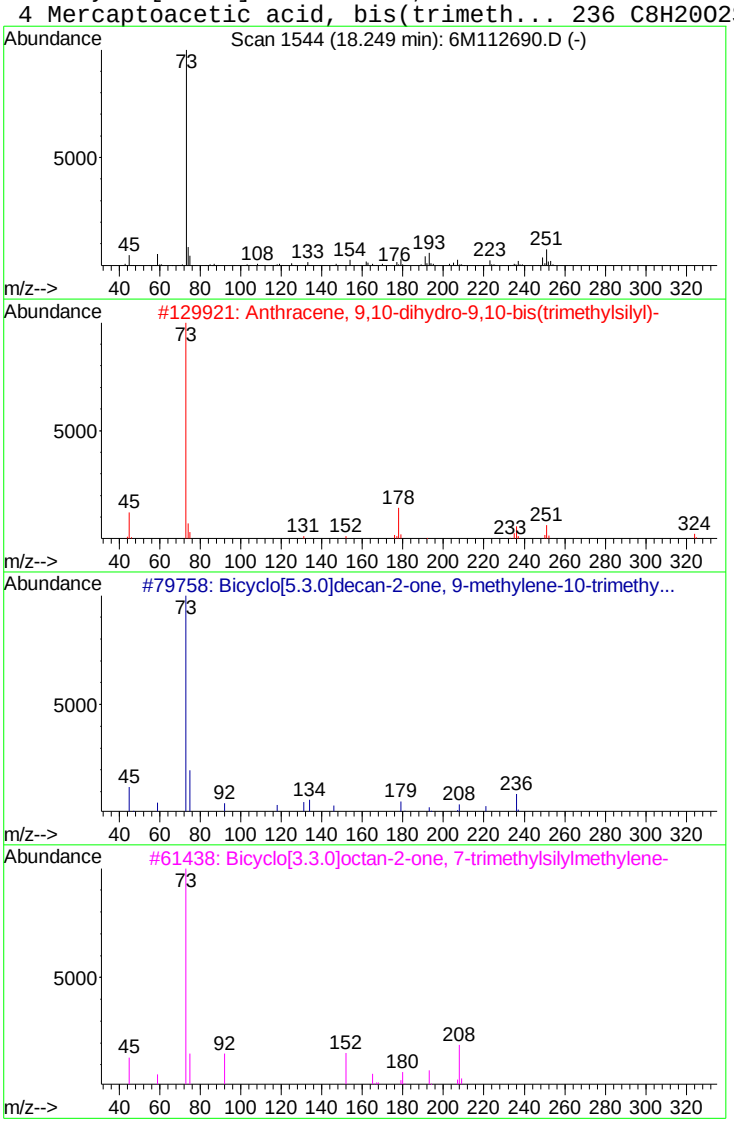
Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:OVLMSV01 011/12/12 - HPMS6
Library : C:\DATABASE\NIST02.L

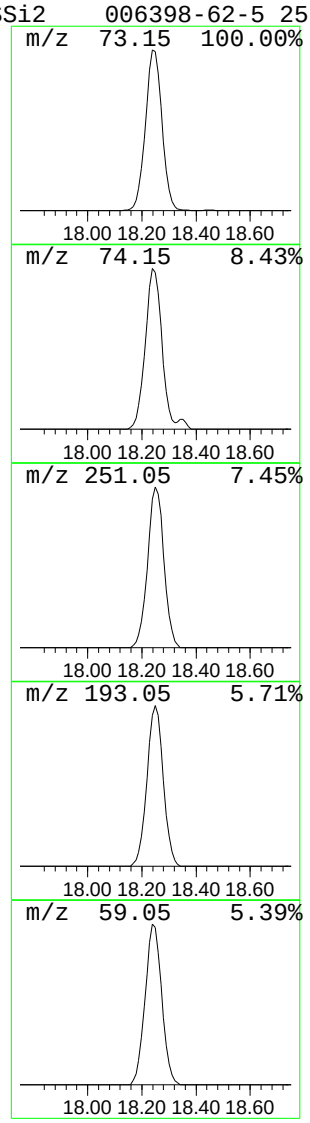
****

Peak Number 6 Anthracene, 9,10-dihydro-9,... Concentration Rank 2

R.T.	EstConc	Area	Relative to ISTD	R.T.
18.25	133.47 ug/L	4818050	1,4-Dichlorobenzene-d4	18.35

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Anthracene, 9,10-dihydro-9,10-bi...	324	C20H28Si2	018586-37-3	37
2	Bicyclo[5.3.0]decan-2-one, 9-met...	236	C14H24OSi	1000153-97-3	28
3	Bicyclo[3.3.0]octan-2-one, 7-tri...	208	C12H20OSi	109613-14-1	28
4	Mercaptoacetic acid, bis(trimeth...	236	C8H20O2SSi2	006398-62-5	25





Data File : C:\MSDCHEM\1\DATA\111412\6M112690.D Vial: 24
Acq On : 14 Nov 2012 23:02 Operator: FJB
Sample : L12110393-03 10X A 826-SPE Inst : HPMS6
Misc : 1,10 foamy/cloudy/sulfur odor Multiplr: 1.00
MS Integration Params: RTEINT.P

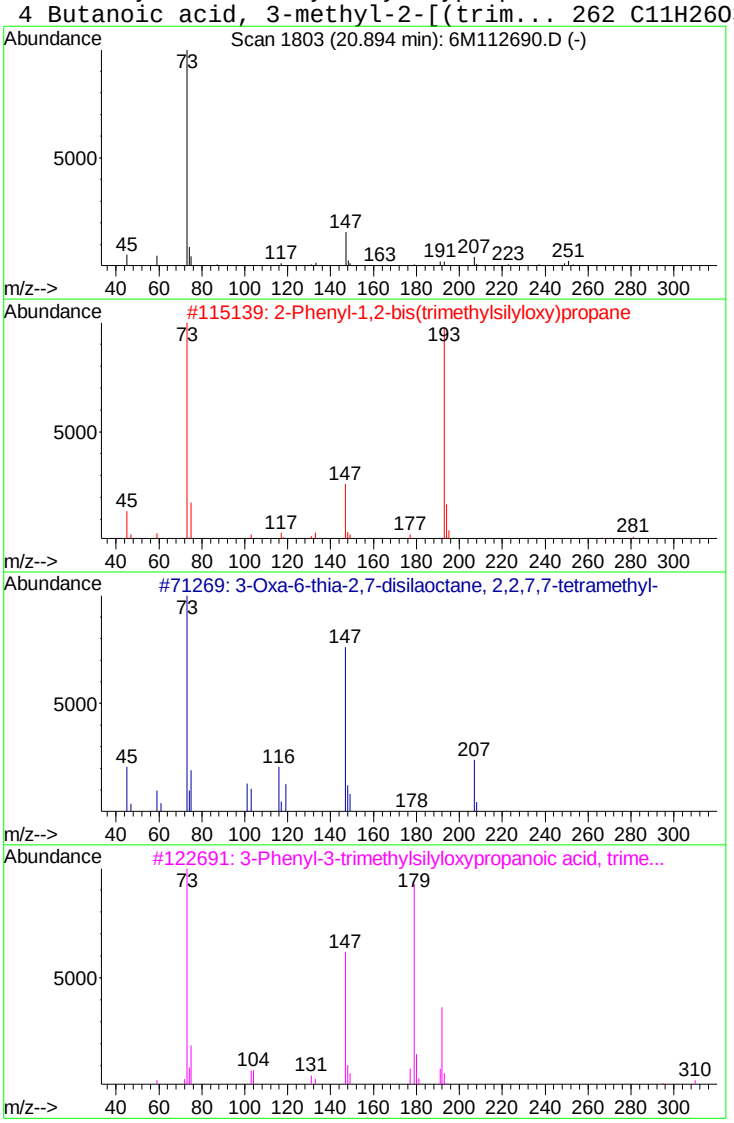
Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:OVLMSV01 011/12/12 - HPMS6
Library : C:\DATABASE\NIST02.L

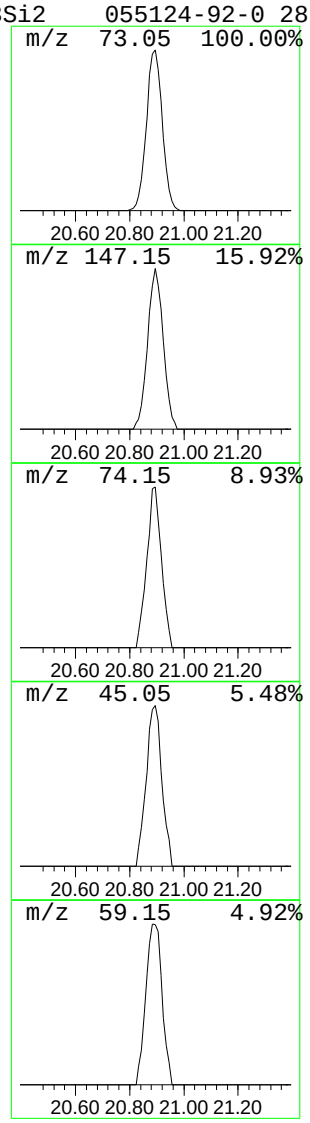
****

Peak Number 7 2-Phenyl-1,2-bis(trimethyls... Concentration Rank 6

R.T.	EstConc	Area	Relative to ISTD	R.T.
20.89	13.39 ug/L	483522	1,4-Dichlorobenzene-d4	18.35

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	2-Phenyl-1,2-bis(trimethylsilylo...	296	C15H28O2Si2	294847-15-7	38
2	3-Oxa-6-thia-2,7-disilaoctane, 2...	222	C8H22OSSi2	078921-31-0	37
3	3-Phenyl-3-trimethylsilyloxyprop...	310	C15H26O3Si2	1000079-40-7	28
4	Butanoic acid, 3-methyl-2-[(trim...	262	C11H26O3Si2	055124-92-0	28





Tentatively Identified Compound (LSC) summary

Operator ID: FJB Date Acquired: 14 Nov 2012 23:02
Data File: C:\MSDCHEM\1\DATA\111412\6M112690.D
Name: L12110393-03 10X A 826-SPE
Misc: 1,10 foamy/cloudy/sulfur odor
Method: C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title: 8260B/624_WATER SOP:OVLMSV01 011/12/12 - HPMS6
Library Searched: C:\DATABASE\NIST02.L

					Internal Standard			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc
Methanethiol	3.76	55.2	ug/L	1866450	1	10.32	844887	25.0
2-Propanethiol	6.78	64.6	ug/L	2182920	1	10.32	844887	25.0
2-Pentanethiol, 4...	13.55	24.3	ug/L	937188	2	14.80	963953	25.0
n-Butyl ether	14.53	3.7	ug/L	141144	2	14.80	963953	25.0
Benzene, 1,1'-met...	15.66	176.9	ug/L	6822010	2	14.80	963953	25.0
Anthracene, 9,10-...	18.25	133.5	ug/L	4818050	3	18.35	902458	25.0
2-Phenyl-1,2-bis(...	20.89	13.4	ug/L	483522	3	18.35	902458	25.0

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\111412\6M112676.D Vial: 10
Acq On : 14 Nov 2012 15:55 Operator: FJB
Sample : L12110393-05 TB A 826-SPE Inst : HPMS6
Misc : 1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 15 09:24:14 2012 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:OVLMSV01 011/12/12 - HPMS6
Last Update : Tue Nov 13 09:04:10 2012
Response via : Initial Calibration
DataAcq Meth : 8260WTR

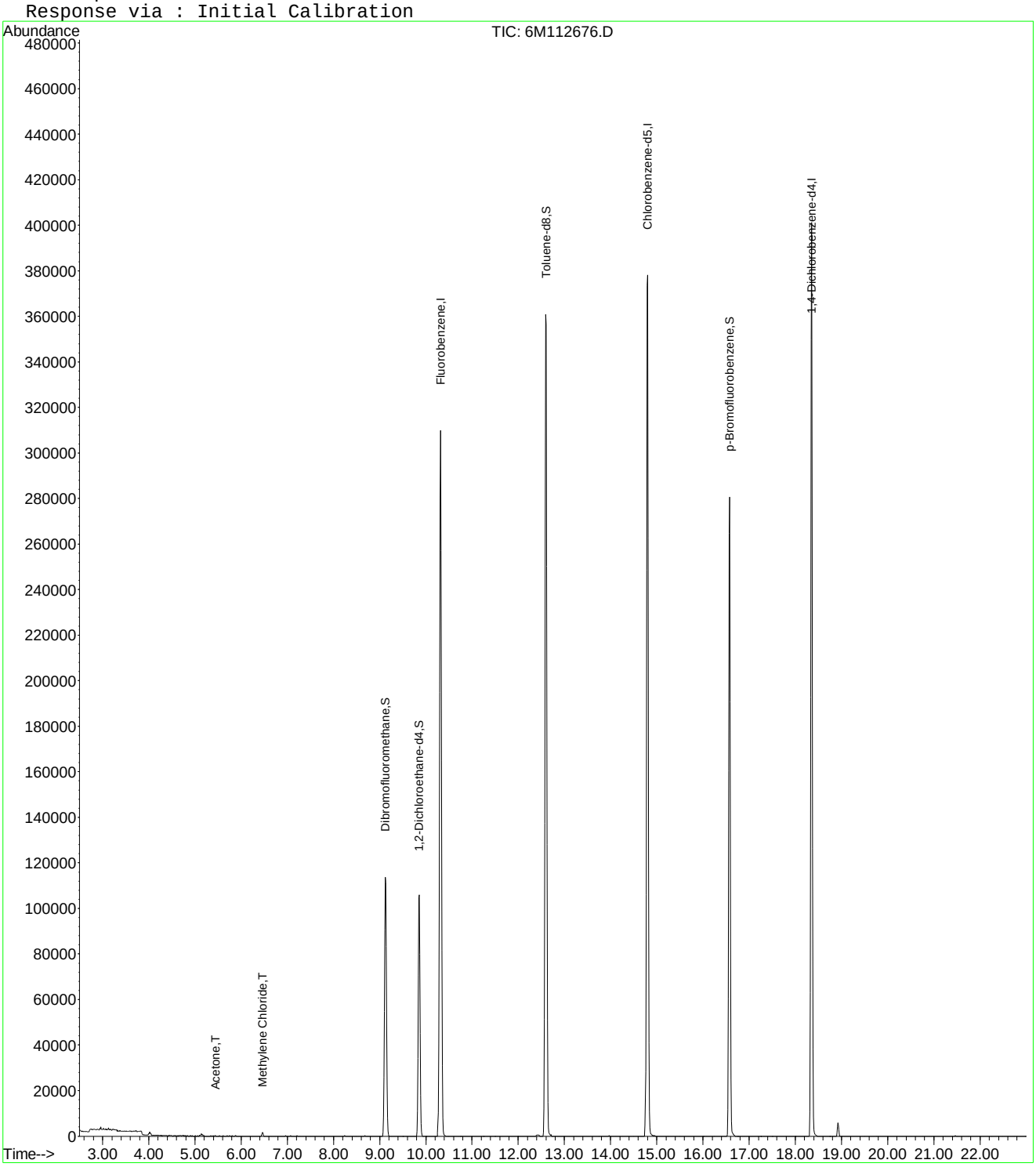
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.32	96	434864	25.00	ug/L	0.00
57) Chlorobenzene-d5	14.80	117	321207	25.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	18.35	152	150798	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.12	111	112241	25.1818	ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 100.72%			
43) 1,2-Dichloroethane-d4	9.85	65	107273	25.1146	ug/L	-0.01
Spiked Amount 25.000	Range 80 - 120		Recovery = 100.44%			
58) Toluene-d8	12.60	98	380735	24.1650	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 96.68%			
80) p-Bromofluorobenzene	16.58	95	141026	25.7946	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 103.16%			
Target Compounds						Qvalue
13) Acetone	5.44	43	417	0.7282	ug/L #	46
19) Methylene Chloride	6.47	84	986	0.2331	ug/L	81

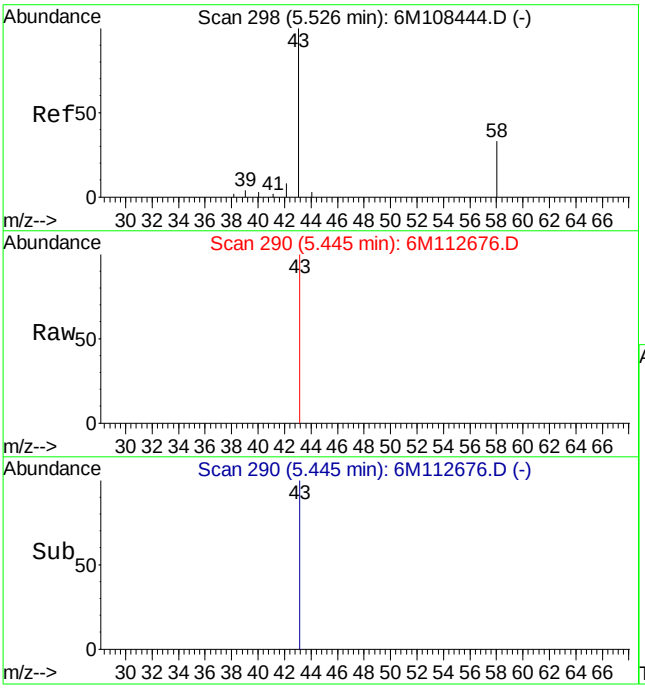
(#) = qualifier out of range (m) = manual integration
6M112676.D 8260WTR.M Thu Nov 15 09:24:14 2012 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\111412\6M112676.D Vial: 10
Acq On : 14 Nov 2012 15:55 Operator: FJB
Sample : L12110393-05 TB A 826-SPE Inst : HPMS6
Misc : 1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 15 9:24 2012 Quant Results File: 8260WTR.RES

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:OVLMSV01 011/12/12 - HPMS6
Last Update : Tue Nov 13 09:04:10 2012
Response via : Initial Calibration

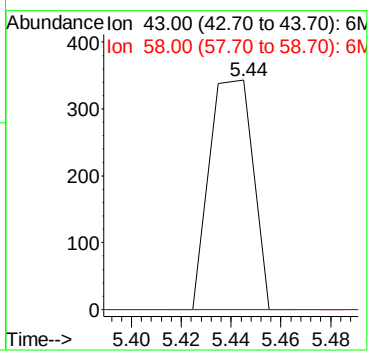


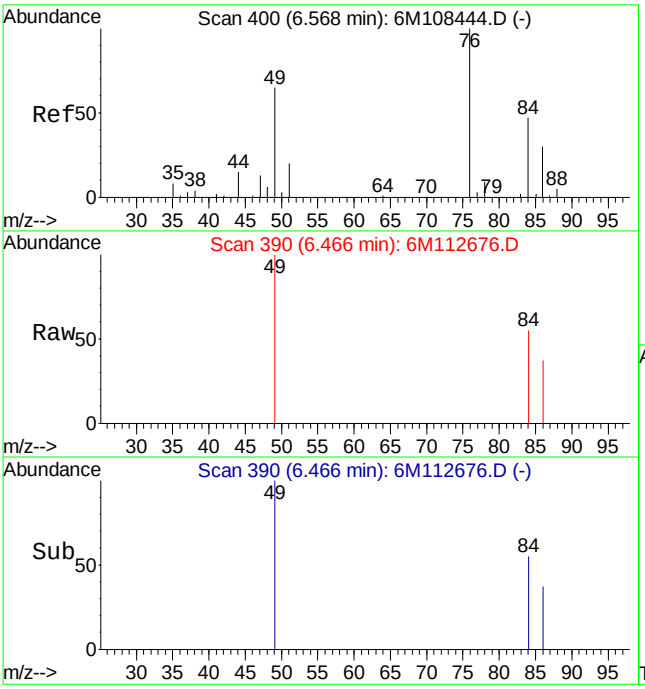


#13
Acetone
Concen: 0.73 ug/L
RT: 5.44 min Scan# 290
Delta R.T. 0.02 min
Lab File: 6M112676.D
Acq: 14 Nov 2012 15:55

Tgt Ion: 43 Resp: 417

Ion	Ratio	Lower	Upper
43	100		
58	0.0	17.3	40.5#

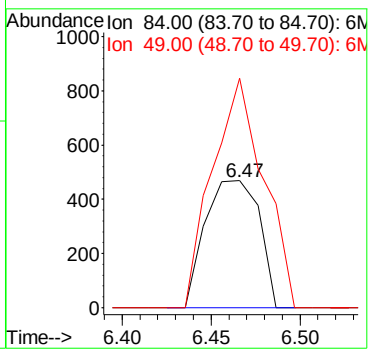




#19
Methylene Chloride
Concen: 0.23 ug/L
RT: 6.47 min Scan# 390
Delta R.T. -0.00 min
Lab File: 6M112676.D
Acq: 14 Nov 2012 15:55

Tgt Ion: 84 Resp: 986

Ion	Ratio	Lower	Upper
84	100		
49	171.6	88.6	206.8



2.1.1.4 Standards Data

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\012512\6M105371.D Vial: 5
Acq On : 25 Jan 2012 10:12 Operator: ADC
Sample : WG388587-01 5ug/L 826A9FOO QC Inst : HPMS6
Misc : 1,1 STD49721 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Feb 02 11:00:06 2012 Quant Results File: A9FOOWTR.RES

Quant Method : C:\MSDCHEM\2\METHODS\A9FOOWTR.M (RTE Integrator)
Title : A9-FOO Water - IC: 01/25/12 - HPMS6
Last Update : Thu Feb 02 09:44:46 2012
Response via : Initial Calibration
DataAcq Meth : 8260WT

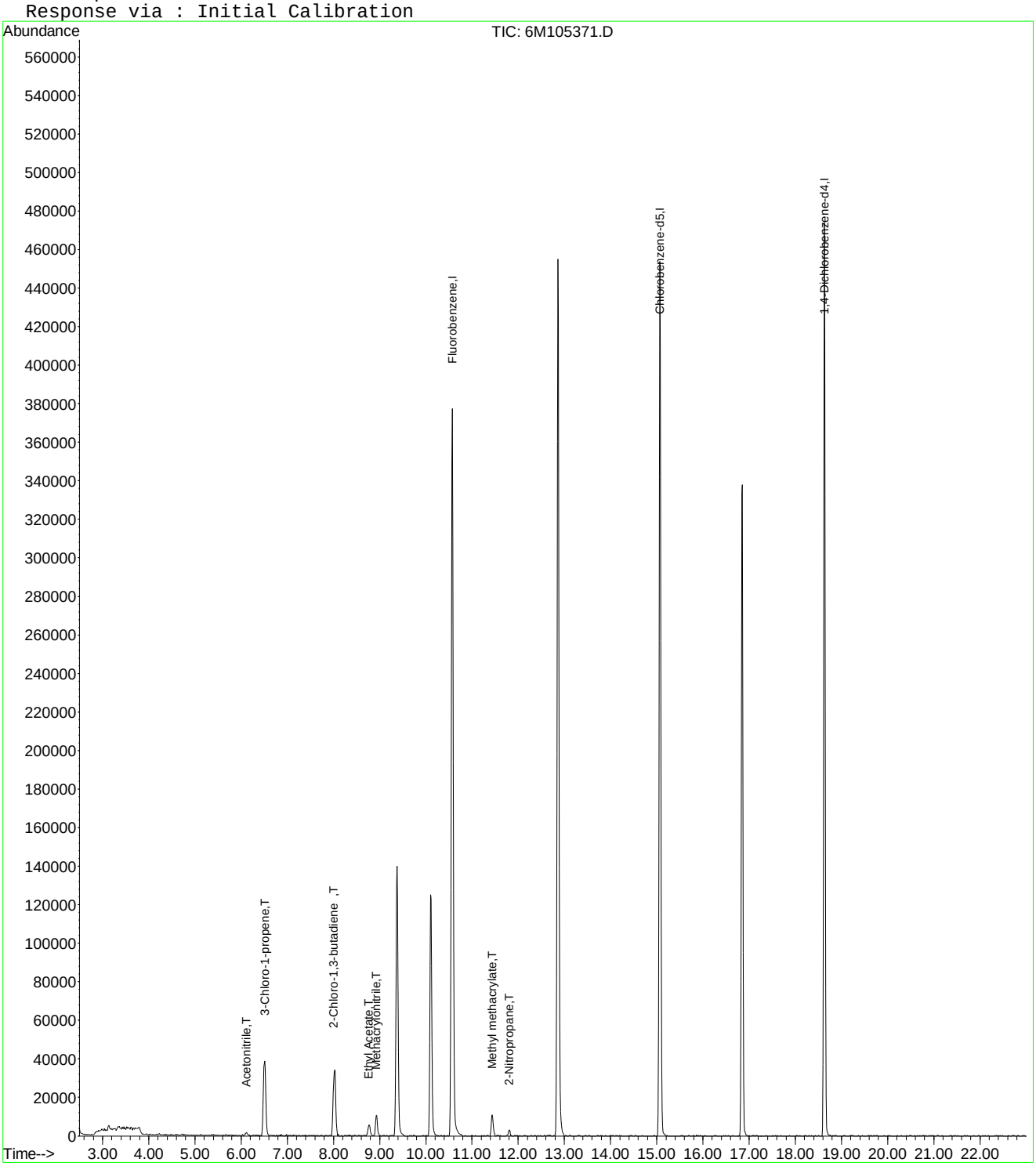
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.57	96	542118	25.00	ug/L	0.00
11) Chlorobenzene-d5	15.06	117	382891	25.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4	18.63	152	182930	25.00	ug/L	0.00
Target Compounds						Qvalue
2) Acetonitrile	6.11	41	1900	3.8474	ug/L	# 1
3) 3-Chloro-1-propene	6.51	41	51181	4.3471	ug/L	99
4) 2-Chloro-1,3-butadiene	8.01	53	44354	3.9841	ug/L	# 29
5) Ethyl Acetate	8.76	43	13368	4.1127	ug/L	# 100
6) Methacrylonitrile	8.93	67	5420	3.9672	ug/L	98
9) Methyl methacrylate	11.44	41	11648	9.5031	ug/L	99
10) 2-Nitropropane	11.80	43	3265	11.8335	ug/L	88

(#) = qualifier out of range (m) = manual integration
6M105371.D A9FOOWTR.M Thu Feb 02 15:11:53 2012 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\012512\6M105371.D Vial: 5
Acq On : 25 Jan 2012 10:12 Operator: ADC
Sample : WG388587-01 5ug/L 826A9FOO QC Inst : HPMS6
Misc : 1,1 STD49721 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Feb 2 11:00 2012 Quant Results File: A9FOOWTR.RES

Method : C:\MSDCHEM\2\METHODS\A9FOOWTR.M (RTE Integrator)
Title : A9-FOO Water - IC: 01/25/12 - HPMS6
Last Update : Thu Feb 02 09:44:46 2012
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\012512\6M105372.D Vial: 6
Acq On : 25 Jan 2012 10:45 Operator: ADC
Sample : WG388587-02 20ug/L 826A9FOO QC Inst : HPMS6
Misc : 1,1 STD49721 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Feb 02 11:00:07 2012 Quant Results File: A9FOOWTR.RES

Quant Method : C:\MSDCHEM\2\METHODS\A9FOOWTR.M (RTE Integrator)
Title : A9-FOO Water - IC: 01/25/12 - HPMS6
Last Update : Thu Feb 02 09:44:46 2012
Response via : Initial Calibration
DataAcq Meth : 8260WT

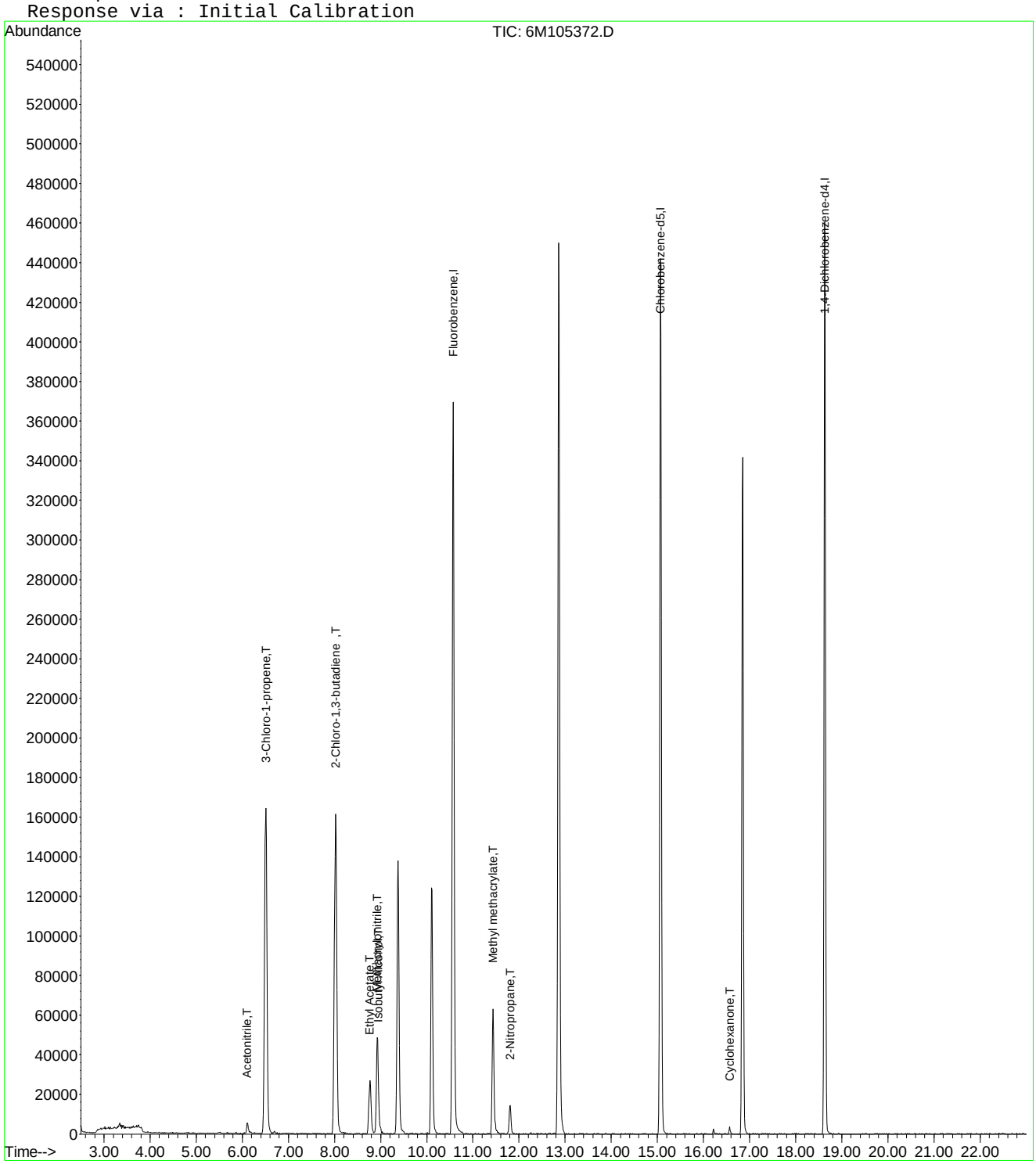
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene	10.57	96	527412	25.00	ug/L		0.00
11) Chlorobenzene-d5	15.06	117	368818	25.00	ug/L		0.00
12) 1,4-Dichlorobenzene-d4	18.63	152	180470	25.00	ug/L		0.00
Target Compounds							Qvalue
2) Acetonitrile	6.10	41	8738	18.1873	ug/L		92
3) 3-Chloro-1-propene	6.51	41	209591	18.2980	ug/L		99
4) 2-Chloro-1,3-butadiene	8.02	53	194300	17.9398	ug/L		98
5) Ethyl Acetate	8.76	43	57089	18.0532	ug/L	#	100
6) Methacrylonitrile	8.93	67	22789	17.1456	ug/L		94
7) Isobutyl Alcohol	8.95	43	4943	35.3217	ug/L	#	89
9) Methyl methacrylate	11.44	41	55796	20.8158	ug/L		98
10) 2-Nitropropane	11.81	43	15582	22.5273	ug/L		92
13) Cyclohexanone	16.56	55	2471	28.3472	ug/L		93

(#) = qualifier out of range (m) = manual integration
6M105372.D A9FOOWTR.M Thu Feb 02 15:11:55 2012 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\012512\6M105372.D Vial: 6
Acq On : 25 Jan 2012 10:45 Operator: ADC
Sample : WG388587-02 20ug/L 826A9FOO QC Inst : HPMS6
Misc : 1,1 STD49721 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Feb 2 11:00 2012 Quant Results File: A9FOOWTR.RES

Method : C:\MSDCHEM\2\METHODS\A9FOOWTR.M (RTE Integrator)
Title : A9-FOO Water - IC: 01/25/12 - HPMS6
Last Update : Thu Feb 02 09:44:46 2012
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\012512\6M105373.D Vial: 7
Acq On : 25 Jan 2012 11:17 Operator: ADC
Sample : WG388587-03 50ug/L 826A9FOO QC Inst : HPMS6
Misc : 1,1 STD49721 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Feb 02 11:00:09 2012 Quant Results File: A9FOOWTR.RES

Quant Method : C:\MSDCHEM\2\METHODS\A9FOOWTR.M (RTE Integrator)
Title : A9-FOO Water - IC: 01/25/12 - HPMS6
Last Update : Thu Feb 02 09:44:46 2012
Response via : Initial Calibration
DataAcq Meth : 8260WT

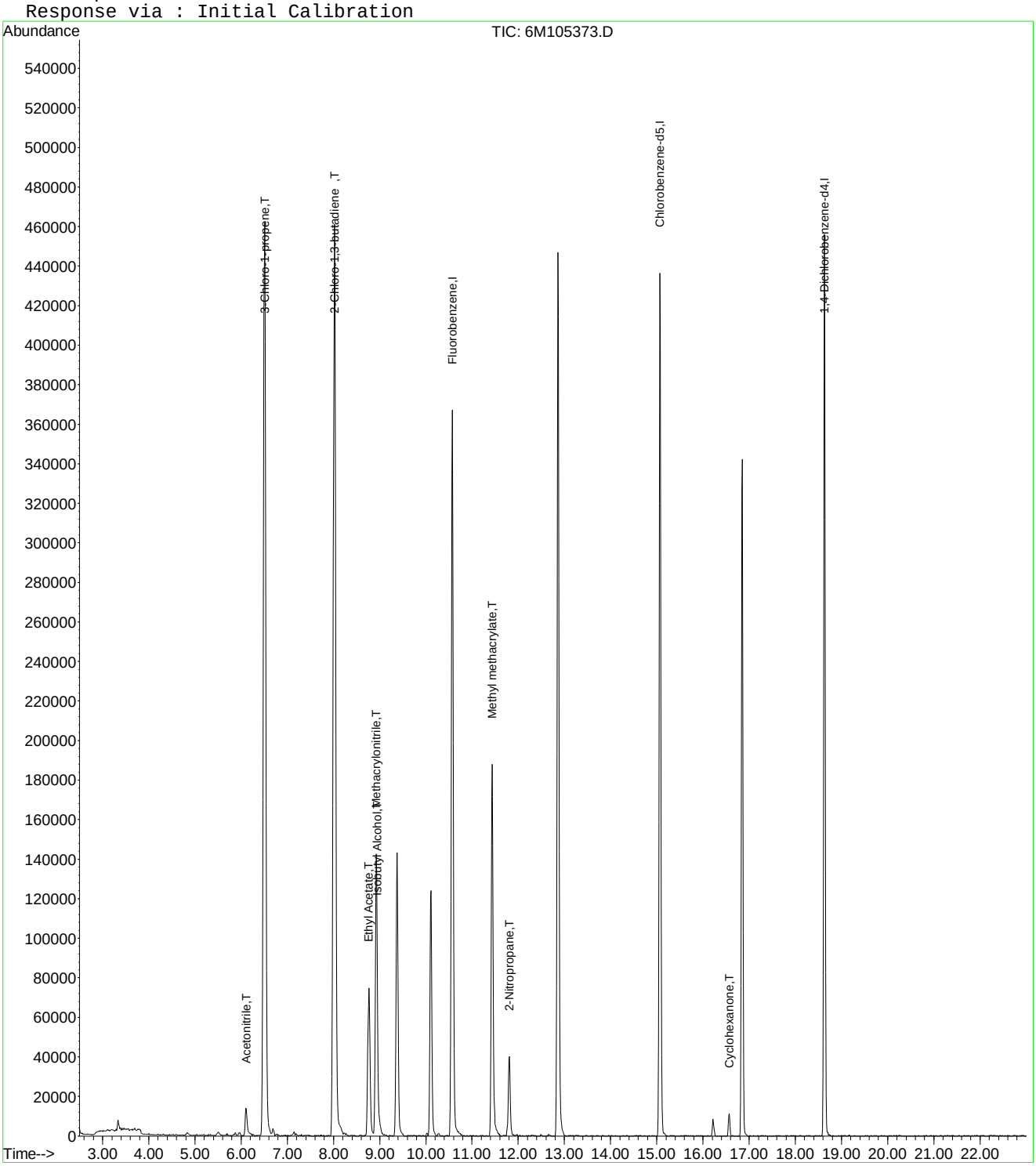
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene	10.57	96	525930	25.00	ug/L		0.00
11) Chlorobenzene-d5	15.06	117	367927	25.00	ug/L		0.00
12) 1,4-Dichlorobenzene-d4	18.63	152	178601	25.00	ug/L		0.00
Target Compounds							Qvalue
2) Acetonitrile	6.11	41	24875	51.9208	ug/L		96
3) 3-Chloro-1-propene	6.51	41	587071	51.3977	ug/L		100
4) 2-Chloro-1,3-butadiene	8.02	53	557757	51.6431	ug/L		100
5) Ethyl Acetate	8.76	43	155016	49.1587	ug/L	#	100
6) Methacrylonitrile	8.93	67	67503	50.9299	ug/L		98
7) Isobutyl Alcohol	8.95	43	13279	95.1565	ug/L	#	97
9) Methyl methacrylate	11.44	41	165950	48.9606	ug/L		100
10) 2-Nitropropane	11.81	43	45288	48.2442	ug/L		97
13) Cyclohexanone	16.57	55	8212	52.4388	ug/L		99

(#) = qualifier out of range (m) = manual integration
6M105373.D A9FOOWTR.M Thu Feb 02 15:11:56 2012 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\012512\6M105373.D Vial: 7
Acq On : 25 Jan 2012 11:17 Operator: ADC
Sample : WG388587-03 50ug/L 826A9FOO QC Inst : HPMS6
Misc : 1,1 STD49721 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Feb 2 11:00 2012 Quant Results File: A9FOOWTR.RES

Method : C:\MSDCHEM\2\METHODS\A9FOOWTR.M (RTE Integrator)
Title : A9-FOO Water - IC: 01/25/12 - HPMS6
Last Update : Thu Feb 02 09:44:46 2012
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\012512\6M105374.D Vial: 8
Acq On : 25 Jan 2012 11:49 Operator: ADC
Sample : WG388587-04 100ug/L 826A9FOO QC Inst : HPMS6
Misc : 1,1 STD49721 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Feb 02 11:00:11 2012 Quant Results File: A9FOOWTR.RES

Quant Method : C:\MSDCHEM\2\METHODS\A9FOOWTR.M (RTE Integrator)
Title : A9-FOO Water - IC: 01/25/12 - HPMS6
Last Update : Thu Feb 02 09:44:46 2012
Response via : Initial Calibration
DataAcq Meth : 8260WT

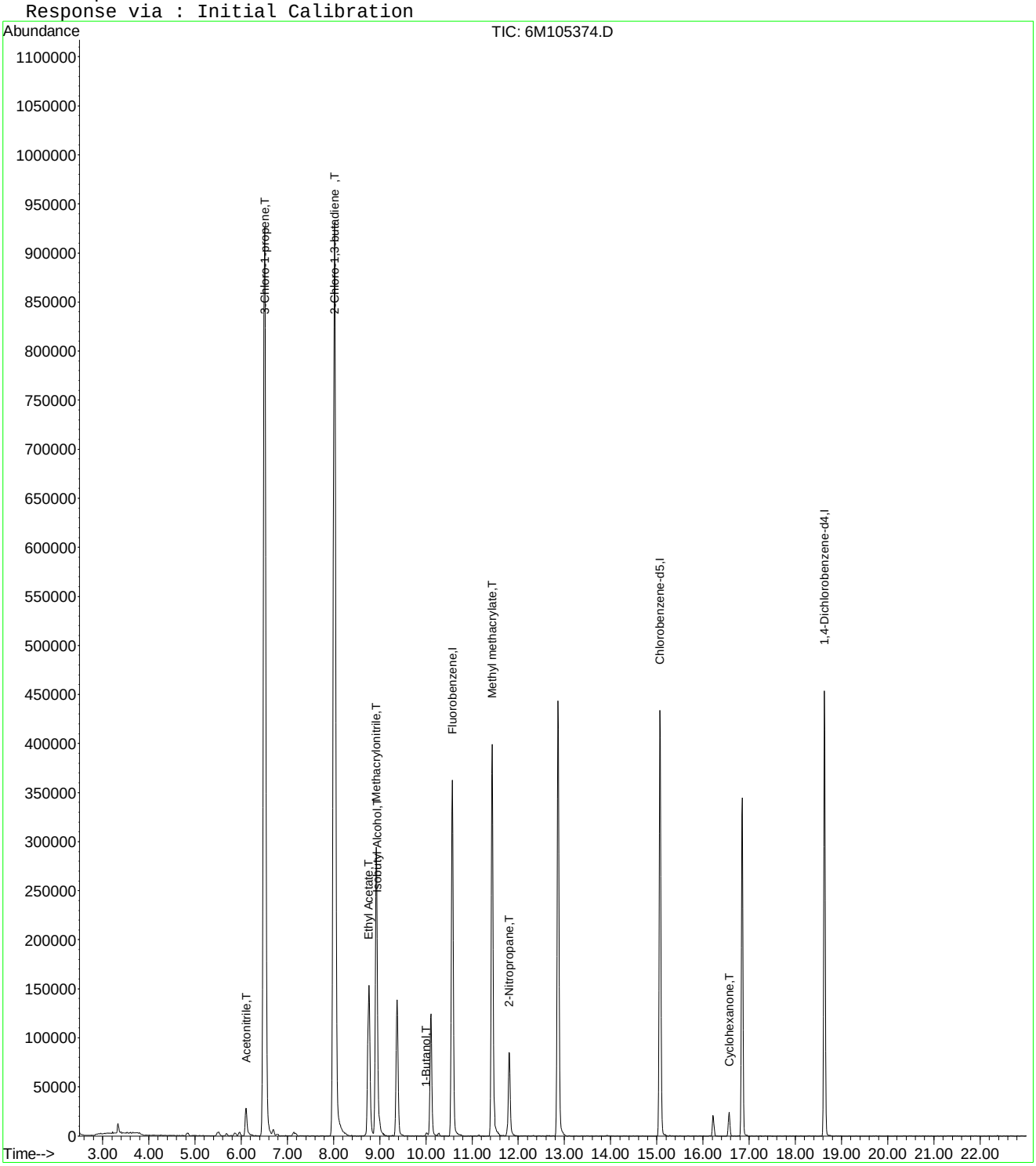
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene	10.57	96	521985	25.00	ug/L		0.00
11) Chlorobenzene-d5	15.06	117	364007	25.00	ug/L		0.00
12) 1,4-Dichlorobenzene-d4	18.63	152	173837	25.00	ug/L		0.00
Target Compounds							Qvalue
2) Acetonitrile	6.11	41	49127	103.3162	ug/L		100
3) 3-Chloro-1-propene	6.51	41	1180872	104.1659	ug/L		100
4) 2-Chloro-1,3-butadiene	8.02	53	1129950	105.4136	ug/L		100
5) Ethyl Acetate	8.76	43	319926	102.2217	ug/L	#	100
6) Methacrylonitrile	8.93	67	135748	103.1936	ug/L		100
7) Isobutyl Alcohol	8.95	43	27528	198.7549	ug/L		96
8) 1-Butanol	10.01	41	1808	50.3611	ug/L		100
9) Methyl methacrylate	11.44	41	351082	96.8724	ug/L		100
10) 2-Nitropropane	11.80	43	98910	95.2434	ug/L		100
13) Cyclohexanone	16.56	55	17278	92.2929	ug/L		100

(#) = qualifier out of range (m) = manual integration
6M105374.D A9FOOWTR.M Thu Feb 02 15:11:57 2012 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\012512\6M105374.D Vial: 8
Acq On : 25 Jan 2012 11:49 Operator: ADC
Sample : WG388587-04 100ug/L 826A9FOO QC Inst : HPMS6
Misc : 1,1 STD49721 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Feb 2 11:00 2012 Quant Results File: A9FOOWTR.RES

Method : C:\MSDCHEM\2\METHODS\A9FOOWTR.M (RTE Integrator)
Title : A9-FOO Water - IC: 01/25/12 - HPMS6
Last Update : Thu Feb 02 09:44:46 2012
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\012512\6M105375.D Vial: 9
Acq On : 25 Jan 2012 12:22 Operator: ADC
Sample : WG388587-05 200ug/L 826A9FOO QC Inst : HPMS6
Misc : 1,1 STD49721 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Feb 02 11:00:12 2012 Quant Results File: A9FOOWTR.RES

Quant Method : C:\MSDCHEM\2\METHODS\A9FOOWTR.M (RTE Integrator)
Title : A9-FOO Water - IC: 01/25/12 - HPMS6
Last Update : Thu Feb 02 09:44:46 2012
Response via : Initial Calibration
DataAcq Meth : 8260WT

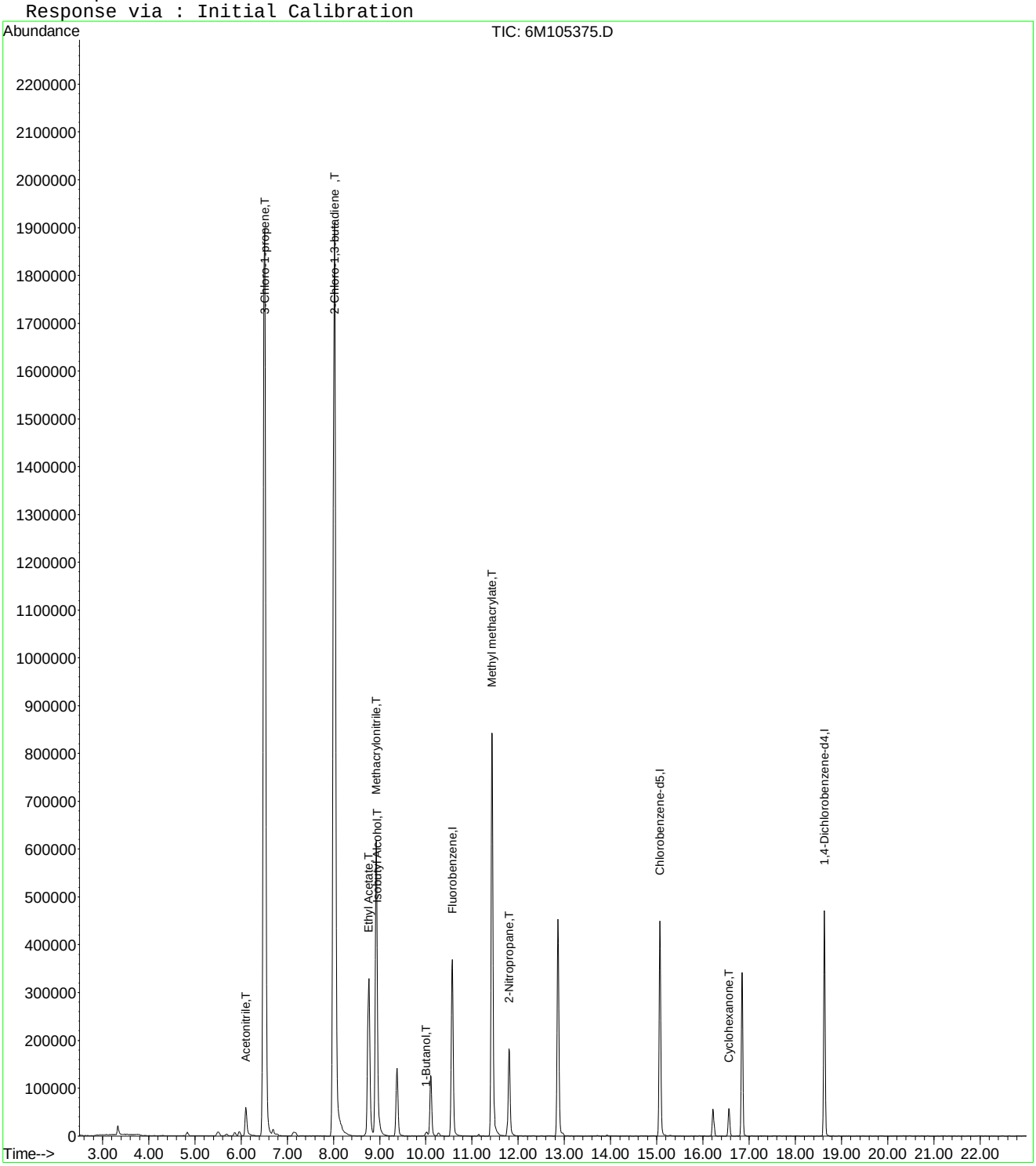
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene	10.57	96	534922	25.00	ug/L		0.00
11) Chlorobenzene-d5	15.07	117	371767	25.00	ug/L		0.00
12) 1,4-Dichlorobenzene-d4	18.63	152	181349	25.00	ug/L		0.00
Target Compounds							Qvalue
2) Acetonitrile	6.10	41	104721	214.9064	ug/L		98
3) 3-Chloro-1-propene	6.51	41	2451072	210.9824	ug/L		99
4) 2-Chloro-1,3-butadiene	8.02	53	2371831	215.9180	ug/L		100
5) Ethyl Acetate	8.77	43	681737	212.5582	ug/L	#	100
6) Methacrylonitrile	8.93	67	292287	216.8185	ug/L		98
7) Isobutyl Alcohol	8.95	43	58077	409.1804	ug/L	#	92
8) 1-Butanol	10.01	41	6913	187.9020	ug/L		70
9) Methyl methacrylate	11.43	41	752659	195.4261	ug/L		99
10) 2-Nitropropane	11.80	43	216103	192.7634	ug/L		98
13) Cyclohexanone	16.56	55	41618	189.3675	ug/L		99

(#) = qualifier out of range (m) = manual integration
6M105375.D A9FOOWTR.M Thu Feb 02 15:11:58 2012 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\012512\6M105375.D Vial: 9
Acq On : 25 Jan 2012 12:22 Operator: ADC
Sample : WG388587-05 200ug/L 826A9FOO QC Inst : HPMS6
Misc : 1,1 STD49721 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Feb 2 11:00 2012 Quant Results File: A9FOOWTR.RES

Method : C:\MSDCHEM\2\METHODS\A9FOOWTR.M (RTE Integrator)
Title : A9-FOO Water - IC: 01/25/12 - HPMS6
Last Update : Thu Feb 02 09:44:46 2012
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\012512\6M105376.D Vial: 10
Acq On : 25 Jan 2012 12:55 Operator: ADC
Sample : WG388587-06 300ug/L 826A9FOO QC Inst : HPMS6
Misc : 1,1 STD49721 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Feb 02 11:00:14 2012 Quant Results File: A9FOOWTR.RES

Quant Method : C:\MSDCHEM\2\METHODS\A9FOOWTR.M (RTE Integrator)
Title : A9-FOO Water - IC: 01/25/12 - HPMS6
Last Update : Thu Feb 02 09:44:46 2012
Response via : Initial Calibration
DataAcq Meth : 8260WT

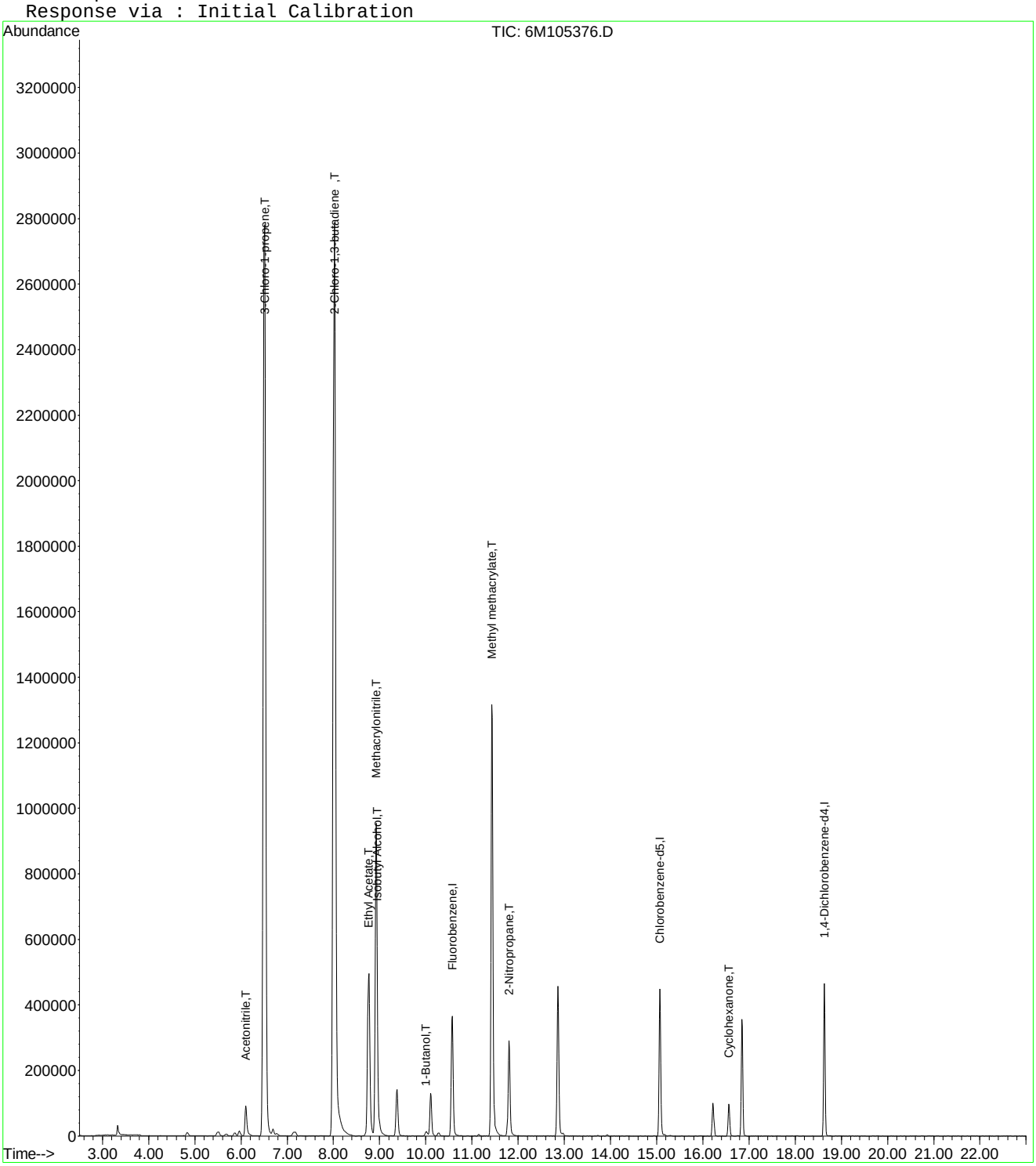
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.57	96	532868	25.00	ug/L	0.00
11) Chlorobenzene-d5	15.07	117	367343	25.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4	18.63	152	176868	25.00	ug/L	0.00
Target Compounds						Qvalue
2) Acetonitrile	6.10	41	156947	323.3252	ug/L	98
3) 3-Chloro-1-propene	6.51	41	3628216	313.5120	ug/L	100
4) 2-Chloro-1,3-butadiene	8.02	53	3511500	320.8992	ug/L	100
5) Ethyl Acetate	8.77	43	1044658	326.9686	ug/L #	100
6) Methacrylonitrile	8.93	67	444609	331.0823	ug/L	99
7) Isobutyl Alcohol	8.95	43	94189	666.1648	ug/L	96
8) 1-Butanol	10.00	41	12003	327.5106	ug/L	67
9) Methyl methacrylate	11.43	41	1170130	301.2810	ug/L	100
10) 2-Nitropropane	11.80	43	338961	298.2921	ug/L	96
13) Cyclohexanone	16.56	55	67793	304.1310	ug/L	99

(#) = qualifier out of range (m) = manual integration
6M105376.D A9FOOWTR.M Thu Feb 02 15:12:00 2012 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\012512\6M105376.D Vial: 10
Acq On : 25 Jan 2012 12:55 Operator: ADC
Sample : WG388587-06 300ug/L 826A9FOO QC Inst : HPMS6
Misc : 1,1 STD49721 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Feb 2 11:00 2012 Quant Results File: A9FOOWTR.RES

Method : C:\MSDCHEM\2\METHODS\A9FOOWTR.M (RTE Integrator)
Title : A9-FOO Water - IC: 01/25/12 - HPMS6
Last Update : Thu Feb 02 09:44:46 2012
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\012512\6M105377.D Vial: 11
Acq On : 25 Jan 2012 13:27 Operator: ADC
Sample : WG388587-07 400ug/L 826A9FOO QC Inst : HPMS6
Misc : 1,1 STD49721 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Feb 02 11:00:16 2012 Quant Results File: A9FOOWTR.RES

Quant Method : C:\MSDCHEM\2\METHODS\A9FOOWTR.M (RTE Integrator)
Title : A9-FOO Water - IC: 01/25/12 - HPMS6
Last Update : Thu Feb 02 09:44:46 2012
Response via : Initial Calibration
DataAcq Meth : 8260WT

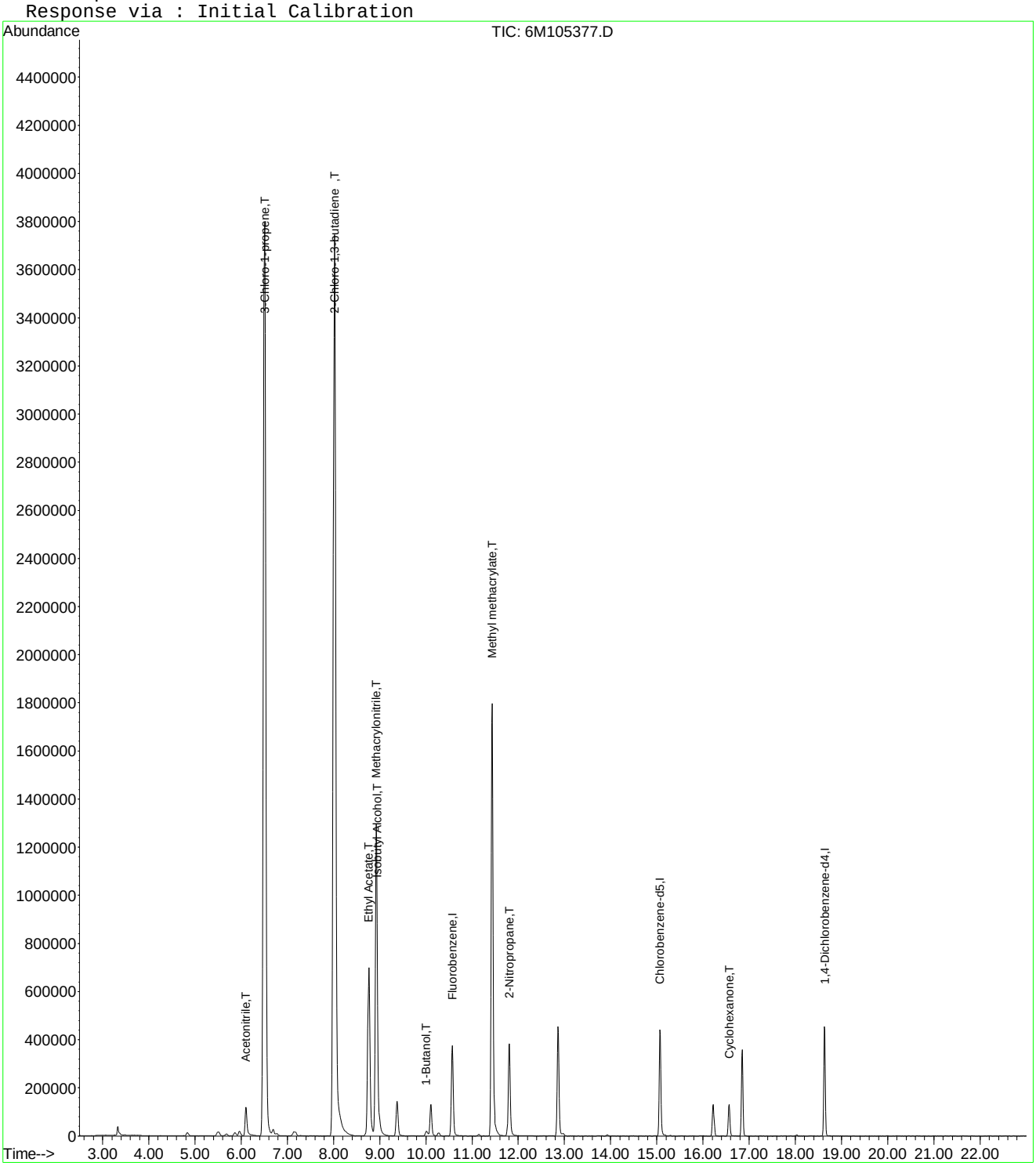
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene	10.57	96	540011	25.00	ug/L		0.00
11) Chlorobenzene-d5	15.06	117	371362	25.00	ug/L		0.00
12) 1,4-Dichlorobenzene-d4	18.64	152	178768	25.00	ug/L		0.01
Target Compounds							Qvalue
2) Acetonitrile	6.10	41	215914	438.9189	ug/L		97
3) 3-Chloro-1-propene	6.51	41	4907559	418.4500	ug/L		99
4) 2-Chloro-1,3-butadiene	8.02	53	4745927	427.9707	ug/L		100
5) Ethyl Acetate	8.76	43	1446302	446.6917	ug/L	#	100
6) Methacrylonitrile	8.93	67	604809	444.4194	ug/L		100
7) Isobutyl Alcohol	8.95	43	119029	830.7136	ug/L		87
8) 1-Butanol	10.01	41	17098	460.3604	ug/L		72
9) Methyl methacrylate	11.44	41	1591710	402.1410	ug/L		100
10) 2-Nitropropane	11.81	43	471553	406.0960	ug/L		94
13) Cyclohexanone	16.56	55	92310	403.4226	ug/L		98

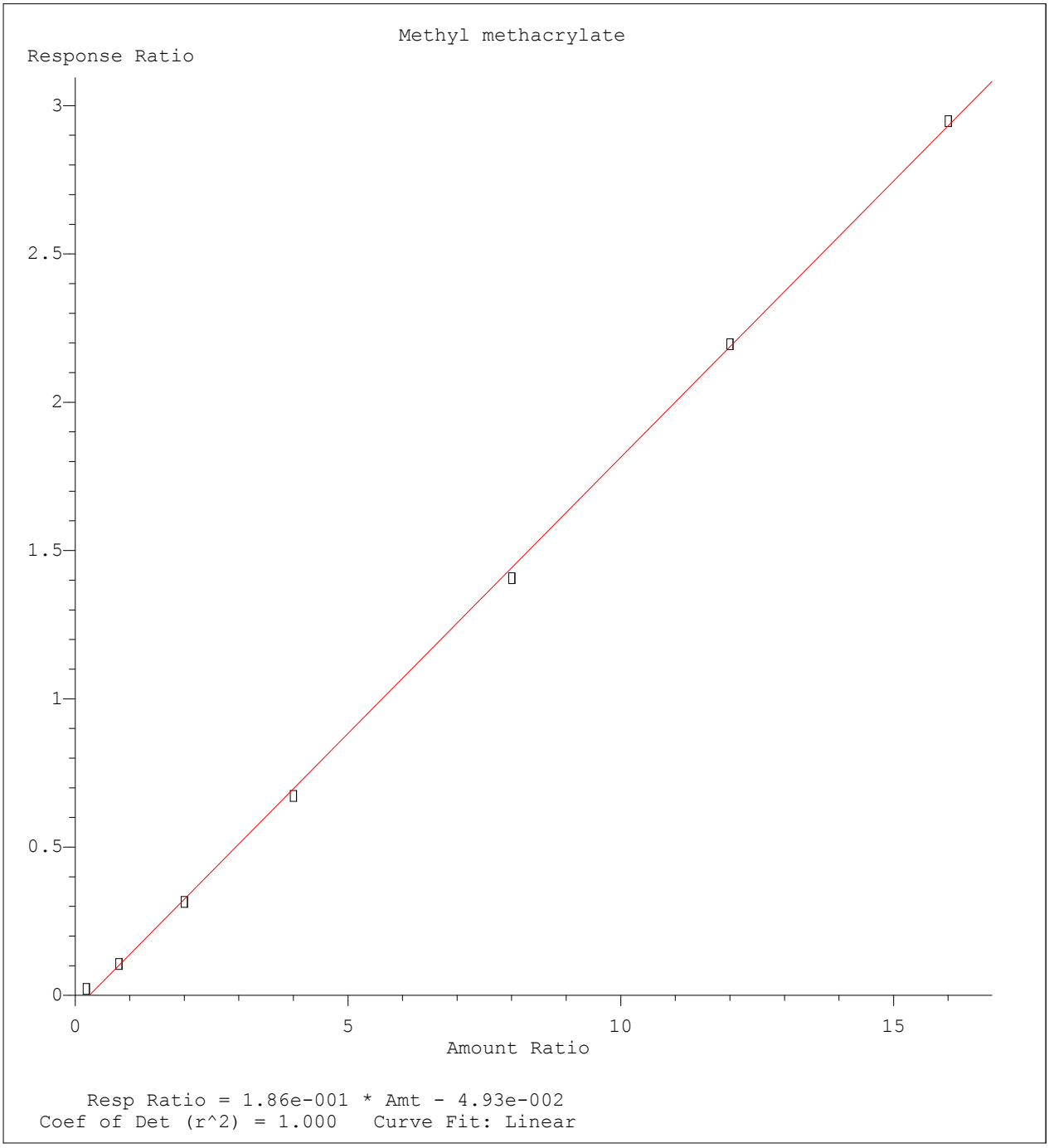
(#) = qualifier out of range (m) = manual integration
6M105377.D A9FOOWTR.M Thu Feb 02 15:12:01 2012 Page 1

Quantitation Report (Not Reviewed)

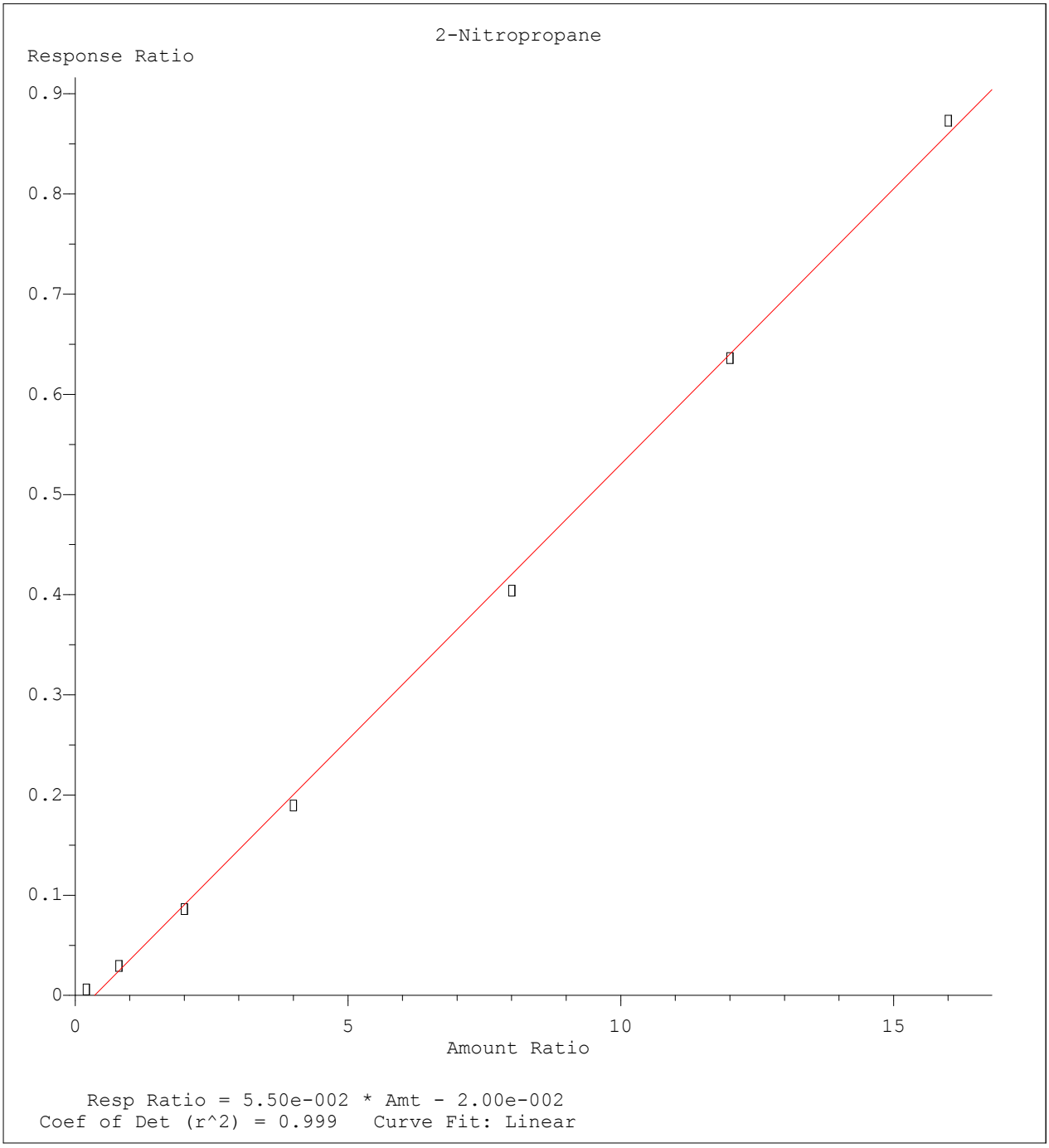
Data File : C:\MSDCHEM\2\DATA\012512\6M105377.D Vial: 11
Acq On : 25 Jan 2012 13:27 Operator: ADC
Sample : WG388587-07 400ug/L 826A9FOO QC Inst : HPMS6
Misc : 1,1 STD49721 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Feb 2 11:00 2012 Quant Results File: A9FOOWTR.RES

Method : C:\MSDCHEM\2\METHODS\A9FOOWTR.M (RTE Integrator)
Title : A9-FOO Water - IC: 01/25/12 - HPMS6
Last Update : Thu Feb 02 09:44:46 2012
Response via : Initial Calibration

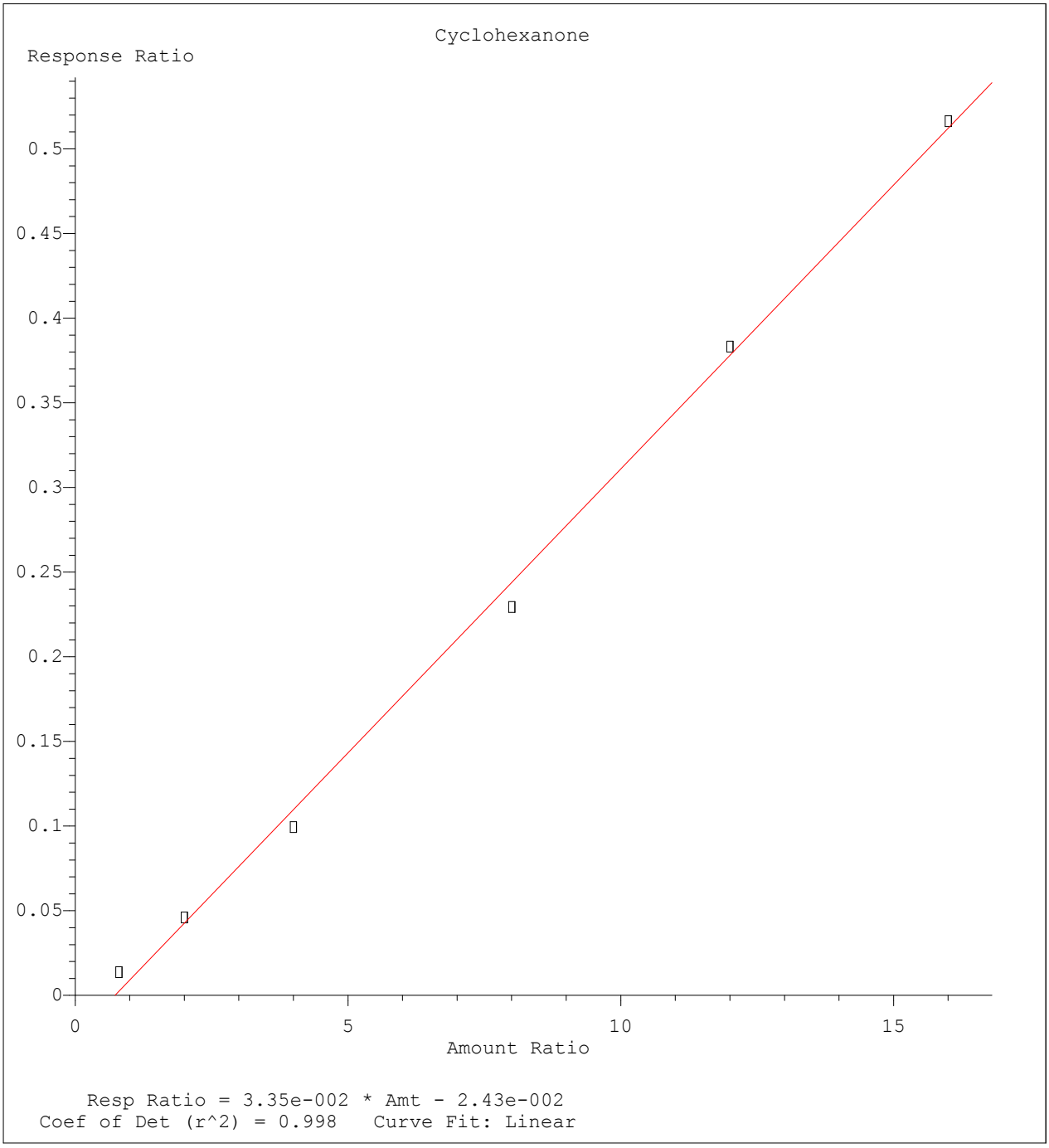




Method Name: C:\MSDCHEM\2\METHODS\A9FOOWTR.M
Calibration Table Last Updated: Thu Feb 02 09:44:46 2012



Method Name: C:\MSDCHEM\2\METHODS\A9FOOWTR.M
Calibration Table Last Updated: Thu Feb 02 09:44:46 2012



Method Name: C:\MSDCHEM\2\METHODS\A9FOOWTR.M
Calibration Table Last Updated: Thu Feb 02 09:44:46 2012

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\012512\6M105378.D Vial: 12
Acq On : 25 Jan 2012 14:00 Operator: ADC
Sample : WG388587-08 100ug/L ALT 826A9FOO QC Inst : HPMS6
Misc : 1,1 STD49721 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Feb 02 11:00:18 2012 Quant Results File: A9FOOWTR.RES

Quant Method : C:\MSDCHEM\2\METHODS\A9FOOWTR.M (RTE Integrator)
Title : A9-FOO Water - IC: 01/25/12 - HPMS6
Last Update : Thu Feb 02 09:44:46 2012
Response via : Initial Calibration
DataAcq Meth : 8260WT

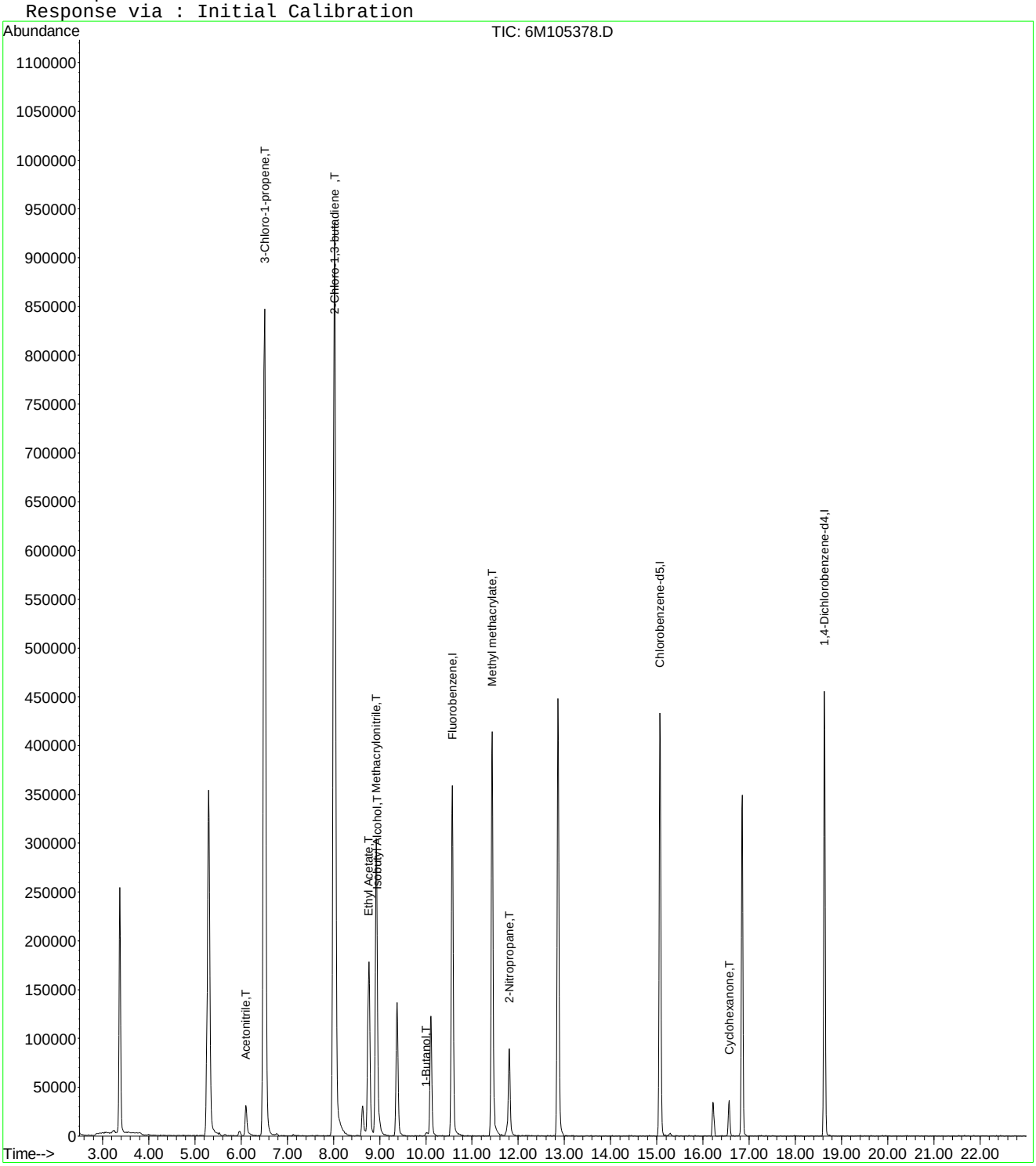
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene	10.57	96	512896	25.00	ug/L		0.00
11) Chlorobenzene-d5	15.06	117	362669	25.00	ug/L		0.00
12) 1,4-Dichlorobenzene-d4	18.63	152	178315	25.00	ug/L		0.00
Target Compounds							Qvalue
2) Acetonitrile	6.10	41	54059	115.7031	ug/L		98
3) 3-Chloro-1-propene	6.51	41	1081081	97.0531	ug/L		100
4) 2-Chloro-1,3-butadiene	8.02	53	1145123	108.7223	ug/L		100
5) Ethyl Acetate	8.76	43	375275	122.0315	ug/L	#	100
6) Methacrylonitrile	8.93	67	141969	109.8352	ug/L		100
7) Isobutyl Alcohol	8.95	43	30619	224.9898	ug/L	#	99
8) 1-Butanol	10.01	41	3160	89.5804	ug/L		61
9) Methyl methacrylate	11.44	41	366057	102.3896	ug/L		100
10) 2-Nitropropane	11.81	43	105557	102.6620	ug/L		97
13) Cyclohexanone	16.57	55	24853	122.1280	ug/L		96

(#) = qualifier out of range (m) = manual integration
6M105378.D A9FOOWTR.M Thu Feb 02 15:12:02 2012 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\012512\6M105378.D Vial: 12
Acq On : 25 Jan 2012 14:00 Operator: ADC
Sample : WG388587-08 100ug/L ALT 826A9FOO QC Inst : HPMS6
Misc : 1,1 STD49721 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Feb 2 11:00 2012 Quant Results File: A9FOOWTR.RES

Method : C:\MSDCHEM\2\METHODS\A9FOOWTR.M (RTE Integrator)
Title : A9-FOO Water - IC: 01/25/12 - HPMS6
Last Update : Thu Feb 02 09:44:46 2012
Response via : Initial Calibration



Evaluate Continuing Calibration Report

Data File : C:\MSDCHEM\2\DATA\012512\6M105378.D Vial: 12
Acq On : 25 Jan 2012 14:00 Operator: ADC
Sample : WG388587-08 100ug/L ALT 826A9FOO QC Inst : HPMS6
Misc : 1,1 STD49721 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\2\METHODS\A9FOOWTR.M (RTE Integrator)
Title : A9-FOO Water - IC: 01/25/12 - HPMS6
Last Update : Thu Feb 02 09:44:46 2012
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 1% Max. R.T. Dev 0.50min
Max. RRF Dev : 75% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Fluorobenzene	25.000	25.000	0.0	98	0.00
2	T	Acetonitrile	100.000	115.703	-15.7	110	0.00
3	T	3-Chloro-1-propene	100.000	97.053	2.9	92	0.00
4	T	2-Chloro-1,3-butadiene	100.000	108.722	-8.7	101	0.00
5	T	Ethyl Acetate	100.000	122.031	-22.0	117	0.00
6	T	Methacrylonitrile	100.000	109.835	-9.8	105	0.00
7	T	Isobutyl Alcohol	200.000	224.990	-12.5	111	0.00
8	T	1-Butanol	100.000	89.580	10.4	175	0.00
9	T	Methyl methacrylate	100.000	102.390	-2.4	104	0.00
10	T	2-Nitropropane	100.000	102.662	-2.7	107	0.01
11	I	Chlorobenzene-d5	25.000	25.000	0.0	100	0.00
12	I	1,4-Dichlorobenzene-d4	25.000	25.000	0.0	103	0.00
13	T	Cyclohexanone	100.000	122.128	-22.1	144	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
6M105378.D A9FOOWTR.M Thu Feb 02 11:06:34 2012 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\111212\6M112622.D Vial: 3
Acq On : 12 Nov 2012 15:14 Operator: adc
Sample : WG414018-02 0.3 ug/L STD 8260 Inst : HPMS6
Misc : 1,1 STD54883 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 14 12:58:52 2012 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:OVLMSV01 011/12/12 - HPMS6
Last Update : Tue Nov 13 09:04:10 2012
Response via : Initial Calibration
DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.32	96	578817	25.00	ug/L	0.00
57) Chlorobenzene-d5	14.80	117	406927	25.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	18.35	152	193099	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	0.00	111	0	0.0000	ug/L	
Spiked Amount 25.000	Range 86 - 118		Recovery =	0.00%#		
43) 1,2-Dichloroethane-d4	9.85	65	912	0.1604	ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery =	0.64%#		
58) Toluene-d8	12.60	98	4313	0.2161	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery =	0.88%#		
80) p-Bromofluorobenzene	16.58	95	1539	0.2198	ug/L	0.01
Spiked Amount 25.000	Range 86 - 115		Recovery =	0.88%#		
Target Compounds						Qvalue
2) Dichlorodifluoromethane	2.64	85	989	0.2171	ug/L #	65
3) Chloromethane	3.01	50	2317	0.2861	ug/L #	64
4) Vinyl Chloride	3.19	62	2334	0.3495	ug/L #	77
5) 1,3-Butadiene	3.23	54	2315	Below Cal		90
6) Bromomethane	3.95	94	741	0.7868	ug/L	92
7) Chloroethane	4.09	64	1026	0.2513	ug/L #	46
8) Trichlorofluoromethane	4.56	101	2107	0.2217	ug/L #	85
10) Isoprene	5.11	67	2902	0.2800	ug/L	74
12) 1,1,2-Trichloro-1,2,2-Trif	5.37	101	850	0.1570	ug/L #	12
14) 1,1-Dichloroethene	5.65	61	2585	0.2733	ug/L	94
16) Dimethyl Sulfide	5.92	62	1799	0.2542	ug/L	88
19) Methylene Chloride	6.47	84	1607	0.2854	ug/L	86
20) Carbon Disulfide	6.48	76	4835	0.2883	ug/L #	75
22) Methyl Tert Butyl Ether	6.71	73	2585	0.2376	ug/L #	51
23) trans-1,2-Dichloroethene	6.95	96	1416	0.2483	ug/L	95
24) n-Hexane	7.06	57	2095	0.3324	ug/L	83
26) Vinyl Acetate	7.64	43	1591	0.2602	ug/L #	76
27) 1,1-Dichloroethane	7.63	63	3118	0.2761	ug/L #	66
31) 2,2-Dichloropropane	8.50	77	2186	0.2556	ug/L	72
32) cis-1,2-Dichloroethene	8.57	96	1437	0.2324	ug/L	96
33) Chloroform	8.80	83	2854	0.2816	ug/L #	81
35) Bromochloromethane	9.06	130	722	0.3873	ug/L #	43
38) 1,1,1-Trichloroethane	9.41	97	2326	0.2511	ug/L	72
39) Cyclohexane	9.41	56	3455	0.3417	ug/L	84
40) 1,1-Dichloropropene	9.63	75	1842	0.2390	ug/L #	73
42) Carbon Tetrachloride	9.77	117	1927	0.2283	ug/L #	89
45) 1,2-Dichloroethane	9.99	62	1683	0.2374	ug/L #	45
46) Benzene	10.02	78	7093	0.3190	ug/L #	82
47) Trichloroethene	10.89	130	2600	0.4074	ug/L	96
48) Methylcyclohexane	10.98	83	2010	0.2867	ug/L #	71
49) 1,2-Dichloropropane	11.16	63	1127	0.1983	ug/L #	35
51) Bromodichloromethane	11.48	83	1821	0.2569	ug/L	71
52) Dibromomethane	11.56	93	437	0.5070	ug/L #	8
55) cis-1,3-Dichloropropene	12.25	75	1726	0.2225	ug/L #	59
56) Dimethyl Disulfide	12.51	79	691	0.1476	ug/L #	50
59) Toluene	12.72	91	6610	0.2870	ug/L	100
62) trans-1,3-Dichloropropene	12.96	75	934	0.8162	ug/L #	50
63) 1,1,2-Trichloroethane	13.19	97	650	0.4295	ug/L #	33
65) 1,3-Dichloropropane	13.55	76	1275	0.2188	ug/L #	60
66) Tetrachloroethene	13.67	166	1683	0.2992	ug/L #	60

(#) = qualifier out of range (m) = manual integration
6M112622.D 8260WTR.M Wed Nov 14 12:58:52 2012 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\111212\6M112622.D Vial: 3
Acq On : 12 Nov 2012 15:14 Operator: adc
Sample : WG414018-02 0.3 ug/L STD 8260 Inst : HPMS6
Misc : 1,1 STD54883 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 14 12:58:52 2012 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:OVLMSV01 011/12/12 - HPMS6
Last Update : Tue Nov 13 09:04:10 2012
Response via : Initial Calibration
DataAcq Meth : 8260WTR

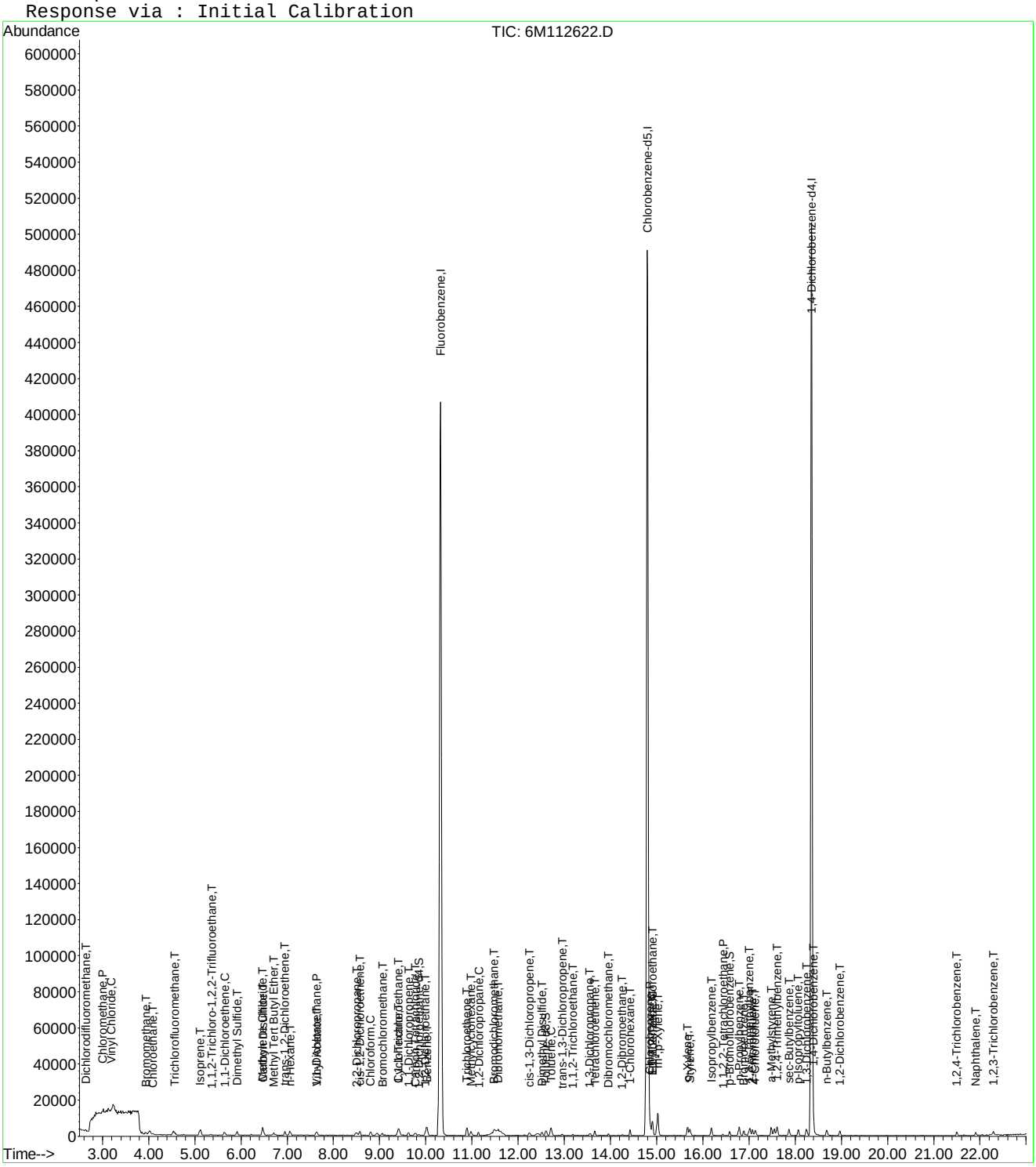
	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
67)	Dibromochloromethane	13.95	129	768	0.1747 ug/L		87
68)	1,2-Dibromoethane	14.25	107	382	0.3942 ug/L	#	2
69)	1-Chlorohexane	14.42	91	1689	0.2398 ug/L		94
70)	Chlorobenzene	14.85	112	4622	0.2994 ug/L		79
71)	1,1,1,2-Tetrachloroethane	14.91	131	1262	0.2266 ug/L	#	23
72)	Ethylbenzene	14.91	106	2205	0.2612 ug/L		55
73)	m-,p-Xylene	15.03	106	5966	0.5824 ug/L		94
74)	o-Xylene	15.67	106	2317	0.2404 ug/L		73
75)	Styrene	15.72	104	3272	0.2058 ug/L		81
77)	Isopropylbenzene	16.19	105	6398	0.2750 ug/L		90
79)	1,1,2,2-Tetrachloroethane	16.45	83	699	0.2025 ug/L	#	55
83)	n-Propylbenzene	16.78	91	8005	0.3161 ug/L	#	95
84)	Bromobenzene	16.88	156	1261	0.2294 ug/L		88
85)	1,3,5-Trimethylbenzene	17.01	105	5748	0.3094 ug/L		99
86)	2-Chlorotoluene	17.07	91	5118	0.2768 ug/L		85
87)	4-Chlorotoluene	17.13	91	5077	0.2998 ug/L	#	85
88)	a-Methylstyrene	17.49	118	2704	0.2486 ug/L	#	1
90)	1,2,4-Trimethylbenzene	17.61	105	6424	0.3329 ug/L		92
91)	sec-Butylbenzene	17.86	105	5712	0.2834 ug/L		85
92)	p-Isopropyltoluene	18.06	119	4703	0.2715 ug/L		84
93)	1,3-Dichlorobenzene	18.25	146	2863	0.2723 ug/L		93
94)	1,4-Dichlorobenzene	18.40	146	3050	0.2836 ug/L	#	1
95)	n-Butylbenzene	18.68	91	4003	0.2709 ug/L		93
96)	1,2-Dichlorobenzene	18.97	146	2513	0.2714 ug/L		83
98)	1,2,4-Trichlorobenzene	21.50	180	1269	0.2257 ug/L	#	82
100)	Naphthalene	21.91	128	2542	0.2605 ug/L	#	68
101)	1,2,3-Trichlorobenzene	22.29	180	1278	0.2764 ug/L	#	82

(#) = qualifier out of range (m) = manual integration
6M112622.D 8260WTR.M Wed Nov 14 12:58:52 2012 Page 2

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\111212\6M112622.D Vial: 3
Acq On : 12 Nov 2012 15:14 Operator: adc
Sample : WG414018-02 0.3 ug/L STD 8260 Inst : HPMS6
Misc : 1,1 STD54883 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 14 12:58 2012 Quant Results File: 8260WTR.RES

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:OVLMSV01 011/12/12 - HPMS6
Last Update : Wed Nov 14 12:48:44 2012
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\111212\6M112623.D Vial: 4
Acq On : 12 Nov 2012 15:44 Operator: adc
Sample : WG414018-03 0.4 ug/L STD 8260 Inst : HPMS6
Misc : 1,1 STD54883 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 14 12:58:54 2012 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:OVLMSV01 011/12/12 - HPMS6
Last Update : Wed Nov 14 12:48:44 2012
Response via : Initial Calibration
DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.32	96	547565	25.00	ug/L	0.00
57) Chlorobenzene-d5	14.80	117	386452	25.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	18.35	152	185616	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	0.00	111	0	0.0000	ug/L	
Spiked Amount 25.000	Range 86 - 118		Recovery =	0.00%#		
43) 1,2-Dichloroethane-d4	0.00	65	0	0.0000	ug/L	
Spiked Amount 25.000	Range 80 - 120		Recovery =	0.00%#		
58) Toluene-d8	12.60	98	1873	0.0988	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery =	0.40%#		
80) p-Bromofluorobenzene	16.59	95	642	0.0954	ug/L	0.02
Spiked Amount 25.000	Range 86 - 115		Recovery =	0.40%#		
Target Compounds						Qvalue
2) Dichlorodifluoromethane	2.64	85	1425	0.3307	ug/L #	65
3) Chloromethane	3.00	50	5698	0.7438	ug/L	89
4) Vinyl Chloride	3.20	62	2862	0.4530	ug/L	96
5) 1,3-Butadiene	3.24	54	2653	Below Cal		94
6) Bromomethane	3.95	94	1096	0.8726	ug/L	94
7) Chloroethane	4.10	64	1306	0.3381	ug/L #	46
8) Trichlorofluoromethane	4.57	101	3155	0.3509	ug/L #	92
10) Isoprene	5.12	67	3827	0.3903	ug/L	89
12) 1,1,2-Trichloro-1,2,2-Trif	5.32	101	698	0.1363	ug/L #	27
14) 1,1-Dichloroethene	5.65	61	3419	0.3821	ug/L	96
16) Dimethyl Sulfide	5.91	62	2207	0.3297	ug/L	99
17) Iodomethane	6.16	142	193	1.9347	ug/L #	29
18) Methyl acetate	6.22	43	474	0.2042	ug/L #	63
19) Methylene Chloride	6.48	84	2205	0.4140	ug/L	90
20) Carbon Disulfide	6.48	76	6548	0.4127	ug/L #	84
22) Methyl Tert Butyl Ether	6.73	73	3666	0.3561	ug/L #	51
23) trans-1,2-Dichloroethene	6.95	96	1859	0.3446	ug/L	92
24) n-Hexane	7.06	57	2367	0.3970	ug/L	80
26) Vinyl Acetate	7.64	43	1809	0.3127	ug/L #	76
27) 1,1-Dichloroethane	7.64	63	4373	0.4094	ug/L	85
31) 2,2-Dichloropropane	8.49	77	3001	0.3709	ug/L	89
32) cis-1,2-Dichloroethene	8.57	96	2261	0.3866	ug/L	87
33) Chloroform	8.80	83	3869	0.4036	ug/L	90
35) Bromochloromethane	9.06	130	631	0.3715	ug/L	89
38) 1,1,1-Trichloroethane	9.40	97	3333	0.3804	ug/L	84
39) Cyclohexane	9.43	56	3754	0.3925	ug/L	94
40) 1,1-Dichloropropene	9.62	75	2667	0.3658	ug/L #	78
42) Carbon Tetrachloride	9.77	117	2765	0.3463	ug/L #	90
45) 1,2-Dichloroethane	9.99	62	2481	0.3699	ug/L #	57
46) Benzene	10.02	78	9035	0.4296	ug/L	88
47) Trichloroethene	10.89	130	2739	0.4536	ug/L	89
48) Methylcyclohexane	10.98	83	2393	0.3608	ug/L #	83
49) 1,2-Dichloropropane	11.14	63	1761	0.3275	ug/L #	52
51) Bromodichloromethane	11.48	83	2540	0.3787	ug/L	96
52) Dibromomethane	11.57	93	272	0.4564	ug/L #	11
55) cis-1,3-Dichloropropene	12.25	75	2659	0.3623	ug/L #	65
56) Dimethyl Disulfide	12.50	79	1165	0.2631	ug/L #	50
59) Toluene	12.72	91	8608	0.3935	ug/L	100
60) Ethyl Methacrylate	12.91	69	458	0.2311	ug/L	87
62) trans-1,3-Dichloropropene	12.96	75	1335	0.8787	ug/L #	50

(#) = qualifier out of range (m) = manual integration
6M112623.D 8260WTR.M Wed Nov 14 12:58:54 2012 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\111212\6M112623.D Vial: 4
Acq On : 12 Nov 2012 15:44 Operator: adc
Sample : WG414018-03 0.4 ug/L STD 8260 Inst : HPMS6
Misc : 1,1 STD54883 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 14 12:58:54 2012 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:OVLMSV01 011/12/12 - HPMS6
Last Update : Wed Nov 14 12:48:44 2012
Response via : Initial Calibration
DataAcq Meth : 8260WTR

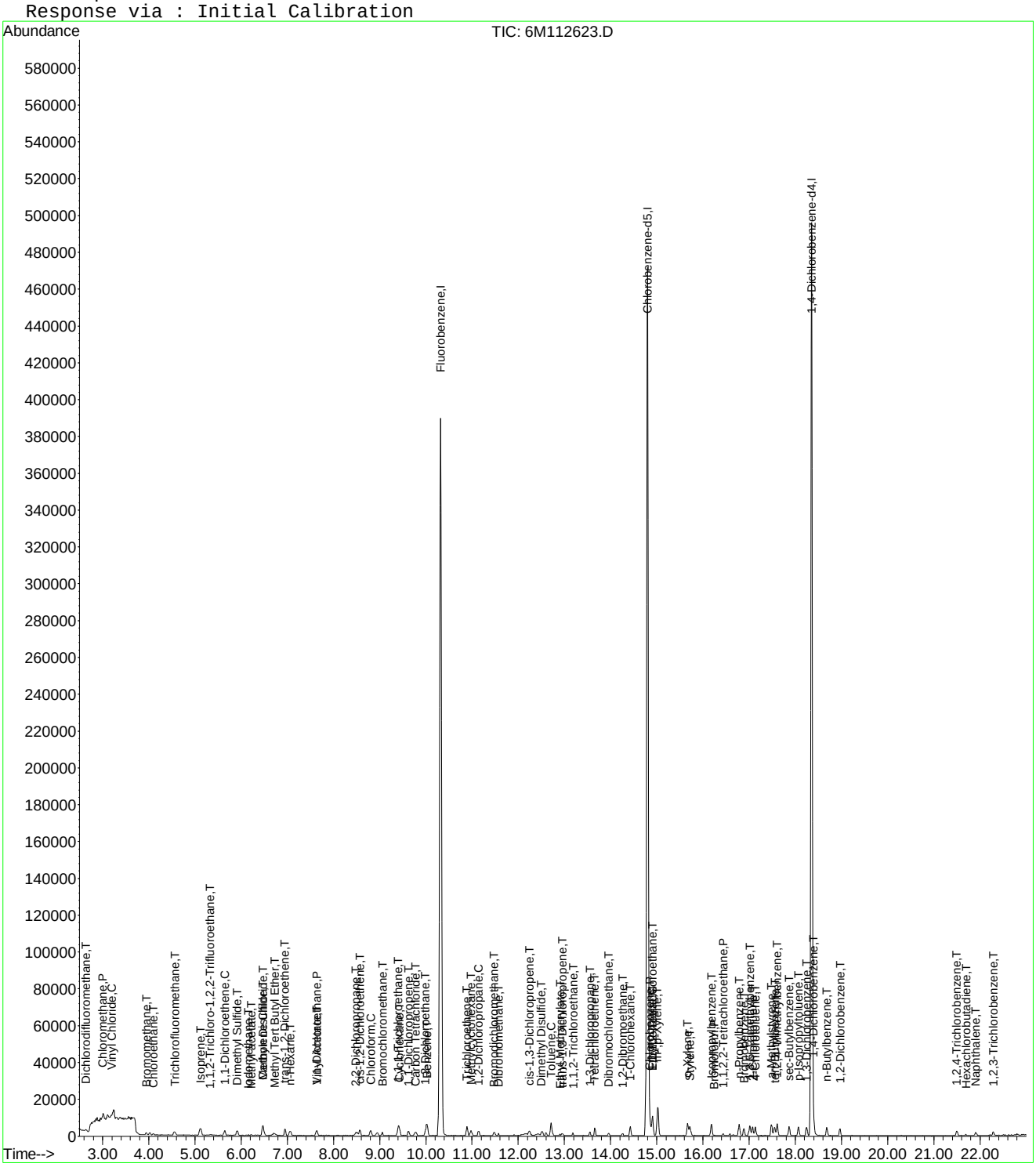
	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
63)	1,1,2-Trichloroethane	13.20	97	812	0.4839 ug/L	#	65
65)	1,3-Dichloropropane	13.55	76	1531	0.2766 ug/L		82
66)	Tetrachloroethene	13.65	166	1918	0.3591 ug/L		87
67)	Dibromochloromethane	13.96	129	1441	0.3451 ug/L		77
68)	1,2-Dibromoethane	14.27	107	765	0.5056 ug/L		95
69)	1-Chlorohexane	14.43	91	2605	0.3895 ug/L		91
70)	Chlorobenzene	14.85	112	5611	0.3828 ug/L		72
71)	1,1,1,2-Tetrachloroethane	14.91	131	1900	0.3592 ug/L	#	23
72)	Ethylbenzene	14.91	106	3096	0.3862 ug/L		42
73)	m-,p-Xylene	15.01	106	7354	0.7559 ug/L		91
74)	o-Xylene	15.67	106	3515	0.3840 ug/L		91
75)	Styrene	15.72	104	5315	0.3520 ug/L		88
76)	Bromoform	16.25	173	208	0.8014 ug/L	#	34
77)	Isopropylbenzene	16.19	105	8744	0.3957 ug/L		93
79)	1,1,2,2-Tetrachloroethane	16.44	83	1131	0.3409 ug/L	#	67
83)	n-Propylbenzene	16.78	91	9638	0.3959 ug/L	#	94
84)	Bromobenzene	16.89	156	1895	0.3587 ug/L		94
85)	1,3,5-Trimethylbenzene	17.01	105	7404	0.4146 ug/L		93
86)	2-Chlorotoluene	17.08	91	7264	0.4088 ug/L	#	86
87)	4-Chlorotoluene	17.14	91	6389	0.3924 ug/L	#	87
88)	a-Methylstyrene	17.48	118	3584	0.3428 ug/L	#	1
89)	tert-Butylbenzene	17.56	134	1044	0.3110 ug/L		67
90)	1,2,4-Trimethylbenzene	17.61	105	7552	0.4071 ug/L		89
91)	sec-Butylbenzene	17.86	105	7284	0.3760 ug/L		93
92)	p-Isopropyltoluene	18.07	119	6855	0.4116 ug/L		98
93)	1,3-Dichlorobenzene	18.25	146	3833	0.3792 ug/L		88
94)	1,4-Dichlorobenzene	18.39	146	4177	0.4041 ug/L		85
95)	n-Butylbenzene	18.68	91	5929	0.4174 ug/L		88
96)	1,2-Dichlorobenzene	18.98	146	3481	0.3910 ug/L		86
98)	1,2,4-Trichlorobenzene	21.50	180	1961	0.3629 ug/L	#	91
99)	Hexachlorobutadiene	21.70	225	441	0.2019 ug/L	#	45
100)	Naphthalene	21.91	128	3569	0.3805 ug/L	#	68
101)	1,2,3-Trichlorobenzene	22.28	180	1763	0.3967 ug/L	#	74

(#) = qualifier out of range (m) = manual integration
6M112623.D 8260WTR.M Wed Nov 14 12:58:54 2012 Page 2

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\111212\6M112623.D Vial: 4
Acq On : 12 Nov 2012 15:44 Operator: adc
Sample : WG414018-03 0.4 ug/L STD 8260 Inst : HPMS6
Misc : 1,1 STD54883 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 14 12:58 2012 Quant Results File: 8260WTR.RES

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:OVLMSV01 011/12/12 - HPMS6
Last Update : Wed Nov 14 12:48:44 2012
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\111212\6M112624.D Vial: 5
Acq On : 12 Nov 2012 16:15 Operator: adc
Sample : WG414018-04 1.0ug/L STD 8260 Inst : HPMS6
Misc : 1,1 STD54883 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 14 12:58:55 2012 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:OVLMSV01 011/12/12 - HPMS6
Last Update : Wed Nov 14 12:48:44 2012
Response via : Initial Calibration
DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.32	96	533264	25.00	ug/L	0.00
57) Chlorobenzene-d5	14.80	117	374009	25.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	18.35	152	181473	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.13	111	2696	0.4932	ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery =	1.96%#		
43) 1,2-Dichloroethane-d4	9.86	65	2754	0.5258	ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery =	2.12%#		
58) Toluene-d8	12.60	98	9787	0.5335	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery =	2.12%#		
80) p-Bromofluorobenzene	16.57	95	3344	0.5083	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery =	2.04%#		
Target Compounds						Qvalue
2) Dichlorodifluoromethane	2.64	85	3563	0.8490	ug/L #	79
3) Chloromethane	3.00	50	9570	1.2827	ug/L	98
4) Vinyl Chloride	3.19	62	7043	1.1447	ug/L	100
5) 1,3-Butadiene	3.24	54	5645	0.4239	ug/L	93
6) Bromomethane	3.94	94	3092	1.3242	ug/L	99
7) Chloroethane	4.10	64	3320	0.8825	ug/L	80
8) Trichlorofluoromethane	4.56	101	7981	0.9115	ug/L #	90
9) Diethyl ether	5.09	59	10831	4.5145	ug/L	99
10) Isoprene	5.11	67	8770	0.9184	ug/L	98
12) 1,1,2-Trichloro-1,2,2-Trif	5.32	101	4263	0.8546	ug/L	84
13) Acetone	5.43	43	663	0.9442	ug/L #	46
14) 1,1-Dichloroethene	5.64	61	8620	0.9891	ug/L	92
15) Tert-Butyl Alcohol	5.76	59	1178	5.9847	ug/L #	61
16) Dimethyl Sulfide	5.91	62	6042	0.9267	ug/L	96
17) Iodomethane	6.17	142	1428	2.2199	ug/L #	49
18) Methyl acetate	6.21	43	2149	0.9506	ug/L #	63
19) Methylene Chloride	6.47	84	4990	0.9620	ug/L	100
20) Carbon Disulfide	6.48	76	14299	0.9255	ug/L	93
21) Acrylonitrile	6.68	53	1915	1.8993	ug/L	97
22) Methyl Tert Butyl Ether	6.71	73	9387	0.9363	ug/L	92
23) trans-1,2-Dichloroethene	6.95	96	5070	0.9651	ug/L	94
24) n-Hexane	7.05	57	5647	0.9726	ug/L	93
25) Diisopropyl ether	7.45	45	74504	4.7617	ug/L	98
26) Vinyl Acetate	7.63	43	5047	0.8958	ug/L #	76
27) 1,1-Dichloroethane	7.64	63	9558	0.9187	ug/L	99
28) Ethyl-Tert-Butyl ether	8.08	59	64912	4.6626	ug/L	100
29) 2-Butanone	8.29	43	658	0.6333	ug/L #	54
30) Propionitrile	8.40	54	1145	3.5233	ug/L #	56
31) 2,2-Dichloropropane	8.50	77	6842	0.8684	ug/L	88
32) cis-1,2-Dichloroethene	8.56	96	5459	0.9584	ug/L	89
33) Chloroform	8.80	83	9005	0.9645	ug/L	96
34) 1-Bromopropane	8.95	122	203	0.9229	ug/L	92
35) Bromochloromethane	9.05	130	2928	1.0904	ug/L	92
36) Tetrahydrofuran	9.10	42	2879	4.4968	ug/L	91
38) 1,1,1-Trichloroethane	9.40	97	7491	0.8778	ug/L	100
39) Cyclohexane	9.42	56	9264	0.9945	ug/L	93
40) 1,1-Dichloropropene	9.62	75	6603	0.9299	ug/L	97
41) Tert-Amyl-Methyl ether	9.77	73	47567	4.5690	ug/L	97
42) Carbon Tetrachloride	9.77	117	6986	0.8985	ug/L	95
45) 1,2-Dichloroethane	9.99	62	5978	0.9152	ug/L #	88

(#) = qualifier out of range (m) = manual integration
6M112624.D 8260WTR.M Wed Nov 14 12:58:56 2012 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\111212\6M112624.D Vial: 5
Acq On : 12 Nov 2012 16:15 Operator: adc
Sample : WG414018-04 1.0ug/L STD 8260 Inst : HPMS6
Misc : 1,1 STD54883 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 14 12:58:55 2012 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:OVLMSV01 011/12/12 - HPMS6
Last Update : Wed Nov 14 12:48:44 2012
Response via : Initial Calibration
DataAcq Meth : 8260WTR

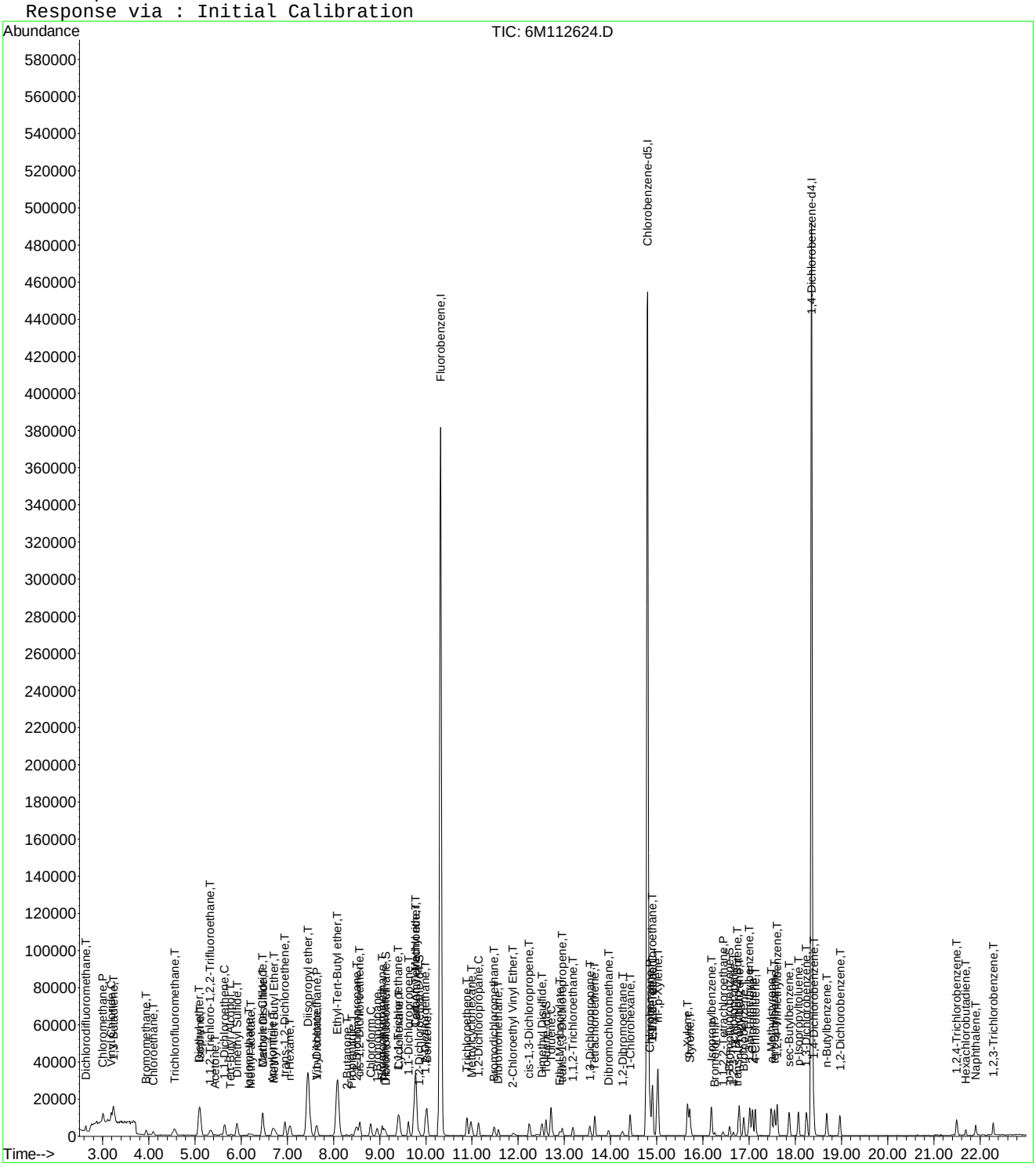
	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
46)	Benzene	10.02	78	19036	0.9293	ug/L		99
47)	Trichloroethene	10.89	130	5832	0.9918	ug/L		94
48)	Methylcyclohexane	10.99	83	5852	0.9059	ug/L		91
49)	1,2-Dichloropropane	11.14	63	4636	0.8853	ug/L		96
51)	Bromodichloromethane	11.48	83	5616	0.8598	ug/L		99
52)	Dibromomethane	11.56	93	1974	1.0840	ug/L		99
53)	2-Chloroethyl Vinyl Ether	11.88	63	735	1.3764	ug/L	#	43
55)	cis-1,3-Dichloropropene	12.24	75	5981	0.8369	ug/L		96
56)	Dimethyl Disulfide	12.51	79	2982	0.6914	ug/L	#	62
59)	Toluene	12.72	91	19512	0.9217	ug/L		98
60)	Ethyl Methacrylate	12.90	69	2618	0.7566	ug/L		98
62)	trans-1,3-Dichloropropene	12.95	75	4018	1.2720	ug/L	#	76
63)	1,1,2-Trichloroethane	13.19	97	2492	0.9765	ug/L		89
65)	1,3-Dichloropropane	13.55	76	5143	0.9601	ug/L		100
66)	Tetrachloroethene	13.66	166	4384	0.8481	ug/L		96
67)	Dibromochloromethane	13.96	129	3328	0.8235	ug/L		98
68)	1,2-Dibromoethane	14.26	107	2415	0.9851	ug/L		96
69)	1-Chlorohexane	14.43	91	6056	0.9357	ug/L		99
70)	Chlorobenzene	14.85	112	13392	0.9440	ug/L		80
71)	1,1,1,2-Tetrachloroethane	14.90	131	4277	0.8355	ug/L	#	75
72)	Ethylbenzene	14.91	106	6881	0.8870	ug/L		40
73)	m-,p-Xylene	15.02	106	17393	1.8474	ug/L		99
74)	o-Xylene	15.67	106	8094	0.9137	ug/L		97
75)	Styrene	15.72	104	12158	0.8319	ug/L		97
76)	Bromoform	16.26	173	1793	1.3704	ug/L	#	58
77)	Isopropylbenzene	16.19	105	19638	0.9182	ug/L		97
79)	1,1,2,2-Tetrachloroethane	16.44	83	2892	0.8916	ug/L		90
81)	1,2,3-Trichloropropane	16.66	110	206	0.8638	ug/L	#	1
82)	trans-1,4-Dichloro-2-Buten	16.75	53	197	1.4009	ug/L		87
83)	n-Propylbenzene	16.78	91	22615	0.9501	ug/L	#	97
84)	Bromobenzene	16.88	156	4542	0.8794	ug/L		99
85)	1,3,5-Trimethylbenzene	17.00	105	16108	0.9226	ug/L		99
86)	2-Chlorotoluene	17.07	91	17138	0.9864	ug/L		91
87)	4-Chlorotoluene	17.14	91	14126	0.8875	ug/L		95
88)	a-Methylstyrene	17.48	118	8369	0.8187	ug/L	#	1
89)	tert-Butylbenzene	17.55	134	3069	0.9350	ug/L		95
90)	1,2,4-Trimethylbenzene	17.61	105	16828	0.9278	ug/L		88
91)	sec-Butylbenzene	17.86	105	17937	0.9470	ug/L		97
92)	p-Isopropyltoluene	18.07	119	15058	0.9248	ug/L		96
93)	1,3-Dichlorobenzene	18.24	146	8828	0.8934	ug/L		99
94)	1,4-Dichlorobenzene	18.40	146	9293	0.9196	ug/L		95
95)	n-Butylbenzene	18.68	91	12897	0.9286	ug/L		95
96)	1,2-Dichlorobenzene	18.98	146	8336	0.9578	ug/L		98
98)	1,2,4-Trichlorobenzene	21.50	180	5096	0.9646	ug/L		98
99)	Hexachlorobutadiene	21.69	225	1747	0.8183	ug/L		94
100)	Naphthalene	21.91	128	8696	0.9481	ug/L		90
101)	1,2,3-Trichlorobenzene	22.28	180	3608	0.8303	ug/L		98

(#) = qualifier out of range (m) = manual integration
6M112624.D 8260WTR.M Wed Nov 14 12:58:56 2012 Page 2

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\111212\6M112624.D Vial: 5
Acq On : 12 Nov 2012 16:15 Operator: adc
Sample : WG414018-04 1.0ug/L STD 8260 Inst : HPMS6
Misc : 1,1 STD54883 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 14 12:58 2012 Quant Results File: 8260WTR.RES

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:OVLMSV01 011/12/12 - HPMS6
Last Update : Wed Nov 14 12:48:44 2012
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\111212\6M112625.D Vial: 6
Acq On : 12 Nov 2012 16:46 Operator: adc
Sample : WG414018-05 2.0 ug/L STD 8260 Inst : HPMS6
Misc : 1,1 STD54883 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 14 12:58:56 2012 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:OVLMSV01 011/12/12 - HPMS6
Last Update : Wed Nov 14 12:48:44 2012
Response via : Initial Calibration
DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.32	96	530823	25.00	ug/L	0.00
57) Chlorobenzene-d5	14.80	117	371280	25.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	18.35	152	178956	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.12	111	5480	1.0072	ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery =	4.04%#		
43) 1,2-Dichloroethane-d4	9.86	65	5299	1.0163	ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery =	4.08%#		
58) Toluene-d8	12.60	98	18359	1.0081	ug/L	0.01
Spiked Amount 25.000	Range 88 - 110		Recovery =	4.04%#		
80) p-Bromofluorobenzene	16.58	95	6847	1.0553	ug/L	0.01
Spiked Amount 25.000	Range 86 - 115		Recovery =	4.24%#		
Target Compounds						Qvalue
2) Dichlorodifluoromethane	2.64	85	6795	1.6266	ug/L	94
3) Chloromethane	3.00	50	14708	1.9804	ug/L	94
4) Vinyl Chloride	3.19	62	12827	2.0943	ug/L	99
5) 1,3-Butadiene	3.24	54	9951	1.6241	ug/L	97
6) Bromomethane	3.94	94	6540	2.0999	ug/L	98
7) Chloroethane	4.10	64	7118	1.9008	ug/L	91
8) Trichlorofluoromethane	4.56	101	16888	1.9376	ug/L	98
9) Diethyl ether	5.09	59	58028	24.2980	ug/L	99
10) Isoprene	5.11	67	17208	1.8103	ug/L	100
11) Acrolein	5.31	56	2417	10.4076	ug/L	92
12) 1,1,2-Trichloro-1,2,2-Trif	5.33	101	9524	1.9181	ug/L	98
13) Acetone	5.44	43	1503	2.1502	ug/L #	46
14) 1,1-Dichloroethene	5.64	61	16294	1.8782	ug/L	98
15) Tert-Butyl Alcohol	5.78	59	9847	50.2562	ug/L #	90
16) Dimethyl Sulfide	5.92	62	11865	1.8282	ug/L	99
17) Iodomethane	6.16	142	3724	2.7518	ug/L	92
18) Methyl acetate	6.22	43	4413	1.9610	ug/L #	63
19) Methylene Chloride	6.47	84	9668	1.8723	ug/L	96
20) Carbon Disulfide	6.48	76	28983	1.8845	ug/L	100
21) Acrylonitrile	6.68	53	11916	11.8729	ug/L	98
22) Methyl Tert Butyl Ether	6.71	73	19187	1.9227	ug/L	97
23) trans-1,2-Dichloroethene	6.96	96	9879	1.8892	ug/L	96
24) n-Hexane	7.06	57	11086	1.9181	ug/L	98
25) Diisopropyl ether	7.45	45	384821	24.7076	ug/L	99
26) Vinyl Acetate	7.63	43	11156	1.9893	ug/L #	80
27) 1,1-Dichloroethane	7.64	63	19613	1.8939	ug/L	96
28) Ethyl-Tert-Butyl ether	8.08	59	337258	24.3363	ug/L	99
29) 2-Butanone	8.28	43	2081	2.0120	ug/L #	54
30) Propionitrile	8.39	54	8100	25.0392	ug/L	89
31) 2,2-Dichloropropane	8.50	77	14915	1.9016	ug/L	93
32) cis-1,2-Dichloroethene	8.57	96	10550	1.8608	ug/L	98
33) Chloroform	8.81	83	17485	1.8814	ug/L	98
34) 1-Bromopropane	8.95	122	1570	2.2357	ug/L	97
35) Bromochloromethane	9.05	130	5750	1.9756	ug/L	97
36) Tetrahydrofuran	9.09	42	16442	25.7994	ug/L	96
38) 1,1,1-Trichloroethane	9.41	97	15397	1.8125	ug/L	98
39) Cyclohexane	9.42	56	17622	1.9005	ug/L	98
40) 1,1-Dichloropropene	9.63	75	13267	1.8771	ug/L	95
41) Tert-Amyl-Methyl ether	9.78	73	247402	23.8733	ug/L	99
42) Carbon Tetrachloride	9.78	117	13923	1.7990	ug/L	99

(#) = qualifier out of range (m) = manual integration
6M112625.D 8260WTR.M Wed Nov 14 12:58:57 2012 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\111212\6M112625.D Vial: 6
Acq On : 12 Nov 2012 16:46 Operator: adc
Sample : WG414018-05 2.0 ug/L STD 8260 Inst : HPMS6
Misc : 1,1 STD54883 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 14 12:58:56 2012 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:OVLMSV01 011/12/12 - HPMS6
Last Update : Wed Nov 14 12:48:44 2012
Response via : Initial Calibration
DataAcq Meth : 8260WTR

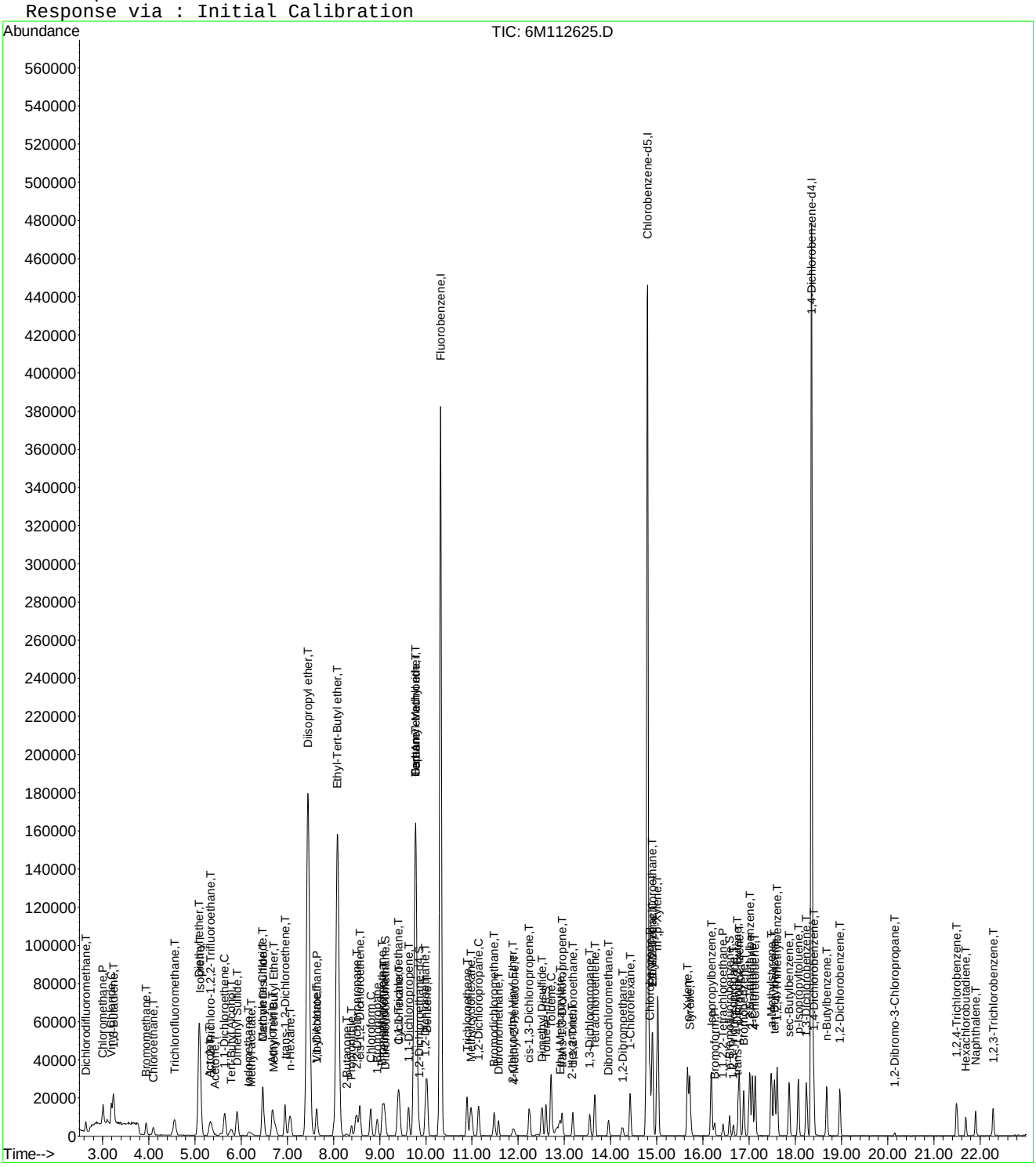
	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
44)	Heptane	9.78	57	5328	22.7396	ug/L		92
45)	1,2-Dichloroethane	9.99	62	12338	1.8975	ug/L		97
46)	Benzene	10.02	78	37846	1.8561	ug/L		99
47)	Trichloroethene	10.90	130	10464	1.7877	ug/L		97
48)	Methylcyclohexane	10.98	83	12232	1.9022	ug/L		98
49)	1,2-Dichloropropane	11.14	63	10006	1.9195	ug/L		98
51)	Bromodichloromethane	11.48	83	11713	1.8016	ug/L		99
52)	Dibromomethane	11.57	93	4321	1.9531	ug/L		96
53)	2-Chloroethyl Vinyl Ether	11.88	63	2830	2.3051	ug/L	#	72
54)	4-Methyl-2-Pentanone	11.92	58	1281	1.3516	ug/L	#	37
55)	cis-1,3-Dichloropropene	12.24	75	12405	1.7438	ug/L		98
56)	Dimethyl Disulfide	12.51	79	6444	1.5010	ug/L		88
59)	Toluene	12.72	91	39263	1.8684	ug/L		98
60)	Ethyl Methacrylate	12.91	69	10383	2.6513	ug/L	#	64
62)	trans-1,3-Dichloropropene	12.95	75	9168	2.0248	ug/L		89
63)	1,1,2-Trichloroethane	13.19	97	5924	1.9799	ug/L		97
64)	2-Hexanone	13.17	43	1256	0.8843	ug/L	#	23
65)	1,3-Dichloropropane	13.54	76	10000	1.8806	ug/L		91
66)	Tetrachloroethene	13.67	166	9846	1.9187	ug/L		98
67)	Dibromochloromethane	13.95	129	7350	1.8320	ug/L		99
68)	1,2-Dibromoethane	14.26	107	5554	1.8956	ug/L		98
69)	1-Chlorohexane	14.43	91	11611	1.8071	ug/L		97
70)	Chlorobenzene	14.85	112	25891	1.8384	ug/L		81
71)	1,1,1,2-Tetrachloroethane	14.90	131	8481	1.6688	ug/L		88
72)	Ethylbenzene	14.91	106	13857	1.7993	ug/L		33
73)	m-,p-Xylene	15.01	106	34132	3.6520	ug/L		100
74)	o-Xylene	15.67	106	15968	1.8157	ug/L		99
75)	Styrene	15.72	104	24868	1.7141	ug/L		98
76)	Bromoform	16.26	173	3636	2.0388	ug/L	#	80
77)	Isopropylbenzene	16.19	105	39042	1.8389	ug/L		98
79)	1,1,2,2-Tetrachloroethane	16.43	83	6592	2.0609	ug/L		94
81)	1,2,3-Trichloropropane	16.66	110	1566	2.2746	ug/L		85
82)	trans-1,4-Dichloro-2-Buten	16.75	53	1199	2.2329	ug/L		92
83)	n-Propylbenzene	16.78	91	44685	1.9037	ug/L		97
84)	Bromobenzene	16.88	156	9864	1.9366	ug/L		98
85)	1,3,5-Trimethylbenzene	17.02	105	31644	1.8380	ug/L		99
86)	2-Chlorotoluene	17.07	91	31219	1.8221	ug/L		95
87)	4-Chlorotoluene	17.13	91	29870	1.9030	ug/L		95
88)	a-Methylstyrene	17.48	118	16851	1.6717	ug/L	#	1
89)	tert-Butylbenzene	17.55	134	5757	1.7785	ug/L		95
90)	1,2,4-Trimethylbenzene	17.61	105	33266	1.8599	ug/L		100
91)	sec-Butylbenzene	17.86	105	35627	1.9073	ug/L		97
92)	p-Isopropyltoluene	18.07	119	29996	1.8682	ug/L		98
93)	1,3-Dichlorobenzene	18.24	146	18139	1.8615	ug/L		99
94)	1,4-Dichlorobenzene	18.40	146	18662	1.8726	ug/L		82
95)	n-Butylbenzene	18.68	91	25361	1.8517	ug/L		96
96)	1,2-Dichlorobenzene	18.97	146	15928	1.8558	ug/L		100
97)	1,2-Dibromo-3-Chloropropan	20.15	75	653	2.2499	ug/L		65
98)	1,2,4-Trichlorobenzene	21.50	180	9643	1.8510	ug/L		98
99)	Hexachlorobutadiene	21.69	225	3848	1.8277	ug/L		96
100)	Naphthalene	21.91	128	17091	1.8897	ug/L		97
101)	1,2,3-Trichlorobenzene	22.28	180	8257	1.9270	ug/L		96

(#) = qualifier out of range (m) = manual integration
6M112625.D 8260WTR.M Wed Nov 14 12:58:57 2012 Page 2

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\111212\6M112625.D Vial: 6
Acq On : 12 Nov 2012 16:46 Operator: adc
Sample : WG414018-05 2.0 ug/L STD 8260 Inst : HPMS6
Misc : 1,1 STD54883 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 14 12:58 2012 Quant Results File: 8260WTR.RES

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:OVLMSV01 011/12/12 - HPMS6
Last Update : Wed Nov 14 12:48:44 2012
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\111212\6M112626.D Vial: 7
Acq On : 12 Nov 2012 17:17 Operator: adc
Sample : WG414018-06 5.0 ug/L STD 8260 Inst : HPMS6
Misc : 1,1 STD54883 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 14 12:58:58 2012 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:OVLMSV01 011/12/12 - HPMS6
Last Update : Wed Nov 14 12:48:44 2012
Response via : Initial Calibration
DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.32	96	524562	25.00	ug/L	0.00
57) Chlorobenzene-d5	14.79	117	370413	25.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	18.35	152	178010	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.12	111	12758	2.3729	ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 9.48%#			
43) 1,2-Dichloroethane-d4	9.85	65	13237	2.5691	ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 10.28%#			
58) Toluene-d8	12.60	98	43832	2.4124	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 9.64%#			
80) p-Bromofluorobenzene	16.57	95	15875	2.4598	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 9.84%#			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	2.64	85	18893	4.5765	ug/L	97
3) Chloromethane	3.01	50	35018	4.7715	ug/L	99
4) Vinyl Chloride	3.19	62	30683	5.0696	ug/L	100
5) 1,3-Butadiene	3.23	54	21136	4.8352	ug/L	98
6) Bromomethane	3.95	94	16699	4.4209	ug/L	98
7) Chloroethane	4.10	64	18205	4.9196	ug/L	98
8) Trichlorofluoromethane	4.56	101	42156	4.8943	ug/L	99
9) Diethyl ether	5.09	59	121008	51.2743	ug/L	99
10) Isoprene	5.11	67	43434	4.6238	ug/L	99
11) Acrolein	5.31	56	5145	22.4187	ug/L	89
12) 1,1,2-Trichloro-1,2,2-Trif	5.34	101	23688	4.8275	ug/L	99
13) Acetone	5.43	43	3684	5.3333	ug/L	90
14) 1,1-Dichloroethene	5.64	61	41386	4.8274	ug/L	99
15) Tert-Butyl Alcohol	5.78	59	20735	107.0886	ug/L	99
16) Dimethyl Sulfide	5.92	62	30956	4.8267	ug/L	98
17) Iodomethane	6.16	142	12029	4.7036	ug/L	94
18) Methyl acetate	6.22	43	10988	4.9410	ug/L #	89
19) Methylene Chloride	6.47	84	24292	4.7606	ug/L	99
20) Carbon Disulfide	6.48	76	71670	4.7157	ug/L	99
21) Acrylonitrile	6.67	53	24670	24.8742	ug/L	95
22) Methyl Tert Butyl Ether	6.71	73	47786	4.8457	ug/L	98
23) trans-1,2-Dichloroethene	6.96	96	25091	4.8556	ug/L	99
24) n-Hexane	7.05	57	27126	4.7494	ug/L	97
25) Diisopropyl ether	7.45	45	795552	51.6884	ug/L	100
26) Vinyl Acetate	7.63	43	25841	4.6629	ug/L	97
27) 1,1-Dichloroethane	7.63	63	49947	4.8806	ug/L	98
28) Ethyl-Tert-Butyl ether	8.08	59	707188	51.6394	ug/L	99
29) 2-Butanone	8.29	43	5145	5.0338	ug/L #	73
30) Propionitrile	8.39	54	17602	55.0619	ug/L	95
31) 2,2-Dichloropropane	8.50	77	37230	4.8034	ug/L	94
32) cis-1,2-Dichloroethene	8.57	96	25820	4.6085	ug/L	94
33) Chloroform	8.81	83	44219	4.8149	ug/L	99
34) 1-Bromopropane	8.96	122	4369	4.9719	ug/L	98
35) Bromochloromethane	9.05	130	14928	4.8963	ug/L	99
36) Tetrahydrofuran	9.09	42	33566	53.2976	ug/L	97
38) 1,1,1-Trichloroethane	9.40	97	40187	4.7872	ug/L	99
39) Cyclohexane	9.42	56	43117	4.7057	ug/L	98
40) 1,1-Dichloropropene	9.62	75	33278	4.7645	ug/L	96
41) Tert-Amyl-Methyl ether	9.78	73	516777	50.4621	ug/L	99
42) Carbon Tetrachloride	9.78	117	36685	4.7966	ug/L	98

(#) = qualifier out of range (m) = manual integration
6M112626.D 8260WTR.M Wed Nov 14 12:58:58 2012 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\111212\6M112626.D Vial: 7
Acq On : 12 Nov 2012 17:17 Operator: adc
Sample : WG414018-06 5.0 ug/L STD 8260 Inst : HPMS6
Misc : 1,1 STD54883 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 14 12:58:58 2012 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:OVLMSV01 011/12/12 - HPMS6
Last Update : Wed Nov 14 12:48:44 2012
Response via : Initial Calibration
DataAcq Meth : 8260WTR

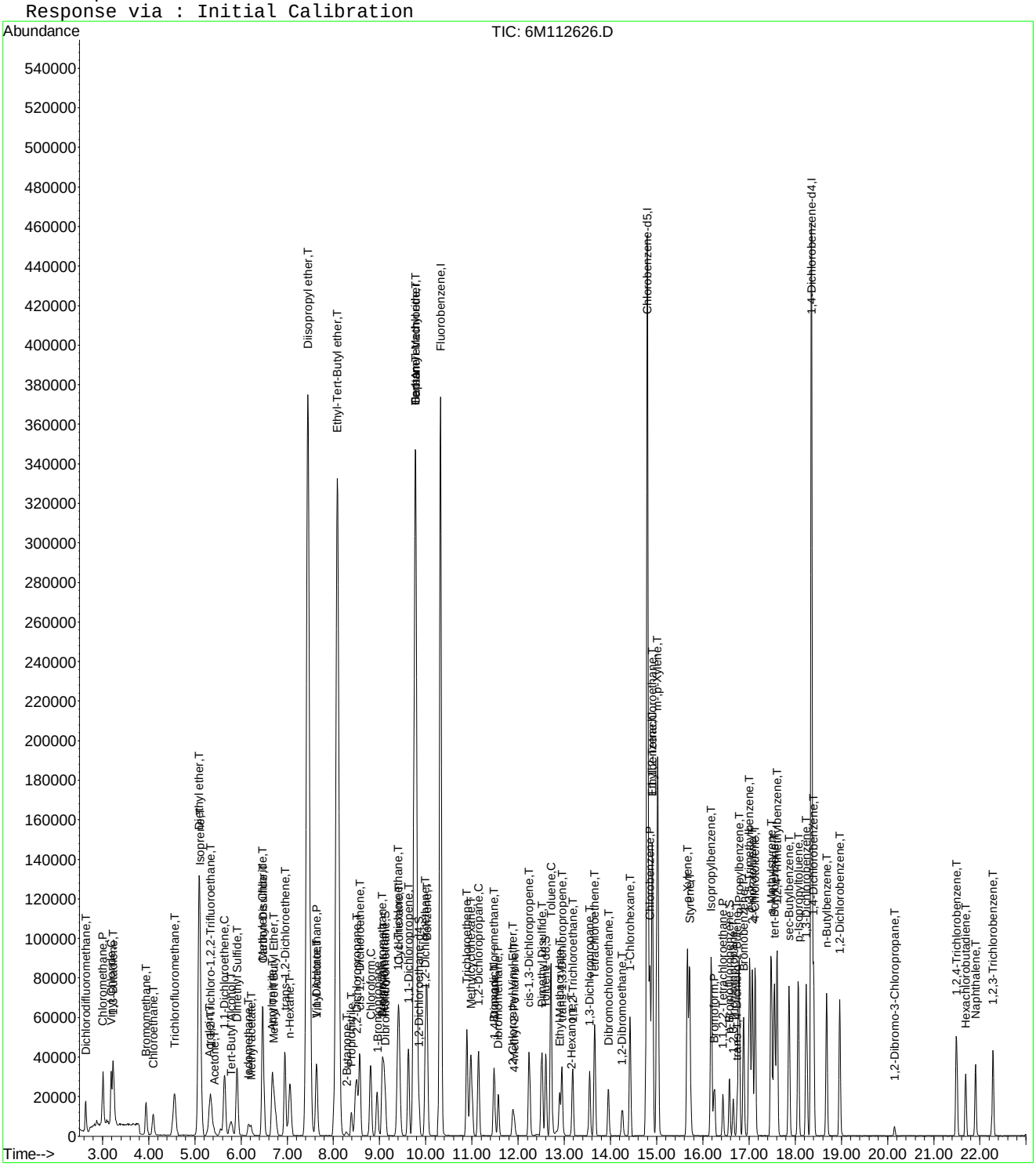
	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
44)	Heptane	9.78	57	10724	46.3157	ug/L		98
45)	1,2-Dichloroethane	9.99	62	31437	4.8925	ug/L		96
46)	Benzene	10.02	78	96142	4.7713	ug/L		100
47)	Trichloroethene	10.89	130	27172	4.6975	ug/L		99
48)	Methylcyclohexane	10.98	83	30344	4.7752	ug/L		95
49)	1,2-Dichloropropane	11.15	63	25506	4.9514	ug/L		98
50)	1,4-Dioxane	11.49	88	1205	103.7260	ug/L		80
51)	Bromodichloromethane	11.48	83	30869	4.8046	ug/L		96
52)	Dibromomethane	11.56	93	11726	4.7364	ug/L		98
53)	2-Chloroethyl Vinyl Ether	11.88	63	8843	5.0131	ug/L		100
54)	4-Methyl-2-Pentanone	11.92	58	3811	4.0689	ug/L		77
55)	cis-1,3-Dichloropropene	12.24	75	34240	4.8705	ug/L		99
56)	Dimethyl Disulfide	12.51	79	18178	4.2849	ug/L		97
59)	Toluene	12.72	91	98775	4.7113	ug/L		100
60)	Ethyl Methacrylate	12.90	69	19773	4.9483	ug/L		89
62)	trans-1,3-Dichloropropene	12.95	75	25554	4.4150	ug/L		98
63)	1,1,2-Trichloroethane	13.19	97	15253	4.7035	ug/L		99
64)	2-Hexanone	13.16	43	5170	3.6484	ug/L		88
65)	1,3-Dichloropropane	13.55	76	26525	5.0000	ug/L		97
66)	Tetrachloroethene	13.66	166	24727	4.8300	ug/L		98
67)	Dibromochloromethane	13.96	129	19728	4.9288	ug/L		99
68)	1,2-Dibromoethane	14.25	107	14817	4.5773	ug/L		98
69)	1-Chlorohexane	14.42	91	30302	4.7271	ug/L		99
70)	Chlorobenzene	14.85	112	66806	4.7547	ug/L		94
71)	1,1,1,2-Tetrachloroethane	14.90	131	23050	4.5462	ug/L		98
72)	Ethylbenzene	14.90	106	34790	4.5281	ug/L		37
73)	m-,p-Xylene	15.02	106	85478	9.1671	ug/L		100
74)	o-Xylene	15.67	106	40943	4.6666	ug/L		100
75)	Styrene	15.72	104	67010	4.6296	ug/L		99
76)	Bromoform	16.25	173	9850	4.2848	ug/L		98
77)	Isopropylbenzene	16.18	105	99210	4.6838	ug/L		99
79)	1,1,2,2-Tetrachloroethane	16.44	83	16087	5.0562	ug/L		98
81)	1,2,3-Trichloropropane	16.66	110	4395	5.2271	ug/L		91
82)	trans-1,4-Dichloro-2-Buten	16.74	53	4182	4.7218	ug/L		88
83)	n-Propylbenzene	16.78	91	112080	4.8004	ug/L		100
84)	Bromobenzene	16.88	156	25049	4.9439	ug/L		99
85)	1,3,5-Trimethylbenzene	17.01	105	79170	4.6230	ug/L		98
86)	2-Chlorotoluene	17.07	91	82475	4.8393	ug/L		92
87)	4-Chlorotoluene	17.13	91	74283	4.7577	ug/L		99
88)	a-Methylstyrene	17.49	118	46042	4.5918	ug/L	#	1
89)	tert-Butylbenzene	17.55	134	15173	4.7123	ug/L		99
90)	1,2,4-Trimethylbenzene	17.61	105	83056	4.6683	ug/L		100
91)	sec-Butylbenzene	17.86	105	88629	4.7701	ug/L		99
92)	p-Isopropyltoluene	18.07	119	73733	4.6166	ug/L		99
93)	1,3-Dichlorobenzene	18.24	146	46069	4.7530	ug/L		100
94)	1,4-Dichlorobenzene	18.40	146	46701	4.7111	ug/L		94
95)	n-Butylbenzene	18.68	91	64899	4.7636	ug/L		99
96)	1,2-Dichlorobenzene	18.97	146	41757	4.8911	ug/L		99
97)	1,2-Dibromo-3-Chloropropan	20.15	75	2017	4.8195	ug/L		98
98)	1,2,4-Trichlorobenzene	21.50	180	24761	4.7782	ug/L		100
99)	Hexachlorobutadiene	21.69	225	10451	4.9903	ug/L		97
100)	Naphthalene	21.91	128	43732	4.8610	ug/L		99
101)	1,2,3-Trichlorobenzene	22.28	180	21611	5.0703	ug/L		100

(#) = qualifier out of range (m) = manual integration
6M112626.D 8260WTR.M Wed Nov 14 12:58:59 2012 Page 2

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\111212\6M112626.D Vial: 7
Acq On : 12 Nov 2012 17:17 Operator: adc
Sample : WG414018-06 5.0 ug/L STD 8260 Inst : HPMS6
Misc : 1,1 STD54883 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 14 12:58 2012 Quant Results File: 8260WTR.RES

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:OVLMSV01 011/12/12 - HPMS6
Last Update : Wed Nov 14 12:48:44 2012
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\111212\6M112627.D Vial: 8
Acq On : 12 Nov 2012 17:48 Operator: adc
Sample : WG414018-07 20.0 ug/L STD 8260 Inst : HPMS6
Misc : 1,1 STD54883 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 14 12:58:59 2012 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:OVLMSV01 011/12/12 - HPMS6
Last Update : Wed Nov 14 12:48:44 2012
Response via : Initial Calibration
DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.32	96	526336	25.00	ug/L	0.00
57) Chlorobenzene-d5	14.80	117	368120	25.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	18.35	152	179890	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.13	111	53995	10.0088	ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 40.04%#			
43) 1,2-Dichloroethane-d4	9.86	65	50954	9.8561	ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 39.44%#			
58) Toluene-d8	12.60	98	175726	9.7319	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 38.92%#			
80) p-Bromofluorobenzene	16.58	95	63830	9.7869	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 39.16%#			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	2.64	85	88665	21.4053	ug/L	99
3) Chloromethane	3.00	50	141061	19.1558	ug/L	99
4) Vinyl Chloride	3.19	62	127188	20.9437	ug/L	100
5) 1,3-Butadiene	3.23	54	90897	26.1421	ug/L	100
6) Bromomethane	3.94	94	73185	17.1724	ug/L	98
7) Chloroethane	4.10	64	75234	20.2624	ug/L	99
8) Trichlorofluoromethane	4.56	101	177586	20.5483	ug/L	99
9) Diethyl ether	5.09	59	181503	76.6484	ug/L	99
10) Isoprene	5.12	67	192315	20.4042	ug/L	100
11) Acrolein	5.32	56	8351	36.2658	ug/L	89
12) 1,1,2-Trichloro-1,2,2-Trif	5.33	101	99289	20.1664	ug/L	99
13) Acetone	5.42	43	13064	18.8488	ug/L	99
14) 1,1-Dichloroethene	5.64	61	171230	19.9056	ug/L	98
15) Tert-Butyl Alcohol	5.78	59	30792	158.4932	ug/L	98
16) Dimethyl Sulfide	5.91	62	133234	20.7039	ug/L	98
17) Iodomethane	6.17	142	76013	19.6016	ug/L	100
18) Methyl acetate	6.22	43	45897	20.5690	ug/L	97
19) Methylene Chloride	6.47	84	97644	19.0712	ug/L	99
20) Carbon Disulfide	6.48	76	311060	20.3980	ug/L	100
21) Acrylonitrile	6.67	53	38415	38.6024	ug/L	95
22) Methyl Tert Butyl Ether	6.71	73	192986	19.5037	ug/L	99
23) trans-1,2-Dichloroethene	6.96	96	102744	19.8161	ug/L	100
24) n-Hexane	7.06	57	119706	20.8885	ug/L	98
25) Diisopropyl ether	7.45	45	1206019	78.0930	ug/L	100
26) Vinyl Acetate	7.63	43	109287	19.6539	ug/L	99
27) 1,1-Dichloroethane	7.64	63	198375	19.3192	ug/L	100
28) Ethyl-Tert-Butyl ether	8.08	59	1070481	77.9038	ug/L	100
29) 2-Butanone	8.27	43	19584	19.0963	ug/L	98
30) Propionitrile	8.39	54	26258	81.8624	ug/L	99
31) 2,2-Dichloropropane	8.50	77	157961	20.3115	ug/L	97
32) cis-1,2-Dichloroethene	8.57	96	109009	19.3908	ug/L	98
33) Chloroform	8.80	83	181355	19.6806	ug/L	100
34) 1-Bromopropane	8.96	122	20093	20.1765	ug/L	99
35) Bromochloromethane	9.06	130	61953	19.6856	ug/L	99
36) Tetrahydrofuran	9.09	42	49632	78.5423	ug/L	97
38) 1,1,1-Trichloroethane	9.40	97	165044	19.5943	ug/L	98
39) Cyclohexane	9.42	56	186062	20.2378	ug/L	99
40) 1,1-Dichloropropene	9.62	75	139441	19.8968	ug/L	99
41) Tert-Amyl-Methyl ether	9.77	73	789678	76.8504	ug/L	99
42) Carbon Tetrachloride	9.77	117	153119	19.9529	ug/L	100

(#) = qualifier out of range (m) = manual integration
6M112627.D 8260WTR.M Wed Nov 14 12:59:00 2012 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\111212\6M112627.D Vial: 8
Acq On : 12 Nov 2012 17:48 Operator: adc
Sample : WG414018-07 20.0 ug/L STD 8260 Inst : HPMS6
Misc : 1,1 STD54883 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 14 12:58:59 2012 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:OVLMSV01 011/12/12 - HPMS6
Last Update : Wed Nov 14 12:48:44 2012
Response via : Initial Calibration
DataAcq Meth : 8260WTR

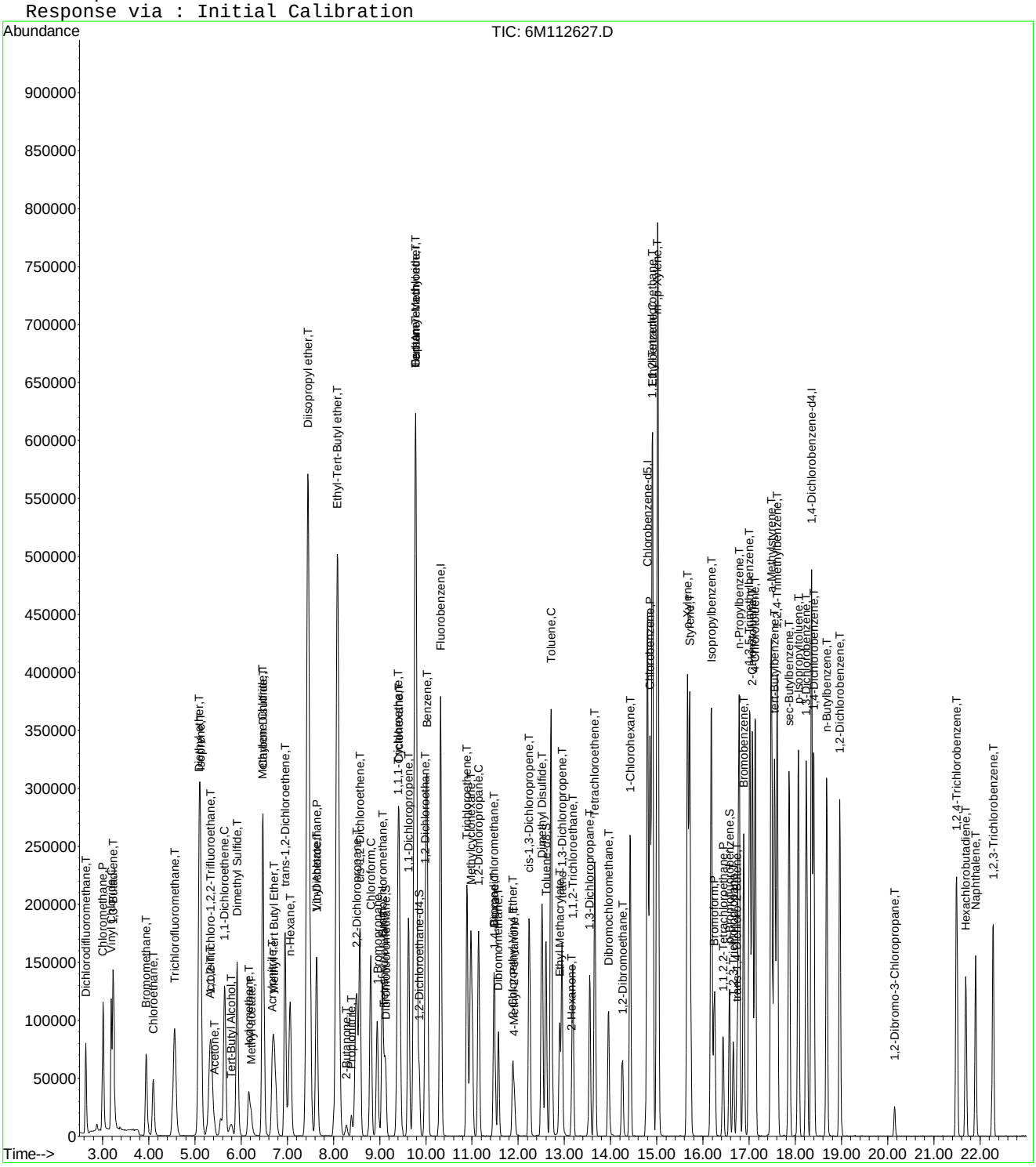
	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
44)	Heptane	9.77	57	16546	71.2194 ug/L		97
45)	1,2-Dichloroethane	9.99	62	126450	19.6129 ug/L		100
46)	Benzene	10.02	78	386631	19.1231 ug/L		100
47)	Trichloroethene	10.89	130	107355	18.4971 ug/L		97
48)	Methylcyclohexane	10.98	83	131354	20.6013 ug/L		99
49)	1,2-Dichloropropane	11.14	63	104629	20.2428 ug/L		99
50)	1,4-Dioxane	11.49	88	1948	143.1384 ug/L	#	57
51)	Bromodichloromethane	11.48	83	127100	19.7158 ug/L		100
52)	Dibromomethane	11.56	93	48227	18.3012 ug/L		99
53)	2-Chloroethyl Vinyl Ether	11.88	63	37198	17.6562 ug/L		98
54)	4-Methyl-2-Pentanone	11.91	58	17828	18.9704 ug/L		100
55)	cis-1,3-Dichloropropene	12.24	75	145452	20.6203 ug/L		100
56)	Dimethyl Disulfide	12.51	79	84797	19.9208 ug/L		99
59)	Toluene	12.72	91	407107	19.5390 ug/L		100
60)	Ethyl Methacrylate	12.90	69	78877	19.4887 ug/L		100
62)	trans-1,3-Dichloropropene	12.95	75	118380	18.0455 ug/L		99
63)	1,1,2-Trichloroethane	13.19	97	62984	18.7321 ug/L		100
64)	2-Hexanone	13.15	43	26014	18.4720 ug/L		98
65)	1,3-Dichloropropane	13.54	76	109899	20.8453 ug/L		100
66)	Tetrachloroethene	13.65	166	100676	19.7876 ug/L		100
67)	Dibromochloromethane	13.96	129	84956	21.3575 ug/L		100
68)	1,2-Dibromoethane	14.26	107	62462	18.4642 ug/L		100
69)	1-Chlorohexane	14.43	91	131898	20.7042 ug/L		99
70)	Chlorobenzene	14.85	112	270658	19.3832 ug/L		99
71)	1,1,1,2-Tetrachloroethane	14.90	131	96425	19.1366 ug/L		99
72)	Ethylbenzene	14.91	106	143765	18.8281 ug/L		35
73)	m-,p-Xylene	15.01	106	351228	37.9022 ug/L		100
74)	o-Xylene	15.67	106	168969	19.3787 ug/L		98
75)	Styrene	15.72	104	283197	19.6873 ug/L		100
76)	Bromoform	16.25	173	44614	16.9332 ug/L		99
77)	Isopropylbenzene	16.19	105	409402	19.4487 ug/L		100
79)	1,1,2,2-Tetrachloroethane	16.44	83	65752	20.4501 ug/L		99
81)	1,2,3-Trichloropropane	16.66	110	18228	19.4240 ug/L		96
82)	trans-1,4-Dichloro-2-Buten	16.74	53	22042	19.3997 ug/L		98
83)	n-Propylbenzene	16.78	91	465108	19.7124 ug/L		100
84)	Bromobenzene	16.88	156	104580	20.4253 ug/L		99
85)	1,3,5-Trimethylbenzene	17.00	105	332570	19.2167 ug/L		100
86)	2-Chlorotoluene	17.07	91	328973	19.1010 ug/L		96
87)	4-Chlorotoluene	17.13	91	311186	19.7226 ug/L		96
88)	a-Methylstyrene	17.48	118	206524	20.3815 ug/L	#	1
89)	tert-Butylbenzene	17.55	134	62324	19.1539 ug/L		100
90)	1,2,4-Trimethylbenzene	17.61	105	341635	19.0014 ug/L		100
91)	sec-Butylbenzene	17.86	105	368875	19.6457 ug/L		99
92)	p-Isopropyltoluene	18.07	119	314109	19.4614 ug/L		99
93)	1,3-Dichlorobenzene	18.24	146	190833	19.4826 ug/L		100
94)	1,4-Dichlorobenzene	18.40	146	194311	19.3967 ug/L		99
95)	n-Butylbenzene	18.68	91	269372	19.5653 ug/L		100
96)	1,2-Dichlorobenzene	18.96	146	168976	19.5856 ug/L		100
97)	1,2-Dibromo-3-Chloropropan	20.15	75	9519	18.7293 ug/L		99
98)	1,2,4-Trichlorobenzene	21.50	180	102522	19.5772 ug/L		100
99)	Hexachlorobutadiene	21.69	225	42465	20.0651 ug/L		99
100)	Naphthalene	21.91	128	175599	19.3144 ug/L		100
101)	1,2,3-Trichlorobenzene	22.28	180	85671	19.8898 ug/L		100

(#) = qualifier out of range (m) = manual integration
6M112627.D 8260WTR.M Wed Nov 14 12:59:00 2012 Page 2

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\111212\6M112627.D Vial: 8
Acq On : 12 Nov 2012 17:48 Operator: adc
Sample : WG414018-07 20.0 ug/L STD 8260 Inst : HPMS6
Misc : 1,1 STD54883 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 14 12:59 2012 Quant Results File: 8260WTR.RES

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:OVLMSV01 011/12/12 - HPMS6
Last Update : Wed Nov 14 12:48:44 2012
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\111212\6M112628.D Vial: 9
Acq On : 12 Nov 2012 18:19 Operator: adc
Sample : WG414018-08 50.0 ug/L STD 8260 Inst : HPMS6
Misc : 1,1 STD54883 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 14 12:59:01 2012 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:OVLMSV01 011/12/12 - HPMS6
Last Update : Wed Nov 14 12:48:44 2012
Response via : Initial Calibration
DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.32	96	530555	25.00	ug/L	0.00
57) Chlorobenzene-d5	14.80	117	370757	25.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	18.35	152	182707	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.12	111	133083	24.4727	ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 97.88%			
43) 1,2-Dichloroethane-d4	9.86	65	127707	24.5061	ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 98.04%			
58) Toluene-d8	12.59	98	438620	24.1184	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 96.48%			
80) p-Bromofluorobenzene	16.57	95	162313	24.5032	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 98.00%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	2.64	85	216333	51.8114	ug/L	100
3) Chloromethane	3.01	50	360923	48.6230	ug/L	100
4) Vinyl Chloride	3.19	62	302924	49.4851	ug/L	100
5) 1,3-Butadiene	3.23	54	167947	53.6642	ug/L	100
6) Bromomethane	3.94	94	197013	44.8001	ug/L	100
7) Chloroethane	4.10	64	191845	51.2577	ug/L	100
8) Trichlorofluoromethane	4.56	101	446017	51.1977	ug/L	100
9) Diethyl ether	5.09	59	239161	100.1941	ug/L	100
10) Isoprene	5.11	67	476431	50.1462	ug/L	100
11) Acrolein	5.31	56	12004	51.7151	ug/L	100
12) 1,1,2-Trichloro-1,2,2-Trif	5.33	101	247154	49.7998	ug/L	100
13) Acetone	5.43	43	34767	49.7632	ug/L	100
14) 1,1-Dichloroethene	5.64	61	436874	50.3830	ug/L	100
15) Tert-Butyl Alcohol	5.78	59	38306	195.6015	ug/L	100
16) Dimethyl Sulfide	5.92	62	329441	50.7864	ug/L	100
17) Iodomethane	6.16	142	219490	52.6234	ug/L	100
18) Methyl acetate	6.21	43	113539	50.4786	ug/L	100
19) Methylene Chloride	6.47	84	255493	49.5045	ug/L	100
20) Carbon Disulfide	6.48	76	775175	50.4284	ug/L	100
21) Acrylonitrile	6.67	53	52313	52.1501	ug/L	100
22) Methyl Tert Butyl Ether	6.71	73	508825	51.0142	ug/L	100
23) trans-1,2-Dichloroethene	6.96	96	266010	50.8971	ug/L	100
24) n-Hexane	7.06	57	285002	49.3368	ug/L	100
25) Diisopropyl ether	7.45	45	1558686	100.1265	ug/L	100
26) Vinyl Acetate	7.63	43	297628	53.0991	ug/L	100
27) 1,1-Dichloroethane	7.63	63	522315	50.4623	ug/L	100
28) Ethyl-Tert-Butyl ether	8.08	59	1389631	100.3256	ug/L	100
29) 2-Butanone	8.26	43	52184	50.4798	ug/L	100
30) Propionitrile	8.39	54	33594	103.9004	ug/L	100
31) 2,2-Dichloropropane	8.50	77	410101	52.3136	ug/L	100
32) cis-1,2-Dichloroethene	8.57	96	288525	50.9155	ug/L	100
33) Chloroform	8.81	83	470807	50.6857	ug/L	100
34) 1-Bromopropane	8.95	122	50003	48.7407	ug/L	100
35) Bromochloromethane	9.05	130	161953	50.7636	ug/L	100
36) Tetrahydrofuran	9.09	42	62722	98.4678	ug/L	100
38) 1,1,1-Trichloroethane	9.40	97	434774	51.2067	ug/L	100
39) Cyclohexane	9.42	56	447090	48.2428	ug/L	100
40) 1,1-Dichloropropene	9.62	75	362921	51.3734	ug/L	100
41) Tert-Amyl-Methyl ether	9.78	73	1035177	99.9410	ug/L	100
42) Carbon Tetrachloride	9.78	117	399670	51.6667	ug/L	100

(#) = qualifier out of range (m) = manual integration
6M112628.D 8260WTR.M Wed Nov 14 12:59:01 2012 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\111212\6M112628.D Vial: 9
Acq On : 12 Nov 2012 18:19 Operator: adc
Sample : WG414018-08 50.0 ug/L STD 8260 Inst : HPMS6
Misc : 1,1 STD54883 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 14 12:59:01 2012 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:OVLMSV01 011/12/12 - HPMS6
Last Update : Wed Nov 14 12:48:44 2012
Response via : Initial Calibration
DataAcq Meth : 8260WTR

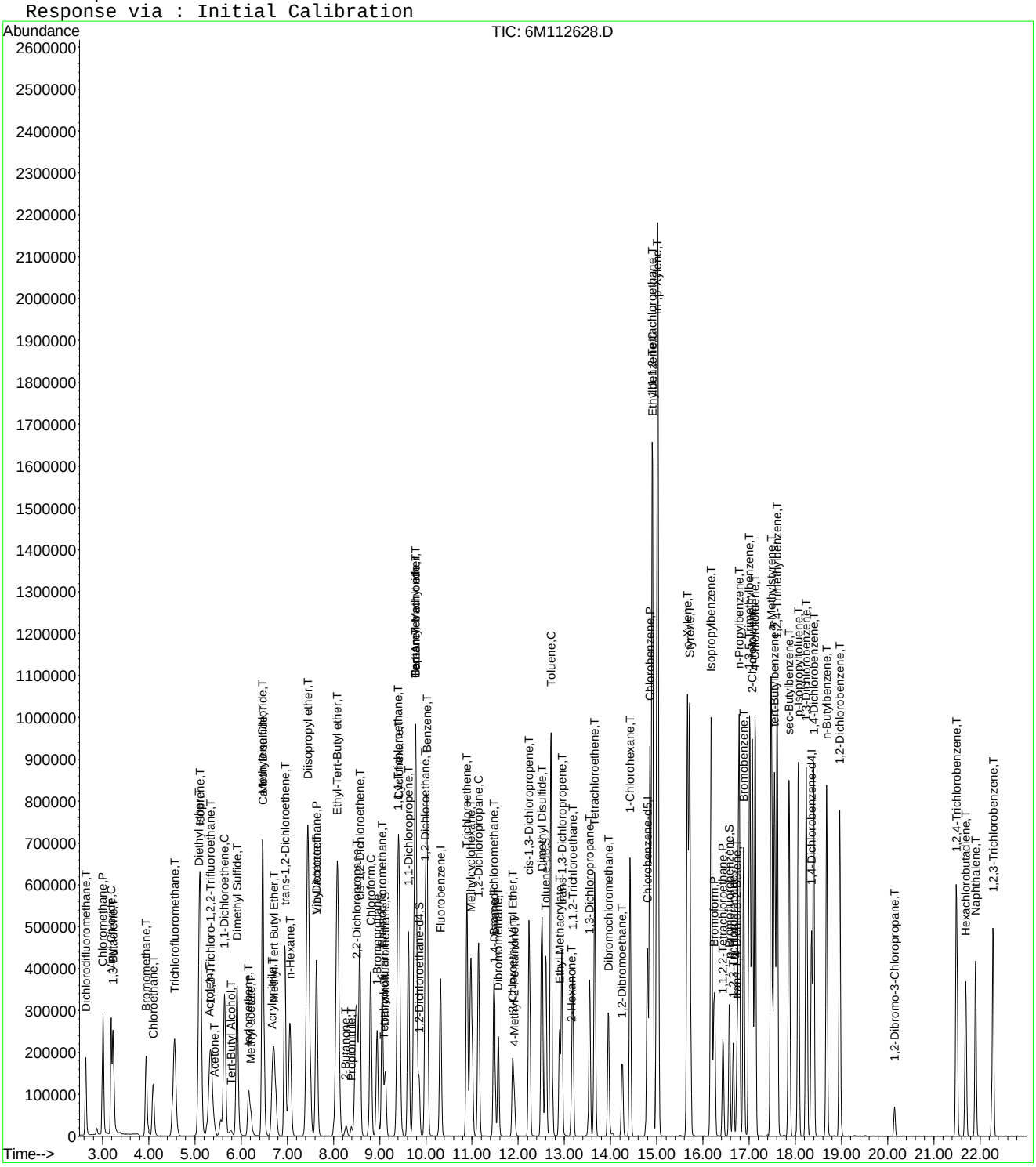
	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
44)	Heptane	9.78	57	21216	90.5945	ug/L		100
45)	1,2-Dichloroethane	9.99	62	334126	51.4121	ug/L		100
46)	Benzene	10.02	78	1011836	49.6483	ug/L		100
47)	Trichloroethene	10.89	130	283826	48.5138	ug/L		100
48)	Methylcyclohexane	10.98	83	317207	49.3544	ug/L		100
49)	1,2-Dichloropropane	11.14	63	272379	52.2786	ug/L		100
50)	1,4-Dioxane	11.49	88	3242	210.7820	ug/L		100
51)	Bromodichloromethane	11.48	83	336857	51.8380	ug/L		100
52)	Dibromomethane	11.56	93	126747	47.1384	ug/L		100
53)	2-Chloroethyl Vinyl Ether	11.88	63	106253	48.1022	ug/L		100
54)	4-Methyl-2-Pentanone	11.92	58	49223	51.9606	ug/L		100
55)	cis-1,3-Dichloropropene	12.24	75	388808	54.6819	ug/L		100
56)	Dimethyl Disulfide	12.51	79	221179	51.5468	ug/L		100
59)	Toluene	12.72	91	1071215	51.0469	ug/L		100
60)	Ethyl Methacrylate	12.90	69	200142	48.9104	ug/L		100
62)	trans-1,3-Dichloropropene	12.95	75	319493	47.1933	ug/L		100
63)	1,1,2-Trichloroethane	13.19	97	165061	48.3299	ug/L		100
64)	2-Hexanone	13.16	43	75363	53.1332	ug/L		100
65)	1,3-Dichloropropane	13.54	76	285340	53.7375	ug/L		100
66)	Tetrachloroethene	13.66	166	262956	51.3158	ug/L		100
67)	Dibromochloromethane	13.96	129	232383	58.0043	ug/L		100
68)	1,2-Dibromoethane	14.25	107	167599	48.7024	ug/L		100
69)	1-Chlorohexane	14.42	91	327876	51.1012	ug/L		100
70)	Chlorobenzene	14.85	112	710787	50.5411	ug/L		100
71)	1,1,1,2-Tetrachloroethane	14.90	131	264978	52.2137	ug/L		100
72)	Ethylbenzene	14.91	106	386132	50.2099	ug/L		35
73)	m-,p-Xylene	15.01	106	948382	101.6152	ug/L		100
74)	o-Xylene	15.67	106	443267	50.4757	ug/L		100
75)	Styrene	15.72	104	763680	52.7120	ug/L		100
76)	Bromoform	16.25	173	125188	45.8742	ug/L		100
77)	Isopropylbenzene	16.18	105	1090816	51.4509	ug/L		100
79)	1,1,2,2-Tetrachloroethane	16.43	83	172041	52.6829	ug/L		100
81)	1,2,3-Trichloropropane	16.66	110	48597	49.9251	ug/L		97
82)	trans-1,4-Dichloro-2-Buten	16.74	53	58752	48.8976	ug/L		99
83)	n-Propylbenzene	16.78	91	1226585	51.1840	ug/L		100
84)	Bromobenzene	16.88	156	278636	53.5807	ug/L		100
85)	1,3,5-Trimethylbenzene	17.00	105	890981	50.6893	ug/L		100
86)	2-Chlorotoluene	17.07	91	882467	50.4482	ug/L		93
87)	4-Chlorotoluene	17.13	91	825153	51.4908	ug/L		100
88)	a-Methylstyrene	17.48	118	537545	52.2316	ug/L	#	1
89)	tert-Butylbenzene	17.55	134	166204	50.2915	ug/L		100
90)	1,2,4-Trimethylbenzene	17.61	105	921120	50.4418	ug/L		100
91)	sec-Butylbenzene	17.86	105	977801	51.2731	ug/L		100
92)	p-Isopropyltoluene	18.07	119	830598	50.6684	ug/L		100
93)	1,3-Dichlorobenzene	18.24	146	507768	51.0400	ug/L		100
94)	1,4-Dichlorobenzene	18.40	146	515920	50.7066	ug/L		100
95)	n-Butylbenzene	18.68	91	710820	50.8330	ug/L		100
96)	1,2-Dichlorobenzene	18.97	146	448080	51.1350	ug/L		100
97)	1,2-Dibromo-3-Chloropropan	20.15	75	26309	49.1949	ug/L		100
98)	1,2,4-Trichlorobenzene	21.50	180	270701	50.8950	ug/L		100
99)	Hexachlorobutadiene	21.69	225	110746	51.5217	ug/L		100
100)	Naphthalene	21.91	128	469767	50.8738	ug/L		100
101)	1,2,3-Trichlorobenzene	22.28	180	226148	51.6941	ug/L		100

(#) = qualifier out of range (m) = manual integration
6M112628.D 8260WTR.M Wed Nov 14 12:59:02 2012 Page 2

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\111212\6M112628.D Vial: 9
Acq On : 12 Nov 2012 18:19 Operator: adc
Sample : WG414018-08 50.0 ug/L STD 8260 Inst : HPMS6
Misc : 1,1 STD54883 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 14 12:59 2012 Quant Results File: 8260WTR.RES

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:OVLMSV01 011/12/12 - HPMS6
Last Update : Wed Nov 14 12:48:44 2012
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\111212\6M112629.D Vial: 10
Acq On : 12 Nov 2012 18:49 Operator: adc
Sample : WG414018-09 100.0 ug/L STD 8260 Inst : HPMS6
Misc : 1,1 STD54883 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 14 12:59:02 2012 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:OVLMSV01 011/12/12 - HPMS6
Last Update : Wed Nov 14 12:48:44 2012
Response via : Initial Calibration
DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.32	96	534955	25.00	ug/L	0.00
57) Chlorobenzene-d5	14.80	117	378566	25.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	18.35	152	188086	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.12	111	275462	50.2382	ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 200.96%#			
43) 1,2-Dichloroethane-d4	9.86	65	261494	49.7662	ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 199.08%#			
58) Toluene-d8	12.59	98	907182	48.8542	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 195.40%#			
80) p-Bromofluorobenzene	16.57	95	329770	48.3593	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 193.44%#			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	2.64	85	459405	109.1218	ug/L	100
3) Chloromethane	3.01	50	721329	96.3770	ug/L	100
4) Vinyl Chloride	3.18	62	563137	91.2363	ug/L	99
5) 1,3-Butadiene	3.22	54	216825	74.5616	ug/L	98
6) Bromomethane	3.94	94	416583	93.2543	ug/L	100
7) Chloroethane	4.09	64	389932	103.3263	ug/L	100
8) Trichlorofluoromethane	4.56	101	932626	106.1744	ug/L	100
9) Diethyl ether	5.09	59	498005	206.9183	ug/L	99
10) Isoprene	5.11	67	995028	103.8692	ug/L	100
11) Acrolein	5.31	56	25705	109.8304	ug/L	93
12) 1,1,2-Trichloro-1,2,2-Trif	5.33	101	524849	104.8836	ug/L	99
13) Acetone	5.43	43	69922	99.2585	ug/L	96
14) 1,1-Dichloroethene	5.64	61	900646	103.0137	ug/L	99
15) Tert-Butyl Alcohol	5.78	59	77954	394.7817	ug/L	99
16) Dimethyl Sulfide	5.92	62	663700	101.4739	ug/L	99
17) Iodomethane	6.16	142	444313	103.7432	ug/L	100
18) Methyl acetate	6.21	43	228663	100.8257	ug/L	99
19) Methylene Chloride	6.47	84	523064	100.5156	ug/L	99
20) Carbon Disulfide	6.48	76	1565721	101.0190	ug/L	100
21) Acrylonitrile	6.67	53	107804	106.5845	ug/L	100
22) Methyl Tert Butyl Ether	6.71	73	1030527	102.4697	ug/L	100
23) trans-1,2-Dichloroethene	6.95	96	547683	103.9292	ug/L	99
24) n-Hexane	7.05	57	594392	102.0491	ug/L	100
25) Diisopropyl ether	7.45	45	3227371	205.6140	ug/L	100
26) Vinyl Acetate	7.63	43	571150	101.0593	ug/L	99
27) 1,1-Dichloroethane	7.63	63	1067206	102.2576	ug/L	100
28) Ethyl-Tert-Butyl ether	8.08	59	2900722	207.6976	ug/L	100
29) 2-Butanone	8.26	43	106301	101.9837	ug/L	98
30) Propionitrile	8.39	54	69112	211.9933	ug/L	98
31) 2,2-Dichloropropane	8.49	77	835493	105.7012	ug/L	99
32) cis-1,2-Dichloroethene	8.57	96	588343	102.9698	ug/L	100
33) Chloroform	8.80	83	962906	102.8109	ug/L	100
34) 1-Bromopropane	8.95	122	100557	96.4874	ug/L	98
35) Bromochloromethane	9.05	130	329695	102.3078	ug/L	99
36) Tetrahydrofuran	9.08	42	130180	202.6898	ug/L	99
38) 1,1,1-Trichloroethane	9.40	97	899649	105.0871	ug/L	100
39) Cyclohexane	9.42	56	944139	101.0385	ug/L	99
40) 1,1-Dichloropropene	9.62	75	742743	104.2744	ug/L	99
41) Tert-Amyl-Methyl ether	9.77	73	2195271	210.1988	ug/L	99
42) Carbon Tetrachloride	9.78	117	846601	108.5428	ug/L	100

(#) = qualifier out of range (m) = manual integration
6M112629.D 8260WTR.M Wed Nov 14 12:59:03 2012 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\111212\6M112629.D Vial: 10
Acq On : 12 Nov 2012 18:49 Operator: adc
Sample : WG414018-09 100.0 ug/L STD 8260 Inst : HPMS6
Misc : 1,1 STD54883 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 14 12:59:02 2012 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:OVLMSV01 011/12/12 - HPMS6
Last Update : Wed Nov 14 12:48:44 2012
Response via : Initial Calibration
DataAcq Meth : 8260WTR

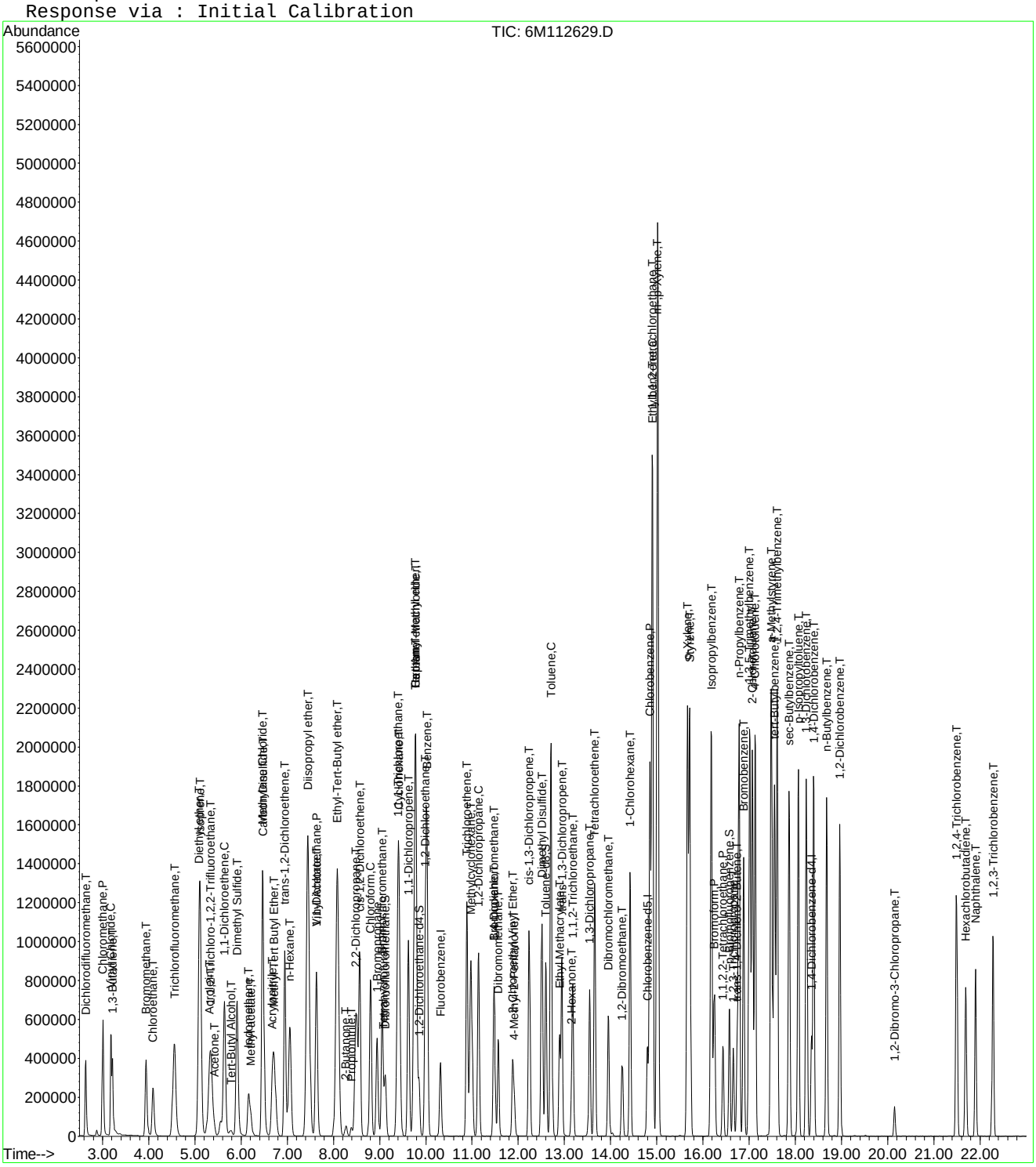
	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
44)	Heptane	9.78	57	45542	192.8695	ug/L		92
45)	1,2-Dichloroethane	9.99	62	683645	104.3276	ug/L		100
46)	Benzene	10.02	78	2086189	101.5222	ug/L		100
47)	Trichloroethene	10.89	130	588640	99.7875	ug/L		100
48)	Methylcyclohexane	10.98	83	667947	103.0714	ug/L		100
49)	1,2-Dichloropropane	11.14	63	555566	105.7546	ug/L		100
50)	1,4-Dioxane	11.48	88	6993	406.2166	ug/L		92
51)	Bromodichloromethane	11.48	83	698847	106.6590	ug/L		99
52)	Dibromomethane	11.56	93	262176	96.3261	ug/L		99
53)	2-Chloroethyl Vinyl Ether	11.88	63	219994	97.6663	ug/L		99
54)	4-Methyl-2-Pentanone	11.91	58	101103	105.8481	ug/L		100
55)	cis-1,3-Dichloropropene	12.24	75	798297	111.3489	ug/L		100
56)	Dimethyl Disulfide	12.51	79	458098	105.8839	ug/L		100
59)	Toluene	12.72	91	2221099	103.6594	ug/L		100
60)	Ethyl Methacrylate	12.90	69	402478	96.2078	ug/L		100
62)	trans-1,3-Dichloropropene	12.95	75	666435	95.6885	ug/L		99
63)	1,1,2-Trichloroethane	13.19	97	335146	95.8524	ug/L		99
64)	2-Hexanone	13.16	43	156972	108.3872	ug/L		100
65)	1,3-Dichloropropane	13.54	76	579245	106.8378	ug/L		99
66)	Tetrachloroethene	13.66	166	548970	104.9215	ug/L		99
67)	Dibromochloromethane	13.95	129	484361	118.4058	ug/L		99
68)	1,2-Dibromoethane	14.25	107	342747	97.2494	ug/L		100
69)	1-Chlorohexane	14.42	91	669123	102.1350	ug/L		100
70)	Chlorobenzene	14.85	112	1477532	102.8939	ug/L		100
71)	1,1,1,2-Tetrachloroethane	14.90	131	565939	109.2175	ug/L		99
72)	Ethylbenzene	14.91	106	822890	104.7957	ug/L		34
73)	m-,p-Xylene	15.01	106	2033600	213.3971	ug/L		98
74)	o-Xylene	15.67	106	931645	103.9000	ug/L		100
75)	Styrene	15.72	104	1616083	109.2470	ug/L		100
76)	Bromoform	16.25	173	266343	94.7956	ug/L		100
77)	Isopropylbenzene	16.19	105	2273899	105.0413	ug/L		100
79)	1,1,2,2-Tetrachloroethane	16.43	83	345386	102.7404	ug/L		99
81)	1,2,3-Trichloropropane	16.66	110	97979	97.1516	ug/L		97
82)	trans-1,4-Dichloro-2-Buten	16.74	53	121861	97.2625	ug/L		96
83)	n-Propylbenzene	16.78	91	2522391	102.2463	ug/L		99
84)	Bromobenzene	16.88	156	572566	106.9537	ug/L		100
85)	1,3,5-Trimethylbenzene	17.01	105	1851935	102.3464	ug/L		99
86)	2-Chlorotoluene	17.07	91	1829103	101.5743	ug/L		93
87)	4-Chlorotoluene	17.13	91	1716392	104.0424	ug/L		100
88)	a-Methylstyrene	17.49	118	1114095	105.1573	ug/L	#	1
89)	tert-Butylbenzene	17.55	134	348169	102.3392	ug/L		99
90)	1,2,4-Trimethylbenzene	17.61	105	1932666	102.8086	ug/L		100
91)	sec-Butylbenzene	17.86	105	2033086	103.5604	ug/L		100
92)	p-Isopropyltoluene	18.07	119	1733388	102.7167	ug/L		100
93)	1,3-Dichlorobenzene	18.24	146	1055829	103.0950	ug/L		99
94)	1,4-Dichlorobenzene	18.40	146	1073120	102.4541	ug/L		100
95)	n-Butylbenzene	18.68	91	1467134	101.9189	ug/L		100
96)	1,2-Dichlorobenzene	18.97	146	927685	102.8400	ug/L		100
97)	1,2-Dibromo-3-Chloropropan	20.15	75	54151	97.3317	ug/L		99
98)	1,2,4-Trichlorobenzene	21.50	180	559160	102.1221	ug/L		100
99)	Hexachlorobutadiene	21.69	225	231021	104.4028	ug/L		100
100)	Naphthalene	21.91	128	962913	101.2972	ug/L		100
101)	1,2,3-Trichlorobenzene	22.28	180	464160	103.0659	ug/L		99

(#) = qualifier out of range (m) = manual integration
6M112629.D 8260WTR.M Wed Nov 14 12:59:03 2012 Page 2

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\111212\6M112629.D Vial: 10
Acq On : 12 Nov 2012 18:49 Operator: adc
Sample : WG414018-09 100.0 ug/L STD 8260 Inst : HPMS6
Misc : 1,1 STD54883 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 14 12:59 2012 Quant Results File: 8260WTR.RES

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:OVLMSV01 011/12/12 - HPMS6
Last Update : Wed Nov 14 12:48:44 2012
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\111212\6M112630.D Vial: 11
Acq On : 12 Nov 2012 19:20 Operator: adc
Sample : WG414018-10 200.0 ug/L STD 8260 Inst : HPMS6
Misc : 1,1 STD54883 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 14 12:59:04 2012 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:OVLMSV01 011/12/12 - HPMS6
Last Update : Wed Nov 14 12:48:44 2012
Response via : Initial Calibration
DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene	10.31	96	537506	25.00 ug/L	0.00
57) Chlorobenzene-d5	14.80	117	385267	25.00 ug/L	0.00
78) 1,4-Dichlorobenzene-d4	18.35	152	186663	25.00 ug/L	0.00
System Monitoring Compounds					
37) Dibromofluoromethane	9.12	111	569207	103.3181 ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 413.28%#		
43) 1,2-Dichloroethane-d4	9.86	65	525055	99.4514 ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 397.80%#		
58) Toluene-d8	12.60	98	1907621	100.9438 ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 403.76%#		
80) p-Bromofluorobenzene	16.57	95	685338	101.2679 ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 405.08%#		
Target Compounds					Qvalue
2) Dichlorodifluoromethane	2.64	85	945366	223.4856 ug/L	100
3) Chloromethane	3.00	50	1457841	193.8582 ug/L	99
4) Vinyl Chloride	3.19	62	1099333	177.2625 ug/L	99
5) 1,3-Butadiene	3.22	54	323109	Below Cal	99
6) Bromomethane	3.94	94	913773	202.8314 ug/L	100
7) Chloroethane	4.09	64	801925	211.4899 ug/L	100
8) Trichlorofluoromethane	4.56	101	1921048	217.6628 ug/L	100
9) Diethyl ether	5.10	59	446	0.1844 ug/L #	45
10) Isoprene	5.11	67	2075388	215.6178 ug/L	99
12) 1,1,2-Trichloro-1,2,2-Trif	5.33	101	1086275	216.0464 ug/L	100
13) Acetone	5.42	43	146754	207.3375 ug/L	96
14) 1,1-Dichloroethene	5.64	61	1871393	213.0296 ug/L	100
15) Tert-Butyl Alcohol	5.77	59	1215	6.1239 ug/L #	61
16) Dimethyl Sulfide	5.91	62	1391453	211.7314 ug/L	98
17) Iodomethane	6.16	142	888646	204.6328 ug/L	100
18) Methyl acetate	6.21	43	460500	202.0873 ug/L	98
19) Methylene Chloride	6.47	84	1118480	213.9147 ug/L	96
20) Carbon Disulfide	6.48	76	3329391	213.7900 ug/L	99
21) Acrylonitrile	6.70	53	22511	22.1507 ug/L #	32
22) Methyl Tert Butyl Ether	6.71	73	2120945	209.8937 ug/L	100
23) trans-1,2-Dichloroethene	6.95	96	1159069	218.9028 ug/L	99
24) n-Hexane	7.06	57	1214992	207.6077 ug/L	99
25) Diisopropyl ether	7.63	45	9195	0.5830 ug/L #	1
26) Vinyl Acetate	7.63	43	1156301	203.6250 ug/L	99
27) 1,1-Dichloroethane	7.63	63	2227695	212.4403 ug/L	100
29) 2-Butanone	8.27	43	209178	199.7300 ug/L	97
31) 2,2-Dichloropropane	8.50	77	1721422	216.7496 ug/L	97
32) cis-1,2-Dichloroethene	8.57	96	1248531	217.4766 ug/L	99
33) Chloroform	8.80	83	2016203	214.2514 ug/L	99
34) 1-Bromopropane	8.95	122	211151	200.8494 ug/L	98
35) Bromochloromethane	9.05	130	648127	199.9934 ug/L	99
36) Tetrahydrofuran	8.95	42	155282	240.6261 ug/L #	35
38) 1,1,1-Trichloroethane	9.40	97	1921520	223.3855 ug/L	99
39) Cyclohexane	9.42	56	1992934	212.2647 ug/L	98
40) 1,1-Dichloropropene	9.62	75	1563509	218.4608 ug/L	97
41) Tert-Amyl-Methyl ether	9.62	73	232813	22.1862 ug/L #	56
42) Carbon Tetrachloride	9.77	117	1717843	219.1996 ug/L	100
45) 1,2-Dichloroethane	9.99	62	1430442	217.2565 ug/L	99
46) Benzene	10.02	78	4412372	213.7045 ug/L	100
47) Trichloroethene	10.89	130	1254795	211.7060 ug/L	99

(#) = qualifier out of range (m) = manual integration
6M112630.D 8260WTR.M Wed Nov 14 12:59:05 2012 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\111212\6M112630.D Vial: 11
Acq On : 12 Nov 2012 19:20 Operator: adc
Sample : WG414018-10 200.0 ug/L STD 8260 Inst : HPMS6
Misc : 1,1 STD54883 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 14 12:59:04 2012 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:OVLMSV01 011/12/12 - HPMS6
Last Update : Wed Nov 14 12:48:44 2012
Response via : Initial Calibration
DataAcq Meth : 8260WTR

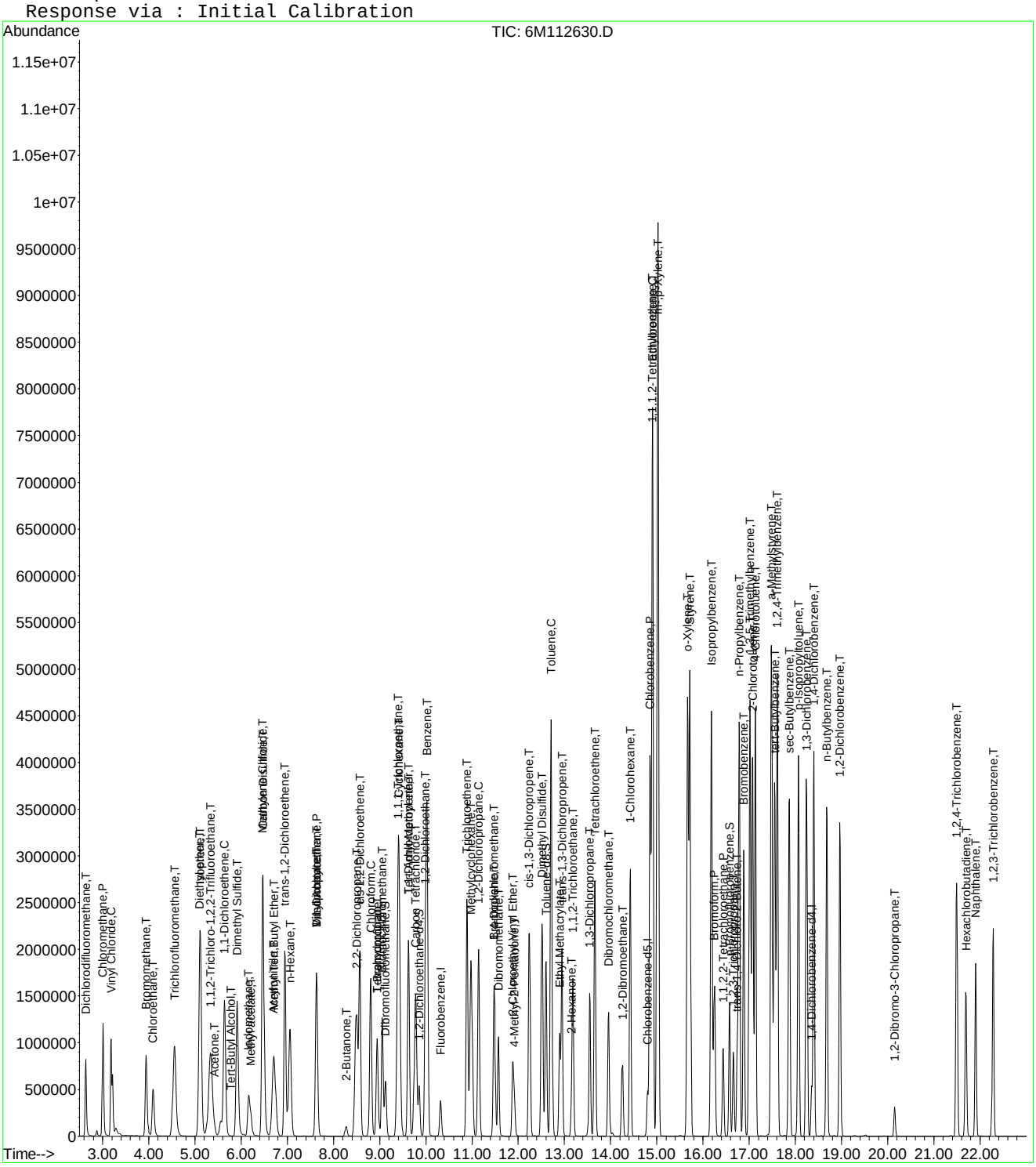
	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
48)	Methylcyclohexane	10.98	83	1386109	212.8765	ug/L		99
49)	1,2-Dichloropropane	11.14	63	1168435	221.3615	ug/L		100
50)	1,4-Dioxane	11.48	88	3123	202.3484	ug/L		79
51)	Bromodichloromethane	11.48	83	1466979	222.8298	ug/L		99
52)	Dibromomethane	11.57	93	551451	201.2544	ug/L		99
53)	2-Chloroethyl Vinyl Ether	11.88	63	458542	201.4724	ug/L		100
54)	4-Methyl-2-Pentanone	11.92	58	205989	214.6332	ug/L		99
55)	cis-1,3-Dichloropropene	12.23	75	1690115	234.6236	ug/L		98
56)	Dimethyl Disulfide	12.51	79	985810	226.7768	ug/L		100
59)	Toluene	12.71	91	4732722	217.0358	ug/L		99
60)	Ethyl Methacrylate	12.90	69	843235	197.9287	ug/L		99
62)	trans-1,3-Dichloropropene	12.95	75	1415786	198.9938	ug/L		100
63)	1,1,2-Trichloroethane	13.18	97	705824	198.0811	ug/L		99
64)	2-Hexanone	13.15	43	322231	218.6265	ug/L		99
65)	1,3-Dichloropropane	13.54	76	1205239	218.4318	ug/L		97
66)	Tetrachloroethene	13.66	166	1174742	220.6166	ug/L		99
67)	Dibromochloromethane	13.96	129	1027452	246.8000	ug/L		100
68)	1,2-Dibromoethane	14.26	107	713595	198.6434	ug/L		100
69)	1-Chlorohexane	14.43	91	1418158	212.7028	ug/L		98
70)	Chlorobenzene	14.85	112	3185634	217.9860	ug/L		98
71)	1,1,1,2-Tetrachloroethane	14.90	131	1255686	238.1133	ug/L		99
72)	Ethylbenzene	14.91	106	1839451	230.1811	ug/L		30
73)	m-,p-Xylene	15.02	106	4436408	457.4402	ug/L		90
74)	o-Xylene	15.67	106	2028618	222.3029	ug/L		97
75)	Styrene	15.72	104	3527666	234.3219	ug/L		99
76)	Bromoform	16.25	173	572123	199.2756	ug/L		100
77)	Isopropylbenzene	16.19	105	4805334	218.1185	ug/L		99
79)	1,1,2,2-Tetrachloroethane	16.44	83	706324	211.7087	ug/L		99
81)	1,2,3-Trichloropropane	16.66	110	201968	201.0852	ug/L		94
82)	trans-1,4-Dichloro-2-Buten	16.74	53	253105	202.1989	ug/L		91
83)	n-Propylbenzene	16.78	91	5257491	214.7396	ug/L		98
84)	Bromobenzene	16.88	156	1229162	231.3543	ug/L		100
85)	1,3,5-Trimethylbenzene	17.01	105	3947233	219.8052	ug/L		98
86)	2-Chlorotoluene	17.07	91	4074840	228.0103	ug/L		93
87)	4-Chlorotoluene	17.14	91	3488927	213.1003	ug/L		99
88)	a-Methylstyrene	17.48	118	2427407	230.8649	ug/L	#	1
89)	tert-Butylbenzene	17.55	134	749302	221.9254	ug/L		99
90)	1,2,4-Trimethylbenzene	17.61	105	4129487	221.3436	ug/L		99
91)	sec-Butylbenzene	17.87	105	4238314	217.5351	ug/L		99
92)	p-Isopropyltoluene	18.07	119	3654019	218.1796	ug/L		99
93)	1,3-Dichlorobenzene	18.25	146	2265787	222.9264	ug/L		99
94)	1,4-Dichlorobenzene	18.40	146	2308813	222.1100	ug/L		100
95)	n-Butylbenzene	18.68	91	3063345	214.4267	ug/L		99
96)	1,2-Dichlorobenzene	18.96	146	1974823	220.5911	ug/L		100
97)	1,2-Dibromo-3-Chloropropan	20.15	75	111667	201.1322	ug/L		99
98)	1,2,4-Trichlorobenzene	21.50	180	1197289	220.3336	ug/L		99
99)	Hexachlorobutadiene	21.70	225	476921	217.1727	ug/L		100
100)	Naphthalene	21.90	128	2040135	216.2558	ug/L		99
101)	1,2,3-Trichlorobenzene	22.28	180	981136	219.5203	ug/L		100

(#) = qualifier out of range (m) = manual integration
6M112630.D 8260WTR.M Wed Nov 14 12:59:05 2012 Page 2

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\111212\6M112630.D Vial: 11
Acq On : 12 Nov 2012 19:20 Operator: adc
Sample : WG414018-10 200.0 ug/L STD 8260 Inst : HPMS6
Misc : 1,1 STD54883 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 14 12:59 2012 Quant Results File: 8260WTR.RES

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:OVLMSV01 011/12/12 - HPMS6
Last Update : Wed Nov 14 12:48:44 2012
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\111212\6M112631.D Vial: 12
Acq On : 12 Nov 2012 19:51 Operator: adc
Sample : WG414018-11 300.0 ug/L STD 8260 Inst : HPMS6
Misc : 1,1 STD54883 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 14 12:59:05 2012 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:OVLMSV01 011/12/12 - HPMS6
Last Update : Wed Nov 14 12:48:44 2012
Response via : Initial Calibration
DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.32	96	544783	25.00	ug/L	0.00
57) Chlorobenzene-d5	14.79	117	384168	25.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	18.36	152	188994	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.12	111	870589	155.9118	ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 623.64%#			
43) 1,2-Dichloroethane-d4	9.85	65	802920	150.0508	ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 600.20%#			
58) Toluene-d8	12.60	98	2926948	155.3256	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 621.32%#			
80) p-Bromofluorobenzene	16.57	95	1033570	150.8402	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 603.36%#			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	2.63	85	1424180	332.1806	ug/L	99
3) Chloromethane	3.00	50	2079584	272.8413	ug/L	99
4) Vinyl Chloride	3.18	62	1557876	247.8450	ug/L	99
5) 1,3-Butadiene	3.21	54	448832	Below Cal		99
6) Bromomethane	3.94	94	1426624	312.0967	ug/L	100
7) Chloroethane	4.09	64	1215338	316.2370	ug/L	99
8) Trichlorofluoromethane	4.56	101	2850458	318.6548	ug/L	100
9) Diethyl ether	5.08	59	812546	331.5178	ug/L	99
10) Isoprene	5.11	67	3253847	333.5357	ug/L	98
11) Acrolein	5.32	56	44024	184.7090	ug/L	90
12) 1,1,2-Trichloro-1,2,2-Trif	5.34	101	1662568	326.2469	ug/L	100
13) Acetone	5.43	43	207977	289.9099	ug/L	96
14) 1,1-Dichloroethene	5.64	61	2812685	315.9045	ug/L	99
15) Tert-Butyl Alcohol	5.77	59	116846	581.0669	ug/L	98
16) Dimethyl Sulfide	5.91	62	2137225	320.8682	ug/L	97
17) Iodomethane	6.16	142	1277270	289.4034	ug/L	100
18) Methyl acetate	6.21	43	709505	307.2024	ug/L	97
19) Methylene Chloride	6.47	84	1743175	328.9373	ug/L	93
20) Carbon Disulfide	6.48	76	5121167	324.4527	ug/L	99
21) Acrylonitrile	6.67	53	188735	183.2336	ug/L	95
22) Methyl Tert Butyl Ether	6.70	73	3267688	319.0585	ug/L	100
23) trans-1,2-Dichloroethene	6.95	96	1795036	334.4838	ug/L	97
24) n-Hexane	7.05	57	1830668	308.6309	ug/L	99
25) Diisopropyl ether	7.45	45	4891776	306.0300	ug/L	99
26) Vinyl Acetate	7.62	43	1716323	298.2077	ug/L	98
27) 1,1-Dichloroethane	7.63	63	3426941	322.4390	ug/L	99
28) Ethyl-Tert-Butyl ether	8.08	59	4461806	313.7111	ug/L	99
29) 2-Butanone	8.27	43	321736	303.1006	ug/L	96
30) Propionitrile	8.39	54	106600	321.0847	ug/L	99
31) 2,2-Dichloropropane	8.49	77	2632750	327.0697	ug/L	94
32) cis-1,2-Dichloroethene	8.56	96	1951654	335.4099	ug/L	97
33) Chloroform	8.80	83	3110084	326.0778	ug/L	99
34) 1-Bromopropane	8.95	122	323908	303.6154	ug/L	99
35) Bromochloromethane	9.05	130	976857	297.3157	ug/L	99
36) Tetrahydrofuran	9.08	42	200693	306.8411	ug/L	98
38) 1,1,1-Trichloroethane	9.40	97	2971106	340.7910	ug/L	98
39) Cyclohexane	9.42	56	3042101	319.6821	ug/L	96
40) 1,1-Dichloropropene	9.62	75	2408495	332.0310	ug/L	94
41) Tert-Amyl-Methyl ether	9.77	73	3544821	333.2960	ug/L	98
42) Carbon Tetrachloride	9.77	117	2774741	349.3321	ug/L	99

(#) = qualifier out of range (m) = manual integration
6M112631.D 8260WTR.M Wed Nov 14 12:59:06 2012 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\111212\6M112631.D Vial: 12
Acq On : 12 Nov 2012 19:51 Operator: adc
Sample : WG414018-11 300.0 ug/L STD 8260 Inst : HPMS6
Misc : 1,1 STD54883 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 14 12:59:05 2012 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:OVLMSV01 011/12/12 - HPMS6
Last Update : Wed Nov 14 12:48:44 2012
Response via : Initial Calibration
DataAcq Meth : 8260WTR

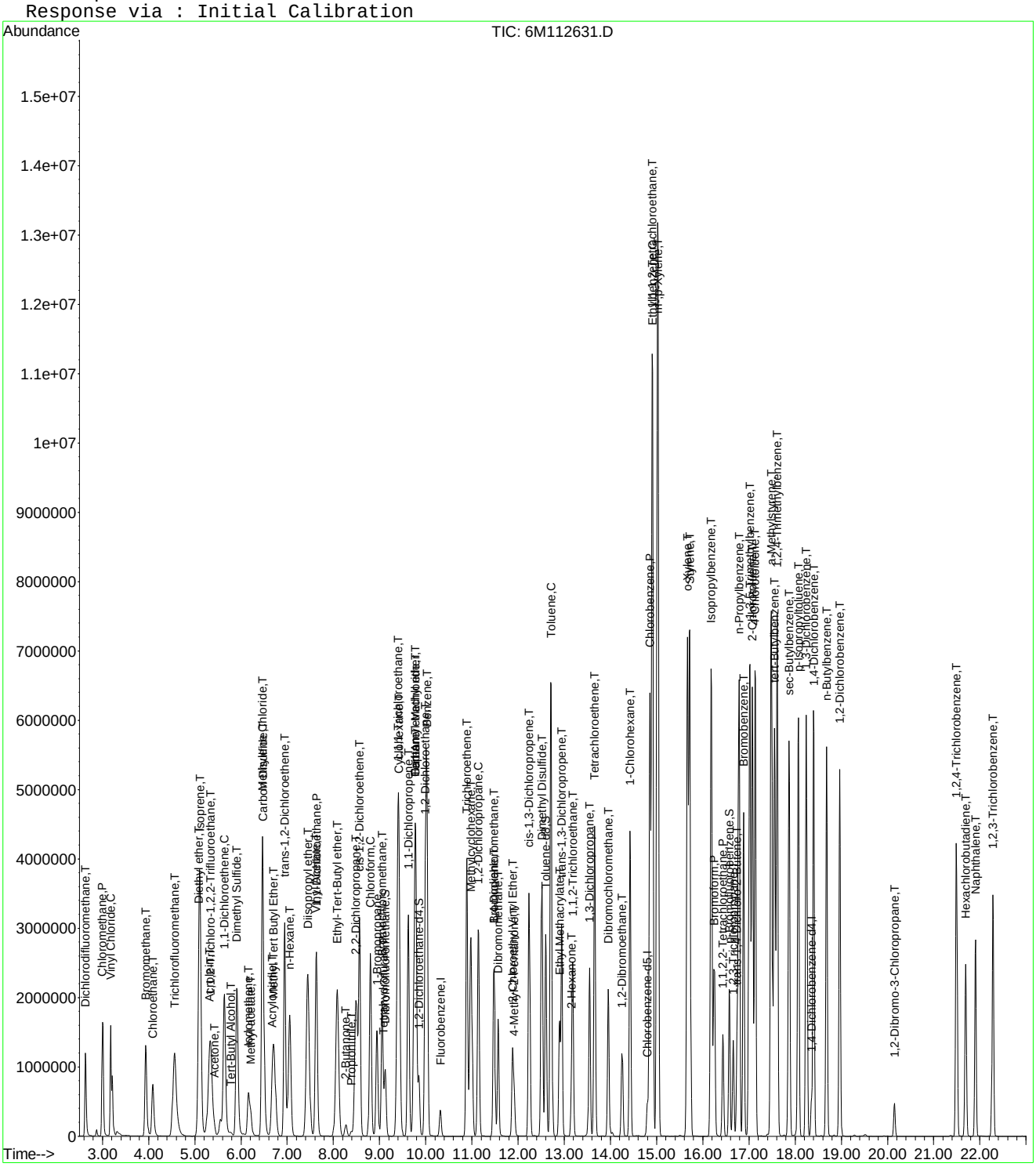
	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
44)	Heptane	9.77	57	72140	300.0000	ug/L		83
45)	1,2-Dichloroethane	9.99	62	2190980	328.3225	ug/L		99
46)	Benzene	10.02	78	6790507	324.4916	ug/L		100
47)	Trichloroethene	10.89	130	1963053	326.7775	ug/L		97
48)	Methylcyclohexane	10.98	83	2129749	322.7145	ug/L		99
49)	1,2-Dichloropropane	11.14	63	1803782	337.1642	ug/L		99
50)	1,4-Dioxane	11.48	88	10807	596.1370	ug/L		98
51)	Bromodichloromethane	11.48	83	2258658	338.5007	ug/L		100
52)	Dibromomethane	11.56	93	853532	307.1500	ug/L		99
53)	2-Chloroethyl Vinyl Ether	11.88	63	704319	304.7848	ug/L		99
54)	4-Methyl-2-Pentanone	11.91	58	311321	320.0524	ug/L		98
55)	cis-1,3-Dichloropropene	12.24	75	2614086	358.0430	ug/L		97
56)	Dimethyl Disulfide	12.51	79	1550178	351.8412	ug/L		100
59)	Toluene	12.72	91	7164213	329.4804	ug/L		97
60)	Ethyl Methacrylate	12.90	69	1304922	307.1062	ug/L		97
62)	trans-1,3-Dichloropropene	12.94	75	2204622	310.3651	ug/L		99
63)	1,1,2-Trichloroethane	13.19	97	1099353	309.2585	ug/L		99
64)	2-Hexanone	13.16	43	488084	332.1014	ug/L		97
65)	1,3-Dichloropropane	13.55	76	1865784	339.1131	ug/L		96
66)	Tetrachloroethene	13.66	166	1848963	348.2287	ug/L		98
67)	Dibromochloromethane	13.95	129	1605159	386.6716	ug/L		100
68)	1,2-Dibromoethane	14.25	107	1101622	307.3748	ug/L		100
69)	1-Chlorohexane	14.42	91	2192857	329.8371	ug/L		97
70)	Chlorobenzene	14.85	112	4940268	339.0188	ug/L		100
71)	1,1,1,2-Tetrachloroethane	14.90	131	1954614	371.7100	ug/L		98
72)	Ethylbenzene	14.91	106	2864186	359.4375	ug/L	#	24
73)	m-,p-Xylene	15.03	106	6541251	676.4011	ug/L		82
74)	o-Xylene	15.67	106	3156015	346.8363	ug/L		94
75)	Styrene	15.72	104	5415648	360.7585	ug/L		100
76)	Bromoform	16.25	173	898483	313.4256	ug/L		100
77)	Isopropylbenzene	16.18	105	7208936	328.1563	ug/L		97
79)	1,1,2,2-Tetrachloroethane	16.44	83	1066378	315.6867	ug/L		99
81)	1,2,3-Trichloropropane	16.66	110	307498	302.0487	ug/L		95
82)	trans-1,4-Dichloro-2-Buten	16.74	53	383899	302.2866	ug/L		87
83)	n-Propylbenzene	16.78	91	7754801	312.8343	ug/L		96
84)	Bromobenzene	16.88	156	1908891	354.8623	ug/L		100
85)	1,3,5-Trimethylbenzene	17.02	105	6000575	330.0261	ug/L		97
86)	2-Chlorotoluene	17.07	91	5973148	330.1090	ug/L		94
87)	4-Chlorotoluene	17.13	91	5502760	331.9579	ug/L		98
88)	a-Methylstyrene	17.49	118	3714757	348.9442	ug/L	#	1
89)	tert-Butylbenzene	17.55	134	1165827	341.0315	ug/L		96
90)	1,2,4-Trimethylbenzene	17.61	105	6217767	329.1665	ug/L		96
91)	sec-Butylbenzene	17.87	105	6358383	322.3243	ug/L		98
92)	p-Isopropyltoluene	18.07	119	5515553	325.2690	ug/L		98
93)	1,3-Dichlorobenzene	18.24	146	3508945	340.9802	ug/L		99
94)	1,4-Dichlorobenzene	18.41	146	3558934	338.1500	ug/L		100
95)	n-Butylbenzene	18.68	91	4613782	318.9703	ug/L		97
96)	1,2-Dichlorobenzene	18.97	146	3047499	336.2122	ug/L		100
97)	1,2-Dibromo-3-Chloropropan	20.15	75	170925	303.5425	ug/L		99
98)	1,2,4-Trichlorobenzene	21.49	180	1860684	338.1930	ug/L		99
99)	Hexachlorobutadiene	21.69	225	737899	331.8684	ug/L		100
100)	Naphthalene	21.91	128	3169968	331.8745	ug/L		99
101)	1,2,3-Trichlorobenzene	22.28	180	1523746	336.7194	ug/L		99

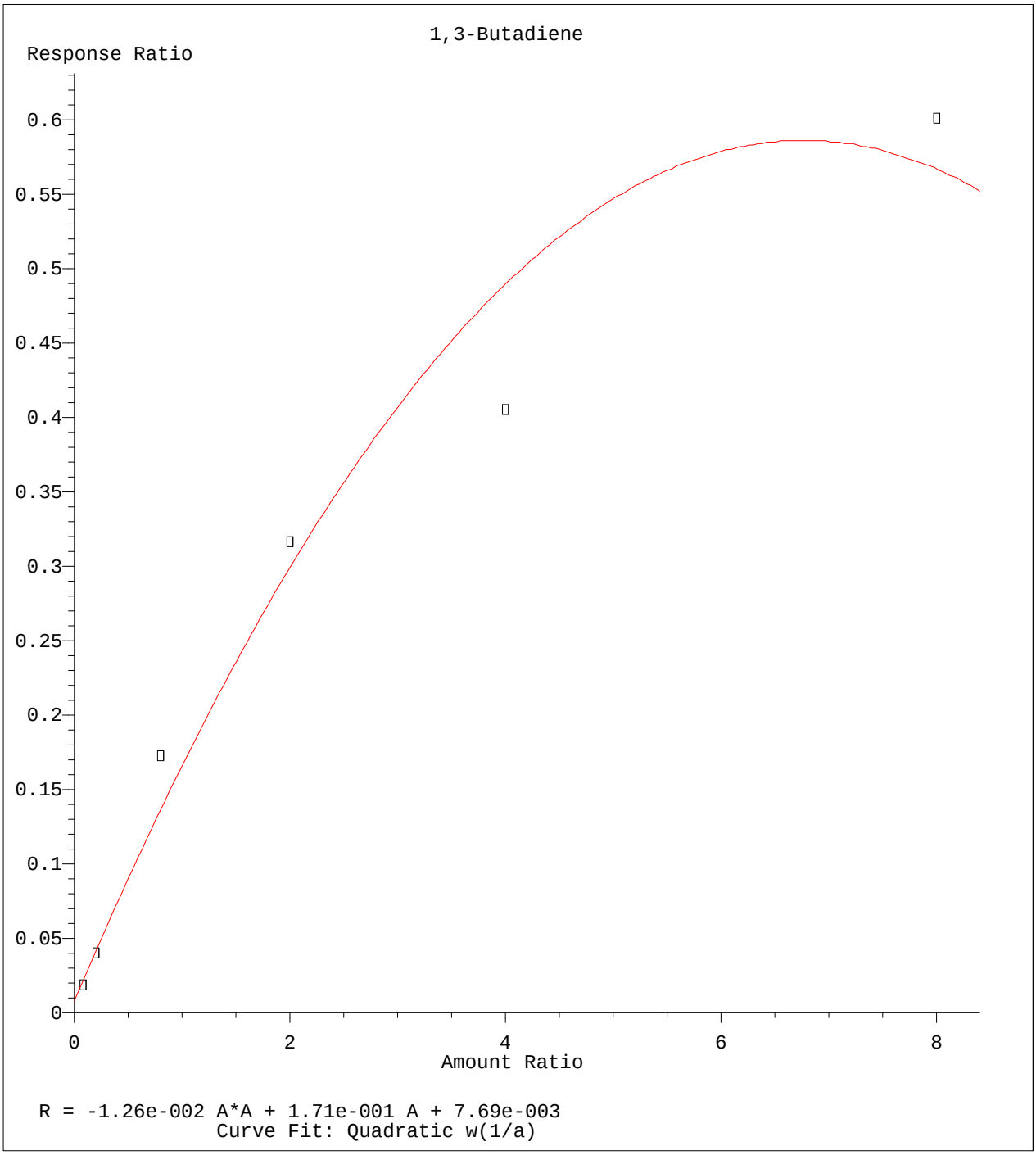
(#) = qualifier out of range (m) = manual integration
6M112631.D 8260WTR.M Wed Nov 14 12:59:06 2012 Page 2

Quantitation Report (Not Reviewed)

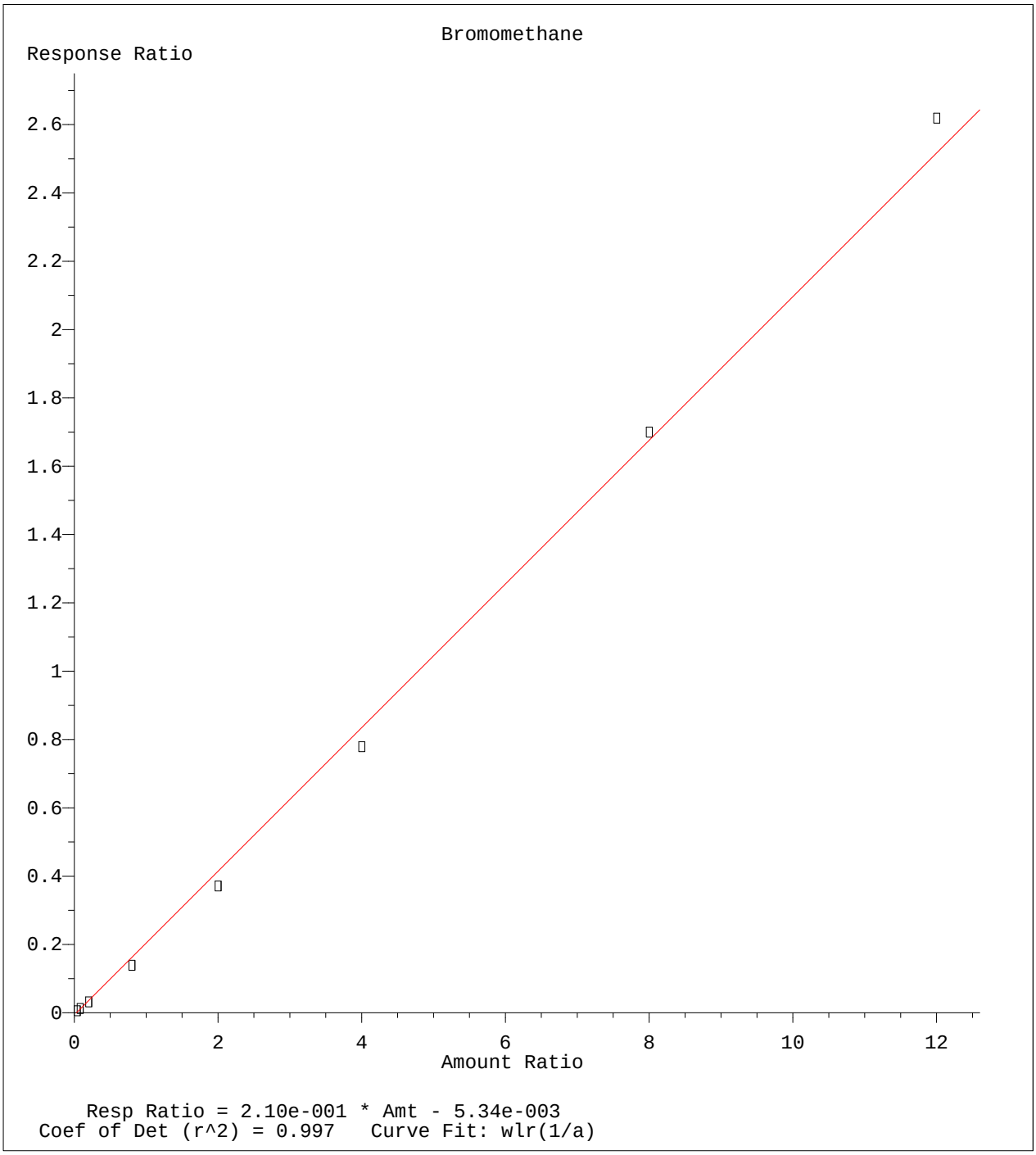
Data File : C:\MSDCHEM\1\DATA\111212\6M112631.D Vial: 12
Acq On : 12 Nov 2012 19:51 Operator: adc
Sample : WG414018-11 300.0 ug/L STD 8260 Inst : HPMS6
Misc : 1,1 STD54883 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 14 12:59 2012 Quant Results File: 8260WTR.RES

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:OVLMSV01 011/12/12 - HPMS6
Last Update : Wed Nov 14 12:48:44 2012
Response via : Initial Calibration

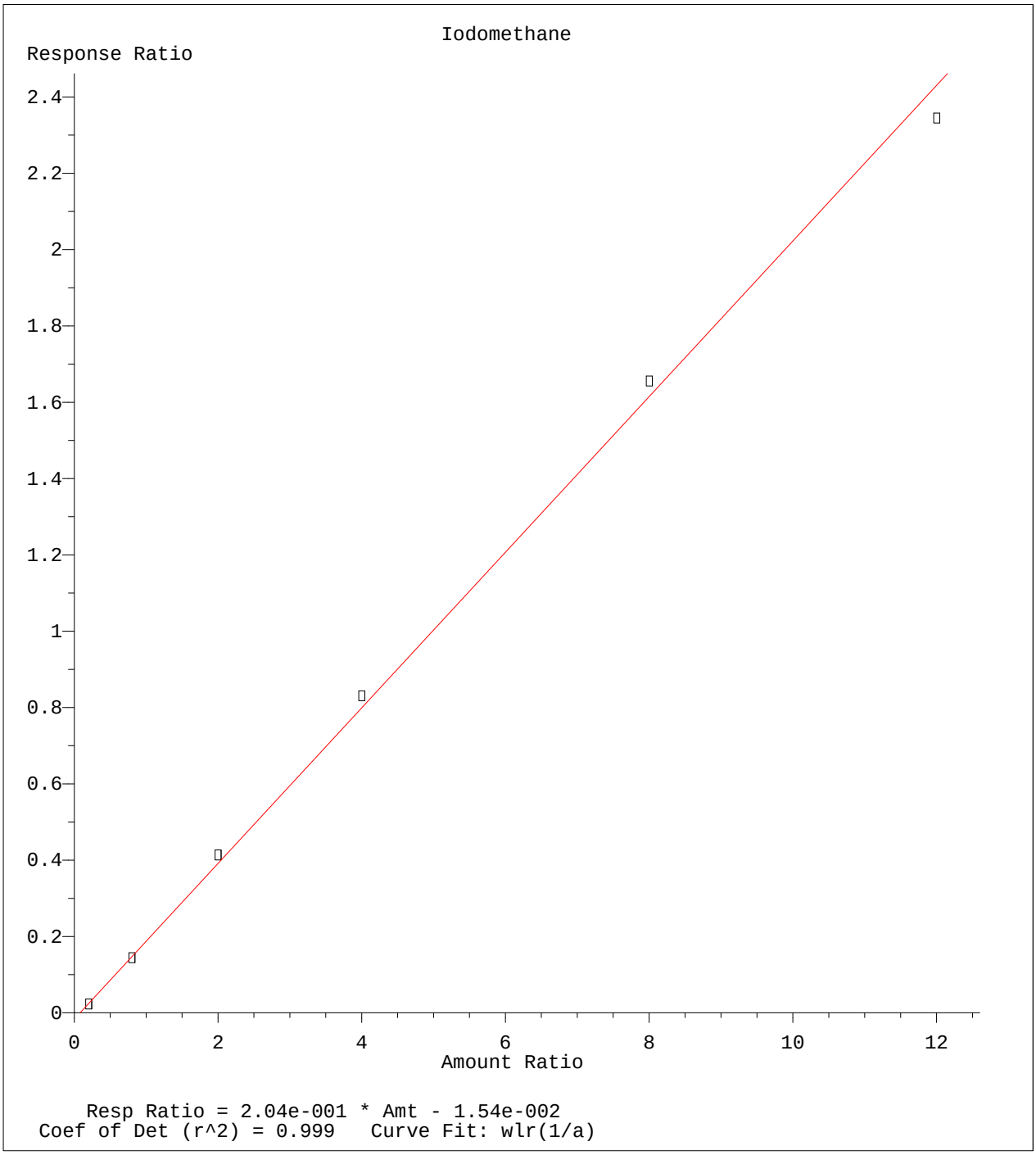




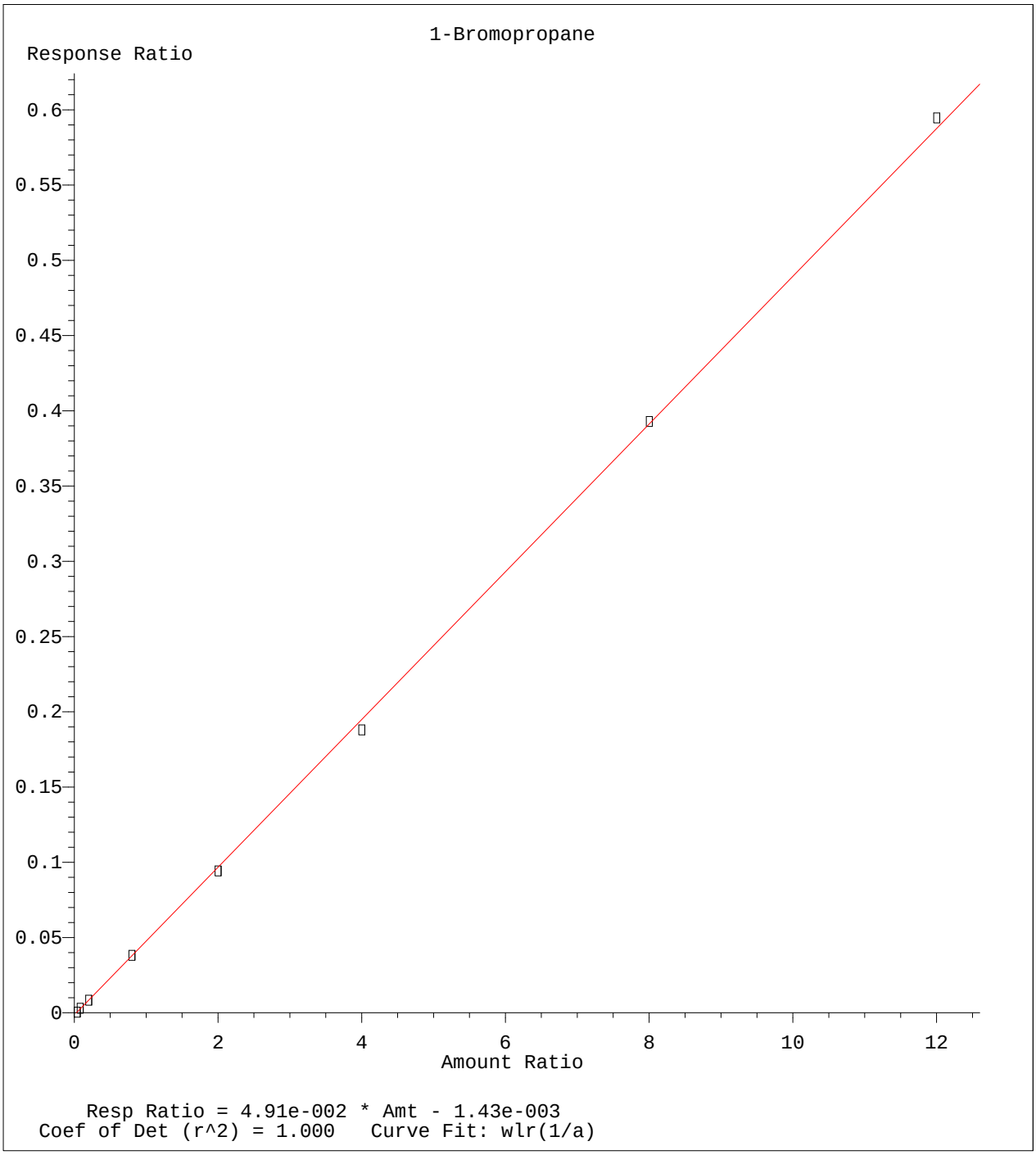
Method Name: C:\MSDCHEM\1\METHODS\8260WTR.M
Calibration Table Last Updated: Wed Nov 14 12:48:44 2012



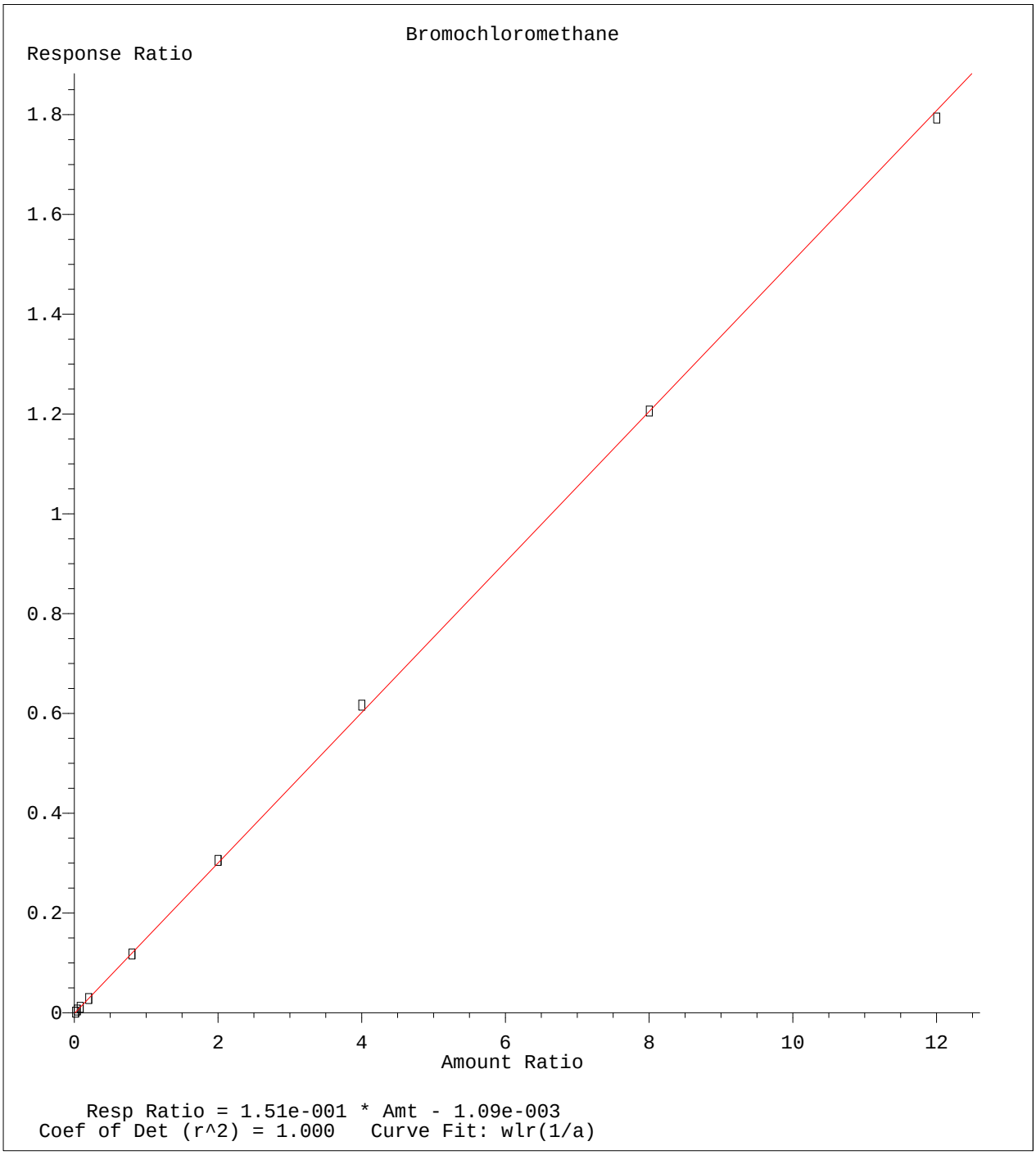
Method Name: C:\MSDCHEM\1\METHODS\8260WTR.M
Calibration Table Last Updated: Wed Nov 14 12:48:44 2012



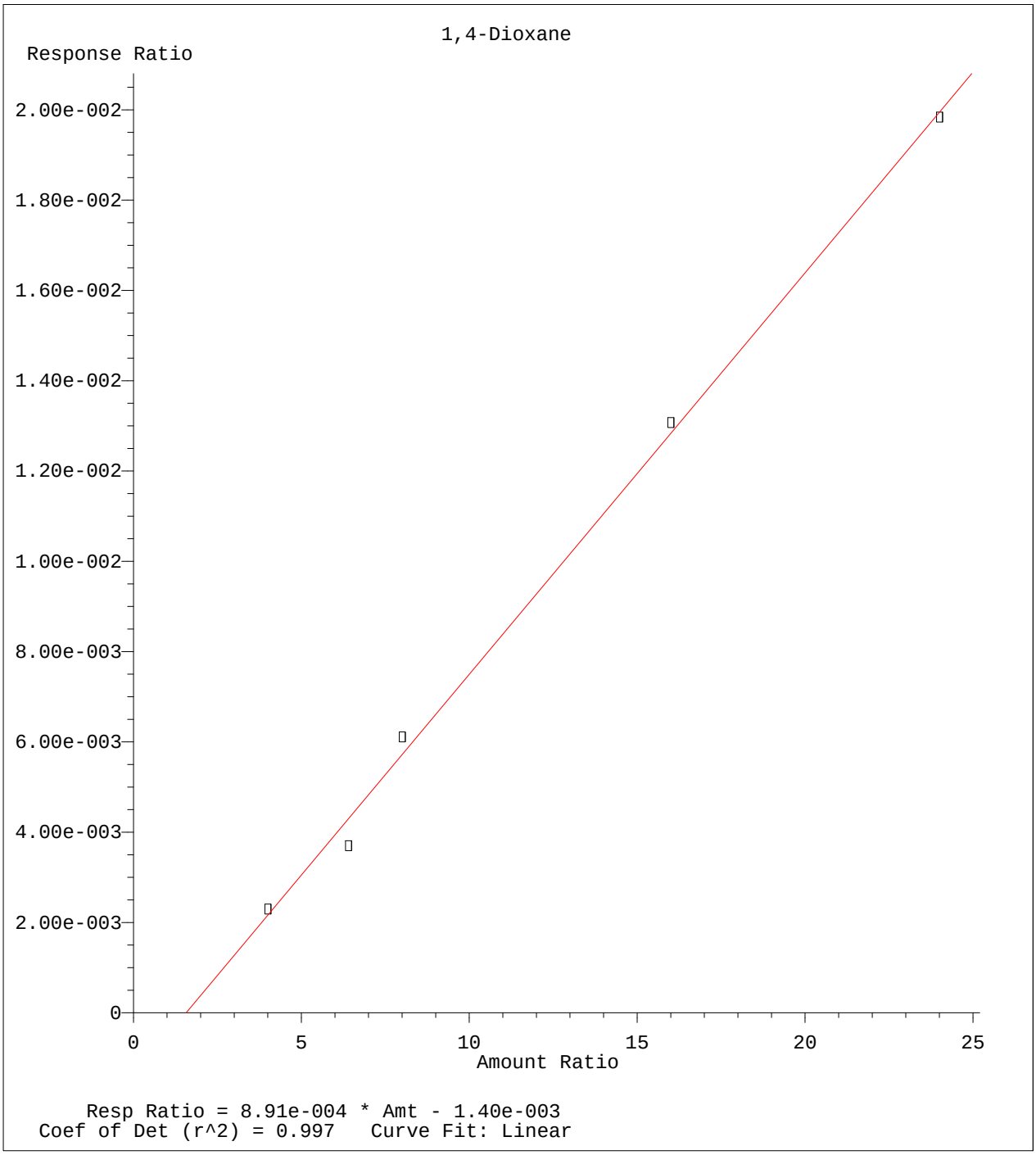
Method Name: C:\MSDCHEM\1\METHODS\8260WTR.M
Calibration Table Last Updated: Wed Nov 14 12:48:44 2012



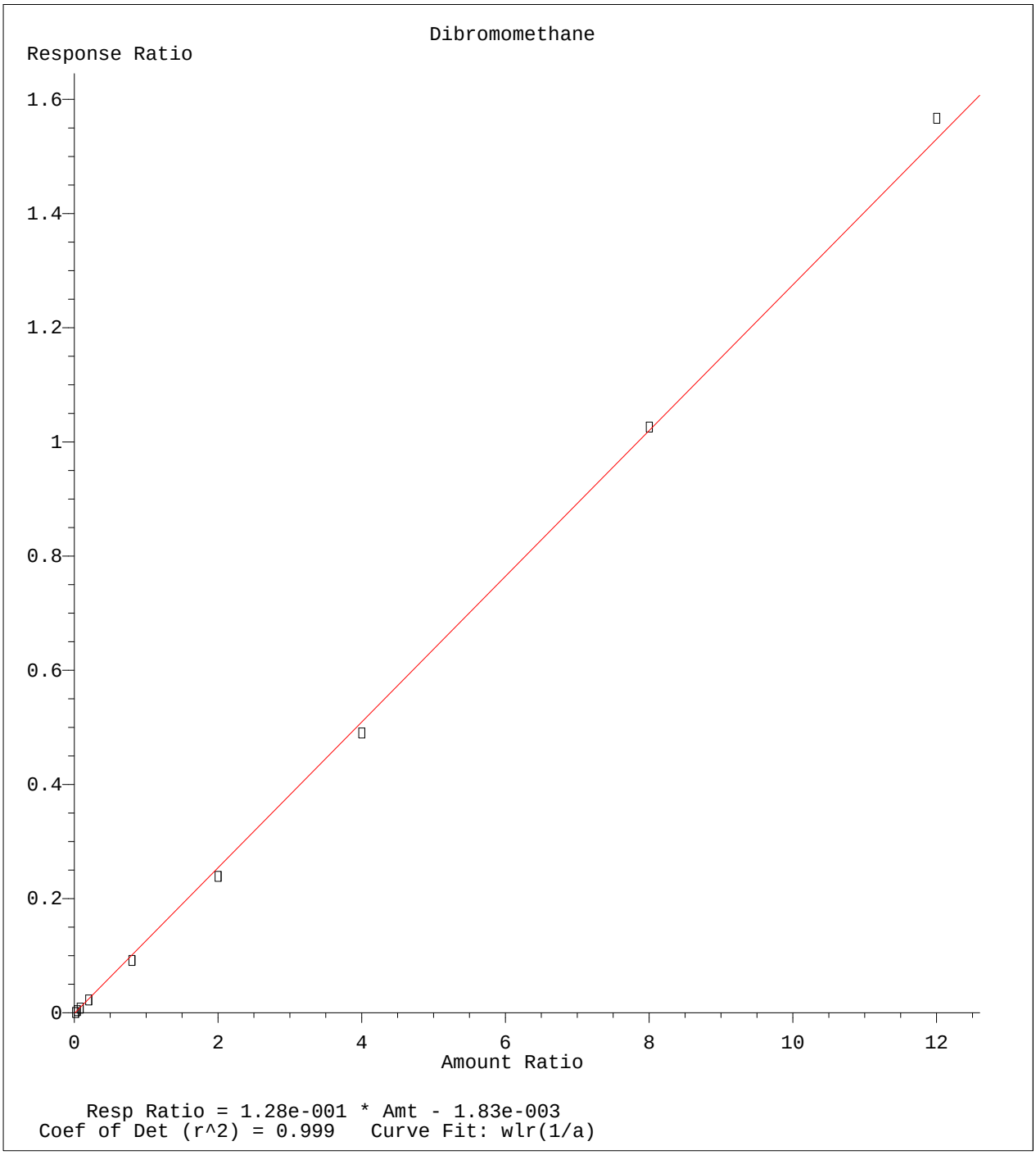
Method Name: C:\MSDCHEM\1\METHODS\8260WTR.M
Calibration Table Last Updated: Wed Nov 14 12:48:44 2012



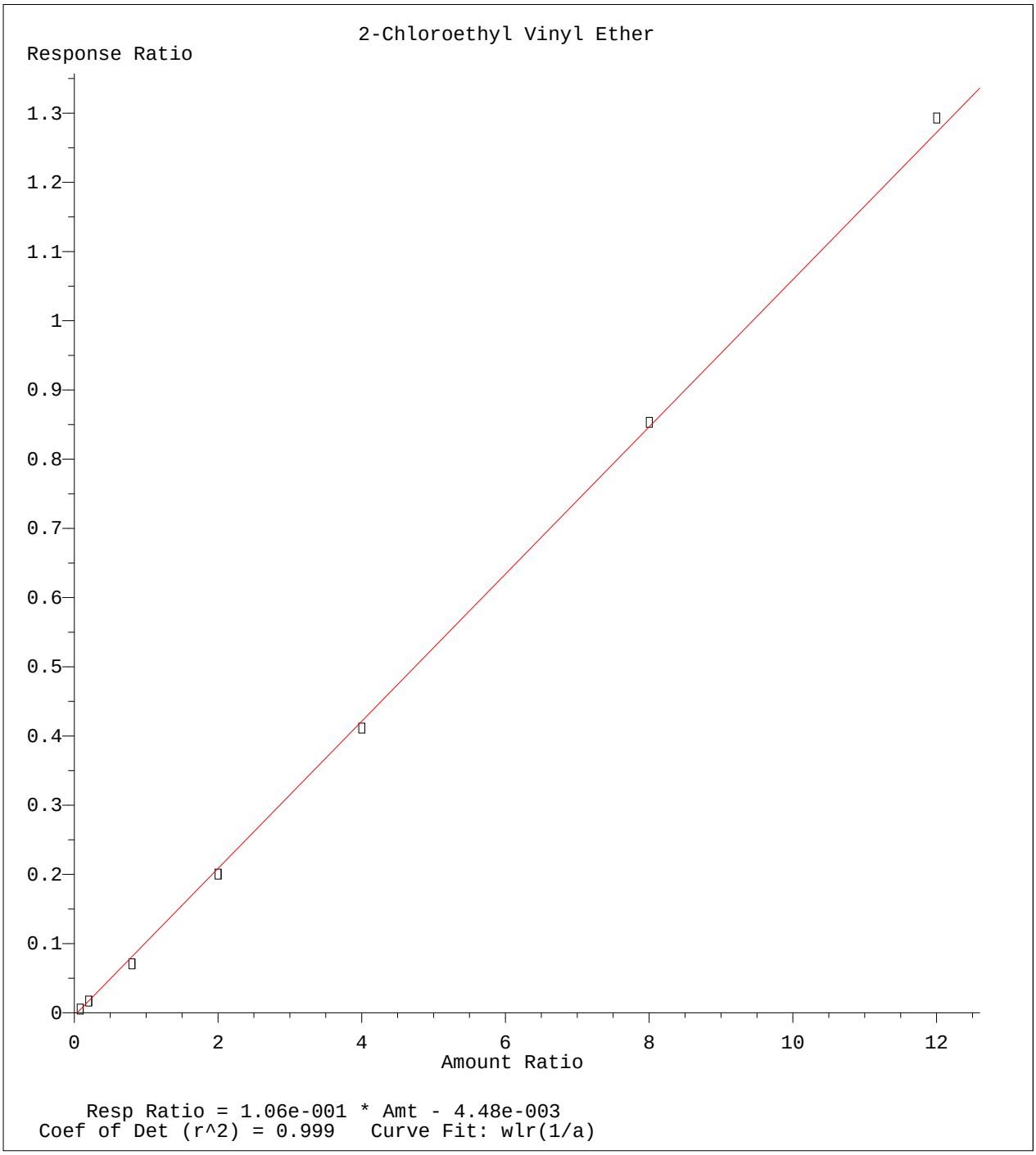
Method Name: C:\MSDCHEM\1\METHODS\8260WTR.M
Calibration Table Last Updated: Wed Nov 14 12:48:44 2012



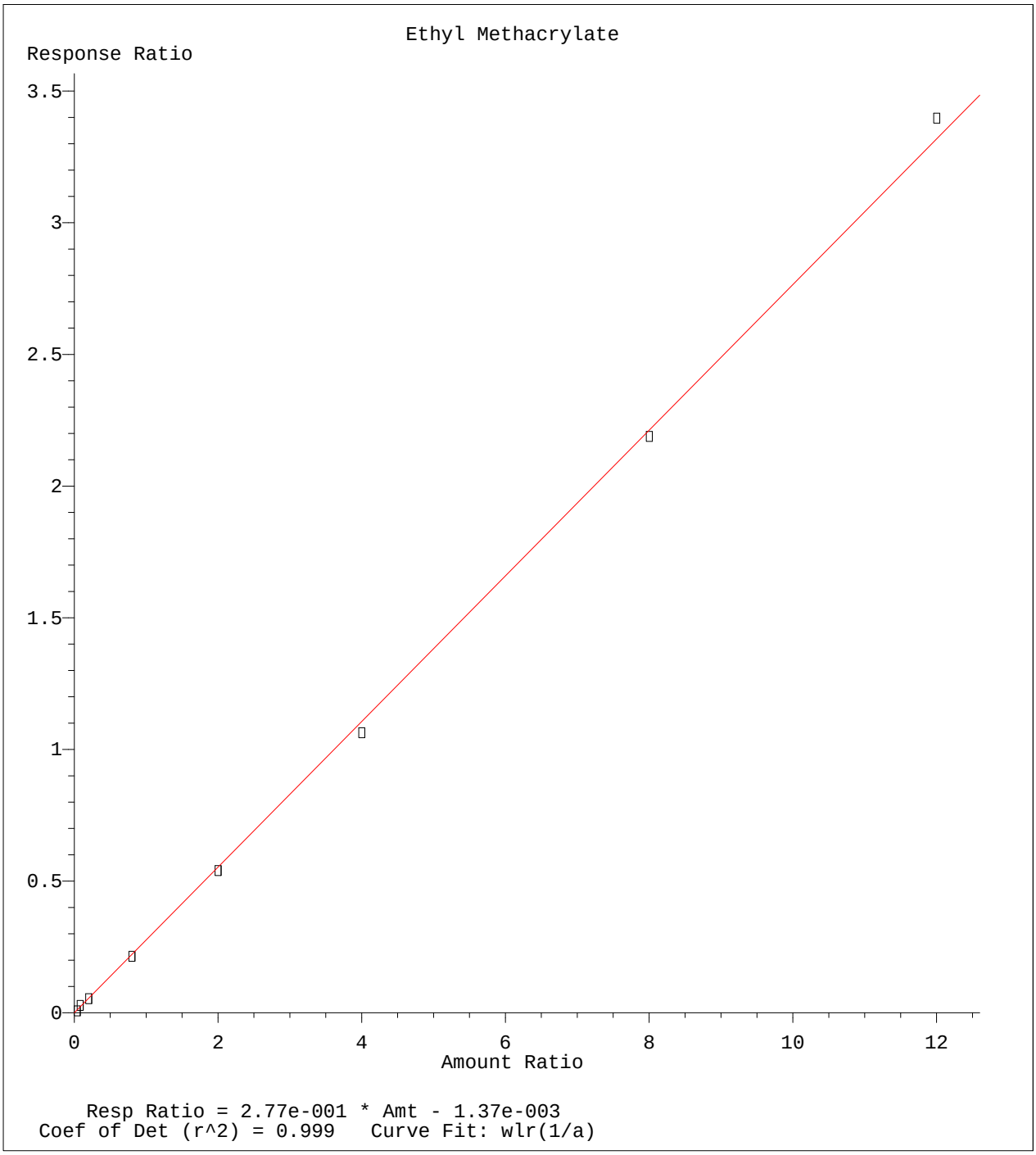
Method Name: C:\MSDCHEM\1\METHODS\8260WTR.M
Calibration Table Last Updated: Wed Nov 14 12:48:44 2012



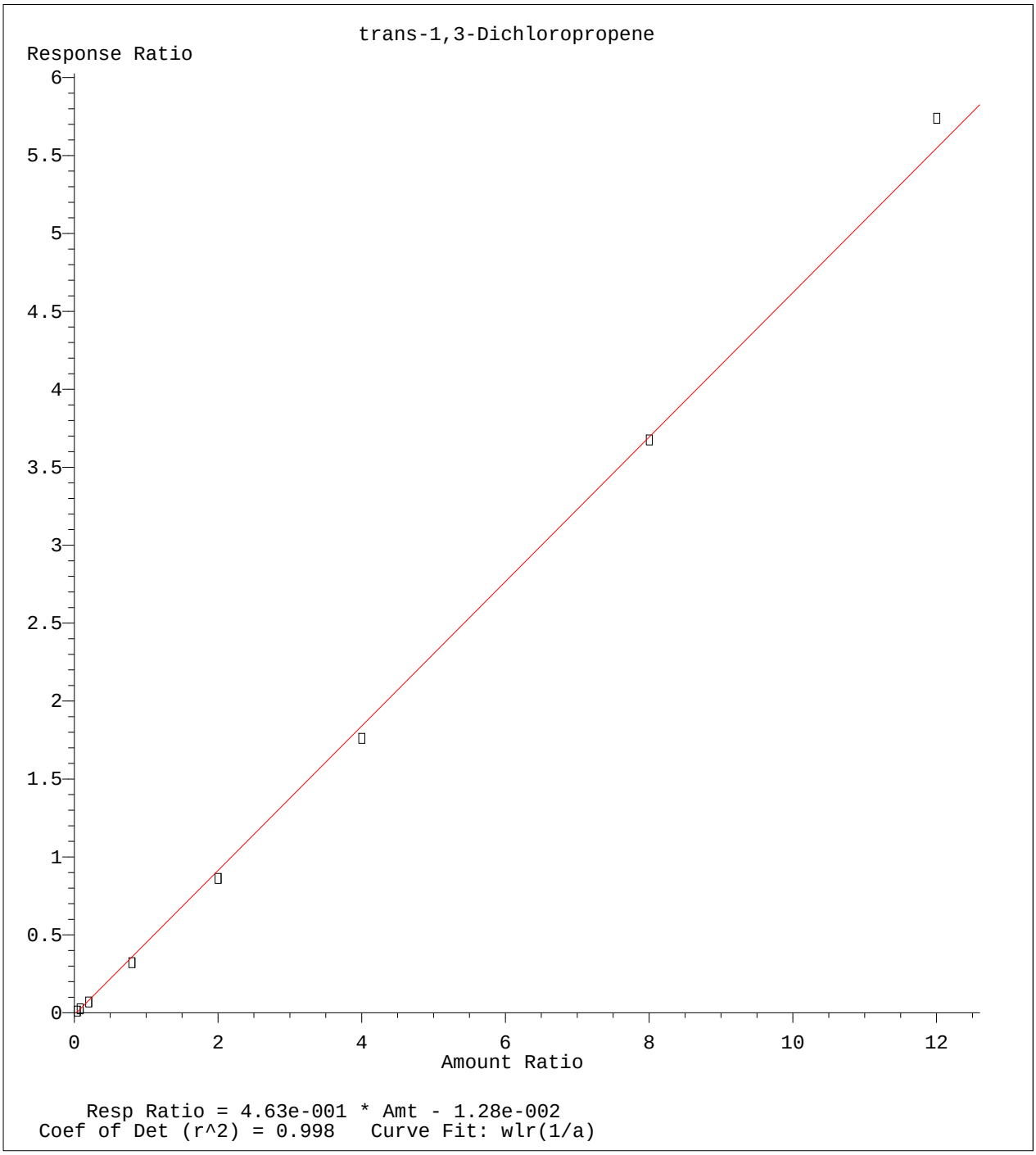
Method Name: C:\MSDCHEM\1\METHODS\8260WTR.M
Calibration Table Last Updated: Wed Nov 14 12:48:44 2012



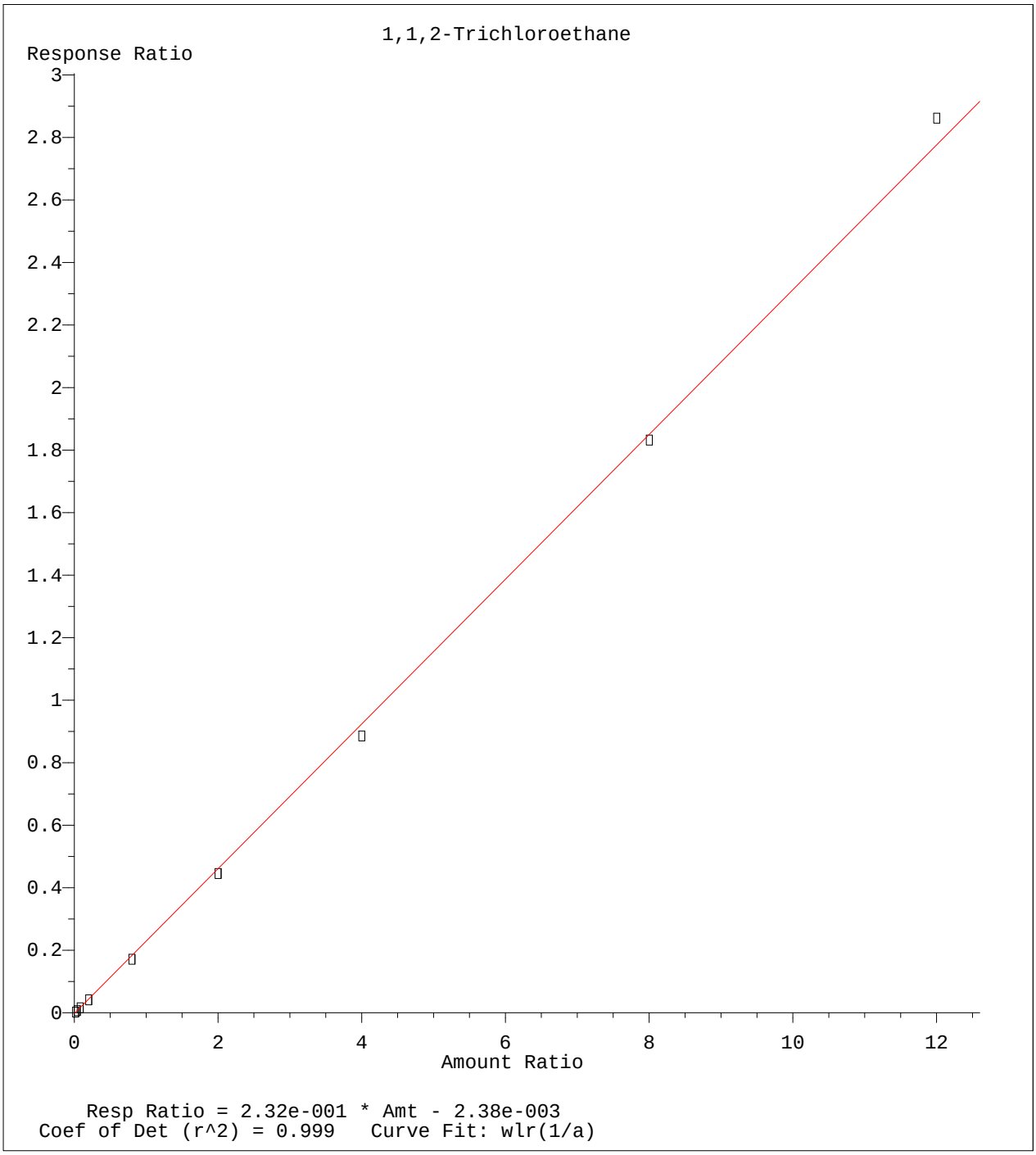
Method Name: C:\MSDCHEM\1\METHODS\8260WTR.M
Calibration Table Last Updated: Wed Nov 14 12:48:44 2012



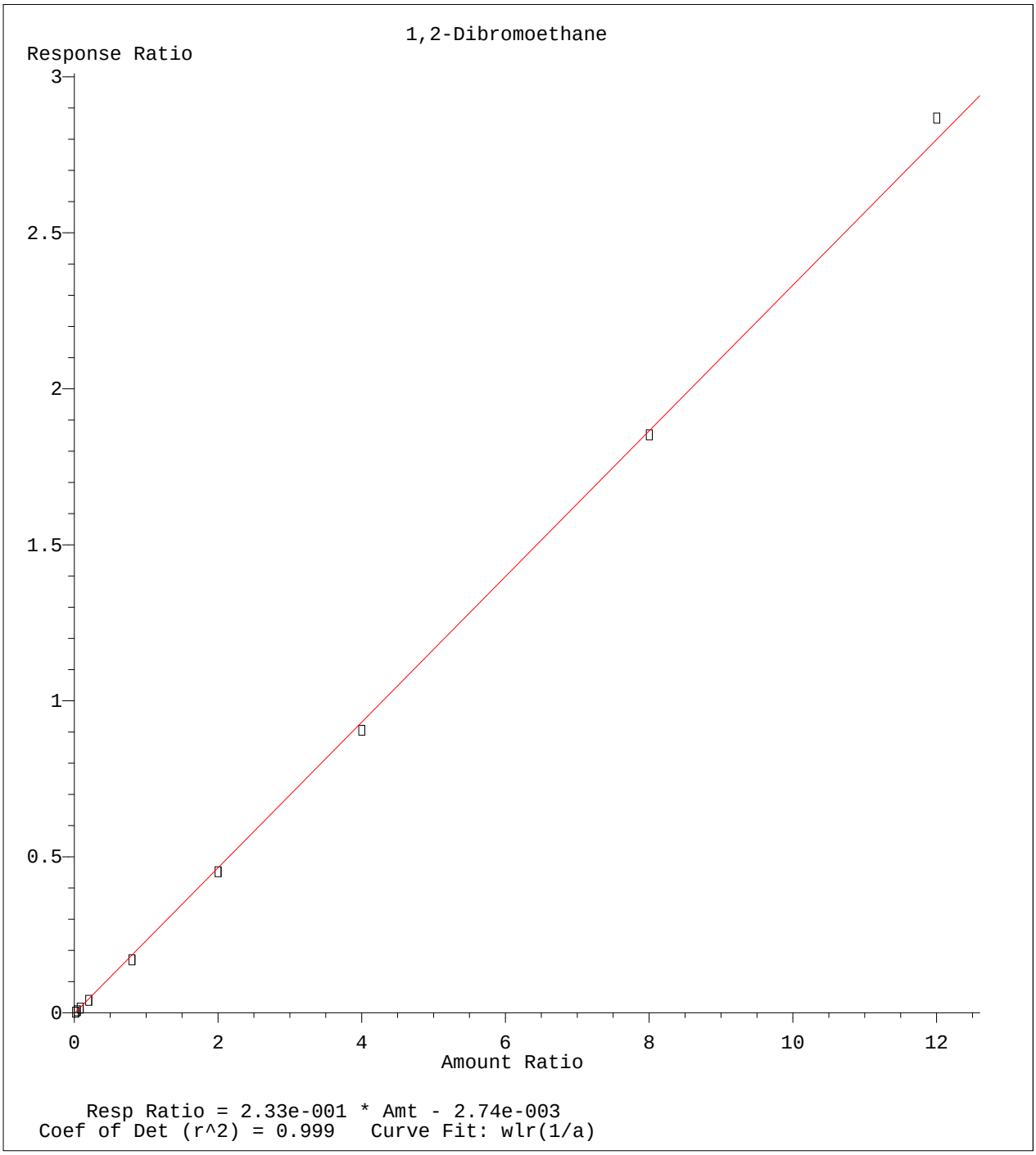
Method Name: C:\MSDCHEM\1\METHODS\8260WTR.M
Calibration Table Last Updated: Wed Nov 14 12:48:44 2012



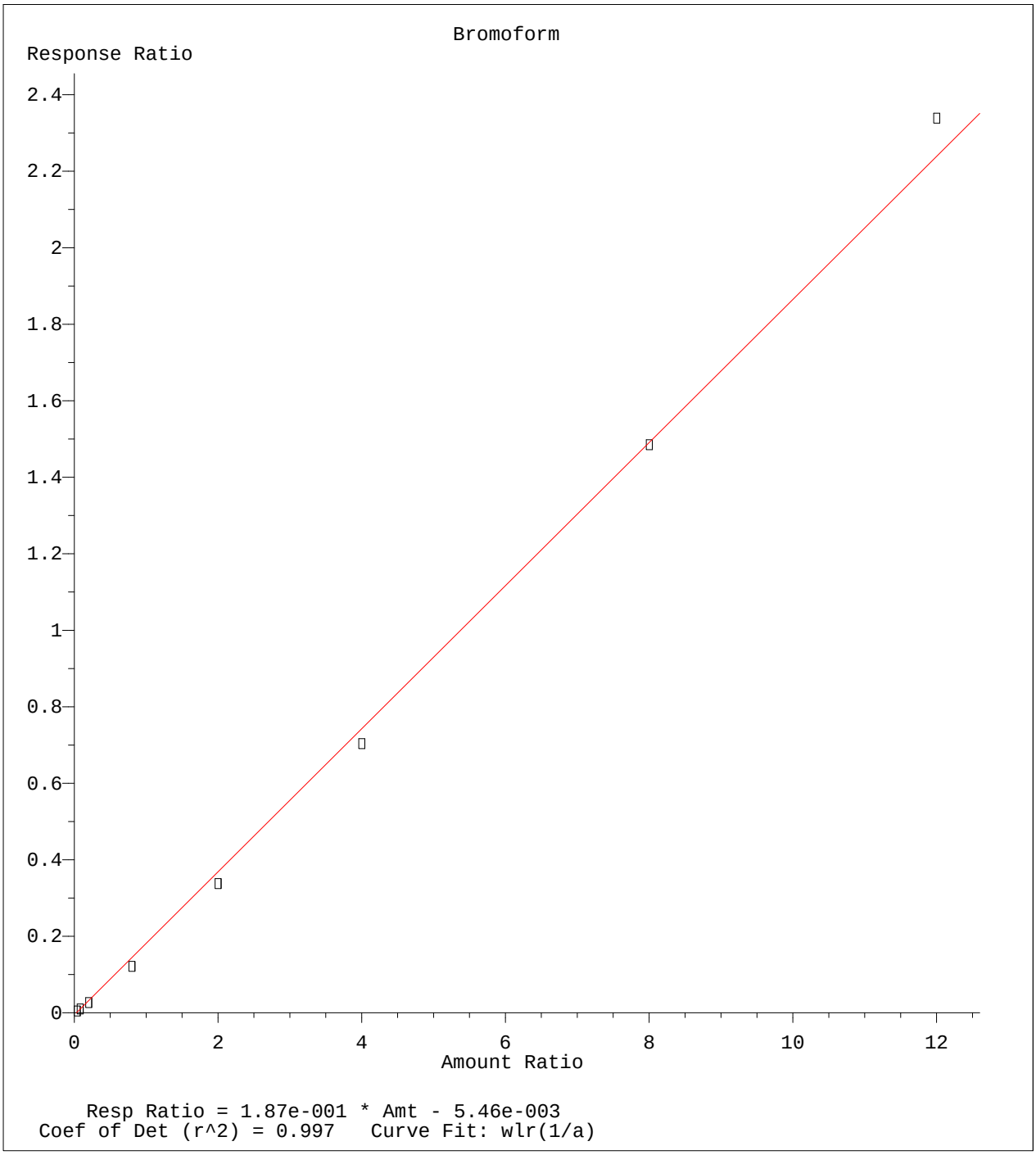
Method Name: C:\MSDCHEM\1\METHODS\8260WTR.M
Calibration Table Last Updated: Wed Nov 14 12:48:44 2012



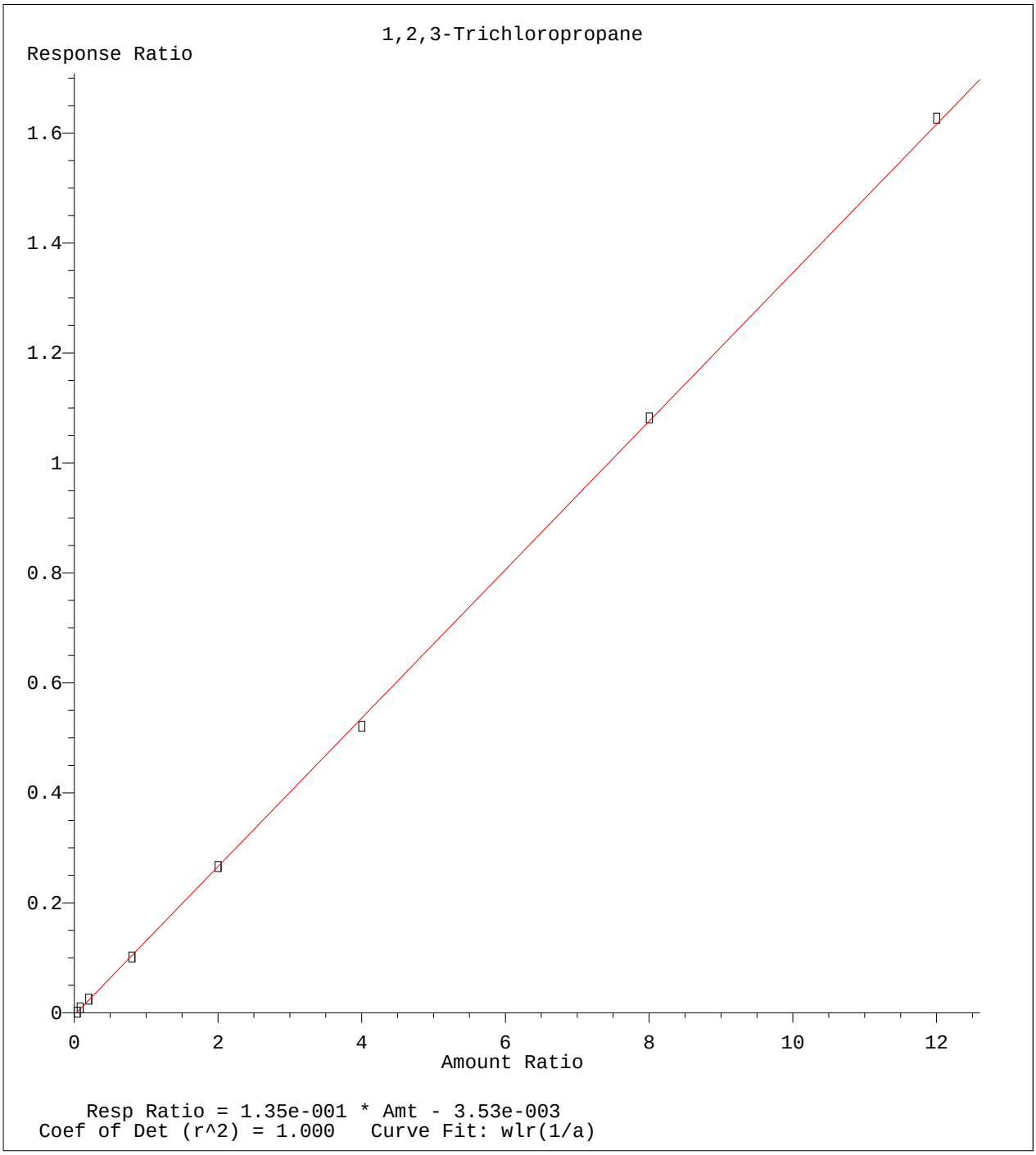
Method Name: C:\MSDCHEM\1\METHODS\8260WTR.M
Calibration Table Last Updated: Wed Nov 14 12:48:44 2012



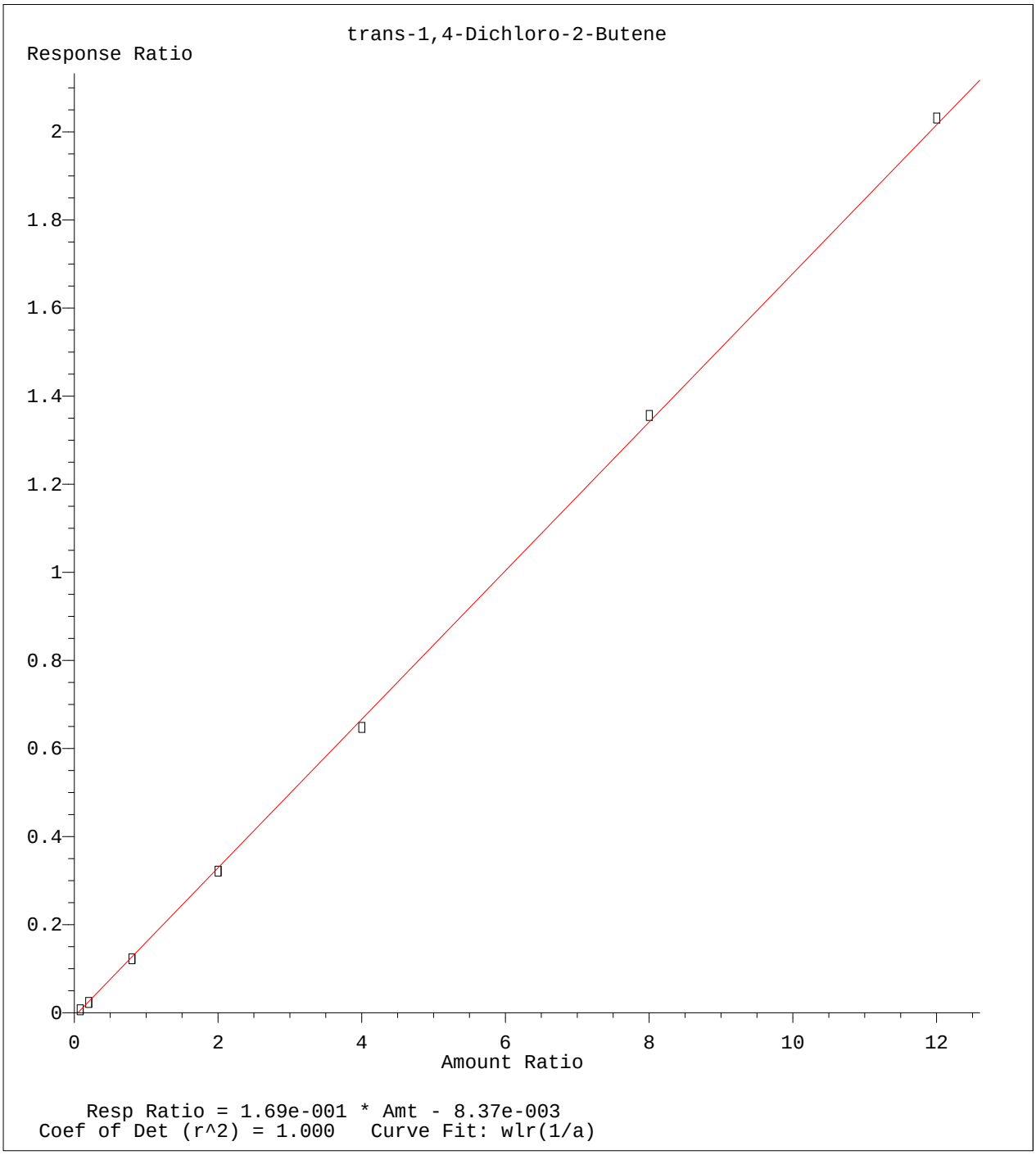
Method Name: C:\MSDCHEM\1\METHODS\8260WTR.M
Calibration Table Last Updated: Wed Nov 14 12:48:44 2012



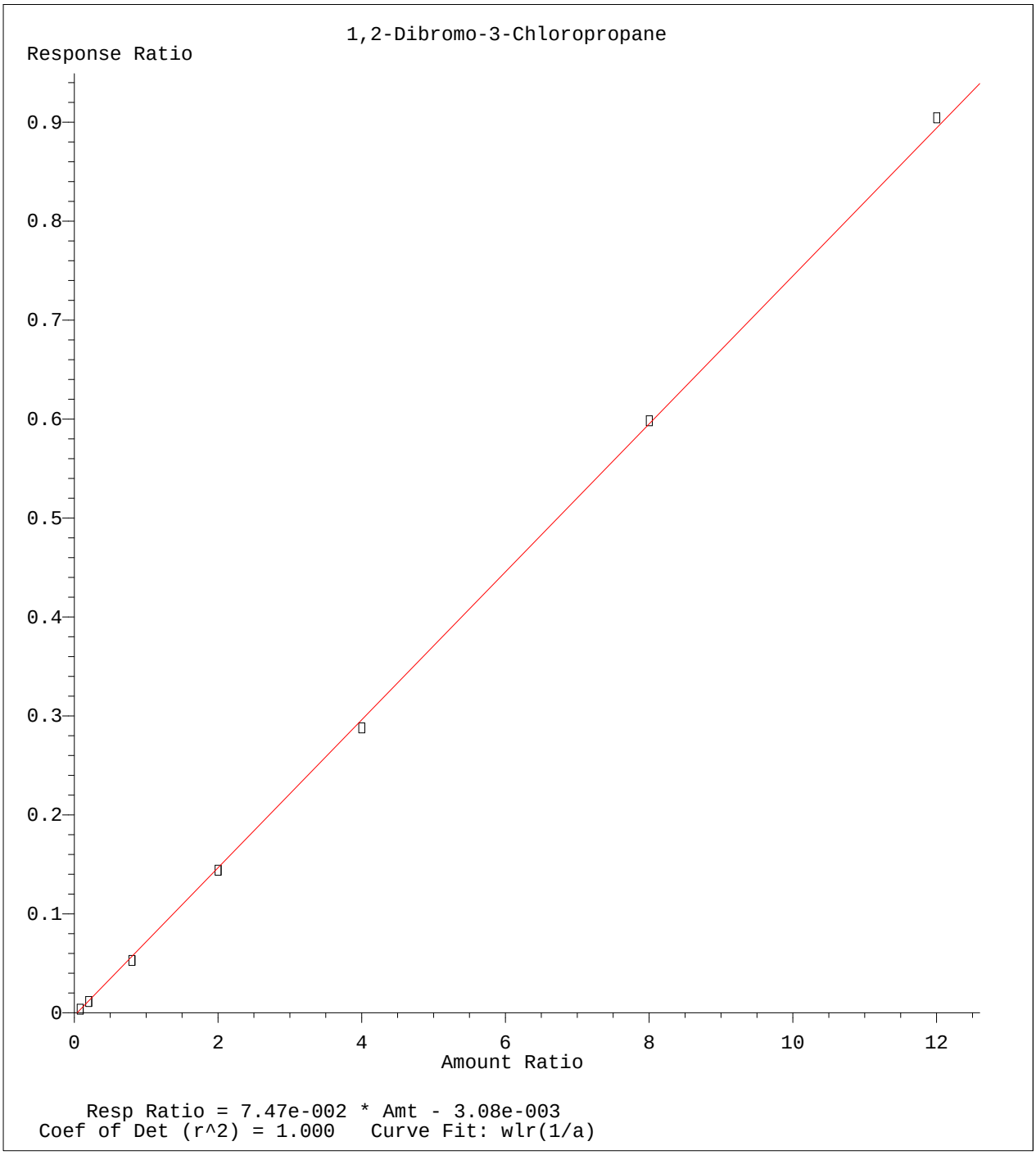
Method Name: C:\MSDCHEM\1\METHODS\8260WTR.M
Calibration Table Last Updated: Wed Nov 14 12:48:44 2012



Method Name: C:\MSDCHEM\1\METHODS\8260WTR.M
Calibration Table Last Updated: Wed Nov 14 12:48:44 2012



Method Name: C:\MSDCHEM\1\METHODS\8260WTR.M
Calibration Table Last Updated: Wed Nov 14 12:48:44 2012



Method Name: C:\MSDCHEM\1\METHODS\8260WTR.M
Calibration Table Last Updated: Wed Nov 14 12:48:44 2012

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\111212\6M112633.D Vial: 14
Acq On : 12 Nov 2012 20:52 Operator: adc
Sample : WG414018-12 50.0 ug/L ALTSRC 8260 Inst : HPMS6
Misc : 1,1 STD54557 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 14 12:59:08 2012 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:OVLMSV01 011/12/12 - HPMS6
Last Update : Wed Nov 14 12:48:44 2012
Response via : Initial Calibration
DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.32	96	528633	25.00	ug/L	0.00
57) Chlorobenzene-d5	14.80	117	373777	25.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	18.35	152	183647	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.12	111	129258	23.8557	ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 95.44%			
43) 1,2-Dichloroethane-d4	9.86	65	124477	23.9731	ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 95.88%			
58) Toluene-d8	12.59	98	414349	22.5997	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 90.40%			
80) p-Bromofluorobenzene	16.57	95	155709	23.3859	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 93.56%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	2.64	85	281910	67.7625	ug/L	100
3) Chloromethane	3.00	50	347033	46.9217	ug/L	98
4) Vinyl Chloride	3.18	62	269970	44.2621	ug/L	100
5) 1,3-Butadiene	3.22	54	77903	21.8272	ug/L	99
6) Bromomethane	3.94	94	200802	45.8132	ug/L	99
7) Chloroethane	4.09	64	195794	52.5030	ug/L	100
8) Trichlorofluoromethane	4.55	101	475914	54.8281	ug/L	100
9) Diethyl ether	5.09	59	326064	137.0979	ug/L	99
10) Isoprene	5.11	67	376400	39.7616	ug/L	100
11) Acrolein	5.31	56	40029	173.0783	ug/L	93
12) 1,1,2-Trichloro-1,2,2-Trif	5.34	101	283078	57.2456	ug/L	97
13) Acetone	5.42	43	35665	51.2341	ug/L	97
14) 1,1-Dichloroethene	5.64	61	441108	51.0562	ug/L	99
15) Tert-Butyl Alcohol	5.78	59	31299	160.4028	ug/L	99
16) Dimethyl Sulfide	5.92	62	309395	47.8695	ug/L	99
17) Iodomethane	6.16	142	185613	44.9492	ug/L	97
18) Methyl acetate	6.21	43	99495	44.3956	ug/L	99
19) Methylene Chloride	6.47	84	259507	50.4650	ug/L	99
20) Carbon Disulfide	6.48	76	791787	51.6964	ug/L	99
21) Acrylonitrile	6.67	53	55648	55.6765	ug/L	100
22) Methyl Tert Butyl Ether	6.71	73	502071	50.5201	ug/L	100
23) trans-1,2-Dichloroethene	6.95	96	276562	53.1085	ug/L	99
24) n-Hexane	7.05	57	275823	47.9214	ug/L	99
25) Diisopropyl ether	7.45	45	1575232	101.5573	ug/L	100
26) Vinyl Acetate	7.63	43	345876	61.9312	ug/L	100
27) 1,1-Dichloroethane	7.63	63	523780	50.7878	ug/L	99
28) Ethyl-Tert-Butyl ether	8.08	59	1330154	96.3808	ug/L	99
29) 2-Butanone	8.27	43	52246	50.7235	ug/L	100
30) Propionitrile	8.39	54	30617	95.0373	ug/L	97
31) 2,2-Dichloropropane	8.49	77	392497	50.2500	ug/L	99
32) cis-1,2-Dichloroethene	8.57	96	294002	52.0706	ug/L	99
33) Chloroform	8.80	83	481068	51.9786	ug/L	99
34) 1-Bromopropane	8.95	122	53890	52.6611	ug/L	99
35) Bromochloromethane	9.05	130	165153	51.9506	ug/L	100
36) Tetrahydrofuran	9.08	42	61666	97.1620	ug/L	100
38) 1,1,1-Trichloroethane	9.40	97	441284	52.1624	ug/L	99
39) Cyclohexane	9.42	56	411265	44.5385	ug/L	100
40) 1,1-Dichloropropene	9.62	75	368556	52.3607	ug/L	98
41) Tert-Amyl-Methyl ether	9.78	73	1005388	97.4179	ug/L	100
42) Carbon Tetrachloride	9.78	117	405766	52.6455	ug/L	100

(#) = qualifier out of range (m) = manual integration
6M112633.D 8260WTR.M Wed Nov 14 12:59:09 2012 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\111212\6M112633.D Vial: 14
Acq On : 12 Nov 2012 20:52 Operator: adc
Sample : WG414018-12 50.0 ug/L ALTSRC 8260 Inst : HPMS6
Misc : 1,1 STD54557 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 14 12:59:08 2012 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:OVLMSV01 011/12/12 - HPMS6
Last Update : Wed Nov 14 12:48:44 2012
Response via : Initial Calibration
DataAcq Meth : 8260WTR

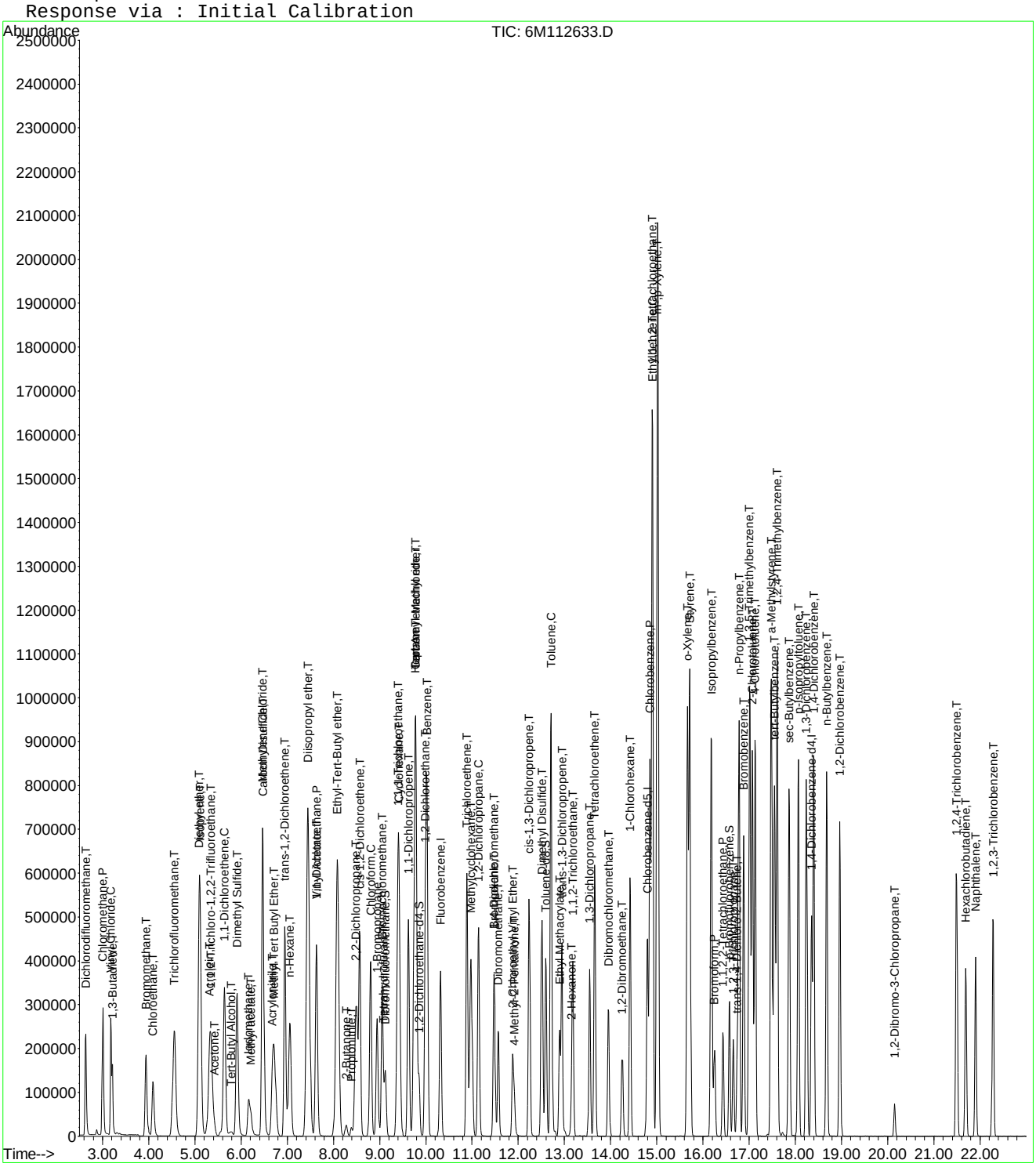
	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
44)	Heptane	9.76	57	21281	91.2024	ug/L		90
45)	1,2-Dichloroethane	9.99	62	344647	53.2238	ug/L		99
46)	Benzene	10.02	78	1023414	50.3990	ug/L		99
47)	Trichloroethene	10.89	130	295055	50.6165	ug/L		99
48)	Methylcyclohexane	10.98	83	301305	47.0507	ug/L		99
49)	1,2-Dichloropropane	11.14	63	282081	54.3376	ug/L		99
50)	1,4-Dioxane	11.48	88	1495	118.6300	ug/L		91
51)	Bromodichloromethane	11.48	83	338407	52.2658	ug/L		99
52)	Dibromomethane	11.56	93	128510	47.9615	ug/L		100
53)	2-Chloroethyl Vinyl Ether	11.88	63	107641	48.8901	ug/L		100
54)	4-Methyl-2-Pentanone	11.92	58	46906	49.6947	ug/L		99
55)	cis-1,3-Dichloropropene	12.24	75	410171	57.8961	ug/L		99
56)	Dimethyl Disulfide	12.51	79	206695	48.3464	ug/L		100
59)	Toluene	12.72	91	1065494	50.3641	ug/L		100
60)	Ethyl Methacrylate	12.90	69	186753	45.2789	ug/L		99
62)	trans-1,3-Dichloropropene	12.95	75	317279	46.4979	ug/L		99
63)	1,1,2-Trichloroethane	13.19	97	172037	49.9568	ug/L		100
64)	2-Hexanone	13.16	43	71481	49.9891	ug/L		100
65)	1,3-Dichloropropane	13.54	76	292638	54.6667	ug/L		99
66)	Tetrachloroethene	13.66	166	260953	50.5135	ug/L		99
67)	Dibromochloromethane	13.96	129	228925	56.6795	ug/L		100
68)	1,2-Dibromoethane	14.25	107	170415	49.1180	ug/L		100
69)	1-Chlorohexane	14.42	91	292915	45.2834	ug/L		100
70)	Chlorobenzene	14.85	112	663578	46.8030	ug/L		100
71)	1,1,1,2-Tetrachloroethane	14.90	131	269559	52.6873	ug/L		100
72)	Ethylbenzene	14.91	106	386783	49.8882	ug/L		35
73)	m-,p-Xylene	15.01	106	916816	97.4393	ug/L		100
74)	o-Xylene	15.67	106	414457	46.8138	ug/L		99
75)	Styrene	15.72	104	780111	53.4111	ug/L		98
76)	Bromoform	16.25	173	128815	46.8068	ug/L		99
77)	Isopropylbenzene	16.19	105	1008693	47.1930	ug/L		100
79)	1,1,2,2-Tetrachloroethane	16.43	83	175660	53.5158	ug/L		99
81)	1,2,3-Trichloropropane	16.66	110	49369	50.4516	ug/L		99
82)	trans-1,4-Dichloro-2-Buten	16.74	53	47382	39.4779	ug/L		96
83)	n-Propylbenzene	16.78	91	1143775	47.4841	ug/L		100
84)	Bromobenzene	16.88	156	276294	52.8584	ug/L		100
85)	1,3,5-Trimethylbenzene	17.00	105	919563	52.0476	ug/L		100
86)	2-Chlorotoluene	17.07	91	840111	47.7810	ug/L		95
87)	4-Chlorotoluene	17.13	91	753884	46.8027	ug/L		96
88)	a-Methylstyrene	17.48	118	506968	49.0084	ug/L	#	1
89)	tert-Butylbenzene	17.55	134	157116	47.2982	ug/L		99
90)	1,2,4-Trimethylbenzene	17.61	105	947294	51.6096	ug/L		100
91)	sec-Butylbenzene	17.86	105	914054	47.6851	ug/L		100
92)	p-Isopropyltoluene	18.07	119	805923	48.9115	ug/L		99
93)	1,3-Dichlorobenzene	18.24	146	472466	47.2484	ug/L		100
94)	1,4-Dichlorobenzene	18.40	146	514445	50.3029	ug/L		100
95)	n-Butylbenzene	18.68	91	719489	51.1896	ug/L		100
96)	1,2-Dichlorobenzene	18.97	146	416394	47.2758	ug/L		100
97)	1,2-Dibromo-3-Chloropropan	20.15	75	27069	50.3326	ug/L		99
98)	1,2,4-Trichlorobenzene	21.50	180	272091	50.8944	ug/L		100
99)	Hexachlorobutadiene	21.69	225	117904	54.5710	ug/L		99
100)	Naphthalene	21.91	128	462731	49.8553	ug/L		100
101)	1,2,3-Trichlorobenzene	22.28	180	227882	51.8239	ug/L		99

(#) = qualifier out of range (m) = manual integration
6M112633.D 8260WTR.M Wed Nov 14 12:59:09 2012 Page 2

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\111212\6M112633.D Vial: 14
Acq On : 12 Nov 2012 20:52 Operator: adc
Sample : WG414018-12 50.0 ug/L ALTSRC 8260 Inst : HPMS6
Misc : 1,1 STD54557 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 14 12:59 2012 Quant Results File: 8260WTR.RES

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:OVLMSV01 011/12/12 - HPMS6
Last Update : Wed Nov 14 12:48:44 2012
Response via : Initial Calibration



Evaluate Continuing Calibration Report

Data File : C:\MSDCHEM\1\DATA\111212\6M112633.D Vial: 14
Acq On : 12 Nov 2012 20:52 Operator: adc
Sample : WG414018-12 50.0 ug/L ALTSRC 8260 Inst : HPMS6
Misc : 1,1 STD54557 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:OVLMSV01 011/12/12 - HPMS6
Last Update : Wed Nov 14 12:48:44 2012
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Fluorobenzene	25.0000	25.0000	0.0	100	0.00
2	T	Dichlorodifluoromethane	50.0000	67.7625	-35.5#	130	0.00
3	P	Chloromethane	50.0000	46.9217	6.2	96	0.00
4	C	Vinyl Chloride	50.0000	44.2621	11.5	89	-0.01
5	T	1,3-Butadiene	50.0000	21.8272	56.3#	46	0.00
6	T	Bromomethane	50.0000	45.8132	8.4	102	0.00
7	T	Chloroethane	50.0000	52.5030	-5.0	102	-0.01
8	T	Trichlorofluoromethane	50.0000	54.8282	-9.7	107	-0.01
9	T	Diethyl ether	100.0000	137.0980	-37.1#	136	0.00
10	T	Isoprene	50.0000	39.7616	20.5	79	0.00
11	T	Acrolein	50.0000	173.0783	-246.2#	333	0.00
12	T	1,1,2-Trichloro-1,2,2-Trifl	50.0000	57.2456	-14.5	115	0.00
13	T	Acetone	50.0000	51.2341	-2.5	103	0.00
14	C	1,1-Dichloroethene	50.0000	51.0562	-2.1	101	0.00
15	T	Tert-Butyl Alcohol	200.0000	160.4028	19.8	82	0.00
16	T	Dimethyl Sulfide	50.0000	47.8695	4.3	94	0.00
17	T	Iodomethane	50.0000	44.9492	10.1	85	0.00
18	T	Methyl acetate	50.0000	44.3956	11.2	88	0.00
19	T	Methylene Chloride	50.0000	50.4650	-0.9	102	0.00
20	T	Carbon Disulfide	50.0000	51.6964	-3.4	102	0.00
21	T	Acrylonitrile	50.0000	55.6765	-11.4	106	0.00
22	T	Methyl Tert Butyl Ether	50.0000	50.5201	-1.0	99	0.00
23	T	trans-1,2-Dichloroethene	50.0000	53.1084	-6.2	104	-0.01
24	T	n-Hexane	50.0000	47.9214	4.2	97	-0.01
25	T	Diisopropyl ether	100.0000	101.5573	-1.6	101	0.00
26	T	Vinyl Acetate	50.0000	61.9312	-23.9	116	0.00
27	P	1,1-Dichloroethane	50.0000	50.7878	-1.6	100	0.00
28	T	Ethyl-Tert-Butyl ether	100.0000	96.3808	3.6	96	0.00
29	T	2-Butanone	50.0000	50.7235	-1.4	100	0.00
30	T	Propionitrile	100.0000	95.0374	5.0	91	0.00
31	T	2,2-Dichloropropane	50.0000	50.2500	-0.5	96	-0.01
32	T	cis-1,2-Dichloroethene	50.0000	52.0706	-4.1	102	0.00
33	C	Chloroform	50.0000	51.9786	-4.0	102	0.00
34		1-Bromopropane	50.0000	52.6611	-5.3	108	0.00
35	T	Bromochloromethane	50.0000	51.9507	-3.9	102	0.00
36	T	Tetrahydrofuran	100.0000	97.1620	2.8	98	-0.01
37	S	Dibromofluoromethane	25.0000	23.8557	4.6	97	0.00
38	T	1,1,1-Trichloroethane	50.0000	52.1624	-4.3	101	0.00
39	T	Cyclohexane	50.0000	44.5385	10.9	92	0.00
40	T	1,1-Dichloropropene	50.0000	52.3607	-4.7	102	0.00
41	T	Tert-Amyl-Methyl ether	100.0000	97.4179	2.6	97	0.00
42	T	Carbon Tetrachloride	50.0000	52.6455	-5.3	102	0.00
43	S	1,2-Dichloroethane-d4	25.0000	23.9731	4.1	97	0.00
44		Heptane	-1.0000	91.2024	0.0	100	-0.01
45	T	1,2-Dichloroethane	50.0000	53.2238	-6.4	103	0.00
46	T	Benzene	50.0000	50.3990	-0.8	101	0.00
47	T	Trichloroethene	50.0000	50.6165	-1.2	104	0.00
48	T	Methylcyclohexane	50.0000	47.0506	5.9	95	0.00
49	C	1,2-Dichloropropane	50.0000	54.3376	-8.7	104	0.00
50	T	1,4-Dioxane	200.0000	118.6300	40.7#	46	0.00
51	T	Bromodichloromethane	50.0000	52.2658	-4.5	100	0.00
52	T	Dibromomethane	50.0000	47.9615	4.1	101	0.00
53	T	2-Chloroethyl Vinyl Ether	50.0000	48.8901	2.2	101	0.00
54	T	4-Methyl-2-Pentanone	50.0000	49.6947	0.6	95	0.00

(#) = Out of Range
6M112633.D 8260WTR.M Wed Nov 14 12:59:16 2012 Page 1

Data File : C:\MSDCHEM\1\DATA\111212\6M112633.D Vial: 14
Acq On : 12 Nov 2012 20:52 Operator: adc
Sample : WG414018-12 50.0 ug/L ALTSRC 8260 Inst : HPMS6
Misc : 1,1 STD54557 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:OVLMSV01 011/12/12 - HPMS6
Last Update : Wed Nov 14 12:48:44 2012
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
55	T	cis-1,3-Dichloropropene	50.0000	57.8961	-15.8	105	0.00
56	T	Dimethyl Disulfide	50.0000	48.3464	3.3	93	0.00
57	I	Chlorobenzene-d5	25.0000	25.0000	0.0	101	0.00
58	S	Toluene-d8	25.0000	22.5997	9.6	94	0.00
59	C	Toluene	50.0000	50.3640	-0.7	99	0.00
60	T	Ethyl Methacrylate	50.0000	45.2789	9.4	93	0.00
61		Paraldehyde	100.0000	0.0000	100.0#	0	-13.00#
62	T	trans-1,3-Dichloropropene	50.0000	46.4979	7.0	99	0.00
63	T	1,1,2-Trichloroethane	50.0000	49.9568	0.1	104	0.00
64	T	2-Hexanone	50.0000	49.9891	0.0	95	0.00
65	T	1,3-Dichloropropane	50.0000	54.6667	-9.3	103	0.00
66	T	Tetrachloroethene	50.0000	50.5135	-1.0	99	0.00
67	T	Dibromochloromethane	50.0000	56.6795	-13.4	99	0.00
68	T	1,2-Dibromoethane	50.0000	49.1180	1.8	102	0.00
69	T	1-Chlorohexane	50.0000	45.2834	9.4	89	0.00
70	P	Chlorobenzene	50.0000	46.8030	6.4	93	0.00
71	T	1,1,1,2-Tetrachloroethane	50.0000	52.6873	-5.4	102	0.00
72	C	Ethylbenzene	50.0000	49.8882	0.2	100	0.00
73	T	m-,p-Xylene	100.0000	97.4393	2.6	97	0.00
74	T	o-Xylene	50.0000	46.8138	6.4	94	0.00
75	T	Styrene	50.0000	53.4111	-6.8	102	0.00
76	P	Bromoform	50.0000	46.8068	6.4	103	0.00
77	T	Isopropylbenzene	50.0000	47.1930	5.6	92	0.00
78	I	1,4-Dichlorobenzene-d4	25.0000	25.0000	0.0	101	0.00
79	P	1,1,2,2-Tetrachloroethane	50.0000	53.5158	-7.0	102	0.00
80	S	p-Bromofluorobenzene	25.0000	23.3860	6.5	96	0.00
81	T	1,2,3-Trichloropropane	50.0000	50.4516	-0.9	102	0.00
82	T	trans-1,4-Dichloro-2-Butene	50.0000	39.4779	21.0	81	0.00
83	T	n-Propylbenzene	50.0000	47.4841	5.0	93	0.00
84	T	Bromobenzene	50.0000	52.8584	-5.7	99	0.00
85	T	1,3,5-Trimethylbenzene	50.0000	52.0476	-4.1	103	0.00
86	T	2-Chlorotoluene	50.0000	47.7810	4.4	107	0.00
87	T	4-Chlorotoluene	50.0000	46.8027	6.4	91	0.00
88	T	a-Methylstyrene	50.0000	49.0084	2.0	95	0.00
89	T	tert-Butylbenzene	50.0000	47.2982	5.4	95	0.00
90	T	1,2,4-Trimethylbenzene	50.0000	51.6096	-3.2	103	0.00
91	T	sec-Butylbenzene	50.0000	47.6851	4.6	93	0.00
92	T	p-Isopropyltoluene	50.0000	48.9115	2.2	97	0.00
93	T	1,3-Dichlorobenzene	50.0000	47.2484	5.5	93	0.00
94	T	1,4-Dichlorobenzene	50.0000	50.3028	-0.6	100	0.00
95	T	n-Butylbenzene	50.0000	51.1896	-2.4	101	0.00
96	T	1,2-Dichlorobenzene	50.0000	47.2758	5.4	93	0.00
97	T	1,2-Dibromo-3-Chloropropane	50.0000	50.3326	-0.7	103	0.00
98	T	1,2,4-Trichlorobenzene	50.0000	50.8944	-1.8	101	0.00
99	T	Hexachlorobutadiene	50.0000	54.5710	-9.1	106	0.00
100	T	Naphthalene	50.0000	49.8554	0.3	99	0.00
101	T	1,2,3-Trichlorobenzene	50.0000	51.8239	-3.6	101	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
6M112633.D 8260WTR.M Wed Nov 14 12:59:16 2012 Page 2

Quantitation Report (Not Reviewed)

Data File : C:\MSDchem\1\data\111412\6M112668.D Vial: 2
Acq On : 14 Nov 2012 11:47 Operator: FJB
Sample : WG414232-02 50ug/L CCV 8260 Inst : HPMS6
Misc : 1,1 STD54883 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 14 12:10:16 2012 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:OVLMSV01 011/12/12 - HPMS6
Last Update : Tue Nov 13 09:04:10 2012
Response via : Initial Calibration
DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene	10.32	96	597787	25.00 ug/L	0.00
57) Chlorobenzene-d5	14.80	117	415446	25.00 ug/L	0.00
78) 1,4-Dichlorobenzene-d4	18.35	152	192038	25.00 ug/L	0.00
System Monitoring Compounds					
37) Dibromofluoromethane	9.12	111	155294	25.3453 ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 101.40%		
43) 1,2-Dichloroethane-d4	9.86	65	142175	24.2140 ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 96.84%		
58) Toluene-d8	12.59	98	507802	24.9189 ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 99.68%		
80) p-Bromofluorobenzene	16.57	95	182920	26.2724 ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 105.08%		
Target Compounds					Qvalue
2) Dichlorodifluoromethane	2.64	85	270904	57.5840 ug/L	99
3) Chloromethane	3.00	50	393624	47.0644 ug/L	100
4) Vinyl Chloride	3.19	62	325076	47.1313 ug/L	100
5) 1,3-Butadiene	3.23	54	195213	55.8278 ug/L	99
6) Bromomethane	3.94	94	240438	55.7462 ug/L	99
7) Chloroethane	4.10	64	229485	54.4185 ug/L	100
8) Trichlorofluoromethane	4.56	101	554594	56.5013 ug/L	99
9) Diethyl ether	5.09	59	237583	88.3388 ug/L	99
10) Isoprene	5.11	67	558933	52.2134 ug/L	99
11) Acrolein	5.32	56	9988	38.1904 ug/L	99
12) 1,1,2-Trichloro-1,2,2-Trif	5.34	101	305887	54.7022 ug/L	100
13) Acetone	5.42	43	37402	47.5138 ug/L	98
14) 1,1-Dichloroethene	5.64	61	519635	53.1876 ug/L	100
15) Tert-Butyl Alcohol	5.77	59	44003	199.4214 ug/L	97
16) Dimethyl Sulfide	5.91	62	374304	51.2127 ug/L	99
17) Iodomethane	6.16	142	252435	53.6760 ug/L	99
18) Methyl acetate	6.21	43	119145	47.0134 ug/L	99
19) Methylene Chloride	6.47	84	293539	50.4795 ug/L	99
20) Carbon Disulfide	6.48	76	909156	52.4926 ug/L	99
21) Acrylonitrile	6.67	53	54745	48.4367 ug/L	97
22) Methyl Tert Butyl Ether	6.71	73	541346	48.1706 ug/L	100
23) trans-1,2-Dichloroethene	6.95	96	313309	53.2049 ug/L	100
24) n-Hexane	7.06	57	351306	53.9750 ug/L	99
25) Diisopropyl ether	7.45	45	1658726	94.5691 ug/L	100
26) Vinyl Acetate	7.63	43	309359	48.9846 ug/L	100
27) 1,1-Dichloroethane	7.63	63	599232	51.3822 ug/L	100
28) Ethyl-Tert-Butyl ether	8.08	59	1446986	92.7173 ug/L	100
29) 2-Butanone	8.27	43	51939	44.5921 ug/L	98
30) Propionitrile	8.39	54	34490	94.6744 ug/L	99
31) 2,2-Dichloropropane	8.50	77	485248	54.9378 ug/L	99
32) cis-1,2-Dichloroethene	8.57	96	327665	51.3192 ug/L	100
33) Chloroform	8.80	83	539006	51.5015 ug/L	100
34) 1-Bromopropane	8.95	122	56710	49.0566 ug/L	98
35) Bromochloromethane	9.05	130	176295	49.0503 ug/L	99
36) Tetrahydrofuran	9.09	42	75126	104.6764 ug/L	99
38) 1,1,1-Trichloroethane	9.40	97	492035	51.4331 ug/L	99
39) Cyclohexane	9.42	56	516799	49.4930 ug/L	99
40) 1,1-Dichloropropene	9.62	75	408850	51.3658 ug/L	99
41) Tert-Amyl-Methyl ether	9.77	73	1063885	91.1607 ug/L	99
42) Carbon Tetrachloride	9.77	117	458961	52.6585 ug/L	100

(#) = qualifier out of range (m) = manual integration
6M112668.D 8260WTR.M Wed Nov 14 12:10:16 2012 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDchem\1\data\111412\6M112668.D Vial: 2
Acq On : 14 Nov 2012 11:47 Operator: FJB
Sample : WG414232-02 50ug/L CCV 8260 Inst : HPMS6
Misc : 1,1 STD54883 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 14 12:10:16 2012 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:OVLMSV01 011/12/12 - HPMS6
Last Update : Tue Nov 13 09:04:10 2012
Response via : Initial Calibration
DataAcq Meth : 8260WTR

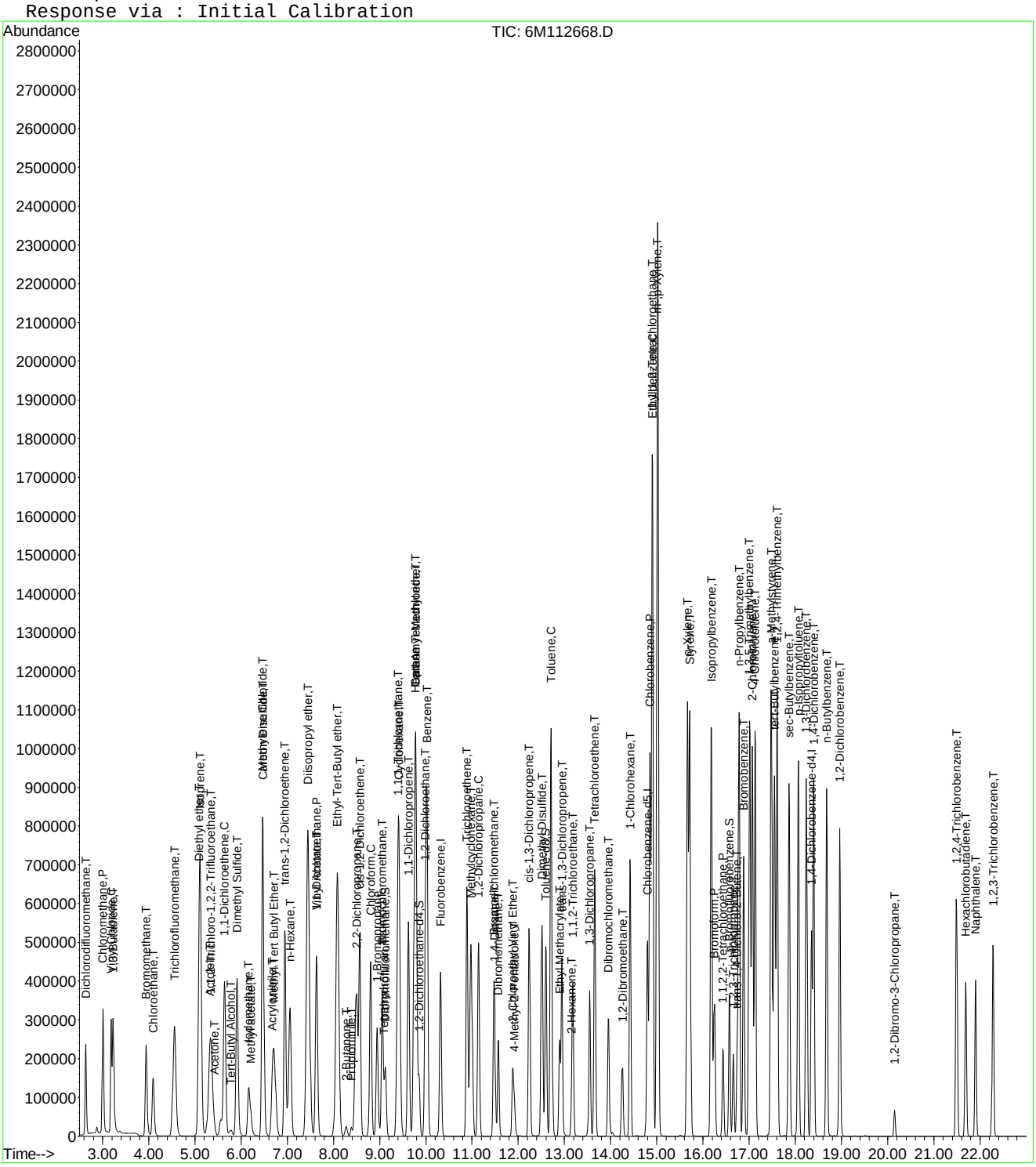
	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
44)	Heptane	9.76	57	22747	86.2078	ug/L		88
45)	1,2-Dichloroethane	9.99	62	361453	49.3618	ug/L		100
46)	Benzene	10.02	78	1138396	49.5760	ug/L		99
47)	Trichloroethene	10.89	130	316429	48.0036	ug/L		100
48)	Methylcyclohexane	10.98	83	368056	50.8254	ug/L		100
49)	1,2-Dichloropropane	11.14	63	294567	50.1786	ug/L		99
50)	1,4-Dioxane	11.49	88	3480	202.6657	ug/L		96
51)	Bromodichloromethane	11.48	83	369592	50.4788	ug/L		99
52)	Dibromomethane	11.56	93	134772	44.5059	ug/L		100
53)	2-Chloroethyl Vinyl Ether	11.88	63	102515	41.3415	ug/L		99
54)	4-Methyl-2-Pentanone	11.92	58	45070	42.2257	ug/L		98
55)	cis-1,3-Dichloropropene	12.24	75	412130	51.4430	ug/L		99
56)	Dimethyl Disulfide	12.51	79	229805	47.5337	ug/L		100
59)	Toluene	12.72	91	1163352	49.4742	ug/L		100
60)	Ethyl Methacrylate	12.90	69	191401	41.7610	ug/L		99
62)	trans-1,3-Dichloropropene	12.95	75	328540	43.3663	ug/L		99
63)	1,1,2-Trichloroethane	13.19	97	167590	43.8161	ug/L		99
64)	2-Hexanone	13.15	43	66515	41.8507	ug/L		99
65)	1,3-Dichloropropane	13.54	76	289140	48.5957	ug/L		98
66)	Tetrachloroethene	13.65	166	291749	50.8104	ug/L		100
67)	Dibromochloromethane	13.95	129	241013	53.6873	ug/L		99
68)	1,2-Dibromoethane	14.26	107	169502	43.9856	ug/L		100
69)	1-Chlorohexane	14.43	91	359114	49.9492	ug/L		98
70)	Chlorobenzene	14.85	112	762350	48.3765	ug/L		100
71)	1,1,1,2-Tetrachloroethane	14.90	131	280155	49.2661	ug/L		100
72)	Ethylbenzene	14.91	106	414876	48.1445	ug/L		35
73)	m-,p-Xylene	15.01	106	1032300	98.7088	ug/L		99
74)	o-Xylene	15.67	106	477644	48.5396	ug/L		99
75)	Styrene	15.72	104	804833	49.5768	ug/L		100
76)	Bromoform	16.25	173	127022	41.6082	ug/L		100
77)	Isopropylbenzene	16.19	105	1166816	49.1155	ug/L		100
79)	1,1,2,2-Tetrachloroethane	16.43	83	167795	48.8860	ug/L		100
81)	1,2,3-Trichloropropane	16.66	110	47126	46.1121	ug/L		94
82)	trans-1,4-Dichloro-2-Buten	16.74	53	56130	44.5584	ug/L		94
83)	n-Propylbenzene	16.78	91	1316988	52.2861	ug/L		99
84)	Bromobenzene	16.88	156	287361	52.5736	ug/L		99
85)	1,3,5-Trimethylbenzene	17.00	105	951680	51.5119	ug/L		99
86)	2-Chlorotoluene	17.07	91	938273	51.0322	ug/L		93
87)	4-Chlorotoluene	17.13	91	874297	51.9066	ug/L		100
88)	a-Methylstyrene	17.48	118	564795	52.2128	ug/L	#	1
89)	tert-Butylbenzene	17.55	134	179033	51.5412	ug/L		99
90)	1,2,4-Trimethylbenzene	17.61	105	984223	51.2785	ug/L		100
91)	sec-Butylbenzene	17.86	105	1052878	52.5273	ug/L		100
92)	p-Isopropyltoluene	18.07	119	901768	52.3370	ug/L		100
93)	1,3-Dichlorobenzene	18.24	146	533325	51.0041	ug/L		100
94)	1,4-Dichlorobenzene	18.40	146	540649	50.5552	ug/L		100
95)	n-Butylbenzene	18.68	91	772757	52.5771	ug/L		99
96)	1,2-Dichlorobenzene	18.96	146	459710	49.9131	ug/L		100
97)	1,2-Dibromo-3-Chloropropan	20.15	75	24996	44.5675	ug/L		97
98)	1,2,4-Trichlorobenzene	21.50	180	279132	49.9301	ug/L		100
99)	Hexachlorobutadiene	21.69	225	121138	53.6180	ug/L		99
100)	Naphthalene	21.91	128	456574	47.0426	ug/L		100
101)	1,2,3-Trichlorobenzene	22.28	180	226176	49.1884	ug/L		100

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : C:\MSDchem\1\data\111412\6M112668.D Vial: 2
Acq On : 14 Nov 2012 11:47 Operator: FJB
Sample : WG414232-02 50ug/L CCV 8260 Inst : HPMS6
Misc : 1,1 STD54883 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 14 12:10 2012 Quant Results File: 8260WTR.RES

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:OVLMSV01 011/12/12 - HPMS6
Last Update : Tue Nov 13 09:04:10 2012
Response via : Initial Calibration



Evaluate Continuing Calibration Report

Data File : C:\MSDCHEM\1\DATA\111412\6M112668.D Vial: 2
Acq On : 14 Nov 2012 11:47 Operator: FJB
Sample : WG414232-02 50ug/L CCV 8260 Inst : HPMS6
Misc : 1,1 STD54883 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:OVLMSV01 011/12/12 - HPMS6
Last Update : Tue Nov 13 09:04:10 2012
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	Fluorobenzene	1.0000	1.0000	0.0	113	0.00
2	T	Dichlorodifluoromethane	0.1968	0.2266	-15.2	125	0.00
3	P	Chloromethane	0.3498	0.3292	5.9	109	0.00
4	C	Vinyl Chloride	0.2884	0.2719	5.7	107	0.00
5	T	1,3-Butadiene	0.1644	0.1633	0.7	116	0.00
6	T	Bromomethane	0.1804	0.2011	-11.5	122	0.00
7	T	Chloroethane	0.1764	0.1920	-8.8	120	0.00
8	T	Trichlorofluoromethane	0.4105	0.4639	-13.0	124	0.00
9	T	Diethyl ether	0.1125	0.0994	11.7	99	0.00
10	T	Isoprene	0.4477	0.4675	-4.4	117	0.00
11	T	Acrolein	0.0109	0.0083	23.7	83	0.01
12	T	1,1,2-Trichloro-1,2,2-Trifl	0.2339	0.2559	-9.4	124	0.00
13	T	Acetone	0.0329	0.0313	5.0	108	0.00
14	C	1,1-Dichloroethene	0.4086	0.4346	-6.4	119	0.00
15	T	Tert-Butyl Alcohol	0.0092	0.0092	0.3	115	-0.01
16	T	Dimethyl Sulfide	0.3057	0.3131	-2.4	114	0.00
17	T	Iodomethane	0.1853	0.2111	-13.9	115	0.00
18	T	Methyl acetate	0.1060	0.0997	6.0	105	0.00
19	T	Methylene Chloride	0.2432	0.2455	-1.0	115	0.00
20	T	Carbon Disulfide	0.7243	0.7604	-5.0	117	0.00
21	T	Acrylonitrile	0.0473	0.0458	3.1	105	0.00
22	T	Methyl Tert Butyl Ether	0.4700	0.4528	3.7	106	0.00
23	T	trans-1,2-Dichloroethene	0.2463	0.2621	-6.4	118	-0.01
24	T	n-Hexane	0.2722	0.2938	-8.0	123	0.00
25	T	Diisopropyl ether	0.7335	0.6937	5.4	106	0.00
26	T	Vinyl Acetate	0.2641	0.2587	2.0	104	0.00
27	P	1,1-Dichloroethane	0.4877	0.5012	-2.8	115	0.00
28	T	Ethyl-Tert-Butyl ether	0.6527	0.6051	7.3	104	0.00
29	T	2-Butanone	0.0487	0.0434	10.8	100	0.00
30	T	Propionitrile	0.0152	0.0144	5.4	103	0.00
31	T	2,2-Dichloropropane	0.3694	0.4059	-9.9	118	0.00
32	T	cis-1,2-Dichloroethene	0.2670	0.2741	-2.6	114	0.00
33	C	Chloroform	0.4377	0.4508	-3.0	114	0.00
34		1-Bromopropane	0.0411	0.0474	-15.5	113	0.00
35	T	Bromochloromethane	0.1379	0.1475	-6.9	109	0.00
36	T	Tetrahydrofuran	0.0300	0.0314	-4.7	120	0.00
37	S	Dibromofluoromethane	0.2562	0.2598	-1.4	117	0.00
38	T	1,1,1-Trichloroethane	0.4001	0.4116	-2.9	113	0.00
39	T	Cyclohexane	0.4367	0.4323	1.0	116	0.00
40	T	1,1-Dichloropropene	0.3329	0.3420	-2.7	113	0.00
41	T	Tert-Amyl-Methyl ether	0.4881	0.4449	8.8	103	0.00
42	T	Carbon Tetrachloride	0.3645	0.3839	-5.3	115	0.00
43	S	1,2-Dichloroethane-d4	0.2456	0.2378	3.1	111	0.00
44		Heptane	0.0110	0.0000	100.0#	107	-0.01
45	T	1,2-Dichloroethane	0.3062	0.3023	1.3	108	0.00
46	T	Benzene	0.9603	0.9522	0.8	113	0.00
47	T	Trichloroethene	0.2757	0.2647	4.0	111	0.00
48	T	Methylcyclohexane	0.3029	0.3079	-1.7	116	0.00
49	C	1,2-Dichloropropane	0.2455	0.2464	-0.4	108	0.00
50	T	1,4-Dioxane	0.0007	0.0007	-2.8	107	0.00
51	T	Bromodichloromethane	0.3062	0.3091	-1.0	110	0.00
52	T	Dibromomethane	0.1058	0.1127	-6.5	106	0.00
53	T	2-Chloroethyl Vinyl Ether	0.0938	0.0858	8.6	96	0.00
54	T	4-Methyl-2-Pentanone	0.0446	0.0377	15.5	92	0.00

(#) = Out of Range
6M112668.D 8260WTR.M Wed Nov 14 12:11:08 2012 Page 1

Data File : C:\MSDCHEM\1\DATA\111412\6M112668.D Vial: 2
Acq On : 14 Nov 2012 11:47 Operator: FJB
Sample : WG414232-02 50ug/L CCV 8260 Inst : HPMS6
Misc : 1,1 STD54883 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:OVLMSV01 011/12/12 - HPMS6
Last Update : Tue Nov 13 09:04:10 2012
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
55	T	cis-1,3-Dichloropropene	0.3350	0.3447	-2.9	106	0.00
56	T	Dimethyl Disulfide	0.2022	0.1922	4.9	104	0.00
57	I	Chlorobenzene-d5	1.0000	1.0000	0.0	112	0.00
58	S	Toluene-d8	1.2263	1.2223	0.3	116	0.00
59	C	Toluene	1.4150	1.4001	1.1	109	0.00
60	T	Ethyl Methacrylate	0.2690	0.2304	14.4	96	0.00
61		Paraldehyde	0.0000	0.0000	0.0	0#	-13.00#
62	T	trans-1,3-Dichloropropene	0.3916	0.3954	-1.0	103	0.00
63	T	1,1,2-Trichloroethane	0.2032	0.2017	0.7	102	0.00
64	T	2-Hexanone	0.0956	0.0800	16.3	88	0.00
65	T	1,3-Dichloropropane	0.3580	0.3480	2.8	101	0.00
66	T	Tetrachloroethene	0.3455	0.3511	-1.6	111	0.00
67	T	Dibromochloromethane	0.2701	0.2901	-7.4	104	0.00
68	T	1,2-Dibromoethane	0.2008	0.2040	-1.6	101	0.01
69	T	1-Chlorohexane	0.4326	0.4322	0.1	110	0.00
70	P	Chlorobenzene	0.9483	0.9175	3.2	107	0.00
71	T	1,1,1,2-Tetrachloroethane	0.3422	0.3372	1.5	106	0.00
72	C	Ethylbenzene	0.5186	0.4993	3.7	107	0.00
73	T	m-,p-Xylene	0.6293	0.6212	1.3	109	0.00
74	T	o-Xylene	0.5921	0.5749	2.9	108	0.00
75	T	Styrene	0.9769	0.9686	0.8	105	0.00
76	P	Bromoform	0.1565	0.1529	2.3	101	0.00
77	T	Isopropylbenzene	1.4296	1.4043	1.8	107	0.00
78	I	1,4-Dichlorobenzene-d4	1.0000	1.0000	0.0	105	0.00
79	P	1,1,2,2-Tetrachloroethane	0.4468	0.4369	2.2	98	0.00
80	S	p-Bromofluorobenzene	0.9064	0.9525	-5.1	113	0.00
81	T	1,2,3-Trichloropropane	0.1152	0.1227	-6.5	97	0.00
82	T	trans-1,4-Dichloro-2-Butene	0.1451	0.1461	-0.7	96	0.00
83	T	n-Propylbenzene	3.2790	3.4290	-4.6	107	0.00
84	T	Bromobenzene	0.7116	0.7482	-5.1	103	0.00
85	T	1,3,5-Trimethylbenzene	2.4051	2.4778	-3.0	107	0.00
86	T	2-Chlorotoluene	2.3935	2.4429	-2.1	119	0.00
87	T	4-Chlorotoluene	2.1928	2.2764	-3.8	106	0.00
88	T	a-Methylstyrene	1.4082	1.4705	-4.4	106	0.00
89	T	tert-Butylbenzene	0.4522	0.4661	-3.1	108	0.00
90	T	1,2,4-Trimethylbenzene	2.4987	2.5626	-2.6	107	0.00
91	T	sec-Butylbenzene	2.6094	2.7413	-5.1	108	0.00
92	T	p-Isopropyltoluene	2.2431	2.3479	-4.7	109	0.00
93	T	1,3-Dichlorobenzene	1.3613	1.3886	-2.0	105	0.00
94	T	1,4-Dichlorobenzene	1.3922	1.4077	-1.1	105	0.00
95	T	n-Butylbenzene	1.9134	2.0120	-5.2	109	0.00
96	T	1,2-Dichlorobenzene	1.1990	1.1969	0.2	103	0.00
97	T	1,2-Dibromo-3-Chloropropane	0.0661	0.0651	1.5	95	0.00
98	T	1,2,4-Trichlorobenzene	0.7278	0.7268	0.1	103	0.00
99	T	Hexachlorobutadiene	0.2941	0.3154	-7.2	109	0.00
100	T	Naphthalene	1.2635	1.1888	5.9	97	0.00
101	T	1,2,3-Trichlorobenzene	0.5986	0.5889	1.6	100	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
6M112668.D 8260WTR.M Wed Nov 14 12:11:09 2012 Page 2

Evaluate Continuing Calibration Report

Data File : C:\MSDCHEM\1\DATA\111412\6M112668.D Vial: 2
Acq On : 14 Nov 2012 11:47 Operator: FJB
Sample : WG414232-02 50ug/L CCV 8260 Inst : HPMS6
Misc : 1,1 STD54883 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:OVLMSV01 011/12/12 - HPMS6
Last Update : Tue Nov 13 09:04:10 2012
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Fluorobenzene	25.0000	25.0000	0.0	113	0.00
2	T	Dichlorodifluoromethane	50.0000	57.5840	-15.2	125	0.00
3	P	Chloromethane	50.0000	47.0644	5.9	109	0.00
4	C	Vinyl Chloride	50.0000	47.1313	5.7	107	0.00
5	T	1,3-Butadiene	50.0000	55.8278	-11.7	116	0.00
6	T	Bromomethane	50.0000	55.7462	-11.5	122	0.00
7	T	Chloroethane	50.0000	54.4186	-8.8	120	0.00
8	T	Trichlorofluoromethane	50.0000	56.5012	-13.0	124	0.00
9	T	Diethyl ether	100.0000	88.3388	11.7	99	0.00
10	T	Isoprene	50.0000	52.2134	-4.4	117	0.00
11	T	Acrolein	50.0000	38.1904	23.6	83	0.01
12	T	1,1,2-Trichloro-1,2,2-Trifl	50.0000	54.7022	-9.4	124	0.00
13	T	Acetone	50.0000	47.5138	5.0	108	0.00
14	C	1,1-Dichloroethene	50.0000	53.1876	-6.4	119	0.00
15	T	Tert-Butyl Alcohol	200.0000	199.4214	0.3	115	-0.01
16	T	Dimethyl Sulfide	50.0000	51.2127	-2.4	114	0.00
17	T	Iodomethane	50.0000	53.6760	-7.4	115	0.00
18	T	Methyl acetate	50.0000	47.0134	6.0	105	0.00
19	T	Methylene Chloride	50.0000	50.4795	-1.0	115	0.00
20	T	Carbon Disulfide	50.0000	52.4926	-5.0	117	0.00
21	T	Acrylonitrile	50.0000	48.4367	3.1	105	0.00
22	T	Methyl Tert Butyl Ether	50.0000	48.1706	3.7	106	0.00
23	T	trans-1,2-Dichloroethene	50.0000	53.2049	-6.4	118	-0.01
24	T	n-Hexane	50.0000	53.9750	-7.9	123	0.00
25	T	Diisopropyl ether	100.0000	94.5691	5.4	106	0.00
26	T	Vinyl Acetate	50.0000	48.9846	2.0	104	0.00
27	P	1,1-Dichloroethane	50.0000	51.3822	-2.8	115	0.00
28	T	Ethyl-Tert-Butyl ether	100.0000	92.7173	7.3	104	0.00
29	T	2-Butanone	50.0000	44.5921	10.8	100	0.00
30	T	Propionitrile	100.0000	94.6744	5.3	103	0.00
31	T	2,2-Dichloropropane	50.0000	54.9378	-9.9	118	0.00
32	T	cis-1,2-Dichloroethene	50.0000	51.3192	-2.6	114	0.00
33	C	Chloroform	50.0000	51.5015	-3.0	114	0.00
34		1-Bromopropane	50.0000	49.0566	1.9	113	0.00
35	T	Bromochloromethane	50.0000	49.0503	1.9	109	0.00
36	T	Tetrahydrofuran	100.0000	104.6764	-4.7	120	0.00
37	S	Dibromofluoromethane	25.0000	25.3453	-1.4	117	0.00
38	T	1,1,1-Trichloroethane	50.0000	51.4331	-2.9	113	0.00
39	T	Cyclohexane	50.0000	49.4930	1.0	116	0.00
40	T	1,1-Dichloropropene	50.0000	51.3658	-2.7	113	0.00
41	T	Tert-Amyl-Methyl ether	100.0000	91.1607	8.8	103	0.00
42	T	Carbon Tetrachloride	50.0000	52.6585	-5.3	115	0.00
43	S	1,2-Dichloroethane-d4	25.0000	24.2140	3.1	111	0.00
44		Heptane	-1.0000	86.2078	0.0	107	-0.01
45	T	1,2-Dichloroethane	50.0000	49.3618	1.3	108	0.00
46	T	Benzene	50.0000	49.5760	0.8	113	0.00
47	T	Trichloroethene	50.0000	48.0036	4.0	111	0.00
48	T	Methylcyclohexane	50.0000	50.8254	-1.7	116	0.00
49	C	1,2-Dichloropropane	50.0000	50.1786	-0.4	108	0.00
50	T	1,4-Dioxane	200.0000	202.6657	-1.3	107	0.00
51	T	Bromodichloromethane	50.0000	50.4788	-1.0	110	0.00
52	T	Dibromomethane	50.0000	44.5059	11.0	106	0.00
53	T	2-Chloroethyl Vinyl Ether	50.0000	41.3415	17.3	96	0.00
54	T	4-Methyl-2-Pentanone	50.0000	42.2257	15.5	92	0.00

(#) = Out of Range
6M112668.D 8260WTR.M Wed Nov 14 12:11:10 2012 Page 1

Data File : C:\MSDCHEM\1\DATA\111412\6M112668.D Vial: 2
Acq On : 14 Nov 2012 11:47 Operator: FJB
Sample : WG414232-02 50ug/L CCV 8260 Inst : HPMS6
Misc : 1,1 STD54883 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:OVLMSV01 011/12/12 - HPMS6
Last Update : Tue Nov 13 09:04:10 2012
Response via : Multiple Level Calibration

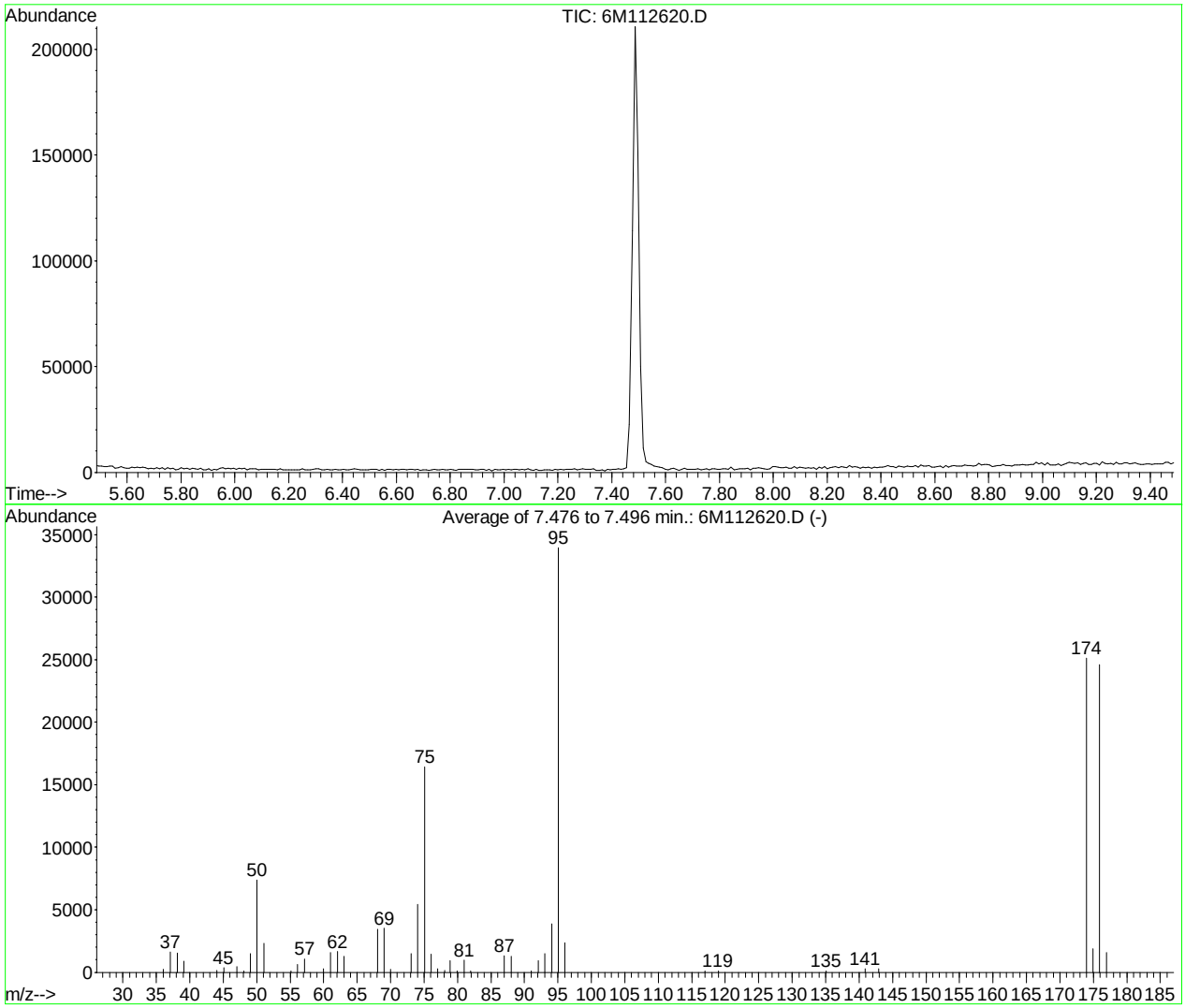
Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
55	T	cis-1,3-Dichloropropene	50.0000	51.4430	-2.9	106	0.00
56	T	Dimethyl Disulfide	50.0000	47.5337	4.9	104	0.00
57	I	Chlorobenzene-d5	25.0000	25.0000	0.0	112	0.00
58	S	Toluene-d8	25.0000	24.9189	0.3	116	0.00
59	C	Toluene	50.0000	49.4742	1.1	109	0.00
60	T	Ethyl Methacrylate	50.0000	41.7610	16.5	96	0.00
61		Paraldehyde	100.0000	0.0000	100.0#	0	-13.00#
62	T	trans-1,3-Dichloropropene	50.0000	43.3663	13.3	103	0.00
63	T	1,1,2-Trichloroethane	50.0000	43.8161	12.4	102	0.00
64	T	2-Hexanone	50.0000	41.8507	16.3	88	0.00
65	T	1,3-Dichloropropane	50.0000	48.5957	2.8	101	0.00
66	T	Tetrachloroethene	50.0000	50.8104	-1.6	111	0.00
67	T	Dibromochloromethane	50.0000	53.6873	-7.4	104	0.00
68	T	1,2-Dibromoethane	50.0000	43.9857	12.0	101	0.01
69	T	1-Chlorohexane	50.0000	49.9492	0.1	110	0.00
70	P	Chlorobenzene	50.0000	48.3765	3.2	107	0.00
71	T	1,1,1,2-Tetrachloroethane	50.0000	49.2661	1.5	106	0.00
72	C	Ethylbenzene	50.0000	48.1445	3.7	107	0.00
73	T	m-,p-Xylene	100.0000	98.7088	1.3	109	0.00
74	T	o-Xylene	50.0000	48.5396	2.9	108	0.00
75	T	Styrene	50.0000	49.5768	0.8	105	0.00
76	P	Bromoform	50.0000	41.6082	16.8	101	0.00
77	T	Isopropylbenzene	50.0000	49.1155	1.8	107	0.00
78	I	1,4-Dichlorobenzene-d4	25.0000	25.0000	0.0	105	0.00
79	P	1,1,2,2-Tetrachloroethane	50.0000	48.8860	2.2	98	0.00
80	S	p-Bromofluorobenzene	25.0000	26.2724	-5.1	113	0.00
81	T	1,2,3-Trichloropropane	50.0000	46.1121	7.8	97	0.00
82	T	trans-1,4-Dichloro-2-Butene	50.0000	44.5584	10.9	96	0.00
83	T	n-Propylbenzene	50.0000	52.2861	-4.6	107	0.00
84	T	Bromobenzene	50.0000	52.5736	-5.1	103	0.00
85	T	1,3,5-Trimethylbenzene	50.0000	51.5119	-3.0	107	0.00
86	T	2-Chlorotoluene	50.0000	51.0322	-2.1	119	0.00
87	T	4-Chlorotoluene	50.0000	51.9066	-3.8	106	0.00
88	T	a-Methylstyrene	50.0000	52.2128	-4.4	106	0.00
89	T	tert-Butylbenzene	50.0000	51.5412	-3.1	108	0.00
90	T	1,2,4-Trimethylbenzene	50.0000	51.2785	-2.6	107	0.00
91	T	sec-Butylbenzene	50.0000	52.5273	-5.1	108	0.00
92	T	p-Isopropyltoluene	50.0000	52.3370	-4.7	109	0.00
93	T	1,3-Dichlorobenzene	50.0000	51.0041	-2.0	105	0.00
94	T	1,4-Dichlorobenzene	50.0000	50.5552	-1.1	105	0.00
95	T	n-Butylbenzene	50.0000	52.5772	-5.2	109	0.00
96	T	1,2-Dichlorobenzene	50.0000	49.9131	0.2	103	0.00
97	T	1,2-Dibromo-3-Chloropropane	50.0000	44.5675	10.9	95	0.00
98	T	1,2,4-Trichlorobenzene	50.0000	49.9301	0.1	103	0.00
99	T	Hexachlorobutadiene	50.0000	53.6180	-7.2	109	0.00
100	T	Naphthalene	50.0000	47.0426	5.9	97	0.00
101	T	1,2,3-Trichlorobenzene	50.0000	49.1884	1.6	100	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
6M112668.D 8260WTR.M Wed Nov 14 12:11:11 2012 Page 2

2.1.1.5 Raw QC Data

Data File : C:\MSDCHEM\1\DATA\111212\6M112620.D Vial: 1
Acq On : 12 Nov 2012 14:09 Operator: adc
Sample : WG414018-01 50NG/L BFB STD Inst : HPMS6
Misc : 1,1 STD54051 Multiplr: 1.00
MS Integration Params: RTEINT.P
Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:OVLMSV01 011/12/12 - HPMS6

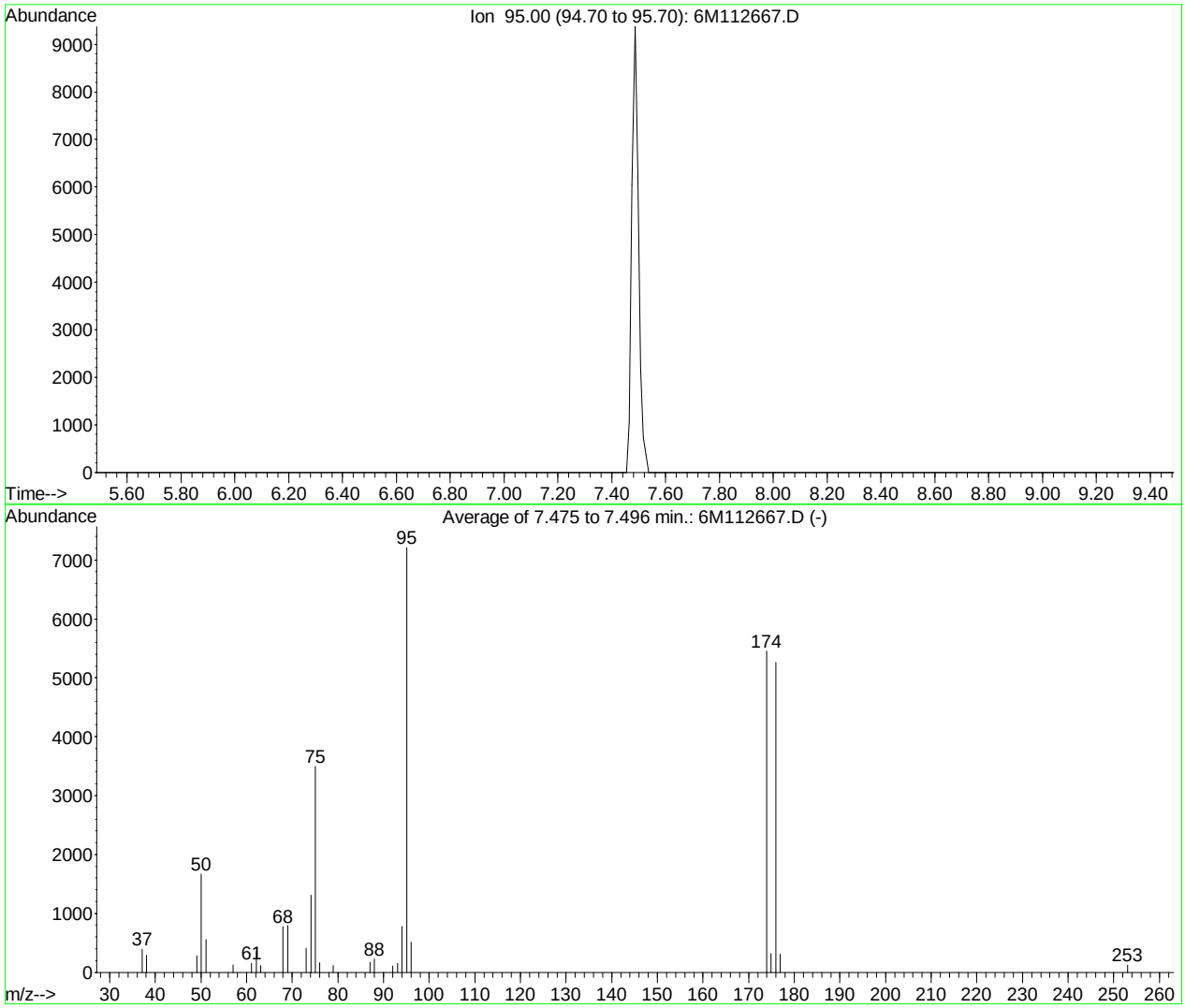


AutoFind: Scans 234, 235, 236; Background Corrected with Scan 229

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	21.7	7367	PASS
75	95	30	60	48.4	16430	PASS
95	95	100	100	100.0	33957	PASS
96	95	5	9	6.9	2339	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	73.9	25106	PASS
175	174	5	9	7.4	1863	PASS
176	174	95	101	98.0	24594	PASS
177	176	5	9	6.5	1600	PASS

6M112620.D 8260WTR.M Tue Nov 13 09:09:47 2012

Data File : C:\MSDCHEM\1\DATA\111412\6M112667.D Vial: 1
Acq On : 14 Nov 2012 11:22 Operator: FJB
Sample : WG414232-01 BFB 50ng 8260 Inst : HPMS6
Misc : 1,1 STD54051 Multiplr: 1.00
MS Integration Params: rteint.p
Method : C:\MSDCHEM\1\METHODS\BFB.M (RTE Integrator)
Title : SOP: OVL MSV01



AutoFind: Scans 234, 235, 236; Background Corrected with Scan 230

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	23.1	1664	PASS
75	95	30	60	48.5	3499	PASS
95	95	100	100	100.0	7210	PASS
96	95	5	9	7.0	508	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	75.7	5457	PASS
175	174	5	9	5.8	316	PASS
176	174	95	101	96.4	5259	PASS
177	176	5	9	5.9	310	PASS

6M112667.D BFB.M Wed Nov 14 12:10:50 2012

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\111412\6M112670.D Vial: 4
Acq On : 14 Nov 2012 12:48 Operator: FJB
Sample : WG414233-01 VBLK1114 BLANK 8260 Inst : HPMS6
Misc : 1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 15 09:24:03 2012 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:OVLMSV01 011/12/12 - HPMS6
Last Update : Tue Nov 13 09:04:10 2012
Response via : Initial Calibration
DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.32	96	468293	25.00	ug/L	0.00
57) Chlorobenzene-d5	14.79	117	350893	25.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	18.35	152	161986	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.12	111	121327	25.2772	ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 101.12%			
43) 1,2-Dichloroethane-d4	9.85	65	113370	24.6473	ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 98.60%			
58) Toluene-d8	12.59	98	411818	23.9265	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 95.72%			
80) p-Bromofluorobenzene	16.57	95	153063	26.0626	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 104.24%			

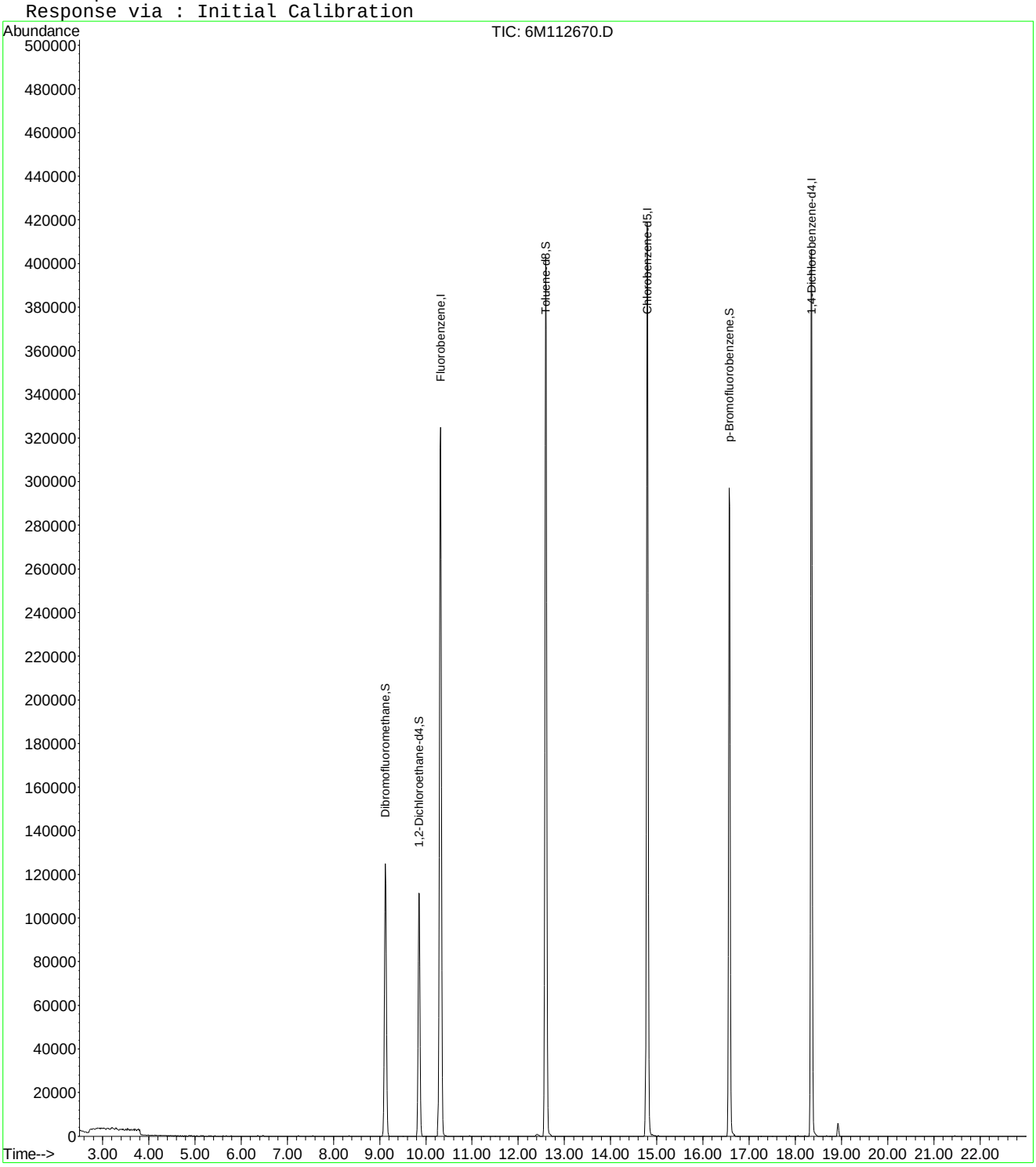
Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration
6M112670.D 8260WTR.M Thu Nov 15 09:24:05 2012 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\111412\6M112670.D Vial: 4
Acq On : 14 Nov 2012 12:48 Operator: FJB
Sample : WG414233-01 VBLK1114 BLANK 8260 Inst : HPMS6
Misc : 1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 15 9:24 2012 Quant Results File: 8260WTR.RES

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:OVLMSV01 011/12/12 - HPMS6
Last Update : Tue Nov 13 09:04:10 2012
Response via : Initial Calibration



LSC Area Percent Report

Data File : C:\MSDCHEM\1\DATA\111412\6M112670.D Vial: 4
Acq On : 14 Nov 2012 12:48 Operator: FJB
Sample : WG414233-01 VBLK1114 BLANK 8260 Inst : HPMS6
Misc : 1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:OVLMSV01 011/12/12 - HPMS6
Smoothing : ON Filtering: 5
Sampling : 1 Min Area: 100 Area counts
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

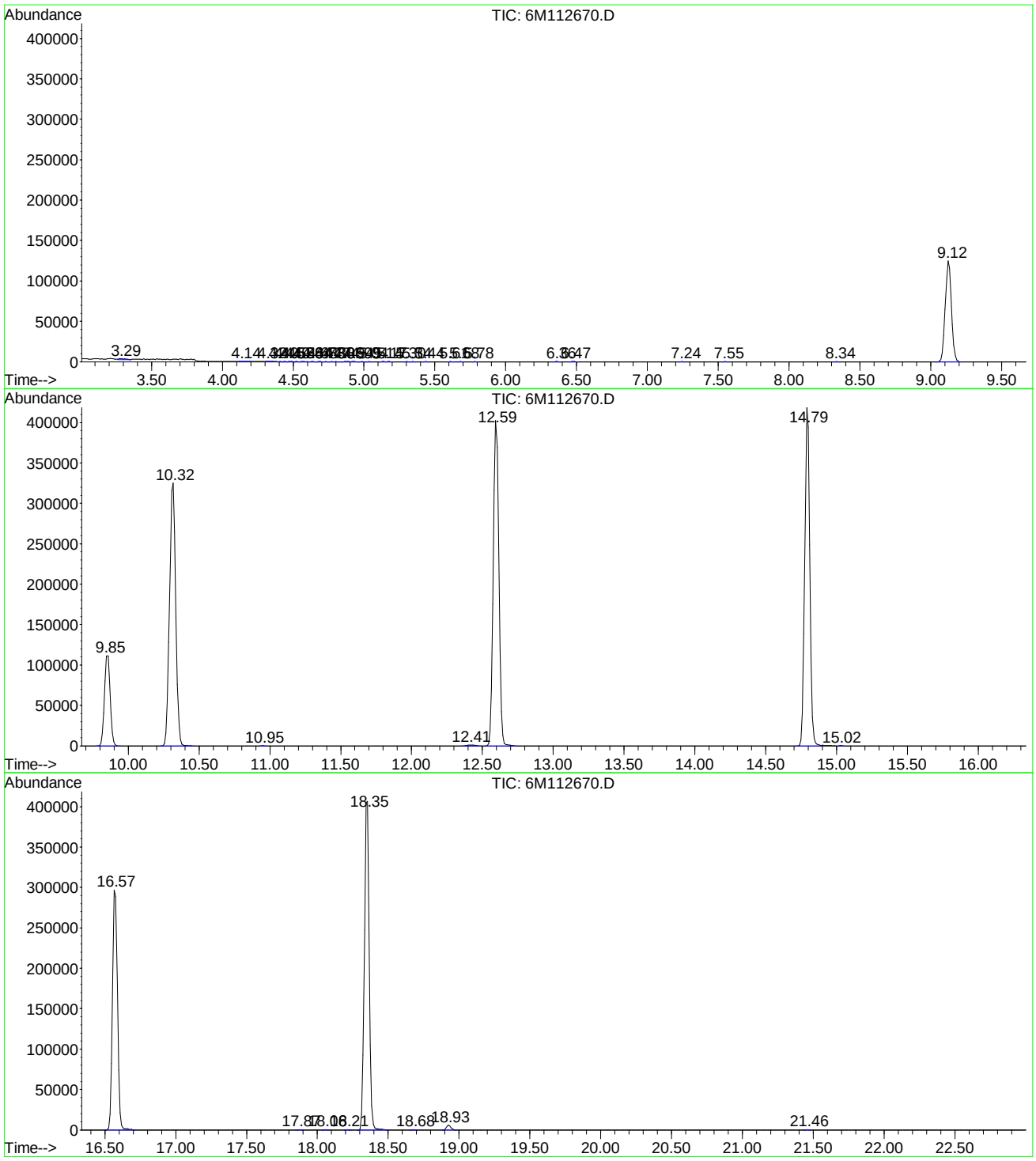
Signal : TIC

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	3.291	76	79	85	rVB3	1404	4090	0.37%	0.074%
2	4.139	160	162	167	rBV	186	450	0.04%	0.008%
3	4.323	179	180	183	rBV	89	173	0.02%	0.003%
4	4.404	187	188	190	rBB	369	440	0.04%	0.008%
5	4.445	190	192	193	rBB	326	385	0.04%	0.007%
6	4.486	193	196	198	rBB	385	900	0.08%	0.016%
7	4.517	198	199	201	rBB	429	461	0.04%	0.008%
8	4.578	202	205	208	rBB	319	760	0.07%	0.014%
9	4.639	209	211	213	rBB	352	415	0.04%	0.007%
10	4.680	214	215	218	rBB	340	412	0.04%	0.007%
11	4.731	219	220	222	rBB	398	244	0.02%	0.004%
12	4.772	223	224	226	rBB	396	243	0.02%	0.004%
13	4.803	226	227	229	rBB	300	184	0.02%	0.003%
14	4.864	231	233	237	rBB	349	800	0.07%	0.014%
15	4.935	237	240	242	rBB	361	610	0.06%	0.011%
16	4.986	243	245	247	rBB	318	195	0.02%	0.004%
17	5.037	248	250	252	rBB	332	203	0.02%	0.004%
18	5.140	257	260	261	rBB	345	401	0.04%	0.007%
19	5.170	262	263	266	rBB	359	404	0.04%	0.007%
20	5.303	274	276	278	rBB	366	224	0.02%	0.004%
21	5.344	279	280	282	rBB	306	187	0.02%	0.003%
22	5.436	287	289	291	rBB	302	185	0.02%	0.003%
23	5.609	304	306	308	rBB	339	208	0.02%	0.004%
24	5.681	311	313	315	rBB	337	206	0.02%	0.004%
25	5.783	321	323	325	rBB	311	190	0.02%	0.003%
26	6.365	377	380	382	rBB	313	379	0.03%	0.007%
27	6.467	388	390	394	rBB	359	602	0.06%	0.011%
28	7.243	464	466	468	rBB	317	194	0.02%	0.004%
29	7.550	494	496	498	rBB	304	186	0.02%	0.003%
30	8.336	571	573	575	rBB	317	194	0.02%	0.004%
31	9.122	642	650	659	rBB2	124903	376733	34.51%	6.806%
32	9.847	714	721	730	rBB	111427	308962	28.30%	5.582%
33	10.317	758	767	781	rBB	325021	986143	90.32%	17.816%
34	10.950	827	829	831	rBB	301	184	0.02%	0.003%
35	12.410	967	972	979	rBB	883	3417	0.31%	0.062%
36	12.594	983	990	1004	rBB	402928	1091795	100.00%	19.725%
37	14.789	1198	1205	1215	rBV	418828	1047448	95.94%	18.923%
38	15.024	1227	1228	1231	rBB	327	384	0.04%	0.007%
39	16.566	1373	1379	1393	rBB	297135	721245	66.06%	13.030%
40	17.873	1505	1507	1509	rBB	308	189	0.02%	0.003%
41	18.057	1523	1525	1527	rBB	312	191	0.02%	0.003%
42	18.210	1538	1540	1542	rBB	321	197	0.02%	0.004%

43	18.353	1547	1554	1568	rBB	406517	970680	88.91%	17.536%
44	18.680	1584	1586	1588	rBB	338	207	0.02%	0.004%
45	18.925	1606	1610	1615	rBB	6013	12691	1.16%	0.229%
46	21.458	1856	1858	1860	rBB	372	228	0.02%	0.004%

Sum of corrected areas: 5535219

File : C:\MSDCHEM\1\DATA\111412\6M112670.D
Operator : FJB
Acquired : 14 Nov 2012 12:48 using AcqMethod 8260WTR
Instrument : HPMS6
Sample Name: WG414233-01 VBLK1114 BLANK 8260
Misc Info : 1,1
Vial Number: 4
Quant File :8260WTR.RES (RTE Integrator)



Quantitation Report (Not Reviewed)

Data File : C:\MSDchem\1\data\111412\6M112671.D Vial: 5
Acq On : 14 Nov 2012 13:19 Operator: FJB
Sample : WG414233-02 20ug/L LCS 8260 Inst : HPMS6
Misc : 1,1 STD54851 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 14 13:42:09 2012 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:OVLMSV01 011/12/12 - HPMS6
Last Update : Tue Nov 13 09:04:10 2012
Response via : Initial Calibration
DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.32	96	478476	25.00	ug/L	0.00
57) Chlorobenzene-d5	14.79	117	353024	25.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	18.35	152	168074	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.12	111	124789	25.4452	ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 101.80%			
43) 1,2-Dichloroethane-d4	9.85	65	116646	24.8199	ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 99.28%			
58) Toluene-d8	12.60	98	415351	23.9861	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 95.96%			
80) p-Bromofluorobenzene	16.57	95	156383	25.6634	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 102.64%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	2.64	85	108768	28.8851	ug/L	100
3) Chloromethane	3.01	50	146312	21.8563	ug/L	99
4) Vinyl Chloride	3.18	62	114442	20.7299	ug/L	99
5) 1,3-Butadiene	3.22	54	38644	11.0430	ug/L	94
6) Bromomethane	3.95	94	71699	20.7688	ug/L	99
7) Chloroethane	4.09	64	75429	22.3469	ug/L	98
8) Trichlorofluoromethane	4.56	101	184045	23.4257	ug/L	100
9) Diethyl ether	5.09	59	328950	152.8101	ug/L	99
10) Isoprene	5.11	67	149347	17.4303	ug/L	99
11) Acrolein	5.32	56	29928	142.9683	ug/L	94
12) 1,1,2-Trichloro-1,2,2-Trif	5.34	101	107993	24.1283	ug/L	97
13) Acetone	5.43	43	14029	22.2658	ug/L	98
14) 1,1-Dichloroethene	5.64	61	166233	21.2577	ug/L	100
15) Tert-Butyl Alcohol	5.78	59	31008	175.5697	ug/L	97
16) Dimethyl Sulfide	5.91	62	118411	20.2410	ug/L	98
17) Iodomethane	6.16	142	78203	21.9344	ug/L	98
18) Methyl acetate	6.21	43	37460	18.4672	ug/L	99
19) Methylene Chloride	6.47	84	97591	20.9674	ug/L	97
20) Carbon Disulfide	6.48	76	307426	22.1762	ug/L	100
21) Acrylonitrile	6.68	53	20816	23.0098	ug/L	97
22) Methyl Tert Butyl Ether	6.71	73	194370	21.6084	ug/L	100
23) trans-1,2-Dichloroethene	6.95	96	104083	22.0823	ug/L	97
24) n-Hexane	7.05	57	109676	21.0526	ug/L	99
25) Diisopropyl ether	7.45	45	1503305	107.0799	ug/L	99
26) Vinyl Acetate	7.63	43	133160	26.3425	ug/L	100
27) 1,1-Dichloroethane	7.63	63	192959	20.6714	ug/L	99
28) Ethyl-Tert-Butyl ether	8.08	59	1288411	103.1423	ug/L	100
29) 2-Butanone	8.28	43	19635	21.0611	ug/L	97
30) Propionitrile	8.39	54	29212	100.1814	ug/L	99
31) 2,2-Dichloropropane	8.49	77	152076	21.5107	ug/L	99
32) cis-1,2-Dichloroethene	8.56	96	109055	21.3394	ug/L	99
33) Chloroform	8.80	83	177569	21.1973	ug/L	99
34) 1-Bromopropane	8.95	122	21478	23.5963	ug/L	98
35) Bromochloromethane	9.05	130	61365	21.4329	ug/L	100
36) Tetrahydrofuran	9.08	42	58451	101.7505	ug/L	99
38) 1,1,1-Trichloroethane	9.40	97	162329	21.1997	ug/L	99
39) Cyclohexane	9.42	56	159475	19.0810	ug/L	98
40) 1,1-Dichloropropene	9.62	75	136890	21.4866	ug/L	99
41) Tert-Amyl-Methyl ether	9.77	73	962358	103.0234	ug/L	100
42) Carbon Tetrachloride	9.77	117	151727	21.7491	ug/L	99

(#) = qualifier out of range (m) = manual integration
6M112671.D 8260WTR.M Wed Nov 14 13:42:09 2012 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDchem\1\data\111412\6M112671.D Vial: 5
Acq On : 14 Nov 2012 13:19 Operator: FJB
Sample : WG414233-02 20ug/L LCS 8260 Inst : HPMS6
Misc : 1,1 STD54851 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 14 13:42:09 2012 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:OVLMSV01 011/12/12 - HPMS6
Last Update : Tue Nov 13 09:04:10 2012
Response via : Initial Calibration
DataAcq Meth : 8260WTR

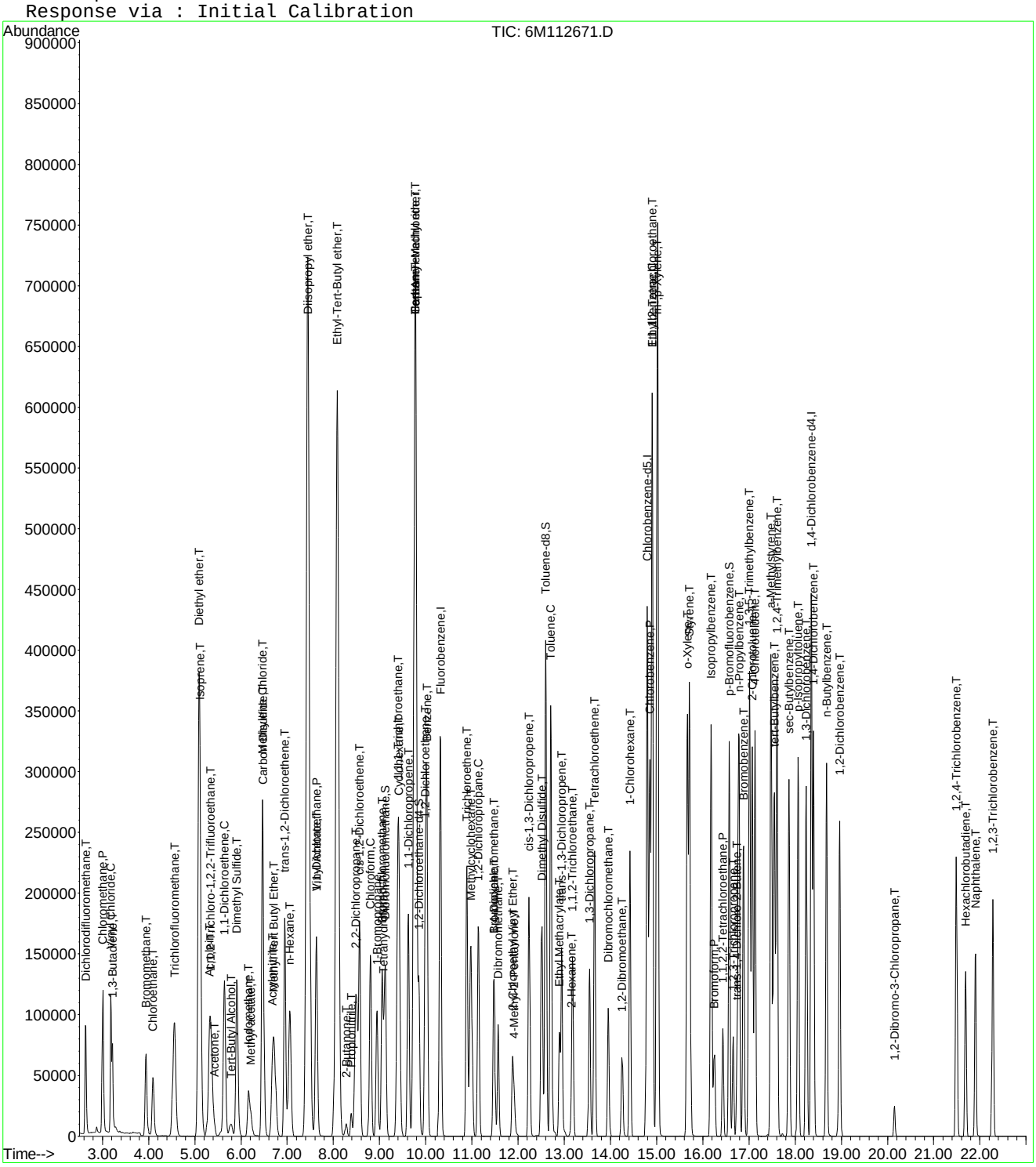
	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
44)	Heptane	9.77	57	19666	93.1160	ug/L		98
45)	1,2-Dichloroethane	9.99	62	126689	21.6155	ug/L		99
46)	Benzene	10.02	78	375386	20.4241	ug/L		99
47)	Trichloroethene	10.89	130	111255	21.0864	ug/L		100
48)	Methylcyclohexane	10.98	83	119322	20.5861	ug/L		99
49)	1,2-Dichloropropane	11.14	63	102277	21.7670	ug/L		100
50)	1,4-Dioxane	11.48	88	1048	100.7258	ug/L		90
51)	Bromodichloromethane	11.48	83	121932	20.8061	ug/L		99
52)	Dibromomethane	11.56	93	47600	19.8393	ug/L		99
53)	2-Chloroethyl Vinyl Ether	11.88	63	38508	19.9602	ug/L		100
54)	4-Methyl-2-Pentanone	11.91	58	17258	20.2007	ug/L		98
55)	cis-1,3-Dichloropropene	12.24	75	149035	23.2417	ug/L		99
56)	Dimethyl Disulfide	12.51	79	73069	18.8826	ug/L		99
59)	Toluene	12.71	91	393572	19.6971	ug/L		100
60)	Ethyl Methacrylate	12.89	69	69449	17.9031	ug/L		100
62)	trans-1,3-Dichloropropene	12.94	75	111825	17.7856	ug/L		100
63)	1,1,2-Trichloroethane	13.18	97	62333	19.3230	ug/L		98
64)	2-Hexanone	13.16	43	24274	17.9736	ug/L		98
65)	1,3-Dichloropropane	13.55	76	107861	21.3336	ug/L		98
66)	Tetrachloroethene	13.66	166	98433	20.1741	ug/L		99
67)	Dibromochloromethane	13.95	129	82973	21.7509	ug/L		98
68)	1,2-Dibromoethane	14.25	107	62909	19.3768	ug/L		98
69)	1-Chlorohexane	14.42	91	115284	18.8701	ug/L		99
70)	Chlorobenzene	14.85	112	242612	18.1177	ug/L		98
71)	1,1,1,2-Tetrachloroethane	14.90	131	97134	20.1016	ug/L		100
72)	Ethylbenzene	14.90	106	140541	19.1930	ug/L		34
73)	m-,p-Xylene	15.02	106	328563	36.9725	ug/L		99
74)	o-Xylene	15.67	106	150437	17.9911	ug/L		98
75)	Styrene	15.71	104	274784	19.9193	ug/L		99
76)	Bromoform	16.25	173	45171	17.8370	ug/L		98
77)	Isopropylbenzene	16.18	105	366041	18.1324	ug/L		99
79)	1,1,2,2-Tetrachloroethane	16.44	83	64719	21.5439	ug/L		98
81)	1,2,3-Trichloropropane	16.66	110	18829	21.4060	ug/L		97
82)	trans-1,4-Dichloro-2-Buten	16.74	53	16990	16.2215	ug/L		98
83)	n-Propylbenzene	16.78	91	417852	18.9546	ug/L		100
84)	Bromobenzene	16.88	156	102015	21.3251	ug/L		100
85)	1,3,5-Trimethylbenzene	17.01	105	328273	20.3020	ug/L		99
86)	2-Chlorotoluene	17.07	91	310211	19.2779	ug/L		93
87)	4-Chlorotoluene	17.13	91	265111	17.9836	ug/L		99
88)	a-Methylstyrene	17.48	118	187947	19.8522	ug/L	#	1
89)	tert-Butylbenzene	17.55	134	55927	18.3963	ug/L		95
90)	1,2,4-Trimethylbenzene	17.61	105	338999	20.1803	ug/L		100
91)	sec-Butylbenzene	17.87	105	332994	18.9815	ug/L		99
92)	p-Isopropyltoluene	18.06	119	291137	19.3063	ug/L		100
93)	1,3-Dichlorobenzene	18.24	146	172965	18.8998	ug/L		99
94)	1,4-Dichlorobenzene	18.40	146	187404	20.0224	ug/L		100
95)	n-Butylbenzene	18.68	91	262594	20.4139	ug/L		99
96)	1,2-Dichlorobenzene	18.97	146	152315	18.8956	ug/L		100
97)	1,2-Dibromo-3-Chloropropan	20.15	75	9511	19.9577	ug/L		99
98)	1,2,4-Trichlorobenzene	21.49	180	101165	20.6762	ug/L		100
99)	Hexachlorobutadiene	21.69	225	41776	21.1273	ug/L		98
100)	Naphthalene	21.91	128	180170	21.2104	ug/L		100
101)	1,2,3-Trichlorobenzene	22.28	180	84195	20.9213	ug/L		99

(#) = qualifier out of range (m) = manual integration
6M112671.D 8260WTR.M Wed Nov 14 13:42:10 2012 Page 2

Quantitation Report (Not Reviewed)

Data File : C:\MSDchem\1\data\111412\6M112671.D Vial: 5
Acq On : 14 Nov 2012 13:19 Operator: FJB
Sample : WG414233-02 20ug/L LCS 8260 Inst : HPMS6
Misc : 1,1 STD54851 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 14 13:42 2012 Quant Results File: 8260WTR.RES

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:OVLMSV01 011/12/12 - HPMS6
Last Update : Tue Nov 13 09:04:10 2012
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDchem\1\data\111412\6M112672.D Vial: 6
Acq On : 14 Nov 2012 13:50 Operator: FJB
Sample : WG414233-03 20ug/L LCS DUP 8260 Inst : HPMS6
Misc : 1,1 STD54851 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 14 14:13:07 2012 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:OVLMSV01 011/12/12 - HPMS6
Last Update : Tue Nov 13 09:04:10 2012
Response via : Initial Calibration
DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene	10.32	96	475235	25.00 ug/L	0.00
57) Chlorobenzene-d5	14.79	117	349885	25.00 ug/L	0.00
78) 1,4-Dichlorobenzene-d4	18.36	152	168101	25.00 ug/L	0.00
System Monitoring Compounds					
37) Dibromofluoromethane	9.12	111	122140	25.0749 ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 100.28%		
43) 1,2-Dichloroethane-d4	9.85	65	115975	24.8454 ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 99.40%		
58) Toluene-d8	12.60	98	418089	24.3609 ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 97.44%		
80) p-Bromofluorobenzene	16.57	95	155759	25.5569 ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 102.24%		
Target Compounds					Qvalue
2) Dichlorodifluoromethane	2.63	85	106752	28.5431 ug/L	100
3) Chloromethane	3.01	50	138122	20.7736 ug/L	98
4) Vinyl Chloride	3.18	62	109451	19.9610 ug/L	99
5) 1,3-Butadiene	3.21	54	33295	9.3776 ug/L	98
6) Bromomethane	3.94	94	72121	21.0335 ug/L	99
7) Chloroethane	4.09	64	72860	21.7330 ug/L	100
8) Trichlorofluoromethane	4.55	101	183200	23.4772 ug/L	100
9) Diethyl ether	5.09	59	326283	152.6049 ug/L	98
10) Isoprene	5.11	67	144896	17.0262 ug/L	100
11) Acrolein	5.32	56	32292	155.3133 ug/L	95
12) 1,1,2-Trichloro-1,2,2-Trif	5.34	101	107035	24.0773 ug/L	96
13) Acetone	5.43	43	13951	22.2930 ug/L	100
14) 1,1-Dichloroethene	5.64	61	163020	20.9889 ug/L	100
15) Tert-Butyl Alcohol	5.77	59	35420	201.9184 ug/L	98
16) Dimethyl Sulfide	5.91	62	118023	20.3123 ug/L	98
17) Iodomethane	6.16	142	77462	21.8798 ug/L	99
18) Methyl acetate	6.21	43	37810	18.7668 ug/L	99
19) Methylene Chloride	6.47	84	97249	21.0364 ug/L	97
20) Carbon Disulfide	6.47	76	302327	21.9571 ug/L	99
21) Acrylonitrile	6.67	53	21192	23.5852 ug/L	100
22) Methyl Tert Butyl Ether	6.71	73	192380	21.5330 ug/L	99
23) trans-1,2-Dichloroethene	6.95	96	99931	21.3460 ug/L	100
24) n-Hexane	7.05	57	109164	21.0972 ug/L	99
25) Diisopropyl ether	7.45	45	1481543	106.2495 ug/L	99
26) Vinyl Acetate	7.63	43	130006	25.8940 ug/L	100
27) 1,1-Dichloroethane	7.63	63	191126	20.6146 ug/L	100
28) Ethyl-Tert-Butyl ether	8.08	59	1281032	103.2510 ug/L	100
29) 2-Butanone	8.28	43	20172	21.7847 ug/L	96
30) Propionitrile	8.39	54	29412	101.5552 ug/L	99
31) 2,2-Dichloropropane	8.49	77	148482	21.1456 ug/L	99
32) cis-1,2-Dichloroethene	8.56	96	105419	20.7686 ug/L	100
33) Chloroform	8.80	83	174441	20.9659 ug/L	100
34) 1-Bromopropane	8.95	122	21172	23.4243 ug/L	100
35) Bromochloromethane	9.05	130	60625	21.3198 ug/L	98
36) Tetrahydrofuran	9.08	42	59160	103.6871 ug/L	99
38) 1,1,1-Trichloroethane	9.40	97	161361	21.2170 ug/L	100
39) Cyclohexane	9.42	56	160617	19.3487 ug/L	99
40) 1,1-Dichloropropene	9.62	75	134530	21.2602 ug/L	99
41) Tert-Amyl-Methyl ether	9.77	73	960263	103.5002 ug/L	100
42) Carbon Tetrachloride	9.78	117	150445	21.7125 ug/L	99

(#) = qualifier out of range (m) = manual integration
6M112672.D 8260WTR.M Wed Nov 14 14:13:07 2012 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDchem\1\data\111412\6M112672.D Vial: 6
Acq On : 14 Nov 2012 13:50 Operator: FJB
Sample : WG414233-03 20ug/L LCS DUP 8260 Inst : HPMS6
Misc : 1,1 STD54851 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 14 14:13:07 2012 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:OVLMSV01 011/12/12 - HPMS6
Last Update : Tue Nov 13 09:04:10 2012
Response via : Initial Calibration
DataAcq Meth : 8260WTR

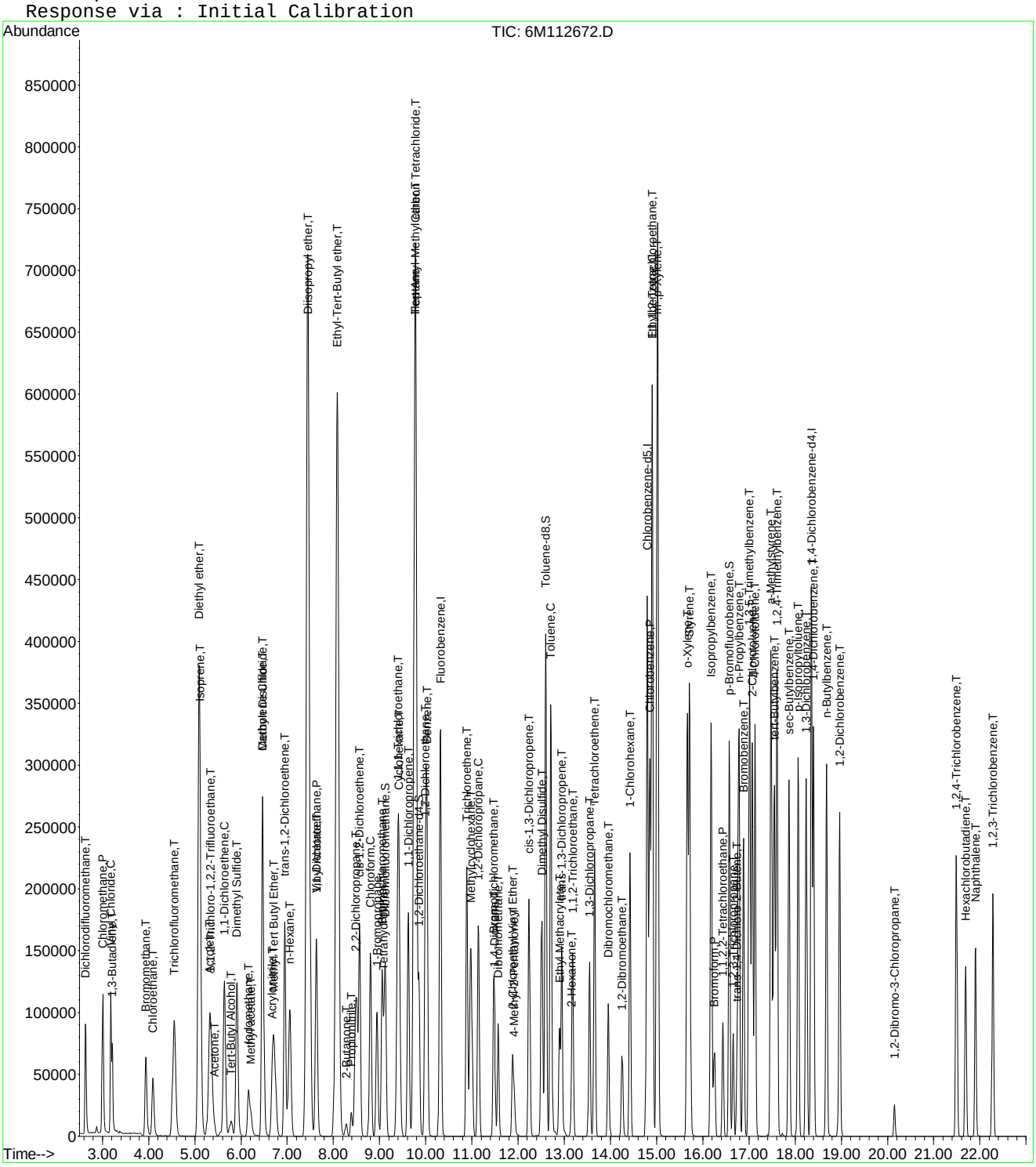
	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
44)	Heptane	9.77	57	19957	95.1383	ug/L		95
45)	1,2-Dichloroethane	9.99	62	126332	21.7016	ug/L		98
46)	Benzene	10.02	78	369945	20.2653	ug/L		99
47)	Trichloroethene	10.89	130	108539	20.7120	ug/L		100
48)	Methylcyclohexane	10.98	83	116351	20.2104	ug/L		99
49)	1,2-Dichloropropane	11.14	63	102067	21.8705	ug/L		100
50)	1,4-Dioxane	11.49	88	2533	188.8682	ug/L		84
51)	Bromodichloromethane	11.47	83	120889	20.7688	ug/L		99
52)	Dibromomethane	11.56	93	47105	19.7682	ug/L		100
53)	2-Chloroethyl Vinyl Ether	11.88	63	39040	20.3521	ug/L		99
54)	4-Methyl-2-Pentanone	11.91	58	17104	20.1570	ug/L		99
55)	cis-1,3-Dichloropropene	12.24	75	145097	22.7818	ug/L		99
56)	Dimethyl Disulfide	12.51	79	72850	18.9544	ug/L		100
59)	Toluene	12.71	91	387760	19.5803	ug/L		100
60)	Ethyl Methacrylate	12.90	69	70839	18.4217	ug/L		98
62)	trans-1,3-Dichloropropene	12.94	75	111541	17.8951	ug/L		99
63)	1,1,2-Trichloroethane	13.19	97	63714	19.9202	ug/L		100
64)	2-Hexanone	13.16	43	25720	19.2151	ug/L		94
65)	1,3-Dichloropropane	13.55	76	108823	21.7170	ug/L		98
66)	Tetrachloroethene	13.66	166	98205	20.3079	ug/L		99
67)	Dibromochloromethane	13.95	129	82028	21.6961	ug/L		99
68)	1,2-Dibromoethane	14.25	107	62188	19.3273	ug/L		100
69)	1-Chlorohexane	14.42	91	113340	18.7184	ug/L		99
70)	Chlorobenzene	14.85	112	239858	18.0727	ug/L		99
71)	1,1,1,2-Tetrachloroethane	14.90	131	95651	19.9723	ug/L		100
72)	Ethylbenzene	14.90	106	137354	18.9260	ug/L		35
73)	m-,p-Xylene	15.02	106	323309	36.7077	ug/L		100
74)	o-Xylene	15.67	106	148219	17.8848	ug/L		99
75)	Styrene	15.71	104	272657	19.9425	ug/L		99
76)	Bromoform	16.25	173	45678	18.1843	ug/L		99
77)	Isopropylbenzene	16.18	105	361116	18.0490	ug/L		100
79)	1,1,2,2-Tetrachloroethane	16.44	83	66739	22.2128	ug/L		99
81)	1,2,3-Trichloropropane	16.66	110	18695	21.2550	ug/L		98
82)	trans-1,4-Dichloro-2-Buten	16.74	53	17082	16.3003	ug/L		99
83)	n-Propylbenzene	16.78	91	413797	18.7676	ug/L		99
84)	Bromobenzene	16.88	156	100467	20.9981	ug/L		98
85)	1,3,5-Trimethylbenzene	17.01	105	325895	20.1517	ug/L		99
86)	2-Chlorotoluene	17.07	91	307935	19.1333	ug/L		93
87)	4-Chlorotoluene	17.13	91	263335	17.8603	ug/L		99
88)	a-Methylstyrene	17.48	118	186451	19.6910	ug/L	#	1
89)	tert-Butylbenzene	17.55	134	55823	18.3591	ug/L		98
90)	1,2,4-Trimethylbenzene	17.61	105	335070	19.9432	ug/L		99
91)	sec-Butylbenzene	17.87	105	329685	18.7898	ug/L		100
92)	p-Isopropyltoluene	18.06	119	286846	19.0187	ug/L		99
93)	1,3-Dichlorobenzene	18.24	146	172301	18.8243	ug/L		99
94)	1,4-Dichlorobenzene	18.40	146	187363	20.0148	ug/L		100
95)	n-Butylbenzene	18.68	91	259566	20.1752	ug/L		100
96)	1,2-Dichlorobenzene	18.97	146	154619	19.1783	ug/L		98
97)	1,2-Dibromo-3-Chloropropan	20.15	75	9852	20.6332	ug/L		97
98)	1,2,4-Trichlorobenzene	21.49	180	102960	21.0396	ug/L		98
99)	Hexachlorobutadiene	21.69	225	42476	21.4778	ug/L		100
100)	Naphthalene	21.91	128	180962	21.3002	ug/L		100
101)	1,2,3-Trichlorobenzene	22.28	180	86811	21.5679	ug/L		99

(#) = qualifier out of range (m) = manual integration
6M112672.D 8260WTR.M Wed Nov 14 14:13:07 2012 Page 2

Quantitation Report (Not Reviewed)

Data File : C:\MSDchem\1\data\111412\6M112672.D Vial: 6
Acq On : 14 Nov 2012 13:50 Operator: FJB
Sample : WG414233-03 20ug/L LCS DUP 8260 Inst : HPMS6
Misc : 1,1 STD54851 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 14 14:13 2012 Quant Results File: 8260WTR.RES

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:OVLMSV01 011/12/12 - HPMS6
Last Update : Tue Nov 13 09:04:10 2012
Response via : Initial Calibration



2.2 Metals Data

2.2.1 Metals I C P Data

2.2.1.1 Summary Data

Login Number: L12110393
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: WG414521 - All acceptance criteria were met.

Matrix Spikes: All acceptance criteria were met.

SAMPLES

Samples: WG414521 - Client samples 01 through 04 required dilution analyses in order to obtain results for potassium and sodium within the linear range.

Narrative ID: 56252
Approved By: Sheri Pfalzgraf

Certificate of Analysis

Sample #: L12110393-01
Client ID: BLDG 4-PIT-SSP1-GW-11082012
Matrix: Water
Workgroup #: WG414521
Collect Date: 11/08/2012 14:11
Sample Tag: 01

PrePrep Method: N/A
Prep Method: 3005A
Analytical Method: 6010B
Analyst: KHR
Dilution: 1
Units: mg/L

Instrument: PE-ICP2
Prep Date: 11/16/2012 07:06
Cal Date: 11/19/2012 07:37
Run Date: 11/19/2012 08:52
File ID: P2.111912.085239

Analyte	CAS #	Result	Qual	RL	MDL
Aluminum, Total	7429-90-5		U	0.100	0.0500
Barium, Total	7440-39-3	0.881		0.0100	0.00500
Beryllium, Total	7440-41-7		U	0.00200	0.00100
Cadmium, Total	7440-43-9		U	0.000500	0.000250
Calcium, Total	7440-70-2	294		0.200	0.100
Chromium, Total	7440-47-3	0.158		0.00500	0.00250
Cobalt, Total	7440-48-4		U	0.0200	0.0100
Copper, Total	7440-50-8		U	0.0200	0.0100
Iron, Total	7439-89-6		U	0.100	0.0500
Magnesium, Total	7439-95-4	125		0.500	0.250
Manganese, Total	7439-96-5	0.0577		0.0100	0.00500
Nickel, Total	7440-02-0	0.109		0.0400	0.0200
Silver, Total	7440-22-4		U	0.0100	0.00500
Vanadium, Total	7440-62-2	0.0121		0.0100	0.00500
Zinc, Total	7440-66-6		U	0.0200	0.0100

E	Semiquantitative result (out of calibration range)
U	Not detected at or above adjusted sample detection limit.

Sample #: L12110393-01
Client ID: BLDG 4-PIT-SSP1-GW-11082012
Matrix: Water
Workgroup #: WG414521
Collect Date: 11/08/2012 14:11
Sample Tag: DL01

PrePrep Method: N/A
Prep Method: 3005A
Analytical Method: 6010B
Analyst: KHR
Dilution: 50
Units: mg/L

Instrument: PE-ICP2
Prep Date: 11/16/2012 07:06
Cal Date: 11/19/2012 07:37
Run Date: 11/19/2012 10:41
File ID: P2.111912.104149

Analyte	CAS #	Result	Qual	RL	MDL
Potassium, Total	7440-09-7	114		50.0	25.0
Sodium, Total	7440-23-5	549		25.0	12.5

J	The analyte was positively identified, but the quantitation was below the RL.
U	Not detected at or above adjusted sample detection limit.

Certificate of Analysis

Sample #:	L12110393-02	**PrePrep Method:**	N/A	**Instrument:**	PE-ICP2
Client ID:	BLDG 4-PIT-SSP1-GW-11082012	**Prep Method:**	3005A	**Prep Date:**	11/16/2012 07:06
Matrix:	Water	**Analytical Method:**	6010B	**Cal Date:**	11/19/2012 07:37
Workgroup #:	WG414521	**Analyst:**	KHR	**Run Date:**	11/19/2012 08:59
Collect Date:	11/08/2012 14:11	**Dilution:**	1	**File ID:**	P2.111912.085941
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	RL	MDL
Aluminum, Dissolved	7429-90-5		U	0.100	0.0500
Barium, Dissolved	7440-39-3	0.907		0.0100	0.00500
Beryllium, Dissolved	7440-41-7		U	0.00200	0.00100
Cadmium, Dissolved	7440-43-9		U	0.000500	0.000250
Calcium, Dissolved	7440-70-2	304		0.200	0.100
Chromium, Dissolved	7440-47-3	0.168		0.00500	0.00250
Cobalt, Dissolved	7440-48-4		U	0.0200	0.0100
Copper, Dissolved	7440-50-8		U	0.0200	0.0100
Iron, Dissolved	7439-89-6		U	0.100	0.0500
Magnesium, Dissolved	7439-95-4	130		0.500	0.250
Manganese, Dissolved	7439-96-5	0.0595		0.0100	0.00500
Nickel, Dissolved	7440-02-0	0.106		0.0400	0.0200
Silver, Dissolved	7440-22-4		U	0.0100	0.00500
Vanadium, Dissolved	7440-62-2	0.0124		0.0100	0.00500
Zinc, Dissolved	7440-66-6		U	0.0200	0.0100

E	Semiquantitative result (out of calibration range)
U	Not detected at or above adjusted sample detection limit.

Sample #:	L12110393-02	**PrePrep Method:**	N/A	**Instrument:**	PE-ICP2
Client ID:	BLDG 4-PIT-SSP1-GW-11082012	**Prep Method:**	3005A	**Prep Date:**	11/16/2012 07:06
Matrix:	Water	**Analytical Method:**	6010B	**Cal Date:**	11/19/2012 07:37
Workgroup #:	WG414521	**Analyst:**	KHR	**Run Date:**	11/19/2012 10:48
Collect Date:	11/08/2012 14:11	**Dilution:**	50	**File ID:**	P2.111912.104846
Sample Tag:	DL01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	RL	MDL
Potassium, Dissolved	7440-09-7	119		50.0	25.0
Sodium, Dissolved	7440-23-5	581		25.0	12.5

J	The analyte was positively identified, but the quantitation was below the RL.
U	Not detected at or above adjusted sample detection limit.

Certificate of Analysis

Sample #:	L12110393-03	**PrePrep Method:**	N/A	**Instrument:**	PE-ICP2
Client ID:	DUP-GW-110812	**Prep Method:**	3005A	**Prep Date:**	11/16/2012 07:06
Matrix:	Water	**Analytical Method:**	6010B	**Cal Date:**	11/19/2012 07:37
Workgroup #:	WG414521	**Analyst:**	KHR	**Run Date:**	11/19/2012 09:06
Collect Date:	11/08/2012 00:01	**Dilution:**	1	**File ID:**	P2.111912.090643
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	RL	MDL
Aluminum, Total	7429-90-5		U	0.100	0.0500
Barium, Total	7440-39-3	0.908		0.0100	0.00500
Beryllium, Total	7440-41-7		U	0.00200	0.00100
Cadmium, Total	7440-43-9		U	0.000500	0.000250
Calcium, Total	7440-70-2	299		0.200	0.100
Chromium, Total	7440-47-3	0.160		0.00500	0.00250
Cobalt, Total	7440-48-4		U	0.0200	0.0100
Copper, Total	7440-50-8		U	0.0200	0.0100
Iron, Total	7439-89-6		U	0.100	0.0500
Magnesium, Total	7439-95-4	128		0.500	0.250
Manganese, Total	7439-96-5	0.0590		0.0100	0.00500
Nickel, Total	7440-02-0	0.112		0.0400	0.0200
Silver, Total	7440-22-4		U	0.0100	0.00500
Vanadium, Total	7440-62-2	0.0124		0.0100	0.00500
Zinc, Total	7440-66-6		U	0.0200	0.0100

E	Semiquantitative result (out of calibration range)
U	Not detected at or above adjusted sample detection limit.

Sample #:	L12110393-03	**PrePrep Method:**	N/A	**Instrument:**	PE-ICP2
Client ID:	DUP-GW-110812	**Prep Method:**	3005A	**Prep Date:**	11/16/2012 07:06
Matrix:	Water	**Analytical Method:**	6010B	**Cal Date:**	11/19/2012 07:37
Workgroup #:	WG414521	**Analyst:**	KHR	**Run Date:**	11/19/2012 10:55
Collect Date:	11/08/2012 00:01	**Dilution:**	50	**File ID:**	P2.111912.105539
Sample Tag:	DL01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	RL	MDL
Potassium, Total	7440-09-7	113		50.0	25.0
Sodium, Total	7440-23-5	549		25.0	12.5

J	The analyte was positively identified, but the quantitation was below the RL.
U	Not detected at or above adjusted sample detection limit.

Certificate of Analysis

Sample #:	L12110393-04	**PrePrep Method:**	N/A	**Instrument:**	PE-ICP2
Client ID:	DUP-GW-110812	**Prep Method:**	3005A	**Prep Date:**	11/16/2012 07:06
Matrix:	Water	**Analytical Method:**	6010B	**Cal Date:**	11/19/2012 07:37
Workgroup #:	WG414521	**Analyst:**	KHR	**Run Date:**	11/19/2012 09:13
Collect Date:	11/08/2012 00:01	**Dilution:**	1	**File ID:**	P2.111912.091346
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	RL	MDL
Aluminum, Dissolved	7429-90-5		U	0.100	0.0500
Barium, Dissolved	7440-39-3	0.892		0.0100	0.00500
Beryllium, Dissolved	7440-41-7		U	0.00200	0.00100
Cadmium, Dissolved	7440-43-9		U	0.000500	0.000250
Calcium, Dissolved	7440-70-2	298		0.200	0.100
Chromium, Dissolved	7440-47-3	0.165		0.00500	0.00250
Cobalt, Dissolved	7440-48-4		U	0.0200	0.0100
Copper, Dissolved	7440-50-8		U	0.0200	0.0100
Iron, Dissolved	7439-89-6		U	0.100	0.0500
Magnesium, Dissolved	7439-95-4	128		0.500	0.250
Manganese, Dissolved	7439-96-5	0.0586		0.0100	0.00500
Nickel, Dissolved	7440-02-0	0.108		0.0400	0.0200
Silver, Dissolved	7440-22-4		U	0.0100	0.00500
Vanadium, Dissolved	7440-62-2	0.0114		0.0100	0.00500
Zinc, Dissolved	7440-66-6		U	0.0200	0.0100

E	Semiquantitative result (out of calibration range)
U	Not detected at or above adjusted sample detection limit.

Sample #:	L12110393-04	**PrePrep Method:**	N/A	**Instrument:**	PE-ICP2
Client ID:	DUP-GW-110812	**Prep Method:**	3005A	**Prep Date:**	11/16/2012 07:06
Matrix:	Water	**Analytical Method:**	6010B	**Cal Date:**	11/19/2012 07:37
Workgroup #:	WG414521	**Analyst:**	KHR	**Run Date:**	11/19/2012 11:02
Collect Date:	11/08/2012 00:01	**Dilution:**	50	**File ID:**	P2.111912.110233
Sample Tag:	DL01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	RL	MDL
Potassium, Dissolved	7440-09-7	122		50.0	25.0
Sodium, Dissolved	7440-23-5	584		25.0	12.5

U	Not detected at or above adjusted sample detection limit.

2.2.1.2 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: WG414452
Analyst: REK
Spike Analyst: REK
Method: 3005A
Run Date: 11/16/2012 07:06
Hotblock Start Temp: 95 @ 05:45
Hotblock End Temp: 95 @ 09:45
Instrument: HB6

SOP: ME401 Revison 14
Spike Solution: STD54722
Spike Witness: BRG
ICP;WG401305 Filter Lot COA16240
HCL Lot #: COA16368
Digestion Tubes Lot #: COA16400
HNO3 Lot #: COA16520

	SAMPLE #	Type	Matrix	Initial Amount	Final Volume	Spike Amount	Due Date
1	WG414452-04	BLANK	1	50 mL	50 mL		
2	WG414452-05	LCS	1	50 mL	50 mL	5 mL	
3	L12110393-01	SAMP	1	50 mL	50 mL		11/27/12
4	L12110393-02	SAMP	1	50 mL	50 mL		11/27/12
5	L12110393-03	SAMP	1	50 mL	50 mL		11/27/12
6	L12110393-04	SAMP	1	50 mL	50 mL		11/27/12
7	L12110429-01	SAMP	1	50 mL	50 mL		11/26/12
8	L12110429-02	SAMP	1	50 mL	50 mL		11/26/12
9	L12110429-03	SAMP	1	50 mL	50 mL		11/26/12
10	L12110438-01	SAMP	1	50 mL	50 mL		11/26/12
11	WG414452-01	REF	1	50 mL	50 mL		
12	L12110439-01	RS01	1	50 mL	50 mL		11/26/12
13	WG414452-02	REF	1	50 mL	50 mL		
14	L12110439-02	RS02	1	50 mL	50 mL		11/26/12
15	WG414452-06	MS	1	50 mL	50 mL	5 mL	
16	L12110439-03	MS01	1	50 mL	50 mL	5 mL	11/26/12
17	WG414452-08	MS	1	50 mL	50 mL	5 mL	
18	L12110439-04	MS02	1	50 mL	50 mL	5 mL	11/26/12
19	WG414452-07	MSD	1	50 mL	50 mL	5 mL	
20	L12110439-05	SD01	1	50 mL	50 mL	5 mL	11/26/12
21	WG414452-09	MSD	1	50 mL	50 mL	5 mL	
22	L12110439-06	SD02	1	50 mL	50 mL	5 mL	11/26/12
23	L12110447-02	SAMP	1	50 mL	50 mL		11/29/12
24	WG414452-03	REF	1	50 mL	50 mL		
25	L12110447-05	RS02	1	50 mL	50 mL		11/29/12
26	WG414452-10	MS	1	50 mL	50 mL	5 mL	
27	L12110447-08	MS02	1	50 mL	50 mL	5 mL	11/29/12
28	WG414452-11	MSD	1	50 mL	50 mL	5 mL	
29	L12110447-11	SD02	1	50 mL	50 mL	5 mL	11/29/12
30	L12110447-14	SAMP	1	50 mL	50 mL		11/29/12
31	L12110447-17	SAMP	1	50 mL	50 mL		11/29/12
32	L12110447-20	SAMP	1	50 mL	50 mL		11/29/12
33	L12110447-23	SAMP	1	50 mL	50 mL		11/29/12

HB_DIG - Modified 07/26/2012
PDF ID: 2667223
Report generated: 11/16/2012 10:10

Microbac Laboratories Inc.
Metals Digest Log

Workgroup:	WG414452	**SOP:**	ME401 Revison 14
Analyst:	REK	**Spike Solution:**	STD54722
Spike Analyst:	REK	**Spike Witness:**	BRG
Method:	3005A	**ICP;WG401305 Filter Lot**	COA16240
Run Date:	11/16/2012 07:06	**HCL Lot #:**	COA16368
Hotblock Start Temp:	95 @ 05:45	**Digestion Tubes Lot #:**	COA16400
Hotblock End Temp:	95 @ 09:45	**HNO3 Lot #:**	COA16520
Instrument:	HB6		

Analyst: _____

Reviewer: _____

HB_DIG - Modified 07/26/2012
PDF ID: 2667223
Report generated: 11/16/2012 10:10

Microbac Laboratories Inc.

Instrument Run Log

Instrument: PE-ICP2 Dataset: 111912HR.CSV
Analyst1: KHR Analyst2: N/A
Method: 6010B/6010C/200.7 SOP: ME600E Rev: 12
Maintenance Log ID: 44008

Calibration Std: STD54901 ICV Std: STD54812 Post Spike: STD53996
ICSA: STD54822 ICSAB: STD54811 Int. Std: RGT17684
CCV: STD54922 LLCCV: STD54901

Workgroups: 414521, 414094, 414522, 414695, 414696

Comments:

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
1	P2.111912.071110	WG414710-01	Calibration Point		1		11/19/12 07:11
2	P2.111912.071805	WG414710-02	Calibration Point		1		11/19/12 07:18
3	P2.111912.072500	WG414710-03	Calibration Point		1		11/19/12 07:25
4	P2.111912.073155	WG414710-04	Calibration Point		1		11/19/12 07:31
5	P2.111912.073754	WG414710-05	Calibration Point		1		11/19/12 07:37
6	P2.111912.074357	WG414710-06	Initial Calibration Verification		1		11/19/12 07:43
7	P2.111912.074955	WG414710-07	Initial Calib Blank		1		11/19/12 07:49
8	P2.111912.075649	WG414710-08	Low Level Initial Calibration V		1		11/19/12 07:56
9	P2.111912.080344	WG414710-09	Low Level Initial Calibration V		1		11/19/12 08:03
10	P2.111912.081039	WG414710-10	Interference Check		1		11/19/12 08:10
11	P2.111912.081635	WG414710-11	Interference Check		1		11/19/12 08:16
12	P2.111912.082231	WG414710-12	CCV		1		11/19/12 08:22
13	P2.111912.082832	WG414710-13	CCB		1		11/19/12 08:28
14	P2.111912.083944	WG414452-04	Method/Prep Blank	50/50	1		11/19/12 08:39
15	P2.111912.084639	WG414452-05	Laboratory Control S	50/50	1		11/19/12 08:46
16	P2.111912.085239	L12110393-01	BLDG 4-PIT-SSP1-GW-1108	50/50	1		11/19/12 08:52
17	P2.111912.085941	L12110393-02	BLDG 4-PIT-SSP1-GW-1108	50/50	1		11/19/12 08:59
18	P2.111912.090643	L12110393-03	DUP-GW-110812	50/50	1		11/19/12 09:06
19	P2.111912.091346	L12110393-04	DUP-GW-110812	50/50	1		11/19/12 09:13
20	P2.111912.092043	L12110429-01	MW44102312	50/50	1		11/19/12 09:20
21	P2.111912.092745	L12110429-02	MW21102312	50/50	1		11/19/12 09:27
22	P2.111912.093443	WG414521-01	Post Digestion Spike		1	L12110429-02	11/19/12 09:34
23	P2.111912.094041	WG414521-02	Serial Dilution		5	L12110429-02	11/19/12 09:40
24	P2.111912.094735	WG414710-14	CCV		1		11/19/12 09:47
25	P2.111912.095336	WG414710-15	CCB		1		11/19/12 09:53
26	P2.111912.100159	WG414452-01	Reference Sample		1	L12110439-01	11/19/12 10:01
27	P2.111912.100809	WG414452-06	Matrix Spike	50/50	1	L12110439-01	11/19/12 10:08
28	P2.111912.101416	WG414452-07	Matrix Spike Duplica	50/50	1	L12110439-01	11/19/12 10:14
29	P2.111912.102027	L12110438-01	LF9MW05-121114	50/50	1		11/19/12 10:20
30	P2.111912.102755	L12110438-01	LF9MW05-121114	50/50	100		11/19/12 10:27
31	P2.111912.103450	L12110309-01	MW95-2-121109	50/50	100		11/19/12 10:34
32	P2.111912.104149	L12110393-01	BLDG 4-PIT-SSP1-GW-1108	50/50	50		11/19/12 10:41
33	P2.111912.104846	L12110393-02	BLDG 4-PIT-SSP1-GW-1108	50/50	50		11/19/12 10:48
34	P2.111912.105539	L12110393-03	DUP-GW-110812	50/50	50		11/19/12 10:55

Page: 1 Approved: November 20, 2012

Maren Berry

Microbac Laboratories Inc.

Instrument Run Log

Instrument: PE-ICP2 Dataset: 111912HR.CSV
Analyst1: KHR Analyst2: N/A
Method: 6010B/6010C/200.7 SOP: ME600E Rev: 12
Maintenance Log ID: 44008

Calibration Std: STD54901 ICV Std: STD54812 Post Spike: STD53996
ICSA: STD54822 ICSAB: STD54811 Int. Std: RGT17684
CCV: STD54922 LLCCV: STD54901

Workgroups: 414521, 414094, 414522, 414695, 414696

Comments:

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
35	P2.111912.110233	L12110393-04	DUP-GW-110812	50/50	50		11/19/12 11:02
36	P2.111912.110928	WG414710-16	CCV		1		11/19/12 11:09
37	P2.111912.111529	WG414710-17	CCB		1		11/19/12 11:15
38	P2.111912.112222	WG414710-18	Interference Check		1		11/19/12 11:22
39	P2.111912.112818	WG414710-19	Interference Check		1		11/19/12 11:28
40	P2.111912.113415	WG414710-20	CCV		1		11/19/12 11:34
41	P2.111912.114016	WG414710-21	CCB		1		11/19/12 11:40
42	P2.111912.114710	WG414710-22	Low Level Continuing Calibra		1		11/19/12 11:47
43	P2.111912.115405	WG414710-23	Low Level Continuing Calibra		1		11/19/12 11:54
44	P2.111912.120102	L12110429-03	MW45102312	50/50	1		11/19/12 12:01
45	P2.111912.120803	WG414452-02	Reference Sample		1	L12110439-02	11/19/12 12:08
46	P2.111912.121413	WG414452-08	Matrix Spike	50/50	1	L12110439-02	11/19/12 12:14
47	P2.111912.122019	WG414452-09	Matrix Spike Duplica	50/50	1	L12110439-02	11/19/12 12:20
48	P2.111912.122625	L12110447-02	SW1A-279-14	50/50	1		11/19/12 12:26
49	P2.111912.123223	WG414452-03	Reference Sample		1	L12110447-05	11/19/12 12:32
50	P2.111912.123820	WG414452-10	Matrix Spike	50/50	1	L12110447-05	11/19/12 12:38
51	P2.111912.124418	WG414452-11	Matrix Spike Duplica	50/50	1	L12110447-05	11/19/12 12:44
52	P2.111912.125328	L12110447-14	SW3A-279-14	50/50	1		11/19/12 12:53
53	P2.111912.125926	WG414710-24	CCV		1		11/19/12 12:59
54	P2.111912.130527	WG414710-25	CCB		1		11/19/12 13:05
55	P2.111912.131220	L12110447-17	SW3B-279-14	50/50	1		11/19/12 13:12
56	P2.111912.131819	L12110447-20	SW4A-279-14	50/50	1		11/19/12 13:18
57	P2.111912.132514	L12110447-23	SW5A-279-14	50/50	1		11/19/12 13:25
58	P2.111912.133211	WG414452-01	Reference Sample		100	L12110439-01	11/19/12 13:32
59	P2.111912.133905	WG414452-06	Matrix Spike	50/50	100	L12110439-01	11/19/12 13:39
60	P2.111912.134600	WG414452-07	Matrix Spike Duplica	50/50	100	L12110439-01	11/19/12 13:46
61	P2.111912.135255	WG414452-02	Reference Sample		100	L12110439-02	11/19/12 13:52
62	P2.111912.135949	WG414452-08	Matrix Spike	50/50	100	L12110439-02	11/19/12 13:59
63	P2.111912.140643	WG414452-09	Matrix Spike Duplica	50/50	100	L12110439-02	11/19/12 14:06
64	P2.111912.141337	WG414710-26	CCV		1		11/19/12 14:13
65	P2.111912.141938	WG414710-27	CCB		1		11/19/12 14:19
66	P2.111912.142633	WG414030-01	Reference Sample		2	L12110290-04	11/19/12 14:26
67	P2.111912.143233	WG414030-04	Matrix Spike		2	L12110290-04	11/19/12 14:32
68	P2.111912.143838	WG414030-05	Matrix Spike Duplica		2	L12110290-04	11/19/12 14:38

Page: 2 Approved: November 20, 2012

Maren Berry

Microbac

Microbac Laboratories Inc.

Instrument Run Log

Instrument: PE-ICP2 Dataset: 111912HR.CSV
Analyst1: KHR Analyst2: N/A
Method: 6010B/6010C/200.7 SOP: ME600E Rev: 12
Maintenance Log ID: 44008

Calibration Std: STD54901 ICV Std: STD54812 Post Spike: STD53996
ICSA: STD54822 ICSAB: STD54811 Int. Std: RGT17684
CCV: STD54922 LLCCV: STD54901

Workgroups: 414521, 414094, 414522, 414695, 414696

Comments:

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
69	P2.111912.144438	L12110290-17	MW004-GW-110912D		2		11/19/12 14:44
70	P2.111912.145134	L12110339-01	WV OIL	50/50	500		11/19/12 14:51
71	P2.111912.145832	WG414094-03	Post Digestion Spike		500	L12110339-01	11/19/12 14:58
72	P2.111912.150432	L12110345-13	PZ 89-1	50/50	2		11/19/12 15:04
73	P2.111912.151029	WG414710-28	CCV		1		11/19/12 15:10
74	P2.111912.151631	WG414710-29	CCB		1		11/19/12 15:16
75	P2.111912.152324	WG414500-02	Method/Prep Blank	5/50	1		11/19/12 15:23
76	P2.111912.153019	WG414500-03	Laboratory Control S	5/50	1		11/19/12 15:30
77	P2.111912.153618	WG414334-01	Fluid Blank		1		11/19/12 15:36
78	P2.111912.154316	WG414458-01	TCLP Fluid Blank 1		1		11/19/12 15:43
79	P2.111912.155014	WG414458-02	TCLP Fluid Blank 2		1		11/19/12 15:50
80	P2.111912.155708	L12110375-02	Q	5/50	1		11/19/12 15:57
81	P2.111912.160411	L12110375-04	E-0005	5/50	1		11/19/12 16:04
82	P2.111912.161010	L12110375-09	E-2025	5/50	1		11/19/12 16:10
83	P2.111912.161610	WG414522-01	Post Digestion Spike		1	L12110375-09	11/19/12 16:16
84	P2.111912.162210	WG414522-02	Serial Dilution		5	L12110375-09	11/19/12 16:22
85	P2.111912.162906	WG414710-30	CCV		1		11/19/12 16:29
86	P2.111912.163508	WG414710-31	CCB		1		11/19/12 16:35
87	P2.111912.164201	L12110433-04	D-1015	5/50	1		11/19/12 16:42
88	P2.111912.164802	L12110433-09	C-0005	5/50	1		11/19/12 16:48
89	P2.111912.165458	L12110433-14	C-2025	5/50	1		11/19/12 16:54
90	P2.111912.170057	L12110433-19	B-1015	5/50	1		11/19/12 17:00
91	P2.111912.170656	WG414500-01	Reference Sample		1	L12110433-24	11/19/12 17:06
92	P2.111912.171255	WG414500-04	Matrix Spike	5/50	1	L12110433-24	11/19/12 17:12
93	P2.111912.171854	WG414500-05	Matrix Spike Duplica	5/50	1	L12110433-24	11/19/12 17:18
94	P2.111912.172453	L12110433-29	A-2025	5/50	1		11/19/12 17:24
95	P2.111912.173053	L12110436-02	5386-SSP0006	5/50	1		11/19/12 17:30
96	P2.111912.173752	L12110462-01	FOUNDRY SAND	5/50	1		11/19/12 17:37
97	P2.111912.174451	WG414710-32	CCV		1		11/19/12 17:44
98	P2.111912.175052	WG414710-33	CCB		1		11/19/12 17:50
99	P2.111912.175745	WG414710-34	Low Level Continuing Calibra		1		11/19/12 17:57
100	P2.111912.180440	WG414710-35	Low Level Continuing Calibra		1		11/19/12 18:04
101	P2.111912.181135	WG414710-36	Linear Range Check		1		11/19/12 18:11
102	P2.111912.181832	WG414710-36	Linear Range Check		1		11/19/12 18:18

Page: 3 Approved: November 20, 2012

Maren Berry

Microbac Laboratories Inc.

Instrument Run Log

Instrument: PE-ICP2 Dataset: 111912HR.CSV
Analyst1: KHR Analyst2: N/A
Method: 6010B/6010C/200.7 SOP: ME600E Rev: 12
Maintenance Log ID: 44008

Calibration Std: STD54901 ICV Std: STD54812 Post Spike: STD53996
ICSA: STD54822 ICSAB: STD54811 Int. Std: RGT17684
CCV: STD54922 LLCCV: STD54901

Workgroups: 414521, 414094, 414522, 414695, 414696

Comments:

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
103	P2.111912.182529	BLANK	BLANK		1		11/19/12 18:25
104	P2.111912.183223	WG414710-37	CCV		1		11/19/12 18:32
105	P2.111912.183824	WG414710-38	CCB		1		11/19/12 18:38
106	P2.111912.184518	WG414642-02	Method/Prep Blank	50/50	1		11/19/12 18:45
107	P2.111912.185212	WG414642-03	Laboratory Control S	50/50	1		11/19/12 18:52
108	P2.111912.185811	L12110492-01	MW-1001	50/50	1		11/19/12 18:58
109	P2.111912.190506	WG414642-01	Reference Sample		1	L12110492-02	11/19/12 19:05
110	P2.111912.191205	L12110492-03	MW-0901FD	50/50	1		11/19/12 19:12
111	P2.111912.191905	WG414642-04	Matrix Spike	50/50	1	L12110492-02	11/19/12 19:19
112	P2.111912.192505	WG414642-05	Matrix Spike Duplica	50/50	1	L12110492-02	11/19/12 19:25
113	P2.111912.193105	L12110497-01	LF30/31-EWTS-EFFLUENT-	50/50	1		11/19/12 19:31
114	P2.111912.193800	WG414695-01	Post Digestion Spike		1	L12110497-01	11/19/12 19:38
115	P2.111912.194400	WG414695-02	Serial Dilution		5	L12110497-01	11/19/12 19:44
116	P2.111912.195057	WG414710-39	CCV		1		11/19/12 19:50
117	P2.111912.195658	WG414710-40	CCB		1		11/19/12 19:56
118	P2.111912.200351	L12110506-01	70214-W0001	50/50	1		11/19/12 20:03
119	P2.111912.201048	L12110506-02	70236-W0002	50/50	1		11/19/12 20:10
120	P2.111912.201743	L12110506-03	70385-W0001	50/50	1		11/19/12 20:17
121	P2.111912.202438	L12110506-04	7456-W0002	50/50	1		11/19/12 20:24
122	P2.111912.203133	WG414710-41	CCV		1		11/19/12 20:31
123	P2.111912.203734	WG414710-42	CCB		1		11/19/12 20:37
124	P2.111912.204427	WG414640-02	Method/Prep Blank	50/50	1		11/19/12 20:44
125	P2.111912.205122	WG414640-03	Laboratory Control S	50/50	1		11/19/12 20:51
126	P2.111912.205722	L12110489-01	OUTFALL 003		1	WG414640-01	11/19/12 20:57
127	P2.111912.210320	WG414640-04	Duplicate	50/50	1	L12110489-01	11/19/12 21:03
128	P2.111912.210918	WG414640-05	Matrix Spike	50/50	1	L12110489-01	11/19/12 21:09
129	P2.111912.211517	L12110489-02	OUTFALL 009	50/50	1		11/19/12 21:15
130	P2.111912.212116	L12110511-01	1211-177-1	50/50	1		11/19/12 21:21
131	P2.111912.212720	L12110511-02	1211-209-1	50/50	1		11/19/12 21:27
132	P2.111912.213325	WG414696-01	Post Digestion Spike		1	L12110511-02	11/19/12 21:33
133	P2.111912.213930	WG414696-02	Serial Dilution		5	L12110511-02	11/19/12 21:39
134	P2.111912.214626	WG414710-43	CCV		1		11/19/12 21:46
135	P2.111912.215227	WG414710-44	CCB		1		11/19/12 21:52
136	P2.111912.215920	L12110511-04	1211-178-1	50/50	1		11/19/12 21:59

Page: 4 Approved: November 20, 2012

Maren Berry

Microbac

Microbac Laboratories Inc.

Instrument Run Log

Instrument: PE-ICP2 Dataset: 111912HR.CSV

Analyst1: KHR Analyst2: N/A

Method: 6010B/6010C/200.7 SOP: ME600E Rev: 12

Maintenance Log ID: 44008

Calibration Std: STD54901 ICV Std: STD54812 Post Spike: STD53996

ICSA: STD54822 ICSAB: STD54811 Int. Std: RGT17684

CCV: STD54922 LLCCV: STD54901

Workgroups: 414521, 414094, 414522, 414695, 414696

Comments:

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
137	P2.111912.220524	L12110511-05	1211-207-1	50/50	1		11/19/12 22:05
138	P2.111912.221221	L12110511-07	1211-208-1	50/50	1		11/19/12 22:12
139	P2.111912.221819	L12110518-01	1211-214-1	50/50	1		11/19/12 22:18
140	P2.111912.222418	WG414710-45	CCV		1		11/19/12 22:24
141	P2.111912.223019	WG414710-46	CCB		1		11/19/12 22:30

 Approved: November 20, 2012

Maren Berry

Microbac

Microbac Laboratories Inc.

Data Checklist

Date: 19-NOV-2012
Analyst: KHR
Analyst: NA
Method: 6010B/6010C/200.7
Instrument: PE-ICP2
Curve Workgroup: 414710
Runlog ID: 50102
Analytical Workgroups: 414521, 414094, 414522, 414695, 414696

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	X
Client Forms	X
Level X	
Level 3	375, 433
Level 4	393, 429, 438, 439, 345, 436, 492
Level 4	497, 506
Check for compliance with method and project specific requirements	X
Check the completeness of reported information	X
Check the information for the report narrative	X
Primary Reviewer	KHR
Secondary Reviewer	MMB
Comments	

Primary Reviewer:
20-NOV-2012
Kim H. Rhoden

Secondary Reviewer:
20-NOV-2012
Maren Berry

CHECKLIST1 - Modified 03/05/2008
Generated: NOV-20-2012 13:14:12

Microbac Laboratories Inc.

HOLDING TIMES
EQUIVALENT TO AFCEE FORM 9

Analytical Method: 6010B AAB#: WG414521

Login Number: L12110393

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
BLDG 4-PIT-SSP1-GW-11082	01	11/08/12					11/16/2012	7.7	180		11/19/12	10.9	180	
BLDG 4-PIT-SSP1-GW-11082	01	11/08/12					11/16/2012	7.7	180		11/19/12	10.8	180	
BLDG 4-PIT-SSP1-GW-11082	02	11/08/12					11/16/2012	7.7	180		11/19/12	10.9	180	
BLDG 4-PIT-SSP1-GW-11082	02	11/08/12					11/16/2012	7.7	180		11/19/12	10.8	180	
DUP-GW-110812	03	11/08/12					11/16/2012	8.3	180		11/19/12	11.5	180	
DUP-GW-110812	03	11/08/12					11/16/2012	8.3	180		11/19/12	11.4	180	
DUP-GW-110812	04	11/08/12					11/16/2012	8.3	180		11/19/12	11.4	180	
DUP-GW-110812	04	11/08/12					11/16/2012	8.3	180		11/19/12	11.5	180	

* = SEE PROJECT QAPP REQUIREMENTS

HOLD_TIMES - Modified 03/06/2008
PDF File ID: 2670640
Report generated 11/20/2012 07:13

Microbac Laboratories Inc.

METHOD BLANK SUMMARY

Login Number: L12110393
Work Group: WG414521
Blank File ID: P2.111912.083944
Blank Sample ID: WG414452-04
Prep Date: 11/16/12 07:06
Instrument ID: PE-ICP2
Analyzed Date: 11/19/12 08:39
Method: 6010B
Analyst: KHR

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG414452-05	P2.111912.084639	11/19/12 08:46	01
BLDG 4-PIT-SSP1-GW-11082012	L12110393-01	P2.111912.085239	11/19/12 08:52	01
BLDG 4-PIT-SSP1-GW-11082012	L12110393-02	P2.111912.085941	11/19/12 08:59	01
DUP-GW-110812	L12110393-03	P2.111912.090643	11/19/12 09:06	01
DUP-GW-110812	L12110393-04	P2.111912.091346	11/19/12 09:13	01
BLDG 4-PIT-SSP1-GW-11082012	L12110393-01	P2.111912.104149	11/19/12 10:41	DL01
BLDG 4-PIT-SSP1-GW-11082012	L12110393-02	P2.111912.104846	11/19/12 10:48	DL01
DUP-GW-110812	L12110393-03	P2.111912.105539	11/19/12 10:55	DL01
DUP-GW-110812	L12110393-04	P2.111912.110233	11/19/12 11:02	DL01

Report Name: BLANK_SUMMARY
PDF File ID: 2670641
Report generated 11/20/2012 07:30

Microbac Laboratories Inc.

METHOD BLANK REPORT

Login Number: L12110393 Prep Date: 11/16/12 07:06 Sample ID: WG414452-04
Instrument ID: PE-ICP2 Run Date: 11/19/12 08:39 Prep Method: 3005A
File ID: P2.111912.083944 Analyst: KHR Method: 6010B
Workgroup (AAB#): WG414521 Matrix: Water Units: mg/L
Contract #: Cal ID: PE-ICP-19-NOV-12

Analytes	MDL	RL	Concentration	Dilution	Qualifier
Aluminum, Total	0.0500	0.100	0.0500	1	U
Barium, Total	0.00500	0.0100	0.00500	1	U
Beryllium, Total	0.00100	0.00200	0.00100	1	U
Cadmium, Total	0.000250	0.000500	0.000250	1	U
Calcium, Total	0.100	0.200	0.100	1	U
Chromium, Total	0.00250	0.00500	0.00250	1	U
Cobalt, Total	0.0100	0.0200	0.0100	1	U
Copper, Total	0.0100	0.0200	0.0100	1	U
Iron, Total	0.0500	0.100	0.0500	1	U
Magnesium, Total	0.250	0.500	0.250	1	U
Manganese, Total	0.00500	0.0100	0.00500	1	U
Nickel, Total	0.0200	0.0400	0.0200	1	U
Potassium, Total	0.500	1.00	0.500	1	U
Silver, Total	0.00500	0.0100	0.00500	1	U
Sodium, 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

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

Report Name:BLANK
PDF ID: 2670642
20-NOV-2012 07:30

Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L12110393 Run Date: 11/19/2012 Sample ID: WG414452-05
Instrument ID: PE-ICP2 Run Time: 08:46 Prep Method: 3005A
File ID: P2.111912.084639 Analyst: KHR Method: 6010B
Workgroup (AAB#): WG414521 Matrix: Water Units: mg/L
QC Key: WATERLOO Lot#: STD54722 Cal ID: PE-ICP-19-NOV-12

Analytes	Expected	Found	% Rec	LCS Limits	Q
Aluminum, Total	5.00	4.85	97.0	85 - 115	
Barium, Total	0.500	0.489	97.7	85 - 115	
Beryllium, Total	0.0250	0.0236	94.3	85 - 115	
Cadmium, Total	0.0250	0.0233	93.1	85 - 115	
Calcium, Total	5.00	5.03	101	85 - 115	
Chromium, Total	0.250	0.246	98.3	85 - 115	
Cobalt, Total	0.100	0.0980	98.0	85 - 115	
Copper, Total	0.250	0.246	98.2	85 - 115	
Iron, Total	2.00	2.01	100	85 - 115	
Magnesium, Total	5.00	4.96	99.2	85 - 115	
Manganese, Total	0.250	0.249	99.5	85 - 115	
Nickel, Total	0.250	0.258	103	85 - 115	
Potassium, Total	25.0	23.8	95.3	85 - 115	
Silver, Total	0.200	0.197	98.7	85 - 115	
Sodium, Total	25.0	24.5	98.1	85 - 115	
Vanadium, Total	0.500	0.490	98.0	85 - 115	
Zinc, Total	0.500	0.486	97.2	85 - 115	

LCS - Modified 03/06/2008
PDF File ID: 2670643
Report generated: 11/20/2012 07:30

Microbac Laboratories Inc.

MATRIX SPIKE AND MATRIX SPIKE DUP (MS/MSD)

Loginnum:L12110393 Cal ID: PE-ICP2- Worknum:WG414521

Instrument ID:PE-ICP2 Contract #: Method:6010B

Parent ID:WG414452-03 File ID:P2.111912.123223 Dil:1 Matrix:WATER

Sample ID:WG414452-10 MS File ID:P2.111912.123820 Dil:1 Units:mg/L

Sample ID:WG414452-11 MSD File ID:P2.111912.124418 Dil:1

Analyte	Parent	MS Spiked	MS Found	MS %Rec	MSD Spiked	MSD Found	MSD %Rec	%RPD	%Rec Limits	RPD Limit	Q
Aluminum, Total	0.152	5.00	5.08	98.5	5.00	5.09	98.8	0.285	85 - 115	20	
Barium, Total	0.00877	0.500	0.499	98.1	0.500	0.499	98.1	0.0277	85 - 115	20	
Beryllium, Total	ND	0.0250	0.0237	94.7	0.0250	0.0235	94.0	0.768	85 - 115	20	
Cadmium, Total	ND	0.0250	0.0231	92.4	0.0250	0.0230	92.1	0.335	85 - 115	20	
Calcium, Total	1.87	5.00	6.92	101	5.00	6.92	101	0.0474	85 - 115	20	
Chromium, Total	ND	0.250	0.246	98.3	0.250	0.245	98.1	0.195	85 - 115	20	
Cobalt, Total	ND	0.100	0.0979	97.9	0.100	0.0977	97.7	0.130	85 - 115	20	
Copper, Total	ND	0.250	0.247	98.8	0.250	0.246	98.5	0.336	85 - 115	20	
Iron, Total	0.320	2.00	2.30	98.8	2.00	2.31	99.4	0.479	85 - 115	20	
Magnesium, Total	0.898	5.00	5.80	98.0	5.00	5.82	98.3	0.341	85 - 115	20	
Manganese, Total	0.0158	0.250	0.267	100	0.250	0.266	100	0.161	85 - 115	20	
Nickel, Total	ND	0.250	0.257	103	0.250	0.258	103	0.180	85 - 115	20	
Potassium, Total	0.724	25.0	24.8	96.2	25.0	24.9	96.6	0.402	85 - 115	20	
Silver, Total	ND	0.200	0.197	98.5	0.200	0.196	98.0	0.526	85 - 115	20	
Sodium, Total	1.83	25.0	26.2	97.5	25.0	26.2	97.4	0.0887	85 - 115	20	
Vanadium, Total	ND	0.500	0.492	98.5	0.500	0.493	98.5	0.0541	85 - 115	20	
Zinc, Total	ND	0.500	0.478	95.6	0.500	0.476	95.1	0.441	85 - 115	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: 2670644

Report generated 11/20/2012 07:30

Microbac Laboratories Inc.
Serial Dilution Report

Login: L12110393 **Worknum:** WG414521
Instrument: PE-ICP2 **Method:** 6010B
Serial Dil: WG414521-02 **File ID:** P2.111912.094041 **Dil:** 5 **Units:** mg/L
Sample: L12110429-02 **File ID:** P2.111912.092745 **Dil:** 1

Analyte	Sample	Qual	Serial Dil	Qual	% Diff	Q
Aluminum	ND	U	ND	U		
Barium	0.0653	X	0.0609	X	6.74	
Beryllium	ND	U	ND	U		
Cadmium	ND	U	ND	U		
Calcium	61.1		63.3		3.63	
Chromium	ND	U	ND	U		
Cobalt	ND	U	ND	U		
Copper	ND	U	ND	U		
Iron	0.0797	F	ND	U		
Magnesium	13.2		13.4		1.15	
Manganese	0.0822	X	0.0736	X	10.40	
Nickel	ND	U	ND	U		
Potassium	6.89	X	7.49	X	8.63	
Silver	ND	U	ND	U		
Sodium	41.4		41.2		0.45	
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: 2670638
11/20/2012 07:30

Microbac Laboratories Inc.
POST SPIKE REPORT

Sample Login ID: L12110393 **Worknum:** WG414521
Instrument ID: PE-ICP2 **Method:** 6010B
Post Spike ID: WG414521-01 **File ID:** P2.111912.093443 **Dil:** 1 **Units:** mg/L
Sample ID: L12110429-02 **File ID:** P2.111912.092745 **Dil:** 1 **Matrix:** Water

Analyte	Post Spike Result	C	Sample Result	C	Spike Added(SA)	% R	Control Limit %R	Q
ALUMINUM	4.95		0	U	5	99.0	75 - 125	
BARIUM	0.557		0.0653		.5	99.6	75 - 125	
BERYLLIUM	0.0239		0	U	.025	95.7	75 - 125	
CADMIUM	0.0228		0	U	.025	91.4	75 - 125	
CALCIUM	65.5		61.1		5	209.6	75 - 125	N
CHROMIUM	0.250		0	U	.25	100.1	75 - 125	
COBALT	0.0996		0	U	.1	99.6	75 - 125	
COPPER	0.244		0	U	.25	97.5	75 - 125	
IRON	2.08		0.0797	F	2	100.5	75 - 125	
MAGNESIUM	16.8		13.2		5	97.9	75 - 125	
MANGANESE	0.332		0.0822		.25	103.1	75 - 125	
NICKEL	0.260		0	U	.25	104.0	75 - 125	
POTASSIUM	30.8		6.89		25	98.5	75 - 125	
SILVER	0.197		0	U	.2	98.5	75 - 125	
SODIUM	65.2		41.4		25	112.0	75 - 125	
VANADIUM	0.514		0	U	.5	102.8	75 - 125	
ZINC	0.483		0	U	.5	96.5	75 - 125	

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

POST_SPIKE - Modified 03/06/2008
PDF File ID: 2670639
Report generated: 11/20/2012 07:30

Microbac Laboratories Inc.
Initial Calibration Summary

Login:	**L12110393**	Workgroup (AAB#):	**WG414521**
Analytical Method:	**6010B**	Instrument ID:	**PE-ICP2**
ICAL Worknum:	**WG414710**	Initial Calibration Date:	**19-NOV-2012 07:37**

	WG414710-01		WG414710-02		WG414710-03		WG414710-04		WG414710-05			
	Conc	INT	Conc	INT	Conc	INT	Conc	INT	Conc	INT	R	Q
ALUMINUM	0	-11.9	.1	681	.2	1330	10	66800	20	132000	.999985	
BARIUM	0	-217	.01	1530	.02	3070	1	149000	2	294000	.999982	
BERYLLIUM	0	-2100	.0005	588	.001	1120	.05	55900	.1	112000	1	
CADMIUM	0	55.2	.0005	19.2	.001	42.6	.05	2250	.1	4480	.999997	
CALCIUM	0	-109	NA	NA	.2	87.9	10	3780	20	7640	.999987	
CHROMIUM	0	226	.005	654	.01	1360	.5	65300	1	129000	.999993	
COBALT	0	7.67	.002	73.8	.004	156	.1	7440	.4	14600	.999965	
COPPER	0	-692	.005	1470	.01	2820	.5	136000	1	269000	.999994	
IRON	0	-0.676	.04	392	.08	763	4	38500	8	76000	.999983	
MAGNESIUM	0	26.0	.1	297	.2	564	10	27900	20	55500	.999997	
MANGANESE	0	899	.005	4560	.01	8680	.5	428000	1	830000	.999896	
NICKEL	0	-172	.005	323	.01	638	.5	30200	1	59200	.99995	
POTASSIUM	0	-96.6	.5	1440	1	2930	50	149000	100	295000	1	
SILVER	0	-224	.004	1350	.008	2760	.4	131000	.8	260000	.999985	
SODIUM	0	1090	.5	10400	1	19900	50	985000	100	1920000	1	
VANADIUM	0	9090	.01	2130	.02	4730	1	232000	2	456000	.999973	
ZINC	0	-20.8	.01	481	.02	913	1	44900	2	88900	.999987	

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: 2670647
Report generated: 20-NOV-2012 07:13

Microbac Laboratories Inc.
INITIAL CALIBRATION BLANK (ICB)

Login Number: L12110393 Run Date: 11/19/2012 Sample ID: WG414710-07
Instrument ID: PE-ICP2 Run Time: 07:49 Method: 6010B
File ID: P2.111912.074955 Analyst: KHR Units: mg/L
Workgroup (AAB#): WG414521 Cal ID: PE-ICP2 - 19-NOV-12
Matrix: WATER

Analytes	MDL	RDL	Concentration	Qualifier
ALUMINUM	.05	.1	.05	U
BARIUM	.005	.01	.005	U
BERYLLIUM	.001	.002	.001	U
CADMIUM	.00025	.0005	.00025	U
CALCIUM	.1	.2	.1	U
CHROMIUM	.0025	.005	.0025	U
COBALT	.01	.02	.01	U
COPPER	.01	.02	.01	U
IRON	.05	.1	.05	U
MAGNESIUM	.25	.5	.25	U
MANGANESE	.005	.01	.005	U
NICKEL	.02	.04	.02	U
POTASSIUM	.5	1	.5	U
SILVER	.005	.01	.005	U
SODIUM	.25	.5	.25	U
VANADIUM	.005	.01	.005	U
ZINC	.01	.02	.01	U

ICB - Modified 07/14/2009
PDF File ID: 2670649
Report generated 11/20/2012 07:13

Microbac Laboratories Inc.

CONTINUING CALIBRATION BLANK (CCB)

Login Number: L12110393 Run Date: 11/19/2012 Sample ID: WG414710-13

Instrument ID: PE-ICP2 Run Time: 08:28 Method: 6010B

File ID: P2.111912.082832 Analyst: KHR Units: mg/L

Workgroup (AAB#): WG414521 Cal ID: PE-ICP - 19-NOV-12

Matrix: WATER QAPP: WATERLOO

Analytes	MDL	RDL	Concentration	Qualifier
Aluminum	0.0500	0.100	0.0500	U
Barium	0.00500	0.0100	0.00500	U
Beryllium	0.00100	0.00200	0.00100	U
Cadmium	0.000250	0.000500	0.000250	U
Calcium	0.100	0.200	0.100	U
Chromium	0.00250	0.00500	0.00250	U
Cobalt	0.0100	0.0200	0.0100	U
Copper	0.0100	0.0200	0.0100	U
Iron	0.0500	0.100	0.0500	U
Magnesium	0.250	0.500	0.250	U
Manganese	0.00500	0.0100	0.00500	U
Nickel	0.0200	0.0400	0.0200	U
Potassium	0.500	1.00	0.500	U
Silver	0.00500	0.0100	0.00500	U
Sodium	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: 2670652
Report generated 11/20/2012 07:13

Microbac Laboratories Inc.

CONTINUING CALIBRATION BLANK (CCB)

Login Number: L12110393 Run Date: 11/19/2012 Sample ID: WG414710-15

Instrument ID: PE-ICP2 Run Time: 09:53 Method: 6010B

File ID: P2.111912.095336 Analyst: KHR Units: mg/L

Workgroup (AAB#): WG414521 Cal ID: PE-ICP - 19-NOV-12

Matrix: WATER QAPP: WATERLOO

Analytes	MDL	RDL	Concentration	Qualifier
Aluminum	0.0500	0.100	0.0500	U
Barium	0.00500	0.0100	0.00500	U
Beryllium	0.00100	0.00200	0.00100	U
Cadmium	0.000250	0.000500	0.000250	U
Calcium	0.100	0.200	0.100	U
Chromium	0.00250	0.00500	0.00250	U
Cobalt	0.0100	0.0200	0.0100	U
Copper	0.0100	0.0200	0.0100	U
Iron	0.0500	0.100	0.0500	U
Magnesium	0.250	0.500	0.250	U
Manganese	0.00500	0.0100	0.00500	U
Nickel	0.0200	0.0400	0.0200	U
Potassium	0.500	1.00	0.500	U
Silver	0.00500	0.0100	0.00500	U
Sodium	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: 2670652
Report generated 11/20/2012 07:13

Microbac Laboratories Inc.

CONTINUING CALIBRATION BLANK (CCB)

Login Number: L12110393 Run Date: 11/19/2012 Sample ID: WG414710-17

Instrument ID: PE-ICP2 Run Time: 11:15 Method: 6010B

File ID: P2.111912.111529 Analyst: KHR Units: mg/L

Workgroup (AAB#): WG414521 Cal ID: PE-ICP - 19-NOV-12

Matrix: WATER QAPP: WATERLOO

Analytes	MDL	RDL	Concentration	Qualifier
Aluminum	0.0500	0.100	0.0500	U
Barium	0.00500	0.0100	0.00500	U
Beryllium	0.00100	0.00200	0.00100	U
Cadmium	0.000250	0.000500	0.000250	U
Calcium	0.100	0.200	0.100	U
Chromium	0.00250	0.00500	0.00250	U
Cobalt	0.0100	0.0200	0.0100	U
Copper	0.0100	0.0200	0.0100	U
Iron	0.0500	0.100	0.0500	U
Magnesium	0.250	0.500	0.250	U
Manganese	0.00500	0.0100	0.00500	U
Nickel	0.0200	0.0400	0.0200	U
Potassium	0.500	1.00	0.500	U
Silver	0.00500	0.0100	0.00500	U
Sodium	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: 2670652
Report generated 11/20/2012 07:13

Microbac Laboratories Inc.

CONTINUING CALIBRATION BLANK (CCB)

Login Number: L12110393 Run Date: 11/19/2012 Sample ID: WG414710-21

Instrument ID: PE-ICP2 Run Time: 11:40 Method: 6010B

File ID: P2.111912.114016 Analyst: KHR Units: mg/L

Workgroup (AAB#): WG414521 Cal ID: PE-ICP - 19-NOV-12

Matrix: WATER QAPP: WATERLOO

Analytes	MDL	RDL	Concentration	Qualifier
Aluminum	0.0500	0.100	0.0500	U
Barium	0.00500	0.0100	0.00500	U
Beryllium	0.00100	0.00200	0.00100	U
Cadmium	0.000250	0.000500	0.000250	U
Calcium	0.100	0.200	0.100	U
Chromium	0.00250	0.00500	0.00250	U
Cobalt	0.0100	0.0200	0.0100	U
Copper	0.0100	0.0200	0.0100	U
Iron	0.0500	0.100	0.0500	U
Magnesium	0.250	0.500	0.250	U
Manganese	0.00500	0.0100	0.00500	U
Nickel	0.0200	0.0400	0.0200	U
Potassium	0.500	1.00	0.500	U
Silver	0.00500	0.0100	0.00500	U
Sodium	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: 2670652
Report generated 11/20/2012 07:13

Microbac Laboratories Inc.

CONTINUING CALIBRATION BLANK (CCB)

Login Number: L12110393 Run Date: 11/19/2012 Sample ID: WG414710-33

Instrument ID: PE-ICP2 Run Time: 17:50 Method: 6010B

File ID: P2.111912.175052 Analyst: KHR Units: mg/L

Workgroup (AAB#): WG414521 Cal ID: PE-ICP - 19-NOV-12

Matrix: WATER QAPP: WATERLOO

Analytes	MDL	RDL	Concentration	Qualifier
Aluminum	0.0500	0.100	0.0500	U
Barium	0.00500	0.0100	0.00500	U
Beryllium	0.00100	0.00200	0.00100	U
Cadmium	0.000250	0.000500	0.000250	U
Calcium	0.100	0.200	0.100	U
Chromium	0.00250	0.00500	0.00250	U
Cobalt	0.0100	0.0200	0.0100	U
Copper	0.0100	0.0200	0.0100	U
Iron	0.0500	0.100	0.0500	U
Magnesium	0.250	0.500	0.250	U
Manganese	0.00500	0.0100	0.00500	U
Nickel	0.0200	0.0400	0.0200	U
Potassium	0.500	1.00	0.500	U
Silver	0.00500	0.0100	0.00500	U
Sodium	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: 2670652
Report generated 11/20/2012 07:13

Microbac Laboratories Inc.

CONTINUING CALIBRATION BLANK (CCB)

Login Number: L12110393 Run Date: 11/19/2012 Sample ID: WG414710-38

Instrument ID: PE-ICP2 Run Time: 18:38 Method: 6010B

File ID: P2.111912.183824 Analyst: KHR Units: mg/L

Workgroup (AAB#): WG414521 Cal ID: PE-ICP - 19-NOV-12

Matrix: WATER QAPP: WATERLOO

Analytes	MDL	RDL	Concentration	Qualifier
Aluminum	0.0500	0.100	0.0500	U
Barium	0.00500	0.0100	0.00500	U
Beryllium	0.00100	0.00200	0.00100	U
Cadmium	0.000250	0.000500	0.000250	U
Calcium	0.100	0.200	0.100	U
Chromium	0.00250	0.00500	0.00250	U
Cobalt	0.0100	0.0200	0.0100	U
Copper	0.0100	0.0200	0.0100	U
Iron	0.0500	0.100	0.0500	U
Magnesium	0.250	0.500	0.250	U
Manganese	0.00500	0.0100	0.00500	U
Nickel	0.0200	0.0400	0.0200	U
Potassium	0.500	1.00	0.500	U
Silver	0.00500	0.0100	0.00500	U
Sodium	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: 2670652
Report generated 11/20/2012 07:13

Microbac Laboratories Inc.

INITIAL CALIBRATION VERIFICATION (ICV)
(Alternate Source)

Login Number: L12110393 Run Date: 11/19/2012 Sample ID: WG414710-06
Instrument ID: PE-ICP2 Run Time: 07:43 Method: 6010B
File ID: P2.111912.074357 Analyst: KHR Units: mg/L
Workgroup (AAB#): WG414521 Cal ID: PE-ICP - 19-NOV-12
QC Key: WATERLOO

Analyte		Expected	Found	%REC	LIMITS	Q
Aluminum		10	10.0	100	90 - 110	
Barium		1	1.02	102	90 - 110	
Beryllium		.05	0.0501	100	90 - 110	
Cadmium		.05	0.0490	98.0	90 - 110	
Calcium		10	10.5	105	90 - 110	
Chromium		.5	0.510	102	90 - 110	
Cobalt		.2	0.204	102	90 - 110	
Copper		.5	0.511	102	90 - 110	
Iron		4	4.00	100	90 - 110	
Magnesium		10	10.0	100	90 - 110	
Manganese		.5	0.520	104	90 - 110	
Nickel		.5	0.515	103	90 - 110	
Potassium		50	49.3	98.6	90 - 110	
Silver		.4	0.415	104	90 - 110	
Sodium		50	49.5	98.9	90 - 110	
Vanadium		1	1.01	101	90 - 110	
Zinc		1	1.03	103	90 - 110	

* Exceeds LIMITS Limit

ICV - Modified 03/06/2008
PDF File ID: 2670648
Report generated 11/20/2012 07:13

Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12110393 Run Date: 11/19/2012 Sample ID: WG414710-12
Instrument ID: PE-ICP2 Run Time: 08:22 Method: 6010B
File ID: P2.111912.082231 Analyst: KHR QC Key: WATERLOO
Workgroup (AAB#): WG414521 Cal ID: PE-ICP - 19-NOV-12
Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Aluminum		10.0	10.0	mg/L	100	90 - 110		
Barium		1.00	1.01	mg/L	101	90 - 110		
Beryllium		0.0500	0.0497	mg/L	99.4	90 - 110		
Cadmium		0.0500	0.0491	mg/L	98.1	90 - 110		
Calcium		10.0	10.5	mg/L	105	90 - 110		
Chromium		0.500	0.503	mg/L	101	90 - 110		
Cobalt		0.200	0.202	mg/L	101	90 - 110		
Copper		0.500	0.506	mg/L	101	90 - 110		
Iron		4.00	4.07	mg/L	102	90 - 110		
Magnesium		10.0	10.2	mg/L	102	90 - 110		
Manganese		0.500	0.511	mg/L	102	90 - 110		
Nickel		0.500	0.504	mg/L	101	90 - 110		
Potassium		50.0	49.6	mg/L	99.2	90 - 110		
Silver		0.400	0.406	mg/L	102	90 - 110		
Sodium		50.0	50.7	mg/L	101	90 - 110		
Vanadium		1.00	1.01	mg/L	101	90 - 110		
Zinc		1.00	1.01	mg/L	101	90 - 110		

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008
PDF File ID: 2670651
Report generated 11/20/2012 07:13

Microbac Laboratories Inc.

CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12110393 Run Date: 11/19/2012 Sample ID: WG414710-14

Instrument ID: PE-ICP2 Run Time: 09:47 Method: 6010B

File ID: P2.111912.094735 Analyst: KHR QC Key: WATERLOO

Workgroup (AAB#): WG414521 Cal ID: PE-ICP - 19-NOV-12

Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Aluminum		10.0	9.85	mg/L	98.5	90 - 110		
Barium		1.00	0.998	mg/L	99.8	90 - 110		
Beryllium		0.0500	0.0488	mg/L	97.5	90 - 110		
Cadmium		0.0500	0.0485	mg/L	96.9	90 - 110		
Calcium		10.0	10.3	mg/L	103	90 - 110		
Chromium		0.500	0.497	mg/L	99.4	90 - 110		
Cobalt		0.200	0.200	mg/L	100	90 - 110		
Copper		0.500	0.501	mg/L	100	90 - 110		
Iron		4.00	3.97	mg/L	99.2	90 - 110		
Magnesium		10.0	9.90	mg/L	99.0	90 - 110		
Manganese		0.500	0.505	mg/L	101	90 - 110		
Nickel		0.500	0.499	mg/L	99.7	90 - 110		
Potassium		50.0	49.1	mg/L	98.2	90 - 110		
Silver		0.400	0.400	mg/L	100	90 - 110		
Sodium		50.0	50.2	mg/L	100	90 - 110		
Vanadium		1.00	0.996	mg/L	99.6	90 - 110		
Zinc		1.00	0.989	mg/L	98.9	90 - 110		

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008

PDF File ID: 2670651

Report generated 11/20/2012 07:13

Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12110393 Run Date: 11/19/2012 Sample ID: WG414710-16
Instrument ID: PE-ICP2 Run Time: 11:09 Method: 6010B
File ID: P2.111912.110928 Analyst: KHR QC Key: WATERLOO
Workgroup (AAB#): WG414521 Cal ID: PE-ICP - 19-NOV-12
Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Aluminum		10.0	9.58	mg/L	95.8	90 - 110		
Barium		1.00	0.972	mg/L	97.2	90 - 110		
Beryllium		0.0500	0.0480	mg/L	96.0	90 - 110		
Cadmium		0.0500	0.0471	mg/L	94.3	90 - 110		
Calcium		10.0	10.1	mg/L	101	90 - 110		
Chromium		0.500	0.483	mg/L	96.7	90 - 110		
Cobalt		0.200	0.194	mg/L	96.8	90 - 110		
Copper		0.500	0.490	mg/L	98.1	90 - 110		
Iron		4.00	3.87	mg/L	96.8	90 - 110		
Magnesium		10.0	9.77	mg/L	97.7	90 - 110		
Manganese		0.500	0.493	mg/L	98.6	90 - 110		
Nickel		0.500	0.485	mg/L	97.0	90 - 110		
Potassium		50.0	48.2	mg/L	96.3	90 - 110		
Silver		0.400	0.394	mg/L	98.4	90 - 110		
Sodium		50.0	48.0	mg/L	96.0	90 - 110		
Vanadium		1.00	0.972	mg/L	97.2	90 - 110		
Zinc		1.00	0.961	mg/L	96.1	90 - 110		

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008
PDF File ID: 2670651
Report generated 11/20/2012 07:13

Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12110393 Run Date: 11/19/2012 Sample ID: WG414710-20
Instrument ID: PE-ICP2 Run Time: 11:34 Method: 6010B
File ID: P2.111912.113415 Analyst: KHR QC Key: WATERLOO
Workgroup (AAB#): WG414521 Cal ID: PE-ICP - 19-NOV-12
Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Aluminum		10.0	9.91	mg/L	99.1	90 - 110		
Barium		1.00	1.01	mg/L	101	90 - 110		
Beryllium		0.0500	0.0497	mg/L	99.4	90 - 110		
Cadmium		0.0500	0.0489	mg/L	97.9	90 - 110		
Calcium		10.0	10.4	mg/L	104	90 - 110		
Chromium		0.500	0.504	mg/L	101	90 - 110		
Cobalt		0.200	0.201	mg/L	100	90 - 110		
Copper		0.500	0.506	mg/L	101	90 - 110		
Iron		4.00	4.01	mg/L	100	90 - 110		
Magnesium		10.0	10.1	mg/L	101	90 - 110		
Manganese		0.500	0.510	mg/L	102	90 - 110		
Nickel		0.500	0.504	mg/L	101	90 - 110		
Potassium		50.0	49.3	mg/L	98.7	90 - 110		
Silver		0.400	0.407	mg/L	102	90 - 110		
Sodium		50.0	49.8	mg/L	99.6	90 - 110		
Vanadium		1.00	1.01	mg/L	101	90 - 110		
Zinc		1.00	1.01	mg/L	101	90 - 110		

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008
PDF File ID: 2670651
Report generated 11/20/2012 07:13

Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12110393 Run Date: 11/19/2012 Sample ID: WG414710-32
Instrument ID: PE-ICP2 Run Time: 17:44 Method: 6010B
File ID: P2.111912.174451 Analyst: KHR QC Key: WATERLOO
Workgroup (AAB#): WG414521 Cal ID: PE-ICP - 19-NOV-12
Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Aluminum		10.0	9.96	mg/L	99.6	90 - 110		
Barium		1.00	1.01	mg/L	101	90 - 110		
Beryllium		0.0500	0.0489	mg/L	97.8	90 - 110		
Cadmium		0.0500	0.0477	mg/L	95.5	90 - 110		
Calcium		10.0	10.2	mg/L	102	90 - 110		
Chromium		0.500	0.500	mg/L	100	90 - 110		
Cobalt		0.200	0.201	mg/L	101	90 - 110		
Copper		0.500	0.500	mg/L	100	90 - 110		
Iron		4.00	4.02	mg/L	101	90 - 110		
Magnesium		10.0	10.1	mg/L	101	90 - 110		
Manganese		0.500	0.512	mg/L	102	90 - 110		
Nickel		0.500	0.502	mg/L	100	90 - 110		
Potassium		50.0	50.0	mg/L	99.9	90 - 110		
Silver		0.400	0.400	mg/L	100	90 - 110		
Sodium		50.0	49.6	mg/L	99.2	90 - 110		
Vanadium		1.00	1.01	mg/L	101	90 - 110		
Zinc		1.00	0.985	mg/L	98.5	90 - 110		

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008
PDF File ID: 2670651
Report generated 11/20/2012 07:13

Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12110393 Run Date: 11/19/2012 Sample ID: WG414710-37
Instrument ID: PE-ICP2 Run Time: 18:32 Method: 6010B
File ID: P2.111912.183223 Analyst: KHR QC Key: WATERLOO
Workgroup (AAB#): WG414521 Cal ID: PE-ICP - 19-NOV-12
Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Aluminum		10.0	9.76	mg/L	97.6	90 - 110		
Barium		1.00	1.01	mg/L	101	90 - 110		
Beryllium		0.0500	0.0488	mg/L	97.6	90 - 110		
Cadmium		0.0500	0.0477	mg/L	95.5	90 - 110		
Calcium		10.0	10.2	mg/L	102	90 - 110		
Chromium		0.500	0.497	mg/L	99.3	90 - 110		
Cobalt		0.200	0.202	mg/L	101	90 - 110		
Copper		0.500	0.491	mg/L	98.2	90 - 110		
Iron		4.00	3.97	mg/L	99.2	90 - 110		
Magnesium		10.0	10.0	mg/L	100	90 - 110		
Manganese		0.500	0.511	mg/L	102	90 - 110		
Nickel		0.500	0.502	mg/L	100	90 - 110		
Potassium		50.0	49.2	mg/L	98.4	90 - 110		
Silver		0.400	0.397	mg/L	99.4	90 - 110		
Sodium		50.0	48.3	mg/L	96.6	90 - 110		
Vanadium		1.00	1.00	mg/L	100	90 - 110		
Zinc		1.00	1.00	mg/L	100	90 - 110		

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008
PDF File ID: 2670651
Report generated 11/20/2012 07:13

Microbac Laboratories Inc.
INTERFERENCE CHECK SAMPLES

Login number: L12110393 **Workgroup (AAB#):** WG414521
Instrument ID: PE-ICP2 **Method:** 6010B
Sol. A : WG414710-10 **File ID:** P2.111912.081039 **Units:** mg/L
Sol. AB : WG414710-11 **File ID:** P2.111912.081635 **Matrix:** Water

	Sol. A			Sol. AB			
ANALYTE	True	Found	%Recovery	True	Found	%Recovery	Q
Aluminum	250	250	100	250	253	101	
Barium	NS	-0.00241	NS	0.250	0.242	96.8	
Beryllium	NS	0.0000300	NS	0.250	0.245	98.0	
Cadmium	NS	-0.000110	NS	0.500	0.447	89.4	
Calcium	250	260	104	250	267	107	
Chromium	NS	-0.000490	NS	0.250	0.242	96.8	
Cobalt	NS	-0.00210	NS	0.250	0.227	90.8	
Copper	NS	0.00325	NS	0.250	0.252	101	
Iron	100	93.8	93.8	100	94.8	94.8	
Magnesium	250	248	99.2	250	251	100	
Manganese	NS	-0.00324	NS	0.250	0.238	95.2	
Nickel	NS	-0.000570	NS	0.500	0.470	94.0	
Potassium	NS	-0.0261	NS	5.00	4.88	97.6	
Silver	NS	-0.0000600	NS	0.500	0.510	102	
Sodium	NS	0.0173	NS	5.00	5.05	101	
Vanadium	NS	-0.00190	NS	0.250	0.245	98.0	
Zinc	NS	-0.00181	NS	0.500	0.471	94.2	

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

ICS - Modified 03/06/2008
PDF File ID: 2670650
Report generated 11/20/2012 07:13

Microbac Laboratories Inc.
INTERFERENCE CHECK SAMPLES

Login number: L12110393 **Workgroup (AAB#):** WG414521
Instrument ID: PE-ICP2 **Method:** 6010B
Sol. A : WG414710-18 **File ID:** P2.111912.112222 **Units:** mg/L
Sol. AB : WG414710-19 **File ID:** P2.111912.112818 **Matrix:** Water

	Sol. A			Sol. AB			
ANALYTE	True	Found	%Recovery	True	Found	%Recovery	Q
Aluminum	250	253	101	250	248	99.2	
Barium	NS	-0.00238	NS	0.250	0.240	96.0	
Beryllium	NS	0.000500	NS	0.250	0.243	97.2	
Cadmium	NS	0.0000400	NS	0.500	0.444	88.8	
Calcium	250	267	107	250	264	106	
Chromium	NS	-0.000640	NS	0.250	0.240	96.0	
Cobalt	NS	-0.00218	NS	0.250	0.226	90.4	
Copper	NS	0.00329	NS	0.250	0.250	100	
Iron	100	95.8	95.8	100	93.4	93.4	
Magnesium	250	254	102	250	247	98.8	
Manganese	NS	-0.00209	NS	0.250	0.237	94.8	
Nickel	NS	-0.000400	NS	0.500	0.467	93.4	
Potassium	NS	-0.0108	NS	5.00	4.83	96.6	
Silver	NS	-0.000690	NS	0.500	0.504	101	
Sodium	NS	0.0546	NS	5.00	5.00	100	
Vanadium	NS	-0.00131	NS	0.250	0.241	96.4	
Zinc	NS	-0.00279	NS	0.500	0.464	92.8	

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

ICS - Modified 03/06/2008
PDF File ID: 2670650
Report generated 11/20/2012 07:13

Microbac Laboratories Inc.
INTERELEMENT CORRECTION FACTORS (ANNUALLY)

Login Number: L12110393 **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: 2670646
Report generated: 11/20/2012 07:13

Microbac Laboratories Inc.
INTERELEMENT CORRECTION FACTORS (ANNUALLY)

Login Number: L12110393 **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: 2670646
Report generated: 11/20/2012 07:13

Microbac Laboratories Inc.
INTERELEMENT CORRECTION FACTORS (ANNUALLY)

Login Number: L12110393 **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: 2670646
Report generated: 11/20/2012 07:13

Microbac Laboratories Inc.
INTERELEMENT CORRECTION FACTORS (ANNUALLY)

Login Number: L12110393 **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: 2670646
Report generated: 11/20/2012 07:13

Microbac Laboratories Inc.
INTERELEMENT CORRECTION FACTORS (ANNUALLY)

Login Number: L12110393 **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: 2670646
Report generated: 11/20/2012 07:13

Microbac Laboratories Inc.
INTERELEMENT CORRECTION FACTORS (ANNUALLY)

Login Number: L12110393 **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: 2670646
Report generated: 11/20/2012 07:13

Microbac Laboratories Inc.
LINEAR RANGE (QUARTERLY)

Login Number: L12110393 **Date:** 09/28/2012
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: 2670645
Report generated: 11/20/2012 07:13

2.2.1.3 Raw Data

==========

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

Results Data Set (original): 111912H
Results Library (original): C:\pe\peicp2\Results\Results.mdb
Results Data Set (reprocessed): 111912HR
Results Library (reprocessed): C:\pe\peicp2\Results\Results.mdb

==========

Sequence No.: 1 **Autosampler Location: 1**
Sample ID: S0 **Date Collected: 11/19/2012 7:11:10 AM**
Analyst: **Data Type: Reprocessed on 11/19/2012 8:37:49 AM**
Logged In Analyst (Original) : peicp2
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: S0

Analyte	Back Pressure	Flow
All	172.0 kPa	0.50 L/min

Mean Data: S0

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Calib Conc.	Units
Y 371.029	2435123.2	12278.78	0.50%		
YRADIAL	285420.0	4459.53	1.56%		
Ga 417.206	1188354.2	8587.45	0.72%		
GaRADIAL	75730.0	1213.22	1.60%		
Ag 328.068†	-224.1	145.62	64.99%	[0.00]	mg/L
Al 396.153†	-11.9	2.47	20.79%	[0.00]	mg/L
As 188.979†	-14.1	2.39	16.93%	[0.00]	mg/L
Ba 233.527†	-217.2	8.28	3.81%	[0.00]	mg/L
Be 234.861†	-2101.5	23.25	1.11%	[0.00]	mg/L
B 249.677†	162.7	21.74	13.37%	[0.00]	mg/L
Ca 227.546†	-108.6	8.40	7.74%	[0.00]	mg/L
Cd 228.802†	55.2	4.02	7.28%	[0.00]	mg/L
Co 228.616†	7.7	3.10	40.42%	[0.00]	mg/L
Cr 267.716†	226.4	8.54	3.77%	[0.00]	mg/L
Cu 327.393†	-691.6	83.56	12.08%	[0.00]	mg/L
Fe 239.562†	-0.7	3.82	565.63%	[0.00]	mg/L
Mg 279.077†	26.0	9.52	36.60%	[0.00]	mg/L
Mn 257.610†	898.5	33.26	3.70%	[0.00]	mg/L
Mo 202.031†	86.7	5.25	6.06%	[0.00]	mg/L
Ni 231.604†	-172.5	8.49	4.92%	[0.00]	mg/L
Pb 220.353†	-50.2	9.55	19.01%	[0.00]	mg/L
Sb 206.836†	17.0	0.83	4.91%	[0.00]	mg/L
Se 196.026†	20.2	3.02	14.93%	[0.00]	mg/L
Si 251.611†	516.0	16.30	3.16%	[0.00]	mg/L
Sn 189.927†	58.9	4.32	7.34%	[0.00]	mg/L
Ti 334.940†	599.7	110.45	18.42%	[0.00]	mg/L
Tl 190.801†	-72.0	0.50	0.69%	[0.00]	mg/L
V 290.880†	9090.2	266.05	2.93%	[0.00]	mg/L
Zn 206.200†	-20.8	0.58	2.77%	[0.00]	mg/L
K 766.490†	-96.6	72.20	74.72%	[0.00]	mg/L
Na 589.592†	1089.9	97.96	8.99%	[0.00]	mg/L
Sr 407.771†	-925.1	146.88	15.88%	[0.00]	mg/L
Li 670.784†	189.7	64.30	33.89%	[0.00]	mg/L

==========

Sequence No.: 2 **Autosampler Location: 2**
Sample ID: S1 **Date Collected: 11/19/2012 7:18:05 AM**
Analyst: **Data Type: Reprocessed on 11/19/2012 8:37:51 AM**
Logged In Analyst (Original) : peicp2
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: S1

Analyte	Back Pressure	Flow

Approved: November 20, 2012

Kym H. Rhoden

All	172.0 kPa	0.50 L/min

Mean Data: S1

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Calib Units
Y 371.029	2414823.2	30726.31	1.27%		
YRADIAL	278765.2	4646.51	1.67%		
Ga 417.206	1192045.3	17714.69	1.49%		
GaRADIAL	74056.4	2138.56	2.89%		
Ag 328.068†	1347.0	87.23	6.48%	[0.0040]	mg/L
Al 396.153†	681.1	9.93	1.46%	[0.10]	mg/L
Ba 233.527†	1525.7	8.14	0.53%	[0.010]	mg/L
Be 234.861†	588.4	50.45	8.57%	[0.0005]	mg/L
Cd 228.802†	19.2	6.93	36.01%	[0.00050]	mg/L
Co 228.616†	73.8	9.55	12.95%	[0.0020]	mg/L
Cr 267.716†	653.6	1.52	0.23%	[0.0050]	mg/L
Cu 327.393†	1466.3	70.66	4.82%	[0.0050]	mg/L
Fe 239.562†	391.9	6.17	1.57%	[0.040]	mg/L
Mg 279.077†	297.0	4.15	1.40%	[0.10]	mg/L
Mn 257.610†	4559.2	59.91	1.31%	[0.0050]	mg/L
Mo 202.031†	309.2	3.31	1.07%	[0.010]	mg/L
Ni 231.604†	323.0	10.90	3.37%	[0.0050]	mg/L
Pb 220.353†	52.2	5.03	9.65%	[0.0050]	mg/L
Sb 206.836†	41.7	2.26	5.41%	[0.012]	mg/L
Si 251.611†	2402.7	47.58	1.98%	[0.050]	mg/L
Sn 189.927†	91.7	8.03	8.76%	[0.010]	mg/L
Ti 334.940†	11070.5	89.05	0.80%	[0.010]	mg/L
V 290.880†	2128.1	92.45	4.34%	[0.010]	mg/L
Zn 206.200†	481.1	4.56	0.95%	[0.010]	mg/L
K 766.490†	1436.0	31.40	2.19%	[0.50]	mg/L
Na 589.592†	10374.4	448.34	4.32%	[0.50]	mg/L
Sr 407.771†	25258.3	386.47	1.53%	[0.010]	mg/L
Li 670.784†	1363.8	31.42	2.30%	[0.010]	mg/L

Sequence No.: 3 **Autosampler Location: 3**
Sample ID: S2 **Date Collected: 11/19/2012 7:25:00 AM**
Analyst: **Data Type: Reprocessed on 11/19/2012 8:37:52 AM**
Logged In Analyst (Original) : peicp2
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: S2

Analyte	Back Pressure	Flow
All	173.0 kPa	0.50 L/min

Mean Data: S2

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Calib Units
Y 371.029	2415217.6	10069.57	0.42%		
YRADIAL	286491.7	3348.57	1.17%		
Ga 417.206	1191810.6	8232.49	0.69%		
GaRADIAL	75620.7	1658.38	2.19%		
Ag 328.068†	2759.3	17.90	0.65%	[0.0080]	mg/L
Al 396.153†	1333.1	13.24	0.99%	[0.20]	mg/L
As 188.979†	22.4	4.09	18.23%	[0.0080]	mg/L
Ba 233.527†	3068.3	3.79	0.12%	[0.020]	mg/L
Be 234.861†	1121.0	21.52	1.92%	[0.0010]	mg/L
B 249.677†	868.5	7.32	0.84%	[0.010]	mg/L
Ca 227.546†	87.9	4.13	4.70%	[0.20]	mg/L
Cd 228.802†	42.6	7.25	17.04%	[0.0010]	mg/L
Co 228.616†	156.1	3.15	2.02%	[0.0040]	mg/L
Cr 267.716†	1362.6	9.87	0.72%	[0.010]	mg/L
Cu 327.393†	2824.6	25.84	0.91%	[0.010]	mg/L
Fe 239.562†	762.6	5.77	0.76%	[0.080]	mg/L
Mg 279.077†	563.7	8.04	1.43%	[0.20]	mg/L
Mn 257.610†	8676.9	106.77	1.23%	[0.010]	mg/L
Mo 202.031†	593.1	2.78	0.47%	[0.020]	mg/L
Ni 231.604†	637.5	12.72	2.00%	[0.010]	mg/L

Approved: November 20, 2012

Pb 220.353†	96.2	5.94	6.17%	[0.010] mg/L
Sb 206.836†	87.1	2.86	3.28%	[0.024] mg/L
Se 196.026†	11.6	1.07	9.27%	[0.0080] mg/L
Si 251.611†	4931.5	32.56	0.66%	[0.10] mg/L
Sn 189.927†	180.7	2.47	1.37%	[0.020] mg/L
Ti 334.940†	22373.1	305.83	1.37%	[0.020] mg/L
Tl 190.801†	22.2	5.81	26.15%	[0.010] mg/L
V 290.880†	4725.6	275.66	5.83%	[0.020] mg/L
Zn 206.200†	913.3	4.32	0.47%	[0.020] mg/L
K 766.490†	2928.0	64.94	2.22%	[1.00] mg/L
Na 589.592†	19892.7	415.65	2.09%	[1.00] mg/L
Sr 407.771†	50004.7	1152.34	2.30%	[0.020] mg/L
Li 670.784†	2711.7	45.73	1.69%	[0.020] mg/L

==========

Sequence No.: 4 **Autosampler Location: 4**
Sample ID: S3 **Date Collected: 11/19/2012 7:31:55 AM**
Analyst: **Data Type: Reprocessed on 11/19/2012 8:37:53 AM**
Logged In Analyst (Original) : peicp2
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: S3

Analyte	Back Pressure	Flow
All	172.0 kPa	0.50 L/min

Mean Data: S3

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Calib Conc.	Units
Y 371.029	2353652.5	13261.32	0.56%		
YRADIAL	280087.8	553.74	0.20%		
Ga 417.206	1162387.6	27810.13	2.39%		
GaRADIAL	72543.5	91.96	0.13%		
Ag 328.068†	131464.6	2908.02	2.21%	[0.40]	mg/L
Al 396.153†	66773.5	123.82	0.19%	[10.00]	mg/L
As 188.979†	1095.7	22.68	2.07%	[0.40]	mg/L
Ba 233.527†	148631.1	1198.98	0.81%	[1.00]	mg/L
Be 234.861†	55931.8	1320.88	2.36%	[0.05]	mg/L
B 249.677†	46290.1	874.59	1.89%	[0.50]	mg/L
Ca 227.546†	3783.5	112.76	2.98%	[10.00]	mg/L
Cd 228.802†	2252.3	82.26	3.65%	[0.05]	mg/L
Co 228.616†	7442.0	79.26	1.06%	[0.20]	mg/L
Cr 267.716†	65264.8	133.58	0.20%	[0.50]	mg/L
Cu 327.393†	135547.1	2121.79	1.57%	[0.50]	mg/L
Fe 239.562†	38470.8	16.24	0.04%	[4.00]	mg/L
Mg 279.077†	27894.1	172.76	0.62%	[10.00]	mg/L
Mn 257.610†	427553.4	6062.48	1.42%	[0.50]	mg/L
Mo 202.031†	29692.6	244.03	0.82%	[1.00]	mg/L
Ni 231.604†	30204.0	392.48	1.30%	[0.50]	mg/L
Pb 220.353†	5312.2	45.68	0.86%	[0.50]	mg/L
Sb 206.836†	4290.6	131.60	3.07%	[1.20]	mg/L
Se 196.026†	648.2	22.05	3.40%	[0.40]	mg/L
Si 251.611†	238941.6	2017.29	0.84%	[5.00]	mg/L
Sn 189.927†	9614.2	94.81	0.99%	[1.00]	mg/L
Ti 334.940†	1120215.7	5331.26	0.48%	[1.00]	mg/L
Tl 190.801†	1505.0	10.74	0.71%	[0.50]	mg/L
V 290.880†	231582.3	1165.80	0.50%	[1.00]	mg/L
Zn 206.200†	44902.1	312.70	0.70%	[1.00]	mg/L
K 766.490†	149095.7	761.23	0.51%	[50.00]	mg/L
Na 589.592†	985071.8	5743.02	0.58%	[50.00]	mg/L
Sr 407.771†	2422865.8	13334.21	0.55%	[1.00]	mg/L
Li 670.784†	135731.2	567.50	0.42%	[1.00]	mg/L

==========

Sequence No.: 5 **Autosampler Location: 5**
Sample ID: S4 **Date Collected: 11/19/2012 7:37:54 AM**
Analyst: **Data Type: Reprocessed on 11/19/2012 8:37:54 AM**
Logged In Analyst (Original) : peicp2
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Approved: November 20, 2012

Kim H. Rhoden

Nebulizer Parameters: S4

Analyte	Back Pressure	Flow
All	172.0 kPa	0.50 L/min

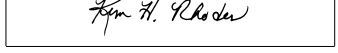
Mean Data: S4

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Calib Conc.	Units
Y 371.029	2317768.0	9062.09	0.39%		
YRADIAL	280874.6	1811.02	0.64%		
Ga 417.206	1148551.2	29239.32	2.55%		
GaRADIAL	73761.8	512.60	0.69%		
Ag 328.068†	259901.7	6284.21	2.42%	[0.80]	mg/L
Al 396.153†	132041.7	148.12	0.11%	[20.00]	mg/L
As 188.979†	2223.6	54.18	2.44%	[0.80]	mg/L
Ba 233.527†	293586.7	2166.65	0.74%	[2.00]	mg/L
Be 234.861†	111648.4	2273.88	2.04%	[0.10]	mg/L
B 249.677†	93800.2	2338.76	2.49%	[1.00]	mg/L
Ca 227.546†	7635.1	221.87	2.91%	[20.00]	mg/L
Cd 228.802†	4482.9	162.33	3.62%	[0.10]	mg/L
Co 228.616†	14630.4	69.61	0.48%	[0.40]	mg/L
Cr 267.716†	129487.0	358.66	0.28%	[1.00]	mg/L
Cu 327.393†	269084.1	6260.14	2.33%	[1.00]	mg/L
Fe 239.562†	76022.2	134.96	0.18%	[8.00]	mg/L
Mg 279.077†	55501.9	308.28	0.56%	[20.00]	mg/L
Mn 257.610†	830238.1	7531.22	0.91%	[1.00]	mg/L
Mo 202.031†	59077.5	381.34	0.65%	[2.00]	mg/L
Ni 231.604†	59173.6	658.21	1.11%	[1.00]	mg/L
Pb 220.353†	10443.3	12.80	0.12%	[1.00]	mg/L
Sb 206.836†	8584.3	263.54	3.07%	[2.40]	mg/L
Se 196.026†	1301.5	34.66	2.66%	[0.80]	mg/L
Si 251.611†	471416.1	6573.91	1.39%	[10.00]	mg/L
Sn 189.927†	19033.6	19.77	0.10%	[2.00]	mg/L
Ti 334.940†	2231324.5	2466.20	0.11%	[2.00]	mg/L
Tl 190.801†	2925.6	0.57	0.02%	[1.00]	mg/L
V 290.880†	456254.3	586.10	0.13%	[2.00]	mg/L
Zn 206.200†	88864.5	828.45	0.93%	[2.00]	mg/L
K 766.490†	295388.5	981.94	0.33%	[100.00]	mg/L
Na 589.592†	1923420.4	35351.51	1.84%	[100.00]	mg/L
Sr 407.771†	4755936.4	36041.03	0.76%	[2.00]	mg/L
Li 670.784†	265552.6	2000.77	0.75%	[2.00]	mg/L

Calibration Summary

Analyte	Stds.	Equation	Intercept	Slope	Curvature	Corr. Coef.	Reslope
Ag 328.068	4	Lin, Calc Int	253.5	325300	0.00000	0.999985	
Al 396.153	4	Lin, Calc Int	104.3	6611	0.00000	0.999985	
As 188.979	3	Wt. Lin	0.4	2759	0.00000	0.999972	
Ba 233.527	4	Lin, Calc Int	288.4	147000	0.00000	0.999982	
Be 234.861	4	Lin, Calc Int	24.3	1117000	0.00000	1.000000	
B 249.677	3	Lin, Calc Int	-142.6	93730	0.00000	0.999978	
Ca 227.546	3	Lin, Calc Int	-0.9	381.1	0.00000	0.999987	
Cd 228.802	4	Lin, Calc Int	-0.4	44880	0.00000	0.999997	
Co 228.616	4	Lin, Calc Int	19.0	36650	0.00000	0.999965	
Cr 267.716	4	Lin, Calc Int	88.0	129600	0.00000	0.999993	
Cu 327.393	4	Lin, Calc Int	204.9	269200	0.00000	0.999994	
Fe 239.562	4	Lin, Calc Int	61.7	9516	0.00000	0.999983	
Mg 279.077	4	Lin, Calc Int	26.6	2776	0.00000	0.999997	
Mn 257.610	4	Lin, Calc Int	1793.7	833000	0.00000	0.999896	
Mo 202.031	4	Lin, Calc Int	24.2	29550	0.00000	0.999997	
Ni 231.604	4	Lin, Calc Int	99.7	59300	0.00000	0.999950	
Pb 220.353	4	Lin, Calc Int	8.7	10470	0.00000	0.999963	
Sb 206.836	4	Lin, Calc Int	-0.2	3577	0.00000	1.000000	
Se 196.026	3	Wt. Lin	-1.4	1626	0.00000	0.999999	
Si 251.611	4	Lin, Calc Int	484.9	47210	0.00000	0.999978	
Sn 189.927	4	Lin, Calc Int	8.0	9531	0.00000	0.999987	
Ti 334.940	4	Lin, Calc Int	558.7	1116000	0.00000	0.999998	
Tl 190.801	3	Lin, Calc Int	4.5	2937	0.00000	0.999878	
V 290.880	4	Lin, Calc Int	433.1	228600	0.00000	0.999973	

Approved: November 20, 2012



Zn 206.200	4	Lin, Calc Int	77.8	44480	0.00000	0.999987
K 766.490	4	Non Lin, Calc Int	-50.4	3011	-0.56991	1.000000
Na 589.592	4	Non Lin, Calc Int	10.2	20170	-9.34021	1.000000
Sr 407.771	4	Lin, Calc Int	6819.7	2383000	0.00000	0.999959
Li 670.784	4	Lin, Calc Int	396.9	133100	0.00000	0.999942

Sequence No.: 6 **Autosampler Location: 11**
Sample ID: ICV 2nd Vendor **Date Collected: 11/19/2012 7:43:57 AM**
Analyst: **Data Type: Reprocessed on 11/19/2012 8:37:55 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	173.0 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	2343013.6						24585.86	1.05%
YRADIAL	284164.8						3998.82	1.41%
Ga 417.206	1156155.1						16586.37	1.43%
GaRADIAL	73532.2						898.66	1.22%
Ag 328.068†	134102.7	0.415	mg/L	0.0073	0.415	mg/L	0.0073	1.77%
QC value within limits for Ag 328.068 Recovery = 103.78%								
Al 396.153†	66661.9	10.0	mg/L	0.06	10.0	mg/L	0.06	0.55%
QC value within limits for Al 396.153 Recovery = 100.00%								
As 188.979†	1114.8	0.399	mg/L	0.0068	0.399	mg/L	0.0068	1.70%
QC value within limits for As 188.979 Recovery = 99.77%								
Ba 233.527†	149867.6	1.02	mg/L	0.016	1.02	mg/L	0.016	1.60%
QC value within limits for Ba 233.527 Recovery = 101.78%								
Be 234.861†	56398.7	0.0501	mg/L	0.00054	0.0501	mg/L	0.00054	1.08%
QC value within limits for Be 234.861 Recovery = 100.10%								
B 249.677†	47237.5	0.502	mg/L	0.0110	0.502	mg/L	0.0110	2.20%
QC value within limits for B 249.677 Recovery = 100.32%								
Ca 227.546†	3818.4	10.5	mg/L	0.17	10.5	mg/L	0.17	1.61%
QC value within limits for Ca 227.546 Recovery = 104.92%								
Cd 228.802†	2261.2	0.0490	mg/L	0.00164	0.0490	mg/L	0.00164	3.34%
QC value within limits for Cd 228.802 Recovery = 98.03%								
Co 228.616†	7538.8	0.204	mg/L	0.0036	0.204	mg/L	0.0036	1.75%
QC value within limits for Co 228.616 Recovery = 102.16%								
Cr 267.716†	66138.0	0.510	mg/L	0.0047	0.510	mg/L	0.0047	0.92%
QC value within limits for Cr 267.716 Recovery = 102.02%								
Cu 327.393†	137404.7	0.511	mg/L	0.0107	0.511	mg/L	0.0107	2.08%
QC value within limits for Cu 327.393 Recovery = 102.27%								
Fe 239.562†	38142.1	4.00	mg/L	0.046	4.00	mg/L	0.046	1.15%
QC value within limits for Fe 239.562 Recovery = 100.02%								
Mg 279.077†	27787.2	10.0	mg/L	0.15	10.0	mg/L	0.15	1.54%
QC value within limits for Mg 279.077 Recovery = 100.15%								
Mn 257.610†	434917.5	0.520	mg/L	0.0102	0.520	mg/L	0.0102	1.95%
QC value within limits for Mn 257.610 Recovery = 104.09%								
Mo 202.031†	29273.0	0.990	mg/L	0.0114	0.990	mg/L	0.0114	1.15%
QC value within limits for Mo 202.031 Recovery = 99.04%								
Ni 231.604†	30686.7	0.515	mg/L	0.0082	0.515	mg/L	0.0082	1.60%
QC value within limits for Ni 231.604 Recovery = 103.09%								
Pb 220.353†	5357.4	0.512	mg/L	0.0069	0.512	mg/L	0.0069	1.36%
QC value within limits for Pb 220.353 Recovery = 102.46%								
Sb 206.836†	4446.9	1.24	mg/L	0.029	1.24	mg/L	0.029	2.37%
QC value within limits for Sb 206.836 Recovery = 103.51%								
Se 196.026†	666.1	0.412	mg/L	0.0098	0.412	mg/L	0.0098	2.38%
QC value within limits for Se 196.026 Recovery = 102.98%								
Si 251.611†	240146.5	5.07	mg/L	0.028	5.07	mg/L	0.028	0.55%
QC value within limits for Si 251.611 Recovery = 101.31%								
Sn 189.927†	9864.8	1.03	mg/L	0.016	1.03	mg/L	0.016	1.53%
QC value within limits for Sn 189.927 Recovery = 103.41%								
Ti 334.940†	1134705.1	1.02	mg/L	0.008	1.02	mg/L	0.008	0.77%
QC value within limits for Ti 334.940 Recovery = 101.74%								
Tl 190.801†	1523.5	0.532	mg/L	0.0059	0.532	mg/L	0.0059	1.12%

Approved: November 20, 2012

QC value greater than the upper limit for Tl 190.801 Recovery = 106.37%

V 290.880†	231613.4	1.01 mg/L	0.008	1.01 mg/L	0.008	0.83%
QC value within limits for V 290.880 Recovery = 101.07%						
Zn 206.200†	45579.0	1.03 mg/L	0.016	1.03 mg/L	0.016	1.56%
QC value within limits for Zn 206.200 Recovery = 102.75%						
K 766.490†	147215.7	49.3 mg/L	0.48	49.3 mg/L	0.48	0.98%
QC value within limits for K 766.490 Recovery = 98.63%						
Na 589.592†	974781.2	49.5 mg/L	0.81	49.5 mg/L	0.81	1.65%
QC value within limits for Na 589.592 Recovery = 98.93%						
Sr 407.771†	2407620.6	1.01 mg/L	0.019	1.01 mg/L	0.019	1.88%
QC value within limits for Sr 407.771 Recovery = 100.73%						
Li 670.784†	136541.5	1.02 mg/L	0.011	1.02 mg/L	0.011	1.10%
QC value within limits for Li 670.784 Recovery = 102.27%						

QC Failed. Continue with analysis.

==========

Sequence No.: 7 **Autosampler Location: 1**
Sample ID: ICB **Date Collected: 11/19/2012 7:49:55 AM**
Analyst: **Data Type: Reprocessed on 11/19/2012 8:37:56 AM**
Logged In Analyst (Original) : peicp2
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: ICB

Analyte	Back Pressure	Flow
All	173.0 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	2458707.5						26653.02	1.08%
YRADIAL	287384.0						2979.33	1.04%
Ga 417.206	1224155.5						13000.54	1.06%
GaRADIAL	76700.1						1334.31	1.74%
Ag 328.068†	40.6	-0.00066	mg/L	0.000470	-0.00066	mg/L	0.000470	71.12%
QC value within limits for Ag 328.068 Recovery = Not calculated								
Al 396.153†	-3.3	-0.0162	mg/L	0.00226	-0.0162	mg/L	0.00226	13.94%
QC value within limits for Al 396.153 Recovery = Not calculated								
As 188.979†	-0.5	-0.00031	mg/L	0.002573	-0.00031	mg/L	0.002573	837.89%
QC value within limits for As 188.979 Recovery = Not calculated								
Ba 233.527†	18.0	-0.00184	mg/L	0.000120	-0.00184	mg/L	0.000120	6.53%
QC value within limits for Ba 233.527 Recovery = Not calculated								
Be 234.861†	82.0	0.00005	mg/L	0.000021	0.00005	mg/L	0.000021	40.39%
QC value within limits for Be 234.861 Recovery = Not calculated								
B 249.677†	452.7	0.00635	mg/L	0.000341	0.00635	mg/L	0.000341	5.36%
QC value within limits for B 249.677 Recovery = Not calculated								
Ca 227.546†	13.0	0.0353	mg/L	0.01357	0.0353	mg/L	0.01357	38.44%
QC value within limits for Ca 227.546 Recovery = Not calculated								
Cd 228.802†	4.0	0.00010	mg/L	0.000117	0.00010	mg/L	0.000117	119.39%
QC value within limits for Cd 228.802 Recovery = Not calculated								
Co 228.616†	0.1	-0.00052	mg/L	0.000103	-0.00052	mg/L	0.000103	20.01%
QC value within limits for Co 228.616 Recovery = Not calculated								
Cr 267.716†	-11.5	-0.00077	mg/L	0.000098	-0.00077	mg/L	0.000098	12.79%
QC value within limits for Cr 267.716 Recovery = Not calculated								
Cu 327.393†	128.0	-0.00029	mg/L	0.000168	-0.00029	mg/L	0.000168	58.48%
QC value within limits for Cu 327.393 Recovery = Not calculated								
Fe 239.562†	18.4	-0.00455	mg/L	0.000415	-0.00455	mg/L	0.000415	9.11%
QC value within limits for Fe 239.562 Recovery = Not calculated								
Mg 279.077†	1.5	-0.00906	mg/L	0.003752	-0.00906	mg/L	0.003752	41.43%
QC value within limits for Mg 279.077 Recovery = Not calculated								
Mn 257.610†	163.6	-0.00196	mg/L	0.000004	-0.00196	mg/L	0.000004	0.18%
QC value within limits for Mn 257.610 Recovery = Not calculated								
Mo 202.031†	-1.4	-0.00087	mg/L	0.000084	-0.00087	mg/L	0.000084	9.65%
QC value within limits for Mo 202.031 Recovery = Not calculated								
Ni 231.604†	9.5	-0.00152	mg/L	0.000231	-0.00152	mg/L	0.000231	15.19%
QC value within limits for Ni 231.604 Recovery = Not calculated								
Pb 220.353†	-3.9	-0.00121	mg/L	0.001027	-0.00121	mg/L	0.001027	85.08%
QC value within limits for Pb 220.353 Recovery = Not calculated								
Sb 206.836†	1.2	0.00038	mg/L	0.000582	0.00038	mg/L	0.000582	152.86%
QC value within limits for Sb 206.836 Recovery = Not calculated								

Approved: November 20, 2012

Kim H. Rhoden

```
Se 196.026†               4.8     0.00386 mg/L      0.002914     0.00386 mg/L      0.002914  75.55%
   QC value within limits for Se 196.026  Recovery = Not calculated
Si 251.611†              62.1    -0.00895 mg/L      0.000445    -0.00895 mg/L      0.000445   4.97%
   QC value within limits for Si 251.611  Recovery = Not calculated
Sn 189.927†               3.6    -0.00047 mg/L      0.000104    -0.00047 mg/L      0.000104  22.16%
   QC value within limits for Sn 189.927  Recovery = Not calculated
Ti 334.940†              10.7    -0.00049 mg/L      0.000185    -0.00049 mg/L      0.000185  38.14%
   QC value within limits for Ti 334.940  Recovery = Not calculated
Tl 190.801†              -1.2    -0.00194 mg/L      0.001961    -0.00194 mg/L      0.001961 100.94%
   QC value within limits for Tl 190.801  Recovery = Not calculated
V 290.880†              -58.3    -0.00215 mg/L      0.000784    -0.00215 mg/L      0.000784  36.47%
   QC value within limits for V 290.880  Recovery = Not calculated
Zn 206.200†               8.1    -0.00157 mg/L      0.000196    -0.00157 mg/L      0.000196  12.48%
   QC value within limits for Zn 206.200  Recovery = Not calculated
K 766.490†              131.7      0.0604 mg/L       0.01468      0.0604 mg/L       0.01468  24.28%
   QC value within limits for K 766.490  Recovery = Not calculated
Na 589.592†             339.2      0.0163 mg/L       0.00604      0.0163 mg/L       0.00604  37.04%
   QC value within limits for Na 589.592  Recovery = Not calculated
Sr 407.771†              81.8    -0.00283 mg/L      0.000030    -0.00283 mg/L      0.000030   1.05%
   QC value within limits for Sr 407.771  Recovery = Not calculated
Li 670.784†              46.3    -0.00263 mg/L      0.000337    -0.00263 mg/L      0.000337  12.80%
   QC value within limits for Li 670.784  Recovery = Not calculated
All analyte(s) passed QC.
```

==========

Sequence No.: 8 **Autosampler Location: 14**
Sample ID: LLICV **Date Collected: 11/19/2012 7:56:49 AM**
Analyst: KHR **Data Type: Reprocessed on 11/19/2012 8:37:57 AM**
Logged In Analyst (Original) : peicp2
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: LLICV

Analyte	Back Pressure	Flow
All	172.0 kPa	0.50 L/min

Mean Data: LLICV

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2428570.0						2234.92	0.09%
YRADIAL	285488.0						4760.24	1.67%
Ga 417.206	1186244.3						28020.95	2.36%
GaRADIAL	75794.9						2491.42	3.29%
Ag 328.068†	1342.6	0.00338	mg/L	0.000292	0.00338	mg/L	0.000292	8.63%
Al 396.153†	664.3	0.0841	mg/L	0.00134	0.0841	mg/L	0.00134	1.60%
As 188.979†	7.0	0.00237	mg/L	0.001246	0.00237	mg/L	0.001246	52.61%
Ba 233.527†	1508.5	0.00830	mg/L	0.000194	0.00830	mg/L	0.000194	2.34%
Be 234.861†	553.5	0.00047	mg/L	0.000006	0.00047	mg/L	0.000006	1.25%
B 249.677†	632.8	0.00824	mg/L	0.000362	0.00824	mg/L	0.000362	4.39%
Ca 227.546†	47.9	0.131	mg/L	0.0258	0.131	mg/L	0.0258	19.66%
Cd 228.802†	23.5	0.00052	mg/L	0.000186	0.00052	mg/L	0.000186	35.46%
Co 228.616†	75.3	0.00153	mg/L	0.000384	0.00153	mg/L	0.000384	25.13%
Cr 267.716†	664.9	0.00446	mg/L	0.000090	0.00446	mg/L	0.000090	2.02%
Cu 327.393†	1510.4	0.00486	mg/L	0.000417	0.00486	mg/L	0.000417	8.58%
Fe 239.562†	386.3	0.0341	mg/L	0.00139	0.0341	mg/L	0.00139	4.09%
Mg 279.077†	278.2	0.0907	mg/L	0.00336	0.0907	mg/L	0.00336	3.70%
Mn 257.610†	4905.1	0.00374	mg/L	0.000014	0.00374	mg/L	0.000014	0.38%
Mo 202.031†	289.6	0.00899	mg/L	0.000295	0.00899	mg/L	0.000295	3.28%
Ni 231.604†	310.1	0.00355	mg/L	0.000269	0.00355	mg/L	0.000269	7.59%
Pb 220.353†	44.2	0.00340	mg/L	0.000886	0.00340	mg/L	0.000886	26.05%
Sb 206.836†	42.7	0.0120	mg/L	0.00063	0.0120	mg/L	0.00063	5.29%
Se 196.026†	15.1	0.0102	mg/L	0.00396	0.0102	mg/L	0.00396	38.89%
Si 251.611†	2579.0	0.0443	mg/L	0.00183	0.0443	mg/L	0.00183	4.14%
Sn 189.927†	84.7	0.00804	mg/L	0.000856	0.00804	mg/L	0.000856	10.64%
Ti 334.940†	11031.4	0.00940	mg/L	0.000098	0.00940	mg/L	0.000098	1.04%
Tl 190.801†	9.7	0.00190	mg/L	0.001261	0.00190	mg/L	0.001261	66.36%
V 290.880†	2511.6	0.00909	mg/L	0.001017	0.00909	mg/L	0.001017	11.19%
Zn 206.200†	589.7	0.0115	mg/L	0.00057	0.0115	mg/L	0.00057	4.92%
K 766.490†	1412.3	0.485	mg/L	0.0250	0.485	mg/L	0.0250	5.14%
Na 589.592†	11207.6	0.555	mg/L	0.0180	0.555	mg/L	0.0180	3.25%

Approved: November 20, 2012

Kim H. Rhoden

Sr 407.771†	24726.7	0.00751 mg/L	0.000234	0.00751 mg/L	0.000234	3.11%
Li 670.784†	1361.4	0.00725 mg/L	0.000208	0.00725 mg/L	0.000208	2.87%

Sequence No.: 9 **Autosampler Location: 15**
Sample ID: LLICV **Date Collected: 11/19/2012 8:03:44 AM**
Analyst: KHR **Data Type: Reprocessed on 11/19/2012 8:37:59 AM**
Logged In Analyst (Original) : peicp2
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: LLICV

Analyte	Back Pressure	Flow
All	173.0 kPa	0.50 L/min

Mean Data: LLICV

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2399665.8						20297.31	0.85%
YRADIAL	282656.2						4580.87	1.62%
Ga 417.206	1182358.7						9850.25	0.83%
GaRADIAL	74280.5						2600.34	3.50%
Ag 328.068†	2641.5	0.00741	mg/L	0.000296	0.00741	mg/L	0.000296	3.99%
Al 396.153†	1354.6	0.188	mg/L	0.0047	0.188	mg/L	0.0047	2.51%
As 188.979†	21.6	0.00760	mg/L	0.001650	0.00760	mg/L	0.001650	21.71%
Ba 233.527†	3044.3	0.0188	mg/L	0.00025	0.0188	mg/L	0.00025	1.34%
Be 234.861†	1115.4	0.00097	mg/L	0.000033	0.00097	mg/L	0.000033	3.43%
B 249.677†	1294.7	0.0153	mg/L	0.00048	0.0153	mg/L	0.00048	3.14%
Ca 227.546†	91.1	0.250	mg/L	0.0033	0.250	mg/L	0.0033	1.33%
Cd 228.802†	47.6	0.00104	mg/L	0.000031	0.00104	mg/L	0.000031	2.94%
Co 228.616†	148.9	0.00353	mg/L	0.000217	0.00353	mg/L	0.000217	6.16%
Cr 267.716†	1345.6	0.00971	mg/L	0.000203	0.00971	mg/L	0.000203	2.09%
Cu 327.393†	2689.9	0.00926	mg/L	0.000217	0.00926	mg/L	0.000217	2.34%
Fe 239.562†	793.0	0.0768	mg/L	0.00266	0.0768	mg/L	0.00266	3.46%
Mg 279.077†	560.0	0.192	mg/L	0.0055	0.192	mg/L	0.0055	2.88%
Mn 257.610†	8735.1	0.00834	mg/L	0.000150	0.00834	mg/L	0.000150	1.80%
Mo 202.031†	605.0	0.0197	mg/L	0.00019	0.0197	mg/L	0.00019	0.94%
Ni 231.604†	622.1	0.00880	mg/L	0.000135	0.00880	mg/L	0.000135	1.54%
Pb 220.353†	92.2	0.00801	mg/L	0.001204	0.00801	mg/L	0.001204	15.04%
Sb 206.836†	81.0	0.0227	mg/L	0.00169	0.0227	mg/L	0.00169	7.47%
Se 196.026†	21.3	0.0140	mg/L	0.00334	0.0140	mg/L	0.00334	23.81%
Si 251.611†	5023.5	0.0959	mg/L	0.00110	0.0959	mg/L	0.00110	1.15%
Sn 189.927†	190.8	0.0192	mg/L	0.00061	0.0192	mg/L	0.00061	3.17%
Ti 334.940†	22209.9	0.0194	mg/L	0.00011	0.0194	mg/L	0.00011	0.55%
Tl 190.801†	27.5	0.00812	mg/L	0.001449	0.00812	mg/L	0.001449	17.84%
V 290.880†	5013.5	0.0200	mg/L	0.00064	0.0200	mg/L	0.00064	3.21%
Zn 206.200†	1005.0	0.0209	mg/L	0.00026	0.0209	mg/L	0.00026	1.22%
K 766.490†	2921.1	0.986	mg/L	0.0182	0.986	mg/L	0.0182	1.84%
Na 589.592†	21006.8	1.04	mg/L	0.047	1.04	mg/L	0.047	4.48%
Sr 407.771†	50844.9	0.0185	mg/L	0.00030	0.0185	mg/L	0.00030	1.61%
Li 670.784†	2820.5	0.0182	mg/L	0.00105	0.0182	mg/L	0.00105	5.79%

Sequence No.: 10 **Autosampler Location: 12**
Sample ID: ICSA **Date Collected: 11/19/2012 8:10:39 AM**
Analyst: **Data Type: Reprocessed on 11/19/2012 8:38:00 AM**
Logged In Analyst (Original) : peicp2
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: ICSA

Analyte	Back Pressure	Flow
All	173.0 kPa	0.50 L/min

Mean Data: ICSA

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2198082.6						16468.87	0.75%

Approved: November 20, 2012

Kym H. Rhoden

YRADIAL	275447.9					4464.08	1.62%
Ga 417.206	1150819.9					10244.64	0.89%
GaRADIAL	73304.5					1226.88	1.67%
Ag 328.068†	-13712.8	-0.00006 mg/L	0.002304	-0.00006 mg/L	0.002304	>999.9%	
QC value within limits for Ag 328.068 Recovery = Not calculated							
Al 396.153†	1653792.8	250 mg/L	5.8	250 mg/L	5.8	2.33%	
QC value within limits for Al 396.153 Recovery = 100.06%							
As 188.979†	5.4	0.00740 mg/L	0.002852	0.00740 mg/L	0.002852	38.55%	
QC value within limits for As 188.979 Recovery = Not calculated							
Ba 233.527†	748.4	-0.00241 mg/L	0.000168	-0.00241 mg/L	0.000168	6.99%	
QC value within limits for Ba 233.527 Recovery = Not calculated							
Be 234.861†	22994.2	0.00003 mg/L	0.000596	0.00003 mg/L	0.000596	>999.9%	
QC value within limits for Be 234.861 Recovery = Not calculated							
B 249.677†	5844.1	0.0235 mg/L	0.00310	0.0235 mg/L	0.00310	13.18%	
QC value within limits for B 249.677 Recovery = Not calculated							
Ca 227.546†	98278.6	260 mg/L	4.6	260 mg/L	4.6	1.76%	
QC value within limits for Ca 227.546 Recovery = 104.05%							
Cd 228.802†	-1.1	-0.00010 mg/L	0.000217	-0.00010 mg/L	0.000217	207.21%	
QC value within limits for Cd 228.802 Recovery = Not calculated							
Co 228.616†	29.3	-0.00210 mg/L	0.000232	-0.00210 mg/L	0.000232	11.01%	
QC value within limits for Co 228.616 Recovery = Not calculated							
Cr 267.716†	127.6	-0.00049 mg/L	0.000213	-0.00049 mg/L	0.000213	43.18%	
QC value within limits for Cr 267.716 Recovery = Not calculated							
Cu 327.393†	-1563.9	0.00325 mg/L	0.000253	0.00325 mg/L	0.000253	7.79%	
QC value within limits for Cu 327.393 Recovery = Not calculated							
Fe 239.562†	892459.9	93.8 mg/L	1.74	93.8 mg/L	1.74	1.85%	
QC value within limits for Fe 239.562 Recovery = 93.77%							
Mg 279.077†	687419.0	248 mg/L	4.7	248 mg/L	4.7	1.89%	
QC value within limits for Mg 279.077 Recovery = 99.02%							
Mn 257.610†	-1095.7	-0.00324 mg/L	0.000436	-0.00324 mg/L	0.000436	13.45%	
QC value within limits for Mn 257.610 Recovery = Not calculated							
Mo 202.031†	-52.8	0.00199 mg/L	0.000674	0.00199 mg/L	0.000674	33.80%	
QC value within limits for Mo 202.031 Recovery = Not calculated							
Ni 231.604†	65.4	-0.00057 mg/L	0.000581	-0.00057 mg/L	0.000581	102.08%	
QC value within limits for Ni 231.604 Recovery = Not calculated							
Pb 220.353†	-393.3	0.00001 mg/L	0.002150	0.00001 mg/L	0.002150	>999.9%	
QC value within limits for Pb 220.353 Recovery = Not calculated							
Sb 206.836†	-12.7	-0.00006 mg/L	0.003067	-0.00006 mg/L	0.003067	>999.9%	
QC value within limits for Sb 206.836 Recovery = Not calculated							
Se 196.026†	-38.8	0.00342 mg/L	0.000960	0.00342 mg/L	0.000960	28.04%	
QC value within limits for Se 196.026 Recovery = Not calculated							
Si 251.611†	7877.9	0.157 mg/L	0.0013	0.157 mg/L	0.0013	0.85%	
QC value within limits for Si 251.611 Recovery = Not calculated							
Sn 189.927†	-359.0	-0.0385 mg/L	0.00022	-0.0385 mg/L	0.00022	0.57%	
QC value within limits for Sn 189.927 Recovery = Not calculated							
Ti 334.940†	-39706.0	0.00261 mg/L	0.002464	0.00261 mg/L	0.002464	94.54%	
QC value within limits for Ti 334.940 Recovery = Not calculated							
Tl 190.801†	-64.0	-0.0170 mg/L	0.00645	-0.0170 mg/L	0.00645	38.01%	
QC value within limits for Tl 190.801 Recovery = Not calculated							
V 290.880†	2777.6	-0.00190 mg/L	0.000701	-0.00190 mg/L	0.000701	36.91%	
QC value within limits for V 290.880 Recovery = Not calculated							
Zn 206.200†	378.5	-0.00181 mg/L	0.000079	-0.00181 mg/L	0.000079	4.34%	
QC value within limits for Zn 206.200 Recovery = Not calculated							
K 766.490†	-128.9	-0.0261 mg/L	0.02549	-0.0261 mg/L	0.02549	97.71%	
QC value within limits for K 766.490 Recovery = Not calculated							
Na 589.592†	359.8	0.0173 mg/L	0.00702	0.0173 mg/L	0.00702	40.51%	
QC value within limits for Na 589.592 Recovery = Not calculated							
Sr 407.771†	2583.8	-0.00688 mg/L	0.000075	-0.00688 mg/L	0.000075	1.09%	
QC value within limits for Sr 407.771 Recovery = Not calculated							
Li 670.784†	84.5	-0.00235 mg/L	0.000293	-0.00235 mg/L	0.000293	12.47%	
QC value within limits for Li 670.784 Recovery = Not calculated							

All analyte(s) passed QC.

==========

Sequence No.: 11 **Autosampler Location: 13**
Sample ID: ICSAB **Date Collected: 11/19/2012 8:16:35 AM**
Analyst: **Data Type: Reprocessed on 11/19/2012 8:38:01 AM**
Logged In Analyst (Original) : peicp2
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Approved: November 20, 2012

Nebulizer Parameters: ICSAB

Analyte	Back Pressure	Flow
All	172.0 kPa	0.50 L/min

Mean Data: ICSAB

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2199935.9						24353.09	1.11%
YRADIAL	275286.7						4908.08	1.78%
Ga 417.206	1137294.0						19615.22	1.72%
GaRADIAL	73084.5						889.07	1.22%
Ag 328.068†	151840.9	0.510	mg/L	0.0131	0.510	mg/L	0.0131	2.56%
QC value within limits for Ag 328.068 Recovery = 101.97%								
Al 396.153†	1669572.3	253	mg/L	5.0	253	mg/L	5.0	1.98%
QC value within limits for Al 396.153 Recovery = 101.02%								
As 188.979†	636.5	0.236	mg/L	0.0059	0.236	mg/L	0.0059	2.51%
QC value within limits for As 188.979 Recovery = 94.53%								
Ba 233.527†	36728.0	0.242	mg/L	0.0019	0.242	mg/L	0.0019	0.79%
QC value within limits for Ba 233.527 Recovery = 96.91%								
Be 234.861†	297007.2	0.245	mg/L	0.0041	0.245	mg/L	0.0041	1.67%
QC value within limits for Be 234.861 Recovery = 98.10%								
B 249.677†	4374.8	-0.00506	mg/L	0.004211	-0.00506	mg/L	0.004211	83.17%
QC value within limits for B 249.677 Recovery = Not calculated								
Ca 227.546†	100633.1	267	mg/L	7.2	267	mg/L	7.2	2.71%
QC value within limits for Ca 227.546 Recovery = 106.67%								
Cd 228.802†	20084.7	0.447	mg/L	0.0045	0.447	mg/L	0.0045	1.00%
QC value within limits for Cd 228.802 Recovery = 89.43%								
Co 228.616†	8440.0	0.227	mg/L	0.0040	0.227	mg/L	0.0040	1.77%
QC value within limits for Co 228.616 Recovery = 90.92%								
Cr 267.716†	31537.6	0.242	mg/L	0.0013	0.242	mg/L	0.0013	0.55%
QC value within limits for Cr 267.716 Recovery = 96.81%								
Cu 327.393†	65361.4	0.252	mg/L	0.0059	0.252	mg/L	0.0059	2.34%
QC value within limits for Cu 327.393 Recovery = 100.77%								
Fe 239.562†	901922.8	94.8	mg/L	1.58	94.8	mg/L	1.58	1.67%
QC value within limits for Fe 239.562 Recovery = 94.76%								
Mg 279.077†	695827.4	251	mg/L	4.7	251	mg/L	4.7	1.86%
QC value within limits for Mg 279.077 Recovery = 100.23%								
Mn 257.610†	199910.6	0.238	mg/L	0.0017	0.238	mg/L	0.0017	0.73%
QC value within limits for Mn 257.610 Recovery = 95.26%								
Mo 202.031†	-60.9	0.00194	mg/L	0.000954	0.00194	mg/L	0.000954	49.22%
QC value within limits for Mo 202.031 Recovery = Not calculated								
Ni 231.604†	28009.9	0.470	mg/L	0.0076	0.470	mg/L	0.0076	1.62%
QC value within limits for Ni 231.604 Recovery = 94.05%								
Pb 220.353†	4574.6	0.475	mg/L	0.0090	0.475	mg/L	0.0090	1.91%
QC value within limits for Pb 220.353 Recovery = 94.91%								
Sb 206.836†	1728.5	0.485	mg/L	0.0131	0.485	mg/L	0.0131	2.70%
QC value within limits for Sb 206.836 Recovery = 97.07%								
Se 196.026†	349.1	0.242	mg/L	0.0089	0.242	mg/L	0.0089	3.66%
QC value within limits for Se 196.026 Recovery = 96.96%								
Si 251.611†	-246.1	-0.0155	mg/L	0.00073	-0.0155	mg/L	0.00073	4.72%
QC value within limits for Si 251.611 Recovery = Not calculated								
Sn 189.927†	-348.2	-0.0374	mg/L	0.00180	-0.0374	mg/L	0.00180	4.81%
QC value within limits for Sn 189.927 Recovery = Not calculated								
Ti 334.940†	-39641.0	0.00352	mg/L	0.003115	0.00352	mg/L	0.003115	88.51%
QC value within limits for Ti 334.940 Recovery = Not calculated								
Tl 190.801†	1377.2	0.474	mg/L	0.0093	0.474	mg/L	0.0093	1.96%
QC value within limits for Tl 190.801 Recovery = 94.81%								
V 290.880†	59238.8	0.245	mg/L	0.0013	0.245	mg/L	0.0013	0.51%
QC value within limits for V 290.880 Recovery = 97.98%								
Zn 206.200†	21287.3	0.471	mg/L	0.0059	0.471	mg/L	0.0059	1.25%
QC value within limits for Zn 206.200 Recovery = 94.10%								
K 766.490†	14650.2	4.88	mg/L	0.035	4.88	mg/L	0.035	0.72%
QC value within limits for K 766.490 Recovery = 97.62%								
Na 589.592†	101719.8	5.05	mg/L	0.023	5.05	mg/L	0.023	0.46%
QC value within limits for Na 589.592 Recovery = 101.10%								
Sr 407.771†	2507.3	-0.00704	mg/L	0.000158	-0.00704	mg/L	0.000158	2.25%
QC value within limits for Sr 407.771 Recovery = Not calculated								
Li 670.784†	156.9	-0.00180	mg/L	0.000303	-0.00180	mg/L	0.000303	16.84%
QC value within limits for Li 670.784 Recovery = Not calculated								

All analyte(s) passed QC.

Approved: November 20, 2012

Kim H. Rhoden

Sequence No.: 12 Autosampler Location: 6
Sample ID: CCV Date Collected: 11/19/2012 8:22:31 AM
Analyst: Data Type: Reprocessed on 11/19/2012 8:38:02 AM
Logged In Analyst (Original) : peicp2
Initial Sample Wt: Initial Sample Vol:
Dilution: Sample Prep Vol:

Nebulizer Parameters: CCV

Analyte	Back Pressure	Flow
All	173.0 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	2331311.6						23950.97	1.03%
YRADIAL	279566.2						2325.84	0.83%
Ga 417.206	1146793.8						16017.32	1.40%
GaRADIAL	72284.5						343.06	0.47%
Ag 328.068†	131251.1	0.406	mg/L	0.0060	0.406	mg/L	0.0060	1.47%
QC value within limits for Ag 328.068 Recovery = 101.60%								
Al 396.153†	66843.3	10.0	mg/L	0.01	10.0	mg/L	0.01	0.12%
QC value within limits for Al 396.153 Recovery = 100.27%								
As 188.979†	1110.6	0.398	mg/L	0.0057	0.398	mg/L	0.0057	1.42%
QC value within limits for As 188.979 Recovery = 99.38%								
Ba 233.527†	148594.8	1.01	mg/L	0.019	1.01	mg/L	0.019	1.87%
QC value within limits for Ba 233.527 Recovery = 100.92%								
Be 234.861†	56032.9	0.0497	mg/L	0.00055	0.0497	mg/L	0.00055	1.10%
QC value within limits for Be 234.861 Recovery = 99.42%								
B 249.677†	46563.2	0.494	mg/L	0.0080	0.494	mg/L	0.0080	1.62%
QC value within limits for B 249.677 Recovery = 98.88%								
Ca 227.546†	3831.4	10.5	mg/L	0.19	10.5	mg/L	0.19	1.84%
QC value within limits for Ca 227.546 Recovery = 105.18%								
Cd 228.802†	2263.0	0.0491	mg/L	0.00133	0.0491	mg/L	0.00133	2.72%
QC value within limits for Cd 228.802 Recovery = 98.11%								
Co 228.616†	7439.9	0.202	mg/L	0.0027	0.202	mg/L	0.0027	1.35%
QC value within limits for Co 228.616 Recovery = 100.84%								
Cr 267.716†	65186.0	0.503	mg/L	0.0063	0.503	mg/L	0.0063	1.25%
QC value within limits for Cr 267.716 Recovery = 100.55%								
Cu 327.393†	135896.4	0.506	mg/L	0.0079	0.506	mg/L	0.0079	1.56%
QC value within limits for Cu 327.393 Recovery = 101.15%								
Fe 239.562†	38781.6	4.07	mg/L	0.012	4.07	mg/L	0.012	0.30%
QC value within limits for Fe 239.562 Recovery = 101.70%								
Mg 279.077†	28184.9	10.2	mg/L	0.06	10.2	mg/L	0.06	0.60%
QC value within limits for Mg 279.077 Recovery = 101.58%								
Mn 257.610†	427083.6	0.511	mg/L	0.0107	0.511	mg/L	0.0107	2.09%
QC value within limits for Mn 257.610 Recovery = 102.21%								
Mo 202.031†	29590.8	1.00	mg/L	0.015	1.00	mg/L	0.015	1.47%
QC value within limits for Mo 202.031 Recovery = 100.12%								
Ni 231.604†	30009.0	0.504	mg/L	0.0104	0.504	mg/L	0.0104	2.07%
QC value within limits for Ni 231.604 Recovery = 100.80%								
Pb 220.353†	5294.5	0.506	mg/L	0.0066	0.506	mg/L	0.0066	1.31%
QC value within limits for Pb 220.353 Recovery = 101.27%								
Sb 206.836†	4341.5	1.21	mg/L	0.026	1.21	mg/L	0.026	2.16%
QC value within limits for Sb 206.836 Recovery = 101.06%								
Se 196.026†	657.1	0.406	mg/L	0.0087	0.406	mg/L	0.0087	2.13%
QC value within limits for Se 196.026 Recovery = 101.60%								
Si 251.611†	239836.0	5.06	mg/L	0.019	5.06	mg/L	0.019	0.38%
QC value within limits for Si 251.611 Recovery = 101.17%								
Sn 189.927†	9584.7	1.00	mg/L	0.015	1.00	mg/L	0.015	1.52%
QC value within limits for Sn 189.927 Recovery = 100.47%								
Ti 334.940†	1115991.6	1.00	mg/L	0.002	1.00	mg/L	0.002	0.24%
QC value within limits for Ti 334.940 Recovery = 100.06%								
Tl 190.801†	1504.9	0.525	mg/L	0.0025	0.525	mg/L	0.0025	0.47%
QC value within limits for Tl 190.801 Recovery = 105.07%								
V 290.880†	232474.1	1.01	mg/L	0.012	1.01	mg/L	0.012	1.23%
QC value within limits for V 290.880 Recovery = 101.44%								
Zn 206.200†	44708.8	1.01	mg/L	0.021	1.01	mg/L	0.021	2.13%
QC value within limits for Zn 206.200 Recovery = 100.79%								
K 766.490†	148038.3	49.6	mg/L	0.11	49.6	mg/L	0.11	0.22%

Approved: November 20, 2012

QC value within limits for K 766.490 Recovery = 99.18%
Na 589.592† 998431.3 50.7 mg/L 0.38 50.7 mg/L 0.38 0.75%
QC value within limits for Na 589.592 Recovery = 101.39%
Sr 407.771† 2457068.2 1.03 mg/L 0.012 1.03 mg/L 0.012 1.19%
QC value within limits for Sr 407.771 Recovery = 102.81%
Li 670.784† 136109.3 1.02 mg/L 0.008 1.02 mg/L 0.008 0.76%
QC value within limits for Li 670.784 Recovery = 101.94%
All analyte(s) passed QC.

==========

Sequence No.: 13 **Autosampler Location: 1**
Sample ID: CCB **Date Collected: 11/19/2012 8:28:32 AM**
Analyst: **Data Type: Reprocessed on 11/19/2012 8:38:03 AM**
Logged In Analyst (Original) : peicp2
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: CCB

Analyte	Back Pressure	Flow
All	173.0 kPa	0.50 L/min

Mean Data: CCB

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	2453053.8						16683.33	0.68%
YRADIAL	287832.3						2460.68	0.85%
Ga 417.206	1202102.0						22270.47	1.85%
GaRADIAL	76383.5						2027.78	2.65%
Ag 328.068†	12.3	-0.00075	mg/L	0.000106	-0.00075	mg/L	0.000106	14.23%
QC value within limits for Ag 328.068 Recovery = Not calculated								
Al 396.153†	18.2	-0.0130	mg/L	0.00088	-0.0130	mg/L	0.00088	6.76%
QC value within limits for Al 396.153 Recovery = Not calculated								
As 188.979†	5.0	0.00168	mg/L	0.000458	0.00168	mg/L	0.000458	27.33%
QC value within limits for As 188.979 Recovery = Not calculated								
Ba 233.527†	19.9	-0.00183	mg/L	0.000075	-0.00183	mg/L	0.000075	4.08%
QC value within limits for Ba 233.527 Recovery = Not calculated								
Be 234.861†	55.1	0.00003	mg/L	0.000010	0.00003	mg/L	0.000010	36.49%
QC value within limits for Be 234.861 Recovery = Not calculated								
B 249.677†	342.0	0.00517	mg/L	0.000481	0.00517	mg/L	0.000481	9.30%
QC value within limits for B 249.677 Recovery = Not calculated								
Ca 227.546†	14.4	0.0391	mg/L	0.04469	0.0391	mg/L	0.04469	114.41%
QC value within limits for Ca 227.546 Recovery = Not calculated								
Cd 228.802†	0.5	0.00001	mg/L	0.000145	0.00001	mg/L	0.000145	>999.9%
QC value within limits for Cd 228.802 Recovery = Not calculated								
Co 228.616†	0.1	-0.00052	mg/L	0.000100	-0.00052	mg/L	0.000100	19.43%
QC value within limits for Co 228.616 Recovery = Not calculated								
Cr 267.716†	1.1	-0.00067	mg/L	0.000048	-0.00067	mg/L	0.000048	7.20%
QC value within limits for Cr 267.716 Recovery = Not calculated								
Cu 327.393†	136.4	-0.00026	mg/L	0.000661	-0.00026	mg/L	0.000661	258.50%
QC value within limits for Cu 327.393 Recovery = Not calculated								
Fe 239.562†	28.7	-0.00347	mg/L	0.000374	-0.00347	mg/L	0.000374	10.78%
QC value within limits for Fe 239.562 Recovery = Not calculated								
Mg 279.077†	13.2	-0.00485	mg/L	0.003339	-0.00485	mg/L	0.003339	68.87%
QC value within limits for Mg 279.077 Recovery = Not calculated								
Mn 257.610†	19.7	-0.00213	mg/L	0.000018	-0.00213	mg/L	0.000018	0.86%
QC value within limits for Mn 257.610 Recovery = Not calculated								
Mo 202.031†	9.3	-0.00050	mg/L	0.000403	-0.00050	mg/L	0.000403	79.85%
QC value within limits for Mo 202.031 Recovery = Not calculated								
Ni 231.604†	20.3	-0.00134	mg/L	0.000237	-0.00134	mg/L	0.000237	17.68%
QC value within limits for Ni 231.604 Recovery = Not calculated								
Pb 220.353†	-7.4	-0.00154	mg/L	0.001253	-0.00154	mg/L	0.001253	81.28%
QC value within limits for Pb 220.353 Recovery = Not calculated								
Sb 206.836†	-2.5	-0.00064	mg/L	0.001564	-0.00064	mg/L	0.001564	243.66%
QC value within limits for Sb 206.836 Recovery = Not calculated								
Se 196.026†	8.5	0.00612	mg/L	0.002035	0.00612	mg/L	0.002035	33.26%
QC value within limits for Se 196.026 Recovery = Not calculated								
Si 251.611†	14.6	-0.00996	mg/L	0.000545	-0.00996	mg/L	0.000545	5.47%
QC value within limits for Si 251.611 Recovery = Not calculated								
Sn 189.927†	-7.2	-0.00160	mg/L	0.000632	-0.00160	mg/L	0.000632	39.45%
QC value within limits for Sn 189.927 Recovery = Not calculated								

Approved: November 20, 2012

Ti 334.940†	91.4	-0.00041 mg/L	0.000027	-0.00041 mg/L	0.000027	6.52%
QC value within limits for Ti 334.940 Recovery = Not calculated						
Tl 190.801†	-1.5	-0.00204 mg/L	0.001976	-0.00204 mg/L	0.001976	96.76%
QC value within limits for Tl 190.801 Recovery = Not calculated						
V 290.880†	121.2	-0.00136 mg/L	0.001758	-0.00136 mg/L	0.001758	128.84%
QC value within limits for V 290.880 Recovery = Not calculated						
Zn 206.200†	6.3	-0.00161 mg/L	0.000128	-0.00161 mg/L	0.000128	7.91%
QC value within limits for Zn 206.200 Recovery = Not calculated						
K 766.490†	25.2	0.0251 mg/L	0.01715	0.0251 mg/L	0.01715	68.33%
QC value within limits for K 766.490 Recovery = Not calculated						
Na 589.592†	249.8	0.0119 mg/L	0.00690	0.0119 mg/L	0.00690	58.03%
QC value within limits for Na 589.592 Recovery = Not calculated						
Sr 407.771†	150.8	-0.00280 mg/L	0.000039	-0.00280 mg/L	0.000039	1.40%
QC value within limits for Sr 407.771 Recovery = Not calculated						
Li 670.784†	7.2	-0.00293 mg/L	0.000610	-0.00293 mg/L	0.000610	20.84%
QC value within limits for Li 670.784 Recovery = Not calculated						

All analyte(s) passed QC.

Approved: November 20, 2012

==========

Analysis Begun

Start Time: 11/19/2012 8:39:43 AM **Plasma On Time: 11/19/2012 5:57:57 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\MONDAY1.sif
Batch ID:
Results Data Set: 111912HR
Results Library: C:\pe\peicp2\Results\Results.mdb

==========

Sequence No.: 1 **Autosampler Location: 16**
Sample ID: PBW 12 WG414452-04 **Date Collected: 11/19/2012 8:39:44 AM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: PBW 12 WG414452-04

Analyte	Back Pressure	Flow
All	172.0 kPa	0.50 L/min

Mean Data: PBW 12 WG414452-04

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2419450.8						18189.27	0.75%
YRADIAL	285536.5						8180.81	2.87%
Ga 417.206	1218224.4						6528.41	0.54%
GaRADIAL	76521.1						684.75	0.89%
Ag 328.068†	58.0	-0.00060	mg/L	0.000381	-0.00060	mg/L	0.000381	63.17%
Al 396.153†	28.0	-0.0115	mg/L	0.00175	-0.0115	mg/L	0.00175	15.26%
As 188.979†	0.0	-0.00012	mg/L	0.002535	-0.00012	mg/L	0.002535	>999.9%
Ba 233.527†	23.0	-0.00181	mg/L	0.000122	-0.00181	mg/L	0.000122	6.75%
Be 234.861†	82.9	0.00005	mg/L	0.000033	0.00005	mg/L	0.000033	63.39%
B 249.677†	190.8	0.00356	mg/L	0.000263	0.00356	mg/L	0.000263	7.39%
Ca 227.546†	10.6	0.0290	mg/L	0.01218	0.0290	mg/L	0.01218	41.95%
Cd 228.802†	0.4	0.00002	mg/L	0.000159	0.00002	mg/L	0.000159	>999.9%
Co 228.616†	1.6	-0.00048	mg/L	0.000173	-0.00048	mg/L	0.000173	36.33%
Cr 267.716†	3.8	-0.00065	mg/L	0.000086	-0.00065	mg/L	0.000086	13.15%
Cu 327.393†	80.3	-0.00046	mg/L	0.000318	-0.00046	mg/L	0.000318	68.64%
Fe 239.562†	32.3	-0.00309	mg/L	0.000693	-0.00309	mg/L	0.000693	22.46%
Mg 279.077†	7.6	-0.00686	mg/L	0.001158	-0.00686	mg/L	0.001158	16.88%
Mn 257.610†	80.3	-0.00206	mg/L	0.000007	-0.00206	mg/L	0.000007	0.34%
Mo 202.031†	5.7	-0.00063	mg/L	0.000344	-0.00063	mg/L	0.000344	54.90%
Ni 231.604†	8.6	-0.00153	mg/L	0.000286	-0.00153	mg/L	0.000286	18.62%
Pb 220.353†	-13.7	-0.00214	mg/L	0.000802	-0.00214	mg/L	0.000802	37.57%
Sb 206.836†	0.3	0.00013	mg/L	0.001065	0.00013	mg/L	0.001065	803.55%
Se 196.026†	5.8	0.00442	mg/L	0.000463	0.00442	mg/L	0.000463	10.47%
Si 251.611†	19.8	-0.00985	mg/L	0.000255	-0.00985	mg/L	0.000255	2.59%
Sn 189.927†	-12.3	-0.00213	mg/L	0.001004	-0.00213	mg/L	0.001004	47.13%
Ti 334.940†	34.8	-0.00046	mg/L	0.000149	-0.00046	mg/L	0.000149	32.04%
Tl 190.801†	-6.0	-0.00356	mg/L	0.002351	-0.00356	mg/L	0.002351	66.06%
V 290.880†	274.2	-0.00069	mg/L	0.001101	-0.00069	mg/L	0.001101	158.47%
Zn 206.200†	73.2	-0.00011	mg/L	0.000202	-0.00011	mg/L	0.000202	185.13%
K 766.490†	-45.0	0.00181	mg/L	0.023269	0.00181	mg/L	0.023269	>999.9%
Na 589.592†	-199.2	-0.0104	mg/L	0.00382	-0.0104	mg/L	0.00382	36.78%
Sr 407.771†	-1.1	-0.00286	mg/L	0.000032	-0.00286	mg/L	0.000032	1.12%
Li 670.784†	-73.9	-0.00354	mg/L	0.000335	-0.00354	mg/L	0.000335	9.49%

==========

Sequence No.: 2 **Autosampler Location: 17**
Sample ID: LCSW 12 WG414452-05 **Date Collected: 11/19/2012 8:46:39 AM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: LCSW 12 WG414452-05

Approved: November 20, 2012

Kim H. Rhoden

Analyte	Back Pressure	Flow
All	173.0 kPa	0.50 L/min

Mean Data: LCSW 12 WG414452-05

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2401463.0						21796.79	0.91%
YRADIAL	283196.9						6711.92	2.37%
Ga 417.206	1209541.8						51884.52	4.29%
GaRADIAL	74899.3						1723.31	2.30%
Ag 328.068†	63891.7	0.197	mg/L	0.0085	0.197	mg/L	0.0085	4.29%
Al 396.153†	32389.6	4.85	mg/L	0.059	4.85	mg/L	0.059	1.21%
As 188.979†	524.4	0.188	mg/L	0.0080	0.188	mg/L	0.0080	4.25%
Ba 233.527†	72101.4	0.489	mg/L	0.0035	0.489	mg/L	0.0035	0.72%
Be 234.861†	26589.6	0.0236	mg/L	0.00089	0.0236	mg/L	0.00089	3.78%
B 249.677†	88977.4	0.949	mg/L	0.0392	0.949	mg/L	0.0392	4.13%
Ca 227.546†	1826.3	5.03	mg/L	0.228	5.03	mg/L	0.228	4.53%
Cd 228.802†	1073.0	0.0233	mg/L	0.00136	0.0233	mg/L	0.00136	5.82%
Co 228.616†	3626.0	0.0980	mg/L	0.00054	0.0980	mg/L	0.00054	0.55%
Cr 267.716†	31925.2	0.246	mg/L	0.0009	0.246	mg/L	0.0009	0.35%
Cu 327.393†	66072.8	0.246	mg/L	0.0121	0.246	mg/L	0.0121	4.92%
Fe 239.562†	19179.9	2.01	mg/L	0.035	2.01	mg/L	0.035	1.74%
Mg 279.077†	13779.6	4.96	mg/L	0.120	4.96	mg/L	0.120	2.42%
Mn 257.610†	208767.9	0.249	mg/L	0.0027	0.249	mg/L	0.0027	1.10%
Mo 202.031†	14327.4	0.484	mg/L	0.0044	0.484	mg/L	0.0044	0.91%
Ni 231.604†	15396.2	0.258	mg/L	0.0019	0.258	mg/L	0.0019	0.74%
Pb 220.353†	2586.3	0.247	mg/L	0.0022	0.247	mg/L	0.0022	0.90%
Sb 206.836†	2083.9	0.582	mg/L	0.0291	0.582	mg/L	0.0291	4.99%
Se 196.026†	315.0	0.195	mg/L	0.0046	0.195	mg/L	0.0046	2.36%
Si 251.611†	113408.7	2.39	mg/L	0.073	2.39	mg/L	0.073	3.06%
Sn 189.927†	4872.4	0.510	mg/L	0.0027	0.510	mg/L	0.0027	0.53%
Ti 334.940†	545755.0	0.489	mg/L	0.0030	0.489	mg/L	0.0030	0.62%
Tl 190.801†	755.8	0.263	mg/L	0.0038	0.263	mg/L	0.0038	1.46%
V 290.880†	112464.9	0.490	mg/L	0.0040	0.490	mg/L	0.0040	0.81%
Zn 206.200†	21598.9	0.486	mg/L	0.0057	0.486	mg/L	0.0057	1.18%
K 766.490†	71410.3	23.8	mg/L	0.33	23.8	mg/L	0.33	1.37%
Na 589.592†	489010.6	24.5	mg/L	0.05	24.5	mg/L	0.05	0.20%
Sr 407.771†	1229755.6	0.513	mg/L	0.0039	0.513	mg/L	0.0039	0.77%
Li 670.784†	68092.2	0.509	mg/L	0.0085	0.509	mg/L	0.0085	1.67%

Sequence No.: 3 **Autosampler Location: 18**
Sample ID: L1211039301 **Date Collected: 11/19/2012 8:52:39 AM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1211039301

Analyte	Back Pressure	Flow
All	173.0 kPa	0.50 L/min

Mean Data: L1211039301

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2073281.4						9234.52	0.45%
YRADIAL	265327.9						2507.37	0.95%
Ga 417.206	1174072.9						18181.61	1.55%
GaRADIAL	74823.5						2255.52	3.01%
Ag 328.068†	1417.3	0.00362	mg/L	0.000288	0.00362	mg/L	0.000288	7.96%
Al 396.153†	-3.9	-0.0172	mg/L	0.00311	-0.0172	mg/L	0.00311	18.07%
As 188.979†	224.4	0.0812	mg/L	0.00266	0.0812	mg/L	0.00266	3.27%
Ba 233.527†	129816.5	0.881	mg/L	0.0038	0.881	mg/L	0.0038	0.43%
Be 234.861†	191.1	0.00016	mg/L	0.000024	0.00016	mg/L	0.000024	15.78%
B 249.677†	59612.4	0.637	mg/L	0.0090	0.637	mg/L	0.0090	1.41%
Ca 227.546†	112182.6	294	mg/L	7.0	294	mg/L	7.0	2.38%
Cd 228.802†	23.2	0.00013	mg/L	0.000187	0.00013	mg/L	0.000187	148.65%
Co 228.616†	64.6	0.00108	mg/L	0.000050	0.00108	mg/L	0.000050	4.58%
Cr 267.716†	20566.7	0.158	mg/L	0.0015	0.158	mg/L	0.0015	0.93%
Cu 327.393†	-89.0	-0.00116	mg/L	0.000304	-0.00116	mg/L	0.000304	26.12%

Approved: November 20, 2012

Kim H. Rhoden

Fe 239.562†	462.0	0.0396	mg/L	0.00055	0.0396	mg/L	0.00055 1.38%
Mg 279.077†	345908.9	125	mg/L	1.0	125	mg/L	1.0 0.79%
Mn 257.610†	49807.3	0.0577	mg/L	0.00020	0.0577	mg/L	0.00020 0.35%
Mo 202.031†	389.2	0.0124	mg/L	0.00021	0.0124	mg/L	0.00021 1.66%
Ni 231.604†	6538.9	0.109	mg/L	0.0008	0.109	mg/L	0.0008 0.71%
Pb 220.353†	-7.8	-0.00160	mg/L	0.001440	-0.00160	mg/L	0.001440 90.10%
Sb 206.836†	11.2	0.00203	mg/L	0.001449	0.00203	mg/L	0.001449 71.27%
Se 196.026†	10.1	0.00714	mg/L	0.000843	0.00714	mg/L	0.000843 11.81%
Si 251.611†	709469.6	15.0	mg/L	0.13	15.0	mg/L	0.13 0.83%
Sn 189.927†	-395.9	-0.0424	mg/L	0.00043	-0.0424	mg/L	0.00043 1.02%
Ti 334.940†	-49640.7	-0.00087	mg/L	0.001723	-0.00087	mg/L	0.001723 198.41%
Tl 190.801†	-43.7	-0.0170	mg/L	0.00067	-0.0170	mg/L	0.00067 3.94%
V 290.880†	3961.3	0.0121	mg/L	0.00280	0.0121	mg/L	0.00280 23.03%
Zn 206.200†	320.4	0.00676	mg/L	0.000131	0.00676	mg/L	0.000131 1.94%
K 766.490†	289189.3	97.2	mg/L	0.91	97.2	mg/L	0.91 0.93%
Na 589.592†	9043492.2	636	mg/L	34.8	636	mg/L	34.8 5.47%
Sr 407.771†	Saturated2						
Li 670.784†	23292.7	0.172	mg/L	0.0019	0.172	mg/L	0.0019 1.10%

Sequence No.: 4 **Autosampler Location: 19**
Sample ID: L1211039302 **Date Collected: 11/19/2012 8:59:41 AM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1211039302

Analyte	Back Pressure	Flow
All	172.0 kPa	0.50 L/min

Mean Data: L1211039302

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2091548.7						28843.29	1.38%
YRADIAL	260039.7						5430.93	2.09%
Ga 417.206	1185416.8						12365.62	1.04%
GaRADIAL	73310.0						1250.21	1.71%
Ag 328.068†	1493.0	0.00384	mg/L	0.000378	0.00384	mg/L	0.000378	9.85%
Al 396.153†	-4.7	-0.0174	mg/L	0.00121	-0.0174	mg/L	0.00121	6.99%
As 188.979†	240.3	0.0870	mg/L	0.00392	0.0870	mg/L	0.00392	4.51%
Ba 233.527†	133661.9	0.907	mg/L	0.0107	0.907	mg/L	0.0107	1.18%
Be 234.861†	174.0	0.00015	mg/L	0.000030	0.00015	mg/L	0.000030	20.41%
B 249.677†	60807.7	0.650	mg/L	0.0039	0.650	mg/L	0.0039	0.60%
Ca 227.546†	115723.1	304	mg/L	2.9	304	mg/L	2.9	0.96%
Cd 228.802†	14.3	-0.00010	mg/L	0.000178	-0.00010	mg/L	0.000178	176.27%
Co 228.616†	71.0	0.00126	mg/L	0.000309	0.00126	mg/L	0.000309	24.63%
Cr 267.716†	21912.0	0.168	mg/L	0.0027	0.168	mg/L	0.0027	1.59%
Cu 327.393†	-343.9	-0.00212	mg/L	0.000449	-0.00212	mg/L	0.000449	21.23%
Fe 239.562†	129.6	0.00453	mg/L	0.001390	0.00453	mg/L	0.001390	30.68%
Mg 279.077†	361037.6	130	mg/L	0.2	130	mg/L	0.2	0.15%
Mn 257.610†	51347.6	0.0595	mg/L	0.00079	0.0595	mg/L	0.00079	1.34%
Mo 202.031†	391.7	0.0125	mg/L	0.00034	0.0125	mg/L	0.00034	2.74%
Ni 231.604†	6356.1	0.106	mg/L	0.0007	0.106	mg/L	0.0007	0.65%
Pb 220.353†	9.3	0.00004	mg/L	0.001889	0.00004	mg/L	0.001889	>999.9%
Sb 206.836†	3.9	-0.00010	mg/L	0.000422	-0.00010	mg/L	0.000422	440.99%
Se 196.026†	7.2	0.00531	mg/L	0.005115	0.00531	mg/L	0.005115	96.26%
Si 251.611†	729101.2	15.4	mg/L	0.15	15.4	mg/L	0.15	0.94%
Sn 189.927†	-392.1	-0.0420	mg/L	0.00155	-0.0420	mg/L	0.00155	3.69%
Ti 334.940†	-50883.7	-0.00059	mg/L	0.001642	-0.00059	mg/L	0.001642	277.52%
Tl 190.801†	-55.0	-0.0208	mg/L	0.00143	-0.0208	mg/L	0.00143	6.88%
V 290.880†	4063.6	0.0124	mg/L	0.00166	0.0124	mg/L	0.00166	13.31%
Zn 206.200†	239.0	0.00502	mg/L	0.000116	0.00502	mg/L	0.000116	2.32%
K 766.490†	299002.4	101	mg/L	0.0	101	mg/L	0.0	0.05%
Na 589.592†	9449239.4	689	mg/L	39.5	689	mg/L	39.5	5.73%
Sr 407.771†	Saturated2							
Li 670.784†	24031.0	0.178	mg/L	0.0058	0.178	mg/L	0.0058	3.26%

Sequence No.: 5 **Autosampler Location: 20**
Sample ID: L1211039303 **Date Collected: 11/19/2012 9:06:43 AM**

Approved: November 20, 2012

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

Nebulizer Parameters: L1211039303

Analyte	Back Pressure	Flow
All	174.0 kPa	0.50 L/min

Mean Data: L1211039303

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2072137.5						35933.73	1.73%
YRADIAL	264245.5						6726.45	2.55%
Ga 417.206	1189330.7						31386.97	2.64%
GaRADIAL	74328.4						2133.00	2.87%
Ag 328.068†	1538.7	0.00399	mg/L	0.000483	0.00399	mg/L	0.000483	12.11%
Al 396.153†	1.3	-0.0165	mg/L	0.00100	-0.0165	mg/L	0.00100	6.08%
As 188.979†	225.9	0.0818	mg/L	0.00357	0.0818	mg/L	0.00357	4.36%
Ba 233.527†	133680.8	0.908	mg/L	0.0210	0.908	mg/L	0.0210	2.32%
Be 234.861†	193.2	0.00016	mg/L	0.000008	0.00016	mg/L	0.000008	5.10%
B 249.677†	60911.4	0.651	mg/L	0.0196	0.651	mg/L	0.0196	3.02%
Ca 227.546†	113996.1	299	mg/L	9.6	299	mg/L	9.6	3.22%
Cd 228.802†	15.6	-0.00005	mg/L	0.000208	-0.00005	mg/L	0.000208	453.40%
Co 228.616†	63.2	0.00104	mg/L	0.000083	0.00104	mg/L	0.000083	7.93%
Cr 267.716†	20767.0	0.160	mg/L	0.0036	0.160	mg/L	0.0036	2.27%
Cu 327.393†	-187.4	-0.00153	mg/L	0.000218	-0.00153	mg/L	0.000218	14.23%
Fe 239.562†	411.3	0.0342	mg/L	0.00162	0.0342	mg/L	0.00162	4.74%
Mg 279.077†	356764.0	128	mg/L	4.6	128	mg/L	4.6	3.55%
Mn 257.610†	50884.5	0.0590	mg/L	0.00146	0.0590	mg/L	0.00146	2.48%
Mo 202.031†	396.5	0.0126	mg/L	0.00036	0.0126	mg/L	0.00036	2.82%
Ni 231.604†	6733.4	0.112	mg/L	0.0020	0.112	mg/L	0.0020	1.77%
Pb 220.353†	-0.9	-0.00093	mg/L	0.000616	-0.00093	mg/L	0.000616	66.04%
Sb 206.836†	5.0	0.00029	mg/L	0.001564	0.00029	mg/L	0.001564	542.30%
Se 196.026†	3.7	0.00317	mg/L	0.003110	0.00317	mg/L	0.003110	98.12%
Si 251.611†	731176.2	15.5	mg/L	0.53	15.5	mg/L	0.53	3.42%
Sn 189.927†	-398.1	-0.0426	mg/L	0.00076	-0.0426	mg/L	0.00076	1.78%
Ti 334.940†	-51069.7	-0.00144	mg/L	0.001772	-0.00144	mg/L	0.001772	123.46%
Tl 190.801†	-58.0	-0.0219	mg/L	0.00139	-0.0219	mg/L	0.00139	6.38%
V 290.880†	4039.8	0.0124	mg/L	0.00178	0.0124	mg/L	0.00178	14.37%
Zn 206.200†	325.4	0.00689	mg/L	0.000142	0.00689	mg/L	0.000142	2.06%
K 766.490†	296886.2	99.8	mg/L	3.79	99.8	mg/L	3.79	3.80%
Na 589.592†	9440351.3	687	mg/L	37.1	687	mg/L	37.1	5.40%
Sr 407.771†	Saturated2							
Li 670.784†	23721.5	0.175	mg/L	0.0108	0.175	mg/L	0.0108	6.19%

==========

Sequence No.: 6 **Autosampler Location: 21**
Sample ID: L1211039304 **Date Collected: 11/19/2012 9:13:46 AM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1211039304

Analyte	Back Pressure	Flow
All	173.0 kPa	0.50 L/min

Mean Data: L1211039304

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2135136.1						14334.31	0.67%
YRADIAL	266516.8						7564.87	2.84%
Ga 417.206	1211156.9						6576.26	0.54%
GaRADIAL	74690.3						864.32	1.16%
Ag 328.068†	1515.5	0.00391	mg/L	0.000458	0.00391	mg/L	0.000458	11.73%
Al 396.153†	-22.6	-0.0199	mg/L	0.00161	-0.0199	mg/L	0.00161	8.07%
As 188.979†	232.7	0.0843	mg/L	0.00249	0.0843	mg/L	0.00249	2.95%
Ba 233.527†	131410.9	0.892	mg/L	0.0132	0.892	mg/L	0.0132	1.48%
Be 234.861†	211.4	0.00018	mg/L	0.000020	0.00018	mg/L	0.000020	11.07%

Approved: November 20, 2012

Kim H. Rhoden

B 249.677†	59807.5	0.639	mg/L	0.0074	0.639	mg/L	0.0074 1.15%
Ca 227.546†	113461.0	298	mg/L	1.9	298	mg/L	1.9 0.62%
Cd 228.802†	14.7	-0.00008	mg/L	0.000070	-0.00008	mg/L	0.000070 88.87%
Co 228.616†	59.4	0.00094	mg/L	0.000031	0.00094	mg/L	0.000031 3.29%
Cr 267.716†	21504.9	0.165	mg/L	0.0018	0.165	mg/L	0.0018 1.09%
Cu 327.393†	-397.6	-0.00231	mg/L	0.000348	-0.00231	mg/L	0.000348 15.06%
Fe 239.562†	119.5	0.00351	mg/L	0.000529	0.00351	mg/L	0.000529 15.08%
Mg 279.077†	355755.3	128	mg/L	2.1	128	mg/L	2.1 1.61%
Mn 257.610†	50630.7	0.0586	mg/L	0.00078	0.0586	mg/L	0.00078 1.34%
Mo 202.031†	331.2	0.0104	mg/L	0.00039	0.0104	mg/L	0.00039 3.71%
Ni 231.604†	6521.3	0.108	mg/L	0.0002	0.108	mg/L	0.0002 0.16%
Pb 220.353†	-3.2	-0.00115	mg/L	0.000229	-0.00115	mg/L	0.000229 19.83%
Sb 206.836†	5.3	0.00032	mg/L	0.001766	0.00032	mg/L	0.001766 553.93%
Se 196.026†	3.2	0.00283	mg/L	0.002347	0.00283	mg/L	0.002347 82.83%
Si 251.611†	716278.5	15.2	mg/L	0.05	15.2	mg/L	0.05 0.31%
Sn 189.927†	-379.0	-0.0406	mg/L	0.00112	-0.0406	mg/L	0.00112 2.76%
Ti 334.940†	-49849.4	-0.00055	mg/L	0.002140	-0.00055	mg/L	0.002140 386.12%
Tl 190.801†	-40.9	-0.0160	mg/L	0.00201	-0.0160	mg/L	0.00201 12.58%
V 290.880†	3815.6	0.0114	mg/L	0.00151	0.0114	mg/L	0.00151 13.24%
Zn 206.200†	246.0	0.00515	mg/L	0.000159	0.00515	mg/L	0.000159 3.09%
K 766.490†	295834.5	100	mg/L	1.2	100	mg/L	1.2 1.22%
Na 589.592†	Saturated2						
Sr 407.771†	Saturated2						
Li 670.784†	23783.7	0.176	mg/L	0.0035	0.176	mg/L	0.0035 2.01%

Sequence No.: 7 **Autosampler Location: 22**
Sample ID: L1211042901 **Date Collected: 11/19/2012 9:20:43 AM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1211042901

Analyte	Back Pressure	Flow
All	174.0 kPa	0.50 L/min

Mean Data: L1211042901

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2367332.4						27474.08	1.16%
YRADIAL	287455.0						4002.41	1.39%
Ga 417.206	1288360.3						24282.47	1.88%
GaRADIAL	78784.3						1804.96	2.29%
Ag 328.068†	620.6	0.00065	mg/L	0.000163	0.00065	mg/L	0.000163	25.22%
Al 396.153†	68.0	-0.0214	mg/L	0.00072	-0.0214	mg/L	0.00072	3.38%
As 188.979†	294.3	0.105	mg/L	0.0006	0.105	mg/L	0.0006	0.60%
Ba 233.527†	13992.2	0.0934	mg/L	0.00024	0.0934	mg/L	0.00024	0.25%
Be 234.861†	140.1	0.00037	mg/L	0.000003	0.00037	mg/L	0.000003	0.82%
B 249.677†	178800.0	1.91	mg/L	0.037	1.91	mg/L	0.037	1.95%
Ca 227.546†	34043.3	89.3	mg/L	2.24	89.3	mg/L	2.24	2.51%
Cd 228.802†	11.0	-0.00029	mg/L	0.000104	-0.00029	mg/L	0.000104	36.05%
Co 228.616†	22.3	0.00050	mg/L	0.000137	0.00050	mg/L	0.000137	27.40%
Cr 267.716†	125.4	0.00024	mg/L	0.000009	0.00024	mg/L	0.000009	3.86%
Cu 327.393†	66.8	-0.00048	mg/L	0.000367	-0.00048	mg/L	0.000367	75.76%
Fe 239.562†	2590.4	0.265	mg/L	0.0021	0.265	mg/L	0.0021	0.80%
Mg 279.077†	35741.0	12.9	mg/L	0.08	12.9	mg/L	0.08	0.59%
Mn 257.610†	2021678.7	2.42	mg/L	0.020	2.42	mg/L	0.020	0.84%
Mo 202.031†	6864.4	0.232	mg/L	0.0031	0.232	mg/L	0.0031	1.36%
Ni 231.604†	67.6	-0.00054	mg/L	0.000358	-0.00054	mg/L	0.000358	66.70%
Pb 220.353†	17.2	-0.00055	mg/L	0.001214	-0.00055	mg/L	0.001214	219.07%
Sb 206.836†	-4.6	-0.00081	mg/L	0.001319	-0.00081	mg/L	0.001319	161.97%
Se 196.026†	6.6	0.00426	mg/L	0.003462	0.00426	mg/L	0.003462	81.20%
Si 251.611†	132543.4	2.79	mg/L	0.040	2.79	mg/L	0.040	1.42%
Sn 189.927†	-282.0	-0.0304	mg/L	0.00132	-0.0304	mg/L	0.00132	4.35%
Ti 334.940†	-16564.5	-0.00194	mg/L	0.000757	-0.00194	mg/L	0.000757	38.99%
Tl 190.801†	-28.5	-0.0138	mg/L	0.00034	-0.0138	mg/L	0.00034	2.47%
V 290.880†	986.7	0.00201	mg/L	0.001646	0.00201	mg/L	0.001646	82.10%
Zn 206.200†	153.6	0.00168	mg/L	0.000158	0.00168	mg/L	0.000158	9.41%
K 766.490†	16461.5	5.46	mg/L	0.031	5.46	mg/L	0.031	0.57%
Na 589.592†	610139.0	30.7	mg/L	0.91	30.7	mg/L	0.91	2.97%

Approved: November 20, 2012

Sr 407.771†	3512185.3	1.47	mg/L	0.029	1.47	mg/L	0.029	1.95%
Li 670.784†	1559.9	0.00874	mg/L	0.000304	0.00874	mg/L	0.000304	3.48%

Sequence No.: 8 **Autosampler Location: 23**
Sample ID: L1211042902 **Date Collected: 11/19/2012 9:27:45 AM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1211042902

Analyte	Back Pressure	Flow
All	174.0 kPa	0.50 L/min

Mean Data: L1211042902

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2338495.9						41689.80	1.78%
YRADIAL	285311.2						3778.24	1.32%
Ga 417.206	1286291.7						5693.45	0.44%
GaRADIAL	78851.1						2758.42	3.50%
Ag 328.068†	354.5	0.00014	mg/L	0.000285	0.00014	mg/L	0.000285	200.77%
Al 396.153†	24.8	-0.0160	mg/L	0.00092	-0.0160	mg/L	0.00092	5.80%
As 188.979†	-12.5	-0.00494	mg/L	0.001394	-0.00494	mg/L	0.001394	28.20%
Ba 233.527†	9881.7	0.0653	mg/L	0.00083	0.0653	mg/L	0.00083	1.28%
Be 234.861†	216.7	0.00018	mg/L	0.000047	0.00018	mg/L	0.000047	25.62%
B 249.677†	74245.0	0.794	mg/L	0.0109	0.794	mg/L	0.0109	1.37%
Ca 227.546†	23284.3	61.1	mg/L	0.58	61.1	mg/L	0.58	0.95%
Cd 228.802†	2.9	0.00010	mg/L	0.000068	0.00010	mg/L	0.000068	68.82%
Co 228.616†	78.6	0.00173	mg/L	0.000111	0.00173	mg/L	0.000111	6.45%
Cr 267.716†	99.6	0.00008	mg/L	0.000082	0.00008	mg/L	0.000082	106.18%
Cu 327.393†	130.3	-0.00028	mg/L	0.000249	-0.00028	mg/L	0.000249	88.30%
Fe 239.562†	822.3	0.0797	mg/L	0.00145	0.0797	mg/L	0.00145	1.83%
Mg 279.077†	36689.9	13.2	mg/L	0.18	13.2	mg/L	0.18	1.36%
Mn 257.610†	70256.3	0.0822	mg/L	0.00174	0.0822	mg/L	0.00174	2.12%
Mo 202.031†	1713.9	0.0572	mg/L	0.00074	0.0572	mg/L	0.00074	1.30%
Ni 231.604†	186.2	0.00146	mg/L	0.000217	0.00146	mg/L	0.000217	14.83%
Pb 220.353†	24.6	0.00149	mg/L	0.002287	0.00149	mg/L	0.002287	153.22%
Sb 206.836†	-2.3	-0.00050	mg/L	0.001670	-0.00050	mg/L	0.001670	335.94%
Se 196.026†	2.3	0.00226	mg/L	0.003664	0.00226	mg/L	0.003664	161.97%
Si 251.611†	518942.1	11.0	mg/L	0.12	11.0	mg/L	0.12	1.07%
Sn 189.927†	-274.3	-0.0296	mg/L	0.00142	-0.0296	mg/L	0.00142	4.80%
Ti 334.940†	-11685.4	-0.00181	mg/L	0.000567	-0.00181	mg/L	0.000567	31.41%
Tl 190.801†	-24.6	-0.0101	mg/L	0.00294	-0.0101	mg/L	0.00294	29.10%
V 290.880†	785.5	0.00118	mg/L	0.001131	0.00118	mg/L	0.001131	95.73%
Zn 206.200†	115.9	0.00085	mg/L	0.000132	0.00085	mg/L	0.000132	15.53%
K 766.490†	20797.6	6.89	mg/L	0.075	6.89	mg/L	0.075	1.09%
Na 589.592†	818111.1	41.4	mg/L	1.52	41.4	mg/L	1.52	3.69%
Sr 407.771†	2360263.4	0.986	mg/L	0.0189	0.986	mg/L	0.0189	1.92%
Li 670.784†	6082.2	0.0427	mg/L	0.00202	0.0427	mg/L	0.00202	4.73%

Sequence No.: 9 **Autosampler Location: 24**
Sample ID: L1211042902PS WG414521-01 **Date Collected: 11/19/2012 9:34:43 AM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1211042902PS WG414521-01

Analyte	Back Pressure	Flow
All	174.0 kPa	0.50 L/min

Mean Data: L1211042902PS WG414521-01

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2301084.2						16816.49	0.73%
YRADIAL	282577.1						3444.91	1.22%
Ga 417.206	1205669.7						27596.15	2.29%

Approved: November 20, 2012

GaRADIAL	74356.1					713.82	0.96%
Ag 328.068†	63753.7	0.197	mg/L	0.0056	0.197 mg/L	0.0056	2.85%
Al 396.153†	33093.4	4.95	mg/L	0.014	4.95 mg/L	0.014	0.29%
As 188.979†	529.9	0.189	mg/L	0.0067	0.189 mg/L	0.0067	3.54%
Ba 233.527†	82137.6	0.557	mg/L	0.0093	0.557 mg/L	0.0093	1.67%
Be 234.861†	26956.7	0.0239	mg/L	0.00077	0.0239 mg/L	0.00077	3.22%
B 249.677†	164996.8	1.76	mg/L	0.057	1.76 mg/L	0.057	3.25%
Ca 227.546†	24858.7	65.5	mg/L	1.93	65.5 mg/L	1.93	2.95%
Cd 228.802†	1054.3	0.0228	mg/L	0.00111	0.0228 mg/L	0.00111	4.86%
Co 228.616†	3679.2	0.0996	mg/L	0.00094	0.0996 mg/L	0.00094	0.95%
Cr 267.716†	32500.1	0.250	mg/L	0.0034	0.250 mg/L	0.0034	1.35%
Cu 327.393†	65587.6	0.244	mg/L	0.0072	0.244 mg/L	0.0072	2.96%
Fe 239.562†	19872.0	2.08	mg/L	0.014	2.08 mg/L	0.014	0.66%
Mg 279.077†	46595.5	16.8	mg/L	0.13	16.8 mg/L	0.13	0.75%
Mn 257.610†	277811.8	0.332	mg/L	0.0059	0.332 mg/L	0.0059	1.79%
Mo 202.031†	16399.4	0.554	mg/L	0.0082	0.554 mg/L	0.0082	1.47%
Ni 231.604†	15524.4	0.260	mg/L	0.0023	0.260 mg/L	0.0023	0.88%
Pb 220.353†	2610.4	0.249	mg/L	0.0015	0.249 mg/L	0.0015	0.59%
Sb 206.836†	2129.3	0.595	mg/L	0.0187	0.595 mg/L	0.0187	3.15%
Se 196.026†	318.9	0.198	mg/L	0.0093	0.198 mg/L	0.0093	4.72%
Si 251.611†	605942.0	12.8	mg/L	0.27	12.8 mg/L	0.27	2.12%
Sn 189.927†	-108.3	-0.0122	mg/L	0.00075	-0.0122 mg/L	0.00075	6.11%
Ti 334.940†	553369.2	0.505	mg/L	0.0010	0.505 mg/L	0.0010	0.19%
Tl 190.801†	725.5	0.253	mg/L	0.0010	0.253 mg/L	0.0010	0.38%
V 290.880†	118042.2	0.514	mg/L	0.0062	0.514 mg/L	0.0062	1.20%
Zn 206.200†	21449.9	0.483	mg/L	0.0099	0.483 mg/L	0.0099	2.05%
K 766.490†	92404.4	30.8	mg/L	0.17	30.8 mg/L	0.17	0.55%
Na 589.592†	1275769.6	65.2	mg/L	0.97	65.2 mg/L	0.97	1.49%
Sr 407.771†	3340419.2	1.40	mg/L	0.022	1.40 mg/L	0.022	1.59%
Li 670.784†	75184.4	0.562	mg/L	0.0005	0.562 mg/L	0.0005	0.10%

Sequence No.: 10 **Autosampler Location: 25**
Sample ID: L1211042902DL WG414521-02 **Date Collected: 11/19/2012 9:40:41 AM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1211042902DL WG414521-02

Analyte	Back Pressure	Flow
All	174.0 kPa	0.50 L/min

Mean Data: L1211042902DL WG414521-02

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2429619.0						6150.80	0.25%
YRADIAL	285721.8						4232.77	1.48%
Ga 417.206	1265946.9						9664.07	0.76%
GaRADIAL	78332.2						1237.01	1.58%
Ag 328.068†	56.8	-0.00064	mg/L	0.000457	-0.00064	mg/L	0.000457	71.24%
Al 396.153†	14.9	-0.0143	mg/L	0.00116	-0.0143	mg/L	0.00116	8.13%
As 188.979†	-4.5	-0.00180	mg/L	0.001847	-0.00180	mg/L	0.001847	102.44%
Ba 233.527†	2077.7	0.0122	mg/L	0.00012	0.0122	mg/L	0.00012	0.97%
Be 234.861†	173.8	0.00014	mg/L	0.000035	0.00014	mg/L	0.000035	25.37%
B 249.677†	16111.1	0.173	mg/L	0.0019	0.173	mg/L	0.0019	1.09%
Ca 227.546†	4825.3	12.7	mg/L	0.11	12.7	mg/L	0.11	0.89%
Cd 228.802†	-6.6	-0.00013	mg/L	0.000072	-0.00013	mg/L	0.000072	55.06%
Co 228.616†	15.3	-0.00008	mg/L	0.000288	-0.00008	mg/L	0.000288	353.83%
Cr 267.716†	41.6	-0.00036	mg/L	0.000098	-0.00036	mg/L	0.000098	27.07%
Cu 327.393†	166.9	-0.00014	mg/L	0.000112	-0.00014	mg/L	0.000112	78.09%
Fe 239.562†	177.6	0.0121	mg/L	0.00076	0.0121	mg/L	0.00076	6.29%
Mg 279.077†	7443.5	2.67	mg/L	0.018	2.67	mg/L	0.018	0.67%
Mn 257.610†	14061.5	0.0147	mg/L	0.00008	0.0147	mg/L	0.00008	0.58%
Mo 202.031†	356.1	0.0112	mg/L	0.00049	0.0112	mg/L	0.00049	4.36%
Ni 231.604†	62.1	-0.00063	mg/L	0.000374	-0.00063	mg/L	0.000374	59.29%
Pb 220.353†	-1.4	-0.00097	mg/L	0.000368	-0.00097	mg/L	0.000368	37.91%
Sb 206.836†	-0.6	-0.00010	mg/L	0.000243	-0.00010	mg/L	0.000243	240.92%
Se 196.026†	2.0	0.00212	mg/L	0.001906	0.00212	mg/L	0.001906	89.75%
Si 251.611†	108315.6	2.28	mg/L	0.025	2.28	mg/L	0.025	1.10%
Sn 189.927†	-146.9	-0.0162	mg/L	0.00053	-0.0162	mg/L	0.00053	3.23%

Approved: November 20, 2012

Ti 334.940†	-2409.2	-0.00076 mg/L	0.000091	-0.00076 mg/L	0.000091	12.05%
Tl 190.801†	-12.0	-0.00567 mg/L	0.003626	-0.00567 mg/L	0.003626	63.97%
V 290.880†	333.6	-0.00051 mg/L	0.001387	-0.00051 mg/L	0.001387	273.19%
Zn 206.200†	70.7	-0.00016 mg/L	0.000124	-0.00016 mg/L	0.000124	75.26%
K 766.490†	4481.4	1.50 mg/L	0.023	1.50 mg/L	0.023	1.54%
Na 589.592†	165446.3	8.23 mg/L	0.195	8.23 mg/L	0.195	2.37%
Sr 407.771†	475341.0	0.196 mg/L	0.0041	0.196 mg/L	0.0041	2.10%
Li 670.784†	1311.9	0.00687 mg/L	0.000267	0.00687 mg/L	0.000267	3.88%

Sequence No.: 11 **Autosampler Location: 6**
Sample ID: CCV **Date Collected: 11/19/2012 9:47:35 AM**
Analyst: **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: CCV

Analyte	Back Pressure	Flow
All	173.0 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	2374885.0						33134.26	1.40%
YRADIAL	282630.9						480.49	0.17%
Ga 417.206	1173444.0						25931.96	2.21%
GaRADIAL	72935.5						567.63	0.78%
Ag 328.068†	129293.8	0.400	mg/L	0.0096	0.400	mg/L	0.0096	2.41%
QC value within limits for Ag 328.068 Recovery = 100.07%								
Al 396.153†	65645.2	9.85	mg/L	0.012	9.85	mg/L	0.012	0.12%
QC value within limits for Al 396.153 Recovery = 98.46%								
As 188.979†	1086.0	0.389	mg/L	0.0112	0.389	mg/L	0.0112	2.89%
QC value within limits for As 188.979 Recovery = 97.17%								
Ba 233.527†	146928.9	0.998	mg/L	0.0259	0.998	mg/L	0.0259	2.60%
QC value within limits for Ba 233.527 Recovery = 99.78%								
Be 234.861†	54948.9	0.0488	mg/L	0.00092	0.0488	mg/L	0.00092	1.89%
QC value within limits for Be 234.861 Recovery = 97.51%								
B 249.677†	47115.8	0.500	mg/L	0.0124	0.500	mg/L	0.0124	2.47%
QC value within limits for B 249.677 Recovery = 100.07%								
Ca 227.546†	3757.5	10.3	mg/L	0.25	10.3	mg/L	0.25	2.41%
QC value within limits for Ca 227.546 Recovery = 103.18%								
Cd 228.802†	2234.1	0.0485	mg/L	0.00175	0.0485	mg/L	0.00175	3.61%
QC value within limits for Cd 228.802 Recovery = 96.90%								
Co 228.616†	7382.0	0.200	mg/L	0.0036	0.200	mg/L	0.0036	1.82%
QC value within limits for Co 228.616 Recovery = 100.06%								
Cr 267.716†	64416.8	0.497	mg/L	0.0074	0.497	mg/L	0.0074	1.50%
QC value within limits for Cr 267.716 Recovery = 99.36%								
Cu 327.393†	134520.2	0.501	mg/L	0.0125	0.501	mg/L	0.0125	2.49%
QC value within limits for Cu 327.393 Recovery = 100.12%								
Fe 239.562†	37813.5	3.97	mg/L	0.011	3.97	mg/L	0.011	0.29%
QC value within limits for Fe 239.562 Recovery = 99.16%								
Mg 279.077†	27478.8	9.90	mg/L	0.010	9.90	mg/L	0.010	0.10%
QC value within limits for Mg 279.077 Recovery = 99.03%								
Mn 257.610†	421722.1	0.505	mg/L	0.0138	0.505	mg/L	0.0138	2.74%
QC value within limits for Mn 257.610 Recovery = 100.92%								
Mo 202.031†	29203.7	0.988	mg/L	0.0212	0.988	mg/L	0.0212	2.14%
QC value within limits for Mo 202.031 Recovery = 98.81%								
Ni 231.604†	29692.9	0.499	mg/L	0.0149	0.499	mg/L	0.0149	3.00%
QC value within limits for Ni 231.604 Recovery = 99.74%								
Pb 220.353†	5266.9	0.504	mg/L	0.0081	0.504	mg/L	0.0081	1.61%
QC value within limits for Pb 220.353 Recovery = 100.73%								
Sb 206.836†	4254.2	1.19	mg/L	0.036	1.19	mg/L	0.036	3.02%
QC value within limits for Sb 206.836 Recovery = 99.03%								
Se 196.026†	642.0	0.397	mg/L	0.0119	0.397	mg/L	0.0119	3.01%
QC value within limits for Se 196.026 Recovery = 99.27%								
Si 251.611†	236180.8	4.98	mg/L	0.063	4.98	mg/L	0.063	1.27%
QC value within limits for Si 251.611 Recovery = 99.63%								
Sn 189.927†	9509.9	0.997	mg/L	0.0152	0.997	mg/L	0.0152	1.52%
QC value within limits for Sn 189.927 Recovery = 99.69%								
Ti 334.940†	1104922.4	0.991	mg/L	0.0072	0.991	mg/L	0.0072	0.72%

Approved: November 20, 2012

QC value within limits for Ti 334.940 Recovery = 99.07%
Tl 190.801† 1489.2 0.520 mg/L 0.0072 0.520 mg/L 0.0072 1.39%
QC value within limits for Tl 190.801 Recovery = 103.96%
V 290.880† 228194.1 0.996 mg/L 0.0159 0.996 mg/L 0.0159 1.59%
QC value within limits for V 290.880 Recovery = 99.57%
Zn 206.200† 43865.0 0.989 mg/L 0.0238 0.989 mg/L 0.0238 2.40%
QC value within limits for Zn 206.200 Recovery = 98.88%
K 766.490† 146532.1 49.1 mg/L 0.29 49.1 mg/L 0.29 0.59%
QC value within limits for K 766.490 Recovery = 98.17%
Na 589.592† 988569.6 50.2 mg/L 0.27 50.2 mg/L 0.27 0.55%
QC value within limits for Na 589.592 Recovery = 100.36%
Sr 407.771† 2421222.8 1.01 mg/L 0.010 1.01 mg/L 0.010 0.96%
QC value within limits for Sr 407.771 Recovery = 101.31%
Li 670.784† 134561.2 1.01 mg/L 0.006 1.01 mg/L 0.006 0.60%
QC value within limits for Li 670.784 Recovery = 100.78%
All analyte(s) passed QC.

Sequence No.: 12 **Autosampler Location: 1**
Sample ID: CCB **Date Collected: 11/19/2012 9:53:36 AM**
Analyst: **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: CCB

Analyte	Back Pressure	Flow
All	173.0 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	2447143.9						11947.50	0.49%
YRADIAL	288378.9						6406.11	2.22%
Ga 417.206	1194226.3						8965.22	0.75%
GaRADIAL	76119.2						931.08	1.22%
Ag 328.068†	7.1	-0.00076	mg/L	0.000250	-0.00076	mg/L	0.000250	32.93%
QC value within limits for Ag 328.068 Recovery = Not calculated								
Al 396.153†	22.2	-0.0124	mg/L	0.00031	-0.0124	mg/L	0.00031	2.55%
QC value within limits for Al 396.153 Recovery = Not calculated								
As 188.979†	1.2	0.00031	mg/L	0.001055	0.00031	mg/L	0.001055	345.28%
QC value within limits for As 188.979 Recovery = Not calculated								
Ba 233.527†	15.6	-0.00186	mg/L	0.000135	-0.00186	mg/L	0.000135	7.27%
QC value within limits for Ba 233.527 Recovery = Not calculated								
Be 234.861†	50.7	0.00002	mg/L	0.000011	0.00002	mg/L	0.000011	44.91%
QC value within limits for Be 234.861 Recovery = Not calculated								
B 249.677†	1170.3	0.0140	mg/L	0.00051	0.0140	mg/L	0.00051	3.63%
QC value within limits for B 249.677 Recovery = Not calculated								
Ca 227.546†	5.1	0.0146	mg/L	0.02004	0.0146	mg/L	0.02004	136.78%
QC value within limits for Ca 227.546 Recovery = Not calculated								
Cd 228.802†	1.7	0.00004	mg/L	0.000135	0.00004	mg/L	0.000135	319.02%
QC value within limits for Cd 228.802 Recovery = Not calculated								
Co 228.616†	-2.5	-0.00059	mg/L	0.000122	-0.00059	mg/L	0.000122	20.78%
QC value within limits for Co 228.616 Recovery = Not calculated								
Cr 267.716†	-4.7	-0.00072	mg/L	0.000108	-0.00072	mg/L	0.000108	15.04%
QC value within limits for Cr 267.716 Recovery = Not calculated								
Cu 327.393†	188.9	-0.00006	mg/L	0.000390	-0.00006	mg/L	0.000390	648.83%
QC value within limits for Cu 327.393 Recovery = Not calculated								
Fe 239.562†	16.5	-0.00475	mg/L	0.000490	-0.00475	mg/L	0.000490	10.33%
QC value within limits for Fe 239.562 Recovery = Not calculated								
Mg 279.077†	10.3	-0.00591	mg/L	0.002419	-0.00591	mg/L	0.002419	40.95%
QC value within limits for Mg 279.077 Recovery = Not calculated								
Mn 257.610†	-68.3	-0.00224	mg/L	0.000002	-0.00224	mg/L	0.000002	0.08%
QC value within limits for Mn 257.610 Recovery = Not calculated								
Mo 202.031†	2.1	-0.00075	mg/L	0.000263	-0.00075	mg/L	0.000263	35.06%
QC value within limits for Mo 202.031 Recovery = Not calculated								
Ni 231.604†	5.5	-0.00159	mg/L	0.000155	-0.00159	mg/L	0.000155	9.80%
QC value within limits for Ni 231.604 Recovery = Not calculated								
Pb 220.353†	-6.7	-0.00148	mg/L	0.001197	-0.00148	mg/L	0.001197	81.14%
QC value within limits for Pb 220.353 Recovery = Not calculated								
Sb 206.836†	3.3	0.00097	mg/L	0.001039	0.00097	mg/L	0.001039	107.31%

Approved: November 20, 2012

```
   QC value within limits for Sb 206.836  Recovery = Not calculated
Se 196.026†                2.2     0.00222 mg/L      0.000881     0.00222 mg/L      0.000881  39.64%
   QC value within limits for Se 196.026  Recovery = Not calculated
Si 251.611†               72.0    -0.00874 mg/L      0.000378    -0.00874 mg/L      0.000378   4.33%
   QC value within limits for Si 251.611  Recovery = Not calculated
Sn 189.927†              -18.1    -0.00274 mg/L      0.000310    -0.00274 mg/L      0.000310  11.32%
   QC value within limits for Sn 189.927  Recovery = Not calculated
Ti 334.940†               78.0    -0.00043 mg/L      0.000127    -0.00043 mg/L      0.000127  29.67%
   QC value within limits for Ti 334.940  Recovery = Not calculated
Tl 190.801†               -2.3    -0.00230 mg/L      0.002217    -0.00230 mg/L      0.002217  96.46%
   QC value within limits for Tl 190.801  Recovery = Not calculated
V 290.880†               329.5    -0.00045 mg/L      0.001319    -0.00045 mg/L      0.001319 291.23%
   QC value within limits for V 290.880  Recovery = Not calculated
Zn 206.200†                4.8    -0.00165 mg/L      0.000127    -0.00165 mg/L      0.000127   7.74%
   QC value within limits for Zn 206.200  Recovery = Not calculated
K 766.490†                47.4      0.0324 mg/L       0.01000      0.0324 mg/L       0.01000  30.87%
   QC value within limits for K 766.490  Recovery = Not calculated
Na 589.592†             1076.4      0.0529 mg/L       0.00721      0.0529 mg/L       0.00721  13.63%
   QC value within limits for Na 589.592  Recovery = Not calculated
Sr 407.771†              285.6    -0.00274 mg/L      0.000019    -0.00274 mg/L      0.000019   0.69%
   QC value within limits for Sr 407.771  Recovery = Not calculated
Li 670.784†                2.2    -0.00296 mg/L      0.000158    -0.00296 mg/L      0.000158   5.34%
   QC value within limits for Li 670.784  Recovery = Not calculated
All analyte(s) passed QC.
User canceled analysis.
```

Approved: November 20, 2012

Kim H. Rhoden

==========

Analysis Begun

Start Time: 11/19/2012 10:01:58 AM **Plasma On Time: 11/19/2012 5:57:57 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\MONDAY1.sif
Batch ID:
Results Data Set: 111912HR
Results Library: C:\pe\peicp2\Results\Results.mdb

==========

Sequence No.: 1 **Autosampler Location: 26**
Sample ID: L1211043901 WG414452-01 **Date Collected: 11/19/2012 10:01:59 AM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1211043901 WG414452-01

Analyte	Back Pressure	Flow
All	175.0 kPa	0.50 L/min

Mean Data: L1211043901 WG414452-01

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2783069.7						9977.09	0.36%
YRADIAL	353978.2						3715.74	1.05%
Ga 417.206	1160417.4						14061.95	1.21%
GaRADIAL	75037.1						1203.92	1.60%
Ag 328.068†	-651.7	0.00465	mg/L	0.001017	0.00465	mg/L	0.001017	21.88%
Al 396.153†	366617.9	55.4	mg/L	0.86	55.4	mg/L	0.86	1.55%
As 188.979†	21.3	0.00901	mg/L	0.000981	0.00901	mg/L	0.000981	10.88%
Ba 233.527†	14192.4	0.0934	mg/L	0.00046	0.0934	mg/L	0.00046	0.49%
Be 234.861†	22357.2	0.0168	mg/L	0.00039	0.0168	mg/L	0.00039	2.34%
B 249.677†	10418.8	0.102	mg/L	0.0017	0.102	mg/L	0.0017	1.67%
Ca 227.546†	219493.2	576	mg/L	11.9	576	mg/L	11.9	2.06%
Cd 228.802†	268.9	0.00682	mg/L	0.000287	0.00682	mg/L	0.000287	4.21%
Co 228.616†	8741.6	0.238	mg/L	0.0008	0.238	mg/L	0.0008	0.34%
Cr 267.716†	486.1	0.00289	mg/L	0.000277	0.00289	mg/L	0.000277	9.57%
Cu 327.393†	20080.0	0.0760	mg/L	0.00100	0.0760	mg/L	0.00100	1.31%
Fe 239.562†	204947.7	21.5	mg/L	0.26	21.5	mg/L	0.26	1.23%
Mg 279.077†	125263.7	45.1	mg/L	0.35	45.1	mg/L	0.35	0.77%
Mn 257.610†	13014793.0	15.6	mg/L	0.21	15.6	mg/L	0.21	1.37%
Mo 202.031†	38.9	0.00481	mg/L	0.000184	0.00481	mg/L	0.000184	3.82%
Ni 231.604†	8454.8	0.141	mg/L	0.0006	0.141	mg/L	0.0006	0.44%
Pb 220.353†	-28.7	-0.00466	mg/L	0.002204	-0.00466	mg/L	0.002204	47.30%
Sb 206.836†	-19.8	-0.00477	mg/L	0.002941	-0.00477	mg/L	0.002941	61.63%
Se 196.026†	0.1	0.00232	mg/L	0.003072	0.00232	mg/L	0.003072	132.35%
Si 251.611†	821522.6	17.4	mg/L	0.13	17.4	mg/L	0.13	0.75%
Sn 189.927†	-406.5	-0.0435	mg/L	0.00201	-0.0435	mg/L	0.00201	4.63%
Ti 334.940†	-59757.2	0.0323	mg/L	0.00445	0.0323	mg/L	0.00445	13.76%
Tl 190.801†	-46.3	-0.0323	mg/L	0.00241	-0.0323	mg/L	0.00241	7.46%
V 290.880†	-148.3	-0.00504	mg/L	0.001734	-0.00504	mg/L	0.001734	34.43%
Zn 206.200†	30541.2	0.683	mg/L	0.0050	0.683	mg/L	0.0050	0.73%
K 766.490†	26557.9	8.40	mg/L	0.132	8.40	mg/L	0.132	1.57%
Na 589.592†	7208747.9	452	mg/L	5.8	452	mg/L	5.8	1.29%
Sr 407.771†	4414741.1	1.84	mg/L	0.026	1.84	mg/L	0.026	1.42%
Li 670.784†	10085.8	0.0728	mg/L	0.00099	0.0728	mg/L	0.00099	1.36%

==========

Sequence No.: 2 **Autosampler Location: 27**
Sample ID: L1211043903S WG414452-06 **Date Collected: 11/19/2012 10:08:09 AM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1211043903S WG414452-06

Approved: November 20, 2012

Kim H. Rhoden

Analyte	Back Pressure	Flow
All	177.0 kPa	0.50 L/min

Mean Data: L1211043903S WG414452-06

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2764716.0						30973.90	1.12%
YRADIAL	348362.4						850.05	0.24%
Ga 417.206	1167329.3						21044.74	1.80%
GaRADIAL	75233.4						344.72	0.46%
Ag 328.068†	61450.6	0.197	mg/L	0.0051	0.197	mg/L	0.0051	2.59%
Al 396.153†	402683.4	60.9	mg/L	0.27	60.9	mg/L	0.27	0.44%
As 188.979†	547.4	0.198	mg/L	0.0066	0.198	mg/L	0.0066	3.31%
Ba 233.527†	66781.8	0.451	mg/L	0.0041	0.451	mg/L	0.0041	0.91%
Be 234.861†	47856.3	0.0394	mg/L	0.00100	0.0394	mg/L	0.00100	2.54%
B 249.677†	98434.5	1.04	mg/L	0.029	1.04	mg/L	0.029	2.83%
Ca 227.546†	218301.4	574	mg/L	16.9	574	mg/L	16.9	2.94%
Cd 228.802†	1266.9	0.0283	mg/L	0.00113	0.0283	mg/L	0.00113	3.99%
Co 228.616†	11274.2	0.306	mg/L	0.0044	0.306	mg/L	0.0044	1.44%
Cr 267.716†	25109.9	0.193	mg/L	0.0007	0.193	mg/L	0.0007	0.37%
Cu 327.393†	83066.8	0.311	mg/L	0.0077	0.311	mg/L	0.0077	2.49%
Fe 239.562†	225209.9	23.7	mg/L	0.14	23.7	mg/L	0.14	0.61%
Mg 279.077†	135805.2	48.9	mg/L	0.38	48.9	mg/L	0.38	0.77%
Mn 257.610†	12929136.6	15.5	mg/L	0.10	15.5	mg/L	0.10	0.65%
Mo 202.031†	11145.6	0.381	mg/L	0.0030	0.381	mg/L	0.0030	0.78%
Ni 231.604†	19167.6	0.321	mg/L	0.0035	0.321	mg/L	0.0035	1.10%
Pb 220.353†	1802.2	0.171	mg/L	0.0019	0.171	mg/L	0.0019	1.12%
Sb 206.836†	2030.2	0.568	mg/L	0.0169	0.568	mg/L	0.0169	2.97%
Se 196.026†	315.6	0.197	mg/L	0.0035	0.197	mg/L	0.0035	1.78%
Si 251.611†	925749.0	19.6	mg/L	0.29	19.6	mg/L	0.29	1.50%
Sn 189.927†	3199.0	0.335	mg/L	0.0049	0.335	mg/L	0.0049	1.46%
Ti 334.940†	362798.7	0.410	mg/L	0.0049	0.410	mg/L	0.0049	1.19%
Tl 190.801†	463.8	0.147	mg/L	0.0044	0.147	mg/L	0.0044	3.01%
V 290.880†	86071.4	0.372	mg/L	0.0015	0.372	mg/L	0.0015	0.41%
Zn 206.200†	45039.8	1.01	mg/L	0.003	1.01	mg/L	0.003	0.28%
K 766.490†	99149.6	32.7	mg/L	0.07	32.7	mg/L	0.07	0.22%
Na 589.592†	7621560.8	488	mg/L	5.1	488	mg/L	5.1	1.04%
Sr 407.771†	5392496.6	2.25	mg/L	0.019	2.25	mg/L	0.019	0.84%
Li 670.784†	75852.5	0.567	mg/L	0.0026	0.567	mg/L	0.0026	0.45%

Sequence No.: 3 **Autosampler Location: 28**
Sample ID: L1211043905SD WG414452-07 **Date Collected: 11/19/2012 10:14:16 AM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1211043905SD WG414452-07

Analyte	Back Pressure	Flow
All	176.0 kPa	0.50 L/min

Mean Data: L1211043905SD WG414452-07

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2793006.1						16849.57	0.60%
YRADIAL	347523.8						4119.40	1.19%
Ga 417.206	1163235.8						32373.32	2.78%
GaRADIAL	74867.9						500.92	0.67%
Ag 328.068†	62531.4	0.201	mg/L	0.0074	0.201	mg/L	0.0074	3.66%
Al 396.153†	421443.7	63.7	mg/L	0.31	63.7	mg/L	0.31	0.48%
As 188.979†	567.4	0.205	mg/L	0.0062	0.205	mg/L	0.0062	3.01%
Ba 233.527†	68152.2	0.460	mg/L	0.0017	0.460	mg/L	0.0017	0.37%
Be 234.861†	50078.2	0.0411	mg/L	0.00127	0.0411	mg/L	0.00127	3.08%
B 249.677†	100904.3	1.06	mg/L	0.038	1.06	mg/L	0.038	3.53%
Ca 227.546†	225302.4	592	mg/L	19.1	592	mg/L	19.1	3.22%
Cd 228.802†	1302.1	0.0291	mg/L	0.00116	0.0291	mg/L	0.00116	4.00%
Co 228.616†	11441.9	0.311	mg/L	0.0039	0.311	mg/L	0.0039	1.26%
Cr 267.716†	25278.7	0.194	mg/L	0.0007	0.194	mg/L	0.0007	0.38%
Cu 327.393†	84572.7	0.316	mg/L	0.0102	0.316	mg/L	0.0102	3.21%

Approved: November 20, 2012

Fe 239.562†	239518.6	25.2	mg/L	0.18	25.2	mg/L	0.18	0.73%
Mg 279.077†	138784.0	50.0	mg/L	0.43	50.0	mg/L	0.43	0.85%
Mn 257.610†	13328828.4	16.0	mg/L	0.18	16.0	mg/L	0.18	1.15%
Mo 202.031†	11198.7	0.383	mg/L	0.0022	0.383	mg/L	0.0022	0.57%
Ni 231.604†	19358.3	0.324	mg/L	0.0032	0.324	mg/L	0.0032	0.98%
Pb 220.353†	1816.9	0.173	mg/L	0.0033	0.173	mg/L	0.0033	1.89%
Sb 206.836†	2060.9	0.577	mg/L	0.0212	0.577	mg/L	0.0212	3.68%
Se 196.026†	317.3	0.198	mg/L	0.0028	0.198	mg/L	0.0028	1.39%
Si 251.611†	966393.6	20.5	mg/L	0.41	20.5	mg/L	0.41	2.00%
Sn 189.927†	3266.3	0.342	mg/L	0.0046	0.342	mg/L	0.0046	1.33%
Ti 334.940†	368094.3	0.418	mg/L	0.0054	0.418	mg/L	0.0054	1.28%
Tl 190.801†	468.4	0.148	mg/L	0.0043	0.148	mg/L	0.0043	2.92%
V 290.880†	86556.1	0.374	mg/L	0.0009	0.374	mg/L	0.0009	0.25%
Zn 206.200†	46264.5	1.04	mg/L	0.011	1.04	mg/L	0.011	1.03%
K 766.490†	101175.0	33.3	mg/L	0.39	33.3	mg/L	0.39	1.16%
Na 589.592†	7811745.2	506	mg/L	2.6	506	mg/L	2.6	0.52%
Sr 407.771†	5507290.4	2.30	mg/L	0.048	2.30	mg/L	0.048	2.09%
Li 670.784†	77705.7	0.581	mg/L	0.0024	0.581	mg/L	0.0024	0.41%

==========

Sequence No.: 4 **Autosampler Location: 29**
Sample ID: L1211043801 **Date Collected: 11/19/2012 10:20:27 AM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1211043801

Analyte	Back Pressure	Flow
All	177.0 kPa	0.50 L/min

Mean Data: L1211043801

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2161017.3						12500.21	0.58%
YRADIAL	276457.1						2025.11	0.73%
Ga 417.206	1225062.0						13875.57	1.13%
GaRADIAL	77080.7						1662.75	2.16%
Ag 328.068†	1048.3	0.00198	mg/L	0.000188	0.00198	mg/L	0.000188	9.48%
Al 396.153†	-29.7	-0.0205	mg/L	0.00611	-0.0205	mg/L	0.00611	29.75%
As 188.979†	-5.0	-0.00196	mg/L	0.000732	-0.00196	mg/L	0.000732	37.27%
Ba 233.527†	1680.0	0.00947	mg/L	0.000223	0.00947	mg/L	0.000223	2.35%
Be 234.861†	207.3	0.00017	mg/L	0.000021	0.00017	mg/L	0.000021	12.46%
B 249.677†	43528.0	0.466	mg/L	0.0083	0.466	mg/L	0.0083	1.78%
Ca 227.546†	78176.3	205	mg/L	3.5	205	mg/L	3.5	1.70%
Cd 228.802†	4.1	0.00011	mg/L	0.000226	0.00011	mg/L	0.000226	207.85%
Co 228.616†	14.3	-0.00005	mg/L	0.000079	-0.00005	mg/L	0.000079	163.22%
Cr 267.716†	409.2	0.00248	mg/L	0.000101	0.00248	mg/L	0.000101	4.05%
Cu 327.393†	21.6	-0.00073	mg/L	0.000284	-0.00073	mg/L	0.000284	38.88%
Fe 239.562†	22.1	-0.00706	mg/L	0.001241	-0.00706	mg/L	0.001241	17.56%
Mg 279.077†	403362.3	145	mg/L	1.1	145	mg/L	1.1	0.73%
Mn 257.610†	20603.0	0.0226	mg/L	0.00090	0.0226	mg/L	0.00090	3.99%
Mo 202.031†	145.5	0.00411	mg/L	0.000562	0.00411	mg/L	0.000562	13.66%
Ni 231.604†	173.8	0.00126	mg/L	0.000273	0.00126	mg/L	0.000273	21.76%
Pb 220.353†	19.4	0.00101	mg/L	0.001414	0.00101	mg/L	0.001414	140.63%
Sb 206.836†	-6.1	-0.00166	mg/L	0.000653	-0.00166	mg/L	0.000653	39.26%
Se 196.026†	4.6	0.00372	mg/L	0.002740	0.00372	mg/L	0.002740	73.64%
Si 251.611†	246887.0	5.22	mg/L	0.084	5.22	mg/L	0.084	1.60%
Sn 189.927†	-382.1	-0.0409	mg/L	0.00036	-0.0409	mg/L	0.00036	0.87%
Ti 334.940†	-37962.4	-0.00374	mg/L	0.001273	-0.00374	mg/L	0.001273	34.02%
Tl 190.801†	-44.6	-0.0171	mg/L	0.00188	-0.0171	mg/L	0.00188	10.98%
V 290.880†	1719.3	0.00185	mg/L	0.001722	0.00185	mg/L	0.001722	93.09%
Zn 206.200†	77.3	0.00001	mg/L	0.000289	0.00001	mg/L	0.000289	>999.9%
K 766.490†	8089.5	2.70	mg/L	0.088	2.70	mg/L	0.088	3.27%
Na 589.592†	Saturated2							
Sr 407.771†	5583542.5	2.34	mg/L	0.044	2.34	mg/L	0.044	1.87%
Li 670.784†	14550.5	0.106	mg/L	0.0027	0.106	mg/L	0.0027	2.51%

==========

Sequence No.: 5 **Autosampler Location: 30**
Sample ID: L1211043801 0.01 **Date Collected: 11/19/2012 10:27:55 AM**

Approved: November 20, 2012

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

Nebulizer Parameters: L1211043801 0.01

Analyte	Back Pressure	Flow
All	174.0 kPa	0.50 L/min

Mean Data: L1211043801 0.01

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2446548.0						12771.67	0.52%
YRADIAL	287130.9						4985.60	1.74%
Ga 417.206	1232192.3						8535.69	0.69%
GaRADIAL	77023.8						1646.86	2.14%
Ag 328.068†	41.3	-0.00066	mg/L	0.000090	-0.00066	mg/L	0.000090	13.67%
Al 396.153†	25.6	-0.0119	mg/L	0.00111	-0.0119	mg/L	0.00111	9.38%
As 188.979†	0.5	0.00006	mg/L	0.001932	0.00006	mg/L	0.001932	>999.9%
Ba 233.527†	25.3	-0.00179	mg/L	0.000115	-0.00179	mg/L	0.000115	6.41%
Be 234.861†	96.0	0.00007	mg/L	0.000038	0.00007	mg/L	0.000038	57.87%
B 249.677†	1325.9	0.0157	mg/L	0.00128	0.0157	mg/L	0.00128	8.14%
Ca 227.546†	815.0	2.14	mg/L	0.014	2.14	mg/L	0.014	0.65%
Cd 228.802†	-0.7	-0.00001	mg/L	0.000120	-0.00001	mg/L	0.000120	>999.9%
Co 228.616†	-1.8	-0.00057	mg/L	0.000204	-0.00057	mg/L	0.000204	35.86%
Cr 267.716†	10.5	-0.00060	mg/L	0.000118	-0.00060	mg/L	0.000118	19.71%
Cu 327.393†	264.2	0.00022	mg/L	0.000502	0.00022	mg/L	0.000502	229.46%
Fe 239.562†	12.2	-0.00524	mg/L	0.000305	-0.00524	mg/L	0.000305	5.82%
Mg 279.077†	4229.2	1.51	mg/L	0.020	1.51	mg/L	0.020	1.31%
Mn 257.610†	2610.4	0.00098	mg/L	0.000034	0.00098	mg/L	0.000034	3.45%
Mo 202.031†	5.2	-0.00065	mg/L	0.000234	-0.00065	mg/L	0.000234	36.31%
Ni 231.604†	6.4	-0.00157	mg/L	0.000149	-0.00157	mg/L	0.000149	9.49%
Pb 220.353†	-0.3	-0.00086	mg/L	0.000854	-0.00086	mg/L	0.000854	99.21%
Sb 206.836†	0.5	0.00019	mg/L	0.001634	0.00019	mg/L	0.001634	838.34%
Se 196.026†	4.2	0.00349	mg/L	0.001056	0.00349	mg/L	0.001056	30.27%
Si 251.611†	2842.1	0.0499	mg/L	0.00022	0.0499	mg/L	0.00022	0.45%
Sn 189.927†	-43.9	-0.00544	mg/L	0.000105	-0.00544	mg/L	0.000105	1.93%
Ti 334.940†	-377.4	-0.00052	mg/L	0.000020	-0.00052	mg/L	0.000020	3.88%
Tl 190.801†	-2.2	-0.00229	mg/L	0.002454	-0.00229	mg/L	0.002454	107.21%
V 290.880†	253.9	-0.00082	mg/L	0.000590	-0.00082	mg/L	0.000590	71.69%
Zn 206.200†	103.7	0.00058	mg/L	0.000028	0.00058	mg/L	0.000028	4.82%
K 766.490†	122.8	0.0514	mg/L	0.00613	0.0514	mg/L	0.00613	11.92%
Na 589.592†	122904.3	6.11	mg/L	0.137	6.11	mg/L	0.137	2.25%
Sr 407.771†	59203.7	0.0219	mg/L	0.00068	0.0219	mg/L	0.00068	3.08%
Li 670.784†	171.4	-0.00169	mg/L	0.000297	-0.00169	mg/L	0.000297	17.55%

==========

Sequence No.: 6 **Autosampler Location: 31**
Sample ID: L1211030901 0.01 **Date Collected: 11/19/2012 10:34:50 AM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1211030901 0.01

Analyte	Back Pressure	Flow
All	175.0 kPa	0.50 L/min

Mean Data: L1211030901 0.01

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2427635.7						20710.41	0.85%
YRADIAL	284619.9						7000.94	2.46%
Ga 417.206	1231322.1						17713.48	1.44%
GaRADIAL	76707.0						1350.92	1.76%
Ag 328.068†	149.4	-0.00033	mg/L	0.000212	-0.00033	mg/L	0.000212	64.04%
Al 396.153†	18.5	-0.0129	mg/L	0.00209	-0.0129	mg/L	0.00209	16.15%
As 188.979†	1.7	0.00050	mg/L	0.002814	0.00050	mg/L	0.002814	561.66%
Ba 233.527†	158.4	-0.00088	mg/L	0.000112	-0.00088	mg/L	0.000112	12.67%
Be 234.861†	118.8	0.00009	mg/L	0.000009	0.00009	mg/L	0.000009	11.06%

Approved: November 20, 2012

Kym H. Rhoden

B 249.677†	2337.2	0.0265	mg/L	0.00195	0.0265	mg/L	0.00195 7.37%
Ca 227.546†	163.3	0.430	mg/L	0.0133	0.430	mg/L	0.0133 3.10%
Cd 228.802†	-3.0	-0.00006	mg/L	0.000122	-0.00006	mg/L	0.000122 193.75%
Co 228.616†	-3.0	-0.00060	mg/L	0.000349	-0.00060	mg/L	0.000349 58.19%
Cr 267.716†	4.6	-0.00064	mg/L	0.000124	-0.00064	mg/L	0.000124 19.21%
Cu 327.393†	117.3	-0.00033	mg/L	0.000361	-0.00033	mg/L	0.000361 110.66%
Fe 239.562†	14.2	-0.00499	mg/L	0.000187	-0.00499	mg/L	0.000187 3.75%
Mg 279.077†	602.3	0.207	mg/L	0.0072	0.207	mg/L	0.0072 3.49%
Mn 257.610†	1584.0	-0.00025	mg/L	0.000095	-0.00025	mg/L	0.000095 37.62%
Mo 202.031†	7.8	-0.00055	mg/L	0.000221	-0.00055	mg/L	0.000221 39.83%
Ni 231.604†	12.3	-0.00147	mg/L	0.000121	-0.00147	mg/L	0.000121 8.25%
Pb 220.353†	-4.9	-0.00130	mg/L	0.000580	-0.00130	mg/L	0.000580 44.45%
Sb 206.836†	-2.0	-0.00049	mg/L	0.001067	-0.00049	mg/L	0.001067 219.08%
Se 196.026†	7.0	0.00519	mg/L	0.000435	0.00519	mg/L	0.000435 8.37%
Si 251.611†	1701.9	0.0258	mg/L	0.00095	0.0258	mg/L	0.00095 3.69%
Sn 189.927†	-36.6	-0.00469	mg/L	0.000512	-0.00469	mg/L	0.000512 10.92%
Ti 334.940†	-74.6	-0.00050	mg/L	0.000148	-0.00050	mg/L	0.000148 29.41%
Tl 190.801†	-6.6	-0.00380	mg/L	0.002686	-0.00380	mg/L	0.002686 70.78%
V 290.880†	441.7	0.00003	mg/L	0.001131	0.00003	mg/L	0.001131 >999.9%
Zn 206.200†	123.3	0.00102	mg/L	0.000078	0.00102	mg/L	0.000078 7.66%
K 766.490†	198.8	0.0491	mg/L	0.01231	0.0491	mg/L	0.01231 25.10%
Na 589.592†	668738.6	33.7	mg/L	0.52	33.7	mg/L	0.52 1.54%
Sr 407.771†	117595.6	0.0465	mg/L	0.00189	0.0465	mg/L	0.00189 4.07%
Li 670.784†	284.3	-0.00085	mg/L	0.000451	-0.00085	mg/L	0.000451 53.34%

Sequence No.: 7 **Autosampler Location: 46**
Sample ID: L1211039301 0.02 **Date Collected: 11/19/2012 10:41:49 AM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1211039301 0.02

Analyte	Back Pressure	Flow
All	174.0 kPa	0.50 L/min

Mean Data: L1211039301 0.02

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2379611.3						15494.54	0.65%
YRADIAL	282686.5						4920.84	1.74%
Ga 417.206	1235926.9						21167.52	1.71%
GaRADIAL	77638.2						1018.53	1.31%
Ag 328.068†	101.1	-0.00049	mg/L	0.000097	-0.00049	mg/L	0.000097	19.61%
Al 396.153†	9.6	-0.0143	mg/L	0.00160	-0.0143	mg/L	0.00160	11.18%
As 188.979†	4.6	0.00154	mg/L	0.001195	0.00154	mg/L	0.001195	77.52%
Ba 233.527†	2694.6	0.0164	mg/L	0.00049	0.0164	mg/L	0.00049	2.96%
Be 234.861†	193.6	0.00015	mg/L	0.000024	0.00015	mg/L	0.000024	15.68%
B 249.677†	1594.5	0.0185	mg/L	0.00078	0.0185	mg/L	0.00078	4.19%
Ca 227.546†	2147.0	5.64	mg/L	0.250	5.64	mg/L	0.250	4.43%
Cd 228.802†	0.1	0.00000	mg/L	0.000195	0.00000	mg/L	0.000195	>999.9%
Co 228.616†	8.0	-0.00031	mg/L	0.000252	-0.00031	mg/L	0.000252	82.49%
Cr 267.716†	422.4	0.00258	mg/L	0.000187	0.00258	mg/L	0.000187	7.24%
Cu 327.393†	76.9	-0.00048	mg/L	0.000156	-0.00048	mg/L	0.000156	32.70%
Fe 239.562†	25.5	-0.00386	mg/L	0.000477	-0.00386	mg/L	0.000477	12.37%
Mg 279.077†	8458.1	3.04	mg/L	0.130	3.04	mg/L	0.130	4.29%
Mn 257.610†	2395.1	0.00072	mg/L	0.000040	0.00072	mg/L	0.000040	5.55%
Mo 202.031†	10.0	-0.00048	mg/L	0.000093	-0.00048	mg/L	0.000093	19.39%
Ni 231.604†	137.4	0.00064	mg/L	0.000043	0.00064	mg/L	0.000043	6.78%
Pb 220.353†	-3.0	-0.00112	mg/L	0.000337	-0.00112	mg/L	0.000337	30.18%
Sb 206.836†	-1.0	-0.00024	mg/L	0.000484	-0.00024	mg/L	0.000484	203.39%
Se 196.026†	4.8	0.00385	mg/L	0.000922	0.00385	mg/L	0.000922	23.97%
Si 251.611†	14732.1	0.302	mg/L	0.0136	0.302	mg/L	0.0136	4.51%
Sn 189.927†	-87.7	-0.0100	mg/L	0.00034	-0.0100	mg/L	0.00034	3.40%
Ti 334.940†	-1087.1	-0.00063	mg/L	0.000095	-0.00063	mg/L	0.000095	15.16%
Tl 190.801†	-7.1	-0.00395	mg/L	0.000556	-0.00395	mg/L	0.000556	14.07%
V 290.880†	715.8	0.00116	mg/L	0.000629	0.00116	mg/L	0.000629	54.40%
Zn 206.200†	49.3	-0.00062	mg/L	0.000015	-0.00062	mg/L	0.000015	2.41%
K 766.490†	6861.7	2.29	mg/L	0.110	2.29	mg/L	0.110	4.80%
Na 589.592†	220304.8	11.0	mg/L	0.82	11.0	mg/L	0.82	7.48%

Approved: November 20, 2012

Kim H. Rhoden

Sr 407.771†	298992.8	0.123	mg/L	0.0047	0.123	mg/L	0.0047 3.80%
Li 670.784†	505.9	0.00082	mg/L	0.000625	0.00082	mg/L	0.000625 76.28%

Sequence No.: 8 **Autosampler Location: 47**
Sample ID: L1211039302 0.02 **Date Collected: 11/19/2012 10:48:46 AM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1211039302 0.02

Analyte	Back Pressure	Flow
All	175.0 kPa	0.50 L/min

Mean Data: L1211039302 0.02

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2439289.6						3151.28	0.13%
YRADIAL	273630.5						15652.20	5.72%
Ga 417.206	1261215.9						9198.04	0.73%
GaRADIAL	75572.6						6199.15	8.20%
Ag 328.068†	20.1	-0.00075	mg/L	0.000100	-0.00075	mg/L	0.000100	13.32%
Al 396.153†	18.3	-0.0130	mg/L	0.00111	-0.0130	mg/L	0.00111	8.60%
As 188.979†	5.1	0.00173	mg/L	0.001396	0.00173	mg/L	0.001396	80.48%
Ba 233.527†	2643.1	0.0160	mg/L	0.00078	0.0160	mg/L	0.00078	4.84%
Be 234.861†	239.6	0.00019	mg/L	0.000024	0.00019	mg/L	0.000024	12.13%
B 249.677†	1510.6	0.0176	mg/L	0.00106	0.0176	mg/L	0.00106	6.02%
Ca 227.546†	2127.6	5.58	mg/L	0.268	5.58	mg/L	0.268	4.81%
Cd 228.802†	-4.2	-0.00010	mg/L	0.000116	-0.00010	mg/L	0.000116	120.70%
Co 228.616†	2.4	-0.00046	mg/L	0.000126	-0.00046	mg/L	0.000126	27.56%
Cr 267.716†	417.9	0.00255	mg/L	0.000097	0.00255	mg/L	0.000097	3.83%
Cu 327.393†	166.5	-0.00015	mg/L	0.000153	-0.00015	mg/L	0.000153	105.47%
Fe 239.562†	8.5	-0.00566	mg/L	0.000288	-0.00566	mg/L	0.000288	5.08%
Mg 279.077†	9070.4	3.26	mg/L	0.455	3.26	mg/L	0.455	13.98%
Mn 257.610†	1953.1	0.00019	mg/L	0.000137	0.00019	mg/L	0.000137	71.51%
Mo 202.031†	3.2	-0.00071	mg/L	0.000149	-0.00071	mg/L	0.000149	20.95%
Ni 231.604†	128.8	0.00049	mg/L	0.000292	0.00049	mg/L	0.000292	59.26%
Pb 220.353†	-2.6	-0.00109	mg/L	0.001616	-0.00109	mg/L	0.001616	148.94%
Sb 206.836†	-0.9	-0.00023	mg/L	0.000349	-0.00023	mg/L	0.000349	152.46%
Se 196.026†	3.3	0.00291	mg/L	0.001620	0.00291	mg/L	0.001620	55.71%
Si 251.611†	14583.6	0.299	mg/L	0.0194	0.299	mg/L	0.0194	6.50%
Sn 189.927†	-93.4	-0.0106	mg/L	0.00068	-0.0106	mg/L	0.00068	6.35%
Ti 334.940†	-1175.8	-0.00072	mg/L	0.000054	-0.00072	mg/L	0.000054	7.56%
Tl 190.801†	-5.2	-0.00330	mg/L	0.003803	-0.00330	mg/L	0.003803	115.15%
V 290.880†	390.9	-0.00027	mg/L	0.001915	-0.00027	mg/L	0.001915	709.29%
Zn 206.200†	52.6	-0.00054	mg/L	0.000027	-0.00054	mg/L	0.000027	5.03%
K 766.490†	7122.1	2.37	mg/L	0.296	2.37	mg/L	0.296	12.49%
Na 589.592†	233279.1	11.6	mg/L	1.71	11.6	mg/L	1.71	14.67%
Sr 407.771†	320743.9	0.132	mg/L	0.0144	0.132	mg/L	0.0144	10.97%
Li 670.784†	532.7	0.00102	mg/L	0.000704	0.00102	mg/L	0.000704	68.95%

Sequence No.: 9 **Autosampler Location: 48**
Sample ID: L1211039303 0.02 **Date Collected: 11/19/2012 10:55:39 AM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1211039303 0.02

Analyte	Back Pressure	Flow
All	174.0 kPa	0.50 L/min

Mean Data: L1211039303 0.02

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2402715.9						13469.01	0.56%
YRADIAL	282780.7						5722.58	2.02%
Ga 417.206	1238168.9						10673.37	0.86%

Approved: November 20, 2012

GaRADIAL	77461.3					1852.81	2.39%
Ag 328.068†	70.9	-0.00059	mg/L	0.000567	-0.00059 mg/L	0.000567	96.79%
Al 396.153†	8.5	-0.0144	mg/L	0.00070	-0.0144 mg/L	0.00070	4.84%
As 188.979†	3.5	0.00114	mg/L	0.000494	0.00114 mg/L	0.000494	43.33%
Ba 233.527†	2683.8	0.0163	mg/L	0.00080	0.0163 mg/L	0.00080	4.90%
Be 234.861†	200.5	0.00016	mg/L	0.000021	0.00016 mg/L	0.000021	13.26%
B 249.677†	1527.2	0.0178	mg/L	0.00042	0.0178 mg/L	0.00042	2.35%
Ca 227.546†	2152.9	5.65	mg/L	0.265	5.65 mg/L	0.265	4.69%
Cd 228.802†	-3.6	-0.00008	mg/L	0.000204	-0.00008 mg/L	0.000204	260.65%
Co 228.616†	5.5	-0.00037	mg/L	0.000254	-0.00037 mg/L	0.000254	68.22%
Cr 267.716†	412.2	0.00250	mg/L	0.000151	0.00250 mg/L	0.000151	6.04%
Cu 327.393†	73.1	-0.00049	mg/L	0.000291	-0.00049 mg/L	0.000291	59.23%
Fe 239.562†	15.8	-0.00488	mg/L	0.000513	-0.00488 mg/L	0.000513	10.50%
Mg 279.077†	8395.2	3.01	mg/L	0.083	3.01 mg/L	0.083	2.76%
Mn 257.610†	1672.6	-0.00015	mg/L	0.000084	-0.00015 mg/L	0.000084	58.14%
Mo 202.031†	0.0	-0.00082	mg/L	0.000205	-0.00082 mg/L	0.000205	25.01%
Ni 231.604†	135.7	0.00061	mg/L	0.000317	0.00061 mg/L	0.000317	52.08%
Pb 220.353†	13.2	0.00043	mg/L	0.000870	0.00043 mg/L	0.000870	201.45%
Sb 206.836†	-1.3	-0.00033	mg/L	0.001336	-0.00033 mg/L	0.001336	406.32%
Se 196.026†	3.6	0.00307	mg/L	0.000658	0.00307 mg/L	0.000658	21.44%
Si 251.611†	14953.3	0.306	mg/L	0.0220	0.306 mg/L	0.0220	7.17%
Sn 189.927†	-101.5	-0.0115	mg/L	0.00092	-0.0115 mg/L	0.00092	8.03%
Ti 334.940†	-1019.9	-0.00057	mg/L	0.000068	-0.00057 mg/L	0.000068	12.03%
Tl 190.801†	-2.0	-0.00220	mg/L	0.001154	-0.00220 mg/L	0.001154	52.36%
V 290.880†	685.2	0.00102	mg/L	0.001672	0.00102 mg/L	0.001672	163.25%
Zn 206.200†	84.9	0.00018	mg/L	0.000602	0.00018 mg/L	0.000602	332.64%
K 766.490†	6784.9	2.26	mg/L	0.068	2.26 mg/L	0.068	3.02%
Na 589.592†	220497.3	11.0	mg/L	0.46	11.0 mg/L	0.46	4.17%
Sr 407.771†	300025.9	0.123	mg/L	0.0015	0.123 mg/L	0.0015	1.22%
Li 670.784†	576.9	0.00135	mg/L	0.000130	0.00135 mg/L	0.000130	9.61%

Sequence No.: 10 **Autosampler Location: 49**
Sample ID: L1211039304 0.02 **Date Collected: 11/19/2012 11:02:33 AM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1211039304 0.02

Analyte	Back Pressure	Flow
All	175.0 kPa	0.50 L/min

Mean Data: L1211039304 0.02

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2432253.8						8967.00	0.37%
YRADIAL	286308.1						5280.09	1.84%
Ga 417.206	1276138.2						17808.08	1.40%
GaRADIAL	78874.6						1560.71	1.98%
Ag 328.068†	187.7	-0.00023	mg/L	0.000061	-0.00023	mg/L	0.000061	26.43%
Al 396.153†	14.7	-0.0135	mg/L	0.00123	-0.0135	mg/L	0.00123	9.13%
As 188.979†	9.1	0.00317	mg/L	0.000588	0.00317	mg/L	0.000588	18.53%
Ba 233.527†	2567.5	0.0155	mg/L	0.00100	0.0155	mg/L	0.00100	6.46%
Be 234.861†	264.4	0.00022	mg/L	0.000020	0.00022	mg/L	0.000020	9.25%
B 249.677†	1408.2	0.0165	mg/L	0.00217	0.0165	mg/L	0.00217	13.09%
Ca 227.546†	2035.2	5.34	mg/L	0.312	5.34	mg/L	0.312	5.84%
Cd 228.802†	-7.9	-0.00019	mg/L	0.000212	-0.00019	mg/L	0.000212	114.18%
Co 228.616†	4.9	-0.00039	mg/L	0.000199	-0.00039	mg/L	0.000199	51.26%
Cr 267.716†	407.5	0.00247	mg/L	0.000102	0.00247	mg/L	0.000102	4.15%
Cu 327.393†	86.6	-0.00044	mg/L	0.000326	-0.00044	mg/L	0.000326	73.91%
Fe 239.562†	10.3	-0.00546	mg/L	0.000501	-0.00546	mg/L	0.000501	9.18%
Mg 279.077†	8759.0	3.15	mg/L	0.190	3.15	mg/L	0.190	6.05%
Mn 257.610†	1483.5	-0.00037	mg/L	0.000034	-0.00037	mg/L	0.000034	9.06%
Mo 202.031†	4.7	-0.00066	mg/L	0.000331	-0.00066	mg/L	0.000331	50.16%
Ni 231.604†	135.7	0.00061	mg/L	0.000441	0.00061	mg/L	0.000441	72.46%
Pb 220.353†	1.8	-0.00066	mg/L	0.000389	-0.00066	mg/L	0.000389	58.84%
Sb 206.836†	-8.9	-0.00244	mg/L	0.000926	-0.00244	mg/L	0.000926	37.93%
Se 196.026†	1.2	0.00159	mg/L	0.000265	0.00159	mg/L	0.000265	16.70%
Si 251.611†	14182.6	0.290	mg/L	0.0262	0.290	mg/L	0.0262	9.04%
Sn 189.927†	-95.4	-0.0109	mg/L	0.00044	-0.0109	mg/L	0.00044	4.01%

Approved: November 20, 2012

Ti 334.940†	-1061.3	-0.00065 mg/L	0.000137	-0.00065 mg/L	0.000137	21.07%
Tl 190.801†	-1.3	-0.00197 mg/L	0.000294	-0.00197 mg/L	0.000294	14.93%
V 290.880†	534.0	0.00036 mg/L	0.001736	0.00036 mg/L	0.001736	483.80%
Zn 206.200†	53.3	-0.00053 mg/L	0.000037	-0.00053 mg/L	0.000037	6.95%
K 766.490†	7319.3	2.44 mg/L	0.132	2.44 mg/L	0.132	5.44%
Na 589.592†	234265.8	11.7 mg/L	1.01	11.7 mg/L	1.01	8.61%
Sr 407.771†	324681.7	0.133 mg/L	0.0055	0.133 mg/L	0.0055	4.12%
Li 670.784†	601.9	0.00154 mg/L	0.000844	0.00154 mg/L	0.000844	54.78%

Sequence No.: 11 **Autosampler Location: 6**
Sample ID: CCV **Date Collected: 11/19/2012 11:09:28 AM**
Analyst: **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: CCV

Analyte	Back Pressure	Flow
All	174.0 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	2422693.6						41066.27	1.70%
YRADIAL	285285.8						3232.49	1.13%
Ga 417.206	1186064.1						22775.23	1.92%
GaRADIAL	74790.4						1397.77	1.87%
Ag 328.068†	127118.4	0.394	mg/L	0.0095	0.394	mg/L	0.0095	2.41%
QC value within limits for Ag 328.068 Recovery = 98.38%								
Al 396.153†	63875.9	9.58	mg/L	0.027	9.58	mg/L	0.027	0.29%
QC value within limits for Al 396.153 Recovery = 95.81%								
As 188.979†	1062.2	0.380	mg/L	0.0077	0.380	mg/L	0.0077	2.02%
QC value within limits for As 188.979 Recovery = 95.06%								
Ba 233.527†	143095.4	0.972	mg/L	0.0167	0.972	mg/L	0.0167	1.72%
QC value within limits for Ba 233.527 Recovery = 97.17%								
Be 234.861†	54082.8	0.0480	mg/L	0.00118	0.0480	mg/L	0.00118	2.45%
QC value within limits for Be 234.861 Recovery = 95.98%								
B 249.677†	45300.2	0.481	mg/L	0.0119	0.481	mg/L	0.0119	2.47%
QC value within limits for B 249.677 Recovery = 96.22%								
Ca 227.546†	3664.6	10.1	mg/L	0.21	10.1	mg/L	0.21	2.05%
QC value within limits for Ca 227.546 Recovery = 100.62%								
Cd 228.802†	2174.7	0.0471	mg/L	0.00132	0.0471	mg/L	0.00132	2.80%
QC value within limits for Cd 228.802 Recovery = 94.30%								
Co 228.616†	7143.3	0.194	mg/L	0.0045	0.194	mg/L	0.0045	2.31%
QC value within limits for Co 228.616 Recovery = 96.80%								
Cr 267.716†	62687.2	0.483	mg/L	0.0050	0.483	mg/L	0.0050	1.04%
QC value within limits for Cr 267.716 Recovery = 96.69%								
Cu 327.393†	131754.6	0.490	mg/L	0.0122	0.490	mg/L	0.0122	2.48%
QC value within limits for Cu 327.393 Recovery = 98.06%								
Fe 239.562†	36925.5	3.87	mg/L	0.017	3.87	mg/L	0.017	0.43%
QC value within limits for Fe 239.562 Recovery = 96.82%								
Mg 279.077†	27115.5	9.77	mg/L	0.070	9.77	mg/L	0.070	0.72%
QC value within limits for Mg 279.077 Recovery = 97.72%								
Mn 257.610†	412177.5	0.493	mg/L	0.0097	0.493	mg/L	0.0097	1.97%
QC value within limits for Mn 257.610 Recovery = 98.63%								
Mo 202.031†	28230.8	0.955	mg/L	0.0105	0.955	mg/L	0.0105	1.10%
QC value within limits for Mo 202.031 Recovery = 95.51%								
Ni 231.604†	28868.9	0.485	mg/L	0.0074	0.485	mg/L	0.0074	1.53%
QC value within limits for Ni 231.604 Recovery = 96.96%								
Pb 220.353†	5077.4	0.486	mg/L	0.0112	0.486	mg/L	0.0112	2.30%
QC value within limits for Pb 220.353 Recovery = 97.11%								
Sb 206.836†	4140.9	1.16	mg/L	0.032	1.16	mg/L	0.032	2.74%
QC value within limits for Sb 206.836 Recovery = 96.39%								
Se 196.026†	627.6	0.388	mg/L	0.0065	0.388	mg/L	0.0065	1.68%
QC value within limits for Se 196.026 Recovery = 97.05%								
Si 251.611†	232294.9	4.90	mg/L	0.077	4.90	mg/L	0.077	1.57%
QC value within limits for Si 251.611 Recovery = 97.99%								
Sn 189.927†	9133.8	0.957	mg/L	0.0184	0.957	mg/L	0.0184	1.92%
QC value within limits for Sn 189.927 Recovery = 95.74%								
Ti 334.940†	1075187.3	0.964	mg/L	0.0073	0.964	mg/L	0.0073	0.76%

Approved: November 20, 2012

QC value within limits for Ti 334.940 Recovery = 96.40%
Tl 190.801† 1427.8 0.499 mg/L 0.0088 0.499 mg/L 0.0088 1.77%
QC value within limits for Tl 190.801 Recovery = 99.71%
V 290.880† 222874.1 0.972 mg/L 0.0134 0.972 mg/L 0.0134 1.38%
QC value within limits for V 290.880 Recovery = 97.25%
Zn 206.200† 42613.2 0.961 mg/L 0.0077 0.961 mg/L 0.0077 0.80%
QC value within limits for Zn 206.200 Recovery = 96.06%
K 766.490† 143823.5 48.2 mg/L 0.35 48.2 mg/L 0.35 0.72%
QC value within limits for K 766.490 Recovery = 96.34%
Na 589.592† 946920.4 48.0 mg/L 0.48 48.0 mg/L 0.48 1.00%
QC value within limits for Na 589.592 Recovery = 96.04%
Sr 407.771† 2355854.4 0.986 mg/L 0.0068 0.986 mg/L 0.0068 0.69%
QC value within limits for Sr 407.771 Recovery = 98.56%
Li 670.784† 130416.9 0.977 mg/L 0.0092 0.977 mg/L 0.0092 0.95%
QC value within limits for Li 670.784 Recovery = 97.67%
All analyte(s) passed QC.

Sequence No.: 12 **Autosampler Location: 1**
Sample ID: CCB **Date Collected: 11/19/2012 11:15:29 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	2471822.6						16432.65	0.66%
YRADIAL	289828.7						3550.57	1.23%
Ga 417.206	1215739.4						25261.72	2.08%
GaRADIAL	76789.4						1850.54	2.41%
Ag 328.068†	2.5	-0.00078	mg/L	0.000366	-0.00078	mg/L	0.000366	47.09%
QC value within limits for Ag 328.068 Recovery = Not calculated								
Al 396.153†	17.2	-0.0131	mg/L	0.00104	-0.0131	mg/L	0.00104	7.91%
QC value within limits for Al 396.153 Recovery = Not calculated								
As 188.979†	2.6	0.00082	mg/L	0.000862	0.00082	mg/L	0.000862	105.39%
QC value within limits for As 188.979 Recovery = Not calculated								
Ba 233.527†	14.1	-0.00187	mg/L	0.000077	-0.00187	mg/L	0.000077	4.11%
QC value within limits for Ba 233.527 Recovery = Not calculated								
Be 234.861†	68.6	0.00004	mg/L	0.000011	0.00004	mg/L	0.000011	27.45%
QC value within limits for Be 234.861 Recovery = Not calculated								
B 249.677†	405.9	0.00586	mg/L	0.000302	0.00586	mg/L	0.000302	5.16%
QC value within limits for B 249.677 Recovery = Not calculated								
Ca 227.546†	7.2	0.0200	mg/L	0.02076	0.0200	mg/L	0.02076	103.75%
QC value within limits for Ca 227.546 Recovery = Not calculated								
Cd 228.802†	-1.6	-0.00003	mg/L	0.000108	-0.00003	mg/L	0.000108	321.64%
QC value within limits for Cd 228.802 Recovery = Not calculated								
Co 228.616†	-3.3	-0.00061	mg/L	0.000254	-0.00061	mg/L	0.000254	41.64%
QC value within limits for Co 228.616 Recovery = Not calculated								
Cr 267.716†	-4.3	-0.00071	mg/L	0.000104	-0.00071	mg/L	0.000104	14.62%
QC value within limits for Cr 267.716 Recovery = Not calculated								
Cu 327.393†	118.4	-0.00032	mg/L	0.000328	-0.00032	mg/L	0.000328	101.80%
QC value within limits for Cu 327.393 Recovery = Not calculated								
Fe 239.562†	12.4	-0.00518	mg/L	0.000771	-0.00518	mg/L	0.000771	14.89%
QC value within limits for Fe 239.562 Recovery = Not calculated								
Mg 279.077†	2.9	-0.00855	mg/L	0.003748	-0.00855	mg/L	0.003748	43.83%
QC value within limits for Mg 279.077 Recovery = Not calculated								
Mn 257.610†	628.0	-0.00140	mg/L	0.000013	-0.00140	mg/L	0.000013	0.95%
QC value within limits for Mn 257.610 Recovery = Not calculated								
Mo 202.031†	-3.4	-0.00093	mg/L	0.000245	-0.00093	mg/L	0.000245	26.26%
QC value within limits for Mo 202.031 Recovery = Not calculated								
Ni 231.604†	5.8	-0.00158	mg/L	0.000430	-0.00158	mg/L	0.000430	27.16%
QC value within limits for Ni 231.604 Recovery = Not calculated								
Pb 220.353†	-3.1	-0.00113	mg/L	0.001454	-0.00113	mg/L	0.001454	128.50%
QC value within limits for Pb 220.353 Recovery = Not calculated								
Sb 206.836†	-1.6	-0.00038	mg/L	0.000500	-0.00038	mg/L	0.000500	132.95%

Approved: November 20, 2012

QC value within limits for Sb 206.836 Recovery = Not calculated
Se 196.026† 1.6 0.00183 mg/L 0.001580 0.00183 mg/L 0.001580 86.23%
QC value within limits for Se 196.026 Recovery = Not calculated
Si 251.611† 30.8 -0.00961 mg/L 0.000572 -0.00961 mg/L 0.000572 5.95%
QC value within limits for Si 251.611 Recovery = Not calculated
Sn 189.927† -19.8 -0.00291 mg/L 0.000373 -0.00291 mg/L 0.000373 12.81%
QC value within limits for Sn 189.927 Recovery = Not calculated
Ti 334.940† 16.0 -0.00048 mg/L 0.000098 -0.00048 mg/L 0.000098 20.31%
QC value within limits for Ti 334.940 Recovery = Not calculated
Tl 190.801† -3.7 -0.00279 mg/L 0.001564 -0.00279 mg/L 0.001564 56.12%
QC value within limits for Tl 190.801 Recovery = Not calculated
V 290.880† 38.9 -0.00172 mg/L 0.001382 -0.00172 mg/L 0.001382 80.15%
QC value within limits for V 290.880 Recovery = Not calculated
Zn 206.200† 6.6 -0.00161 mg/L 0.000205 -0.00161 mg/L 0.000205 12.74%
QC value within limits for Zn 206.200 Recovery = Not calculated
K 766.490† -4.6 0.0152 mg/L 0.02102 0.0152 mg/L 0.02102 138.77%
QC value within limits for K 766.490 Recovery = Not calculated
Na 589.592† 823.4 0.0403 mg/L 0.00303 0.0403 mg/L 0.00303 7.51%
QC value within limits for Na 589.592 Recovery = Not calculated
Sr 407.771† 267.3 -0.00275 mg/L 0.000027 -0.00275 mg/L 0.000027 0.99%
QC value within limits for Sr 407.771 Recovery = Not calculated
Li 670.784† 26.2 -0.00278 mg/L 0.000531 -0.00278 mg/L 0.000531 19.07%
QC value within limits for Li 670.784 Recovery = Not calculated
All analyte(s) passed QC.

Sequence No.: 13 **Autosampler Location: 12**
Sample ID: ICSA **Date Collected: 11/19/2012 11:22:22 AM**
Analyst: **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: ICSA

Analyte	Back Pressure	Flow
All	174.0 kPa	0.50 L/min

Mean Data: ICSA

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2204573.1						14420.08	0.65%
YRADIAL	271479.3						2979.61	1.10%
Ga 417.206	1134960.8						23329.42	2.06%
GaRADIAL	72527.4						1076.98	1.48%
Ag 328.068†	-14217.5	-0.00069	mg/L	0.001776	-0.00069	mg/L	0.001776	257.83%
QC value within limits for Ag 328.068 Recovery = Not calculated								
Al 396.153†	1671958.5	253	mg/L	3.2	253	mg/L	3.2	1.28%
QC value within limits for Al 396.153 Recovery = 101.16%								
As 188.979†	-3.0	0.00465	mg/L	0.000422	0.00465	mg/L	0.000422	9.08%
QC value within limits for As 188.979 Recovery = Not calculated								
Ba 233.527†	770.1	-0.00238	mg/L	0.000226	-0.00238	mg/L	0.000226	9.49%
QC value within limits for Ba 233.527 Recovery = Not calculated								
Be 234.861†	24005.7	0.00050	mg/L	0.000602	0.00050	mg/L	0.000602	121.43%
QC value within limits for Be 234.861 Recovery = Not calculated								
B 249.677†	6030.7	0.0247	mg/L	0.00406	0.0247	mg/L	0.00406	16.45%
QC value within limits for B 249.677 Recovery = Not calculated								
Ca 227.546†	100969.5	267	mg/L	7.2	267	mg/L	7.2	2.70%
QC value within limits for Ca 227.546 Recovery = 106.89%								
Cd 228.802†	5.0	0.00004	mg/L	0.000077	0.00004	mg/L	0.000077	171.97%
QC value within limits for Cd 228.802 Recovery = Not calculated								
Co 228.616†	28.3	-0.00218	mg/L	0.000128	-0.00218	mg/L	0.000128	5.86%
QC value within limits for Co 228.616 Recovery = Not calculated								
Cr 267.716†	114.5	-0.00064	mg/L	0.000207	-0.00064	mg/L	0.000207	32.42%
QC value within limits for Cr 267.716 Recovery = Not calculated								
Cu 327.393†	-1610.4	0.00329	mg/L	0.000267	0.00329	mg/L	0.000267	8.11%
QC value within limits for Cu 327.393 Recovery = Not calculated								
Fe 239.562†	911700.2	95.8	mg/L	1.46	95.8	mg/L	1.46	1.53%
QC value within limits for Fe 239.562 Recovery = 95.79%								
Mg 279.077†	705807.3	254	mg/L	3.2	254	mg/L	3.2	1.24%
QC value within limits for Mg 279.077 Recovery = 101.66%								
Mn 257.610†	-143.5	-0.00209	mg/L	0.000177	-0.00209	mg/L	0.000177	8.43%

Approved: November 20, 2012

QC value within limits for Mn 257.610 Recovery = Not calculated
Mo 202.031† -57.3 0.00194 mg/L 0.000943 0.00194 mg/L 0.000943 48.62%
QC value within limits for Mo 202.031 Recovery = Not calculated
Ni 231.604† 75.4 -0.00040 mg/L 0.000570 -0.00040 mg/L 0.000570 141.91%
QC value within limits for Ni 231.604 Recovery = Not calculated
Pb 220.353† -403.0 -0.00058 mg/L 0.002227 -0.00058 mg/L 0.002227 382.19%
QC value within limits for Pb 220.353 Recovery = Not calculated
Sb 206.836† -8.3 0.00125 mg/L 0.000527 0.00125 mg/L 0.000527 42.23%
QC value within limits for Sb 206.836 Recovery = Not calculated
Se 196.026† -37.6 0.00462 mg/L 0.005956 0.00462 mg/L 0.005956 129.03%
QC value within limits for Se 196.026 Recovery = Not calculated
Si 251.611† 8291.7 0.165 mg/L 0.0034 0.165 mg/L 0.0034 2.06%
QC value within limits for Si 251.611 Recovery = Not calculated
Sn 189.927† -364.2 -0.0391 mg/L 0.00041 -0.0391 mg/L 0.00041 1.04%
QC value within limits for Sn 189.927 Recovery = Not calculated
Ti 334.940† -39381.3 0.00396 mg/L 0.003012 0.00396 mg/L 0.003012 76.12%
QC value within limits for Ti 334.940 Recovery = Not calculated
Tl 190.801† -53.1 -0.0132 mg/L 0.00180 -0.0132 mg/L 0.00180 13.68%
QC value within limits for Tl 190.801 Recovery = Not calculated
V 290.880† 2979.6 -0.00131 mg/L 0.001559 -0.00131 mg/L 0.001559 118.95%
QC value within limits for V 290.880 Recovery = Not calculated
Zn 206.200† 343.2 -0.00279 mg/L 0.000552 -0.00279 mg/L 0.000552 19.79%
QC value within limits for Zn 206.200 Recovery = Not calculated
K 766.490† -82.8 -0.0108 mg/L 0.01154 -0.0108 mg/L 0.01154 106.54%
QC value within limits for K 766.490 Recovery = Not calculated
Na 589.592† 1111.2 0.0546 mg/L 0.00612 0.0546 mg/L 0.00612 11.22%
QC value within limits for Na 589.592 Recovery = Not calculated
Sr 407.771† 2794.9 -0.00693 mg/L 0.000162 -0.00693 mg/L 0.000162 2.34%
QC value within limits for Sr 407.771 Recovery = Not calculated
Li 670.784† 149.0 -0.00186 mg/L 0.000220 -0.00186 mg/L 0.000220 11.83%
QC value within limits for Li 670.784 Recovery = Not calculated
All analyte(s) passed QC.

==========

Sequence No.: 14 **Autosampler Location: 13**
Sample ID: ICSAB **Date Collected: 11/19/2012 11:28:18 AM**
Analyst: **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: ICSAB

Analyte	Back Pressure	Flow
All	175.0 kPa	0.50 L/min

Mean Data: ICSAB

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Calib. Std.Dev.	Sample Conc.	Sample Units	Sample Std.Dev.	Sample RSD
Y 371.029	2254096.3						17309.01	0.77%
YRADIAL	282077.5						2485.77	0.88%
Ga 417.206	1164842.8						28368.67	2.44%
GaRADIAL	74707.6						813.87	1.09%
Ag 328.068†	150146.7	0.504	mg/L	0.0138	0.504	mg/L	0.0138	2.74%
QC value within limits for Ag 328.068 Recovery = 100.80%								
Al 396.153†	1641212.1	248	mg/L	2.5	248	mg/L	2.5	0.99%
QC value within limits for Al 396.153 Recovery = 99.30%								
As 188.979†	635.0	0.236	mg/L	0.0032	0.236	mg/L	0.0032	1.34%
QC value within limits for As 188.979 Recovery = 94.29%								
Ba 233.527†	36386.0	0.240	mg/L	0.0010	0.240	mg/L	0.0010	0.40%
QC value within limits for Ba 233.527 Recovery = 96.01%								
Be 234.861†	294015.4	0.243	mg/L	0.0055	0.243	mg/L	0.0055	2.26%
QC value within limits for Be 234.861 Recovery = 97.15%								
B 249.677†	4369.5	-0.00444	mg/L	0.000882	-0.00444	mg/L	0.000882	19.85%
QC value within limits for B 249.677 Recovery = Not calculated								
Ca 227.546†	99497.2	264	mg/L	7.1	264	mg/L	7.1	2.69%
QC value within limits for Ca 227.546 Recovery = 105.46%								
Cd 228.802†	19964.0	0.444	mg/L	0.0089	0.444	mg/L	0.0089	2.00%
QC value within limits for Cd 228.802 Recovery = 88.89%								
Co 228.616†	8379.3	0.226	mg/L	0.0031	0.226	mg/L	0.0031	1.36%
QC value within limits for Co 228.616 Recovery = 90.27%								
Cr 267.716†	31328.4	0.240	mg/L	0.0009	0.240	mg/L	0.0009	0.37%

Approved: November 20, 2012

QC value within limits for Cr 267.716 Recovery = 96.17%
Cu 327.393† 64773.0 0.250 mg/L 0.0055 0.250 mg/L 0.0055 2.19%
QC value within limits for Cu 327.393 Recovery = 99.83%
Fe 239.562† 888601.7 93.4 mg/L 0.68 93.4 mg/L 0.68 0.73%
QC value within limits for Fe 239.562 Recovery = 93.36%
Mg 279.077† 686490.4 247 mg/L 2.1 247 mg/L 2.1 0.84%
QC value within limits for Mg 279.077 Recovery = 98.88%
Mn 257.610† 199314.5 0.237 mg/L 0.0022 0.237 mg/L 0.0022 0.91%
QC value within limits for Mn 257.610 Recovery = 94.97%
Mo 202.031† -62.1 0.00183 mg/L 0.000286 0.00183 mg/L 0.000286 15.64%
QC value within limits for Mo 202.031 Recovery = Not calculated
Ni 231.604† 27803.0 0.467 mg/L 0.0053 0.467 mg/L 0.0053 1.14%
QC value within limits for Ni 231.604 Recovery = 93.35%
Pb 220.353† 4519.0 0.469 mg/L 0.0057 0.469 mg/L 0.0057 1.23%
QC value within limits for Pb 220.353 Recovery = 93.71%
Sb 206.836† 1704.7 0.479 mg/L 0.0133 0.479 mg/L 0.0133 2.79%
QC value within limits for Sb 206.836 Recovery = 95.73%
Se 196.026† 354.4 0.245 mg/L 0.0065 0.245 mg/L 0.0065 2.65%
QC value within limits for Se 196.026 Recovery = 98.08%
Si 251.611† -271.5 -0.0160 mg/L 0.00046 -0.0160 mg/L 0.00046 2.85%
QC value within limits for Si 251.611 Recovery = Not calculated
Sn 189.927† -378.2 -0.0405 mg/L 0.00070 -0.0405 mg/L 0.00070 1.73%
QC value within limits for Sn 189.927 Recovery = Not calculated
Ti 334.940† -39589.6 0.00312 mg/L 0.003145 0.00312 mg/L 0.003145 100.82%
QC value within limits for Ti 334.940 Recovery = Not calculated
Tl 190.801† 1350.6 0.465 mg/L 0.0026 0.465 mg/L 0.0026 0.56%
QC value within limits for Tl 190.801 Recovery = 92.97%
V 290.880† 58225.6 0.241 mg/L 0.0014 0.241 mg/L 0.0014 0.57%
QC value within limits for V 290.880 Recovery = 96.27%
Zn 206.200† 20983.0 0.464 mg/L 0.0036 0.464 mg/L 0.0036 0.77%
QC value within limits for Zn 206.200 Recovery = 92.76%
K 766.490† 14482.6 4.83 mg/L 0.041 4.83 mg/L 0.041 0.84%
QC value within limits for K 766.490 Recovery = 96.51%
Na 589.592† 100576.4 5.00 mg/L 0.014 5.00 mg/L 0.014 0.28%
QC value within limits for Na 589.592 Recovery = 99.96%
Sr 407.771† 2543.7 -0.00696 mg/L 0.000162 -0.00696 mg/L 0.000162 2.33%
QC value within limits for Sr 407.771 Recovery = Not calculated
Li 670.784† 186.6 -0.00158 mg/L 0.000407 -0.00158 mg/L 0.000407 25.75%
QC value within limits for Li 670.784 Recovery = Not calculated
All analyte(s) passed QC.

==========

Sequence No.: 15 **Autosampler Location: 6**
Sample ID: CCV **Date Collected: 11/19/2012 11:34:15 AM**
Analyst: **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: CCV

Analyte	Back Pressure	Flow
All	174.0 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	2380010.7						22924.12	0.96%
YRADIAL	283093.6						986.93	0.35%
Ga 417.206	1167383.6						23046.71	1.97%
GaRADIAL	73474.4						309.27	0.42%
Ag 328.068†	131314.9	0.407	mg/L	0.0120	0.407	mg/L	0.0120	2.95%
QC value within limits for Ag 328.068 Recovery = 101.64%								
Al 396.153†	66054.7	9.91	mg/L	0.008	9.91	mg/L	0.008	0.08%
QC value within limits for Al 396.153 Recovery = 99.08%								
As 188.979†	1098.4	0.393	mg/L	0.0066	0.393	mg/L	0.0066	1.68%
QC value within limits for As 188.979 Recovery = 98.29%								
Ba 233.527†	148397.4	1.01	mg/L	0.006	1.01	mg/L	0.006	0.56%
QC value within limits for Ba 233.527 Recovery = 100.78%								
Be 234.861†	55998.8	0.0497	mg/L	0.00151	0.0497	mg/L	0.00151	3.03%
QC value within limits for Be 234.861 Recovery = 99.38%								
B 249.677†	46632.4	0.495	mg/L	0.0158	0.495	mg/L	0.0158	3.18%

Approved: November 20, 2012

QC value within limits for B 249.677 Recovery = 99.03%
Ca 227.546† 3780.2 10.4 mg/L 0.24 10.4 mg/L 0.24 2.33%
QC value within limits for Ca 227.546 Recovery = 103.83%
Cd 228.802† 2257.3 0.0489 mg/L 0.00183 0.0489 mg/L 0.00183 3.74%
QC value within limits for Cd 228.802 Recovery = 97.89%
Co 228.616† 7408.7 0.201 mg/L 0.0024 0.201 mg/L 0.0024 1.20%
QC value within limits for Co 228.616 Recovery = 100.42%
Cr 267.716† 65311.7 0.504 mg/L 0.0022 0.504 mg/L 0.0022 0.44%
QC value within limits for Cr 267.716 Recovery = 100.74%
Cu 327.393† 135875.1 0.506 mg/L 0.0138 0.506 mg/L 0.0138 2.73%
QC value within limits for Cu 327.393 Recovery = 101.13%
Fe 239.562† 38192.4 4.01 mg/L 0.006 4.01 mg/L 0.006 0.15%
QC value within limits for Fe 239.562 Recovery = 100.15%
Mg 279.077† 27924.8 10.1 mg/L 0.05 10.1 mg/L 0.05 0.53%
QC value within limits for Mg 279.077 Recovery = 100.64%
Mn 257.610† 426348.2 0.510 mg/L 0.0039 0.510 mg/L 0.0039 0.76%
QC value within limits for Mn 257.610 Recovery = 102.03%
Mo 202.031† 29284.0 0.991 mg/L 0.0061 0.991 mg/L 0.0061 0.61%
QC value within limits for Mo 202.031 Recovery = 99.08%
Ni 231.604† 30033.9 0.504 mg/L 0.0028 0.504 mg/L 0.0028 0.56%
QC value within limits for Ni 231.604 Recovery = 100.89%
Pb 220.353† 5259.7 0.503 mg/L 0.0050 0.503 mg/L 0.0050 1.00%
QC value within limits for Pb 220.353 Recovery = 100.60%
Sb 206.836† 4272.6 1.19 mg/L 0.038 1.19 mg/L 0.038 3.22%
QC value within limits for Sb 206.836 Recovery = 99.45%
Se 196.026† 654.4 0.405 mg/L 0.0139 0.405 mg/L 0.0139 3.43%
QC value within limits for Se 196.026 Recovery = 101.18%
Si 251.611† 239446.0 5.05 mg/L 0.095 5.05 mg/L 0.095 1.89%
QC value within limits for Si 251.611 Recovery = 101.01%
Sn 189.927† 9494.2 0.995 mg/L 0.0093 0.995 mg/L 0.0093 0.93%
QC value within limits for Sn 189.927 Recovery = 99.53%
Ti 334.940† 1101228.5 0.987 mg/L 0.0026 0.987 mg/L 0.0026 0.26%
QC value within limits for Ti 334.940 Recovery = 98.74%
Tl 190.801† 1485.4 0.519 mg/L 0.0034 0.519 mg/L 0.0034 0.65%
QC value within limits for Tl 190.801 Recovery = 103.71%
V 290.880† 230896.0 1.01 mg/L 0.002 1.01 mg/L 0.002 0.19%
QC value within limits for V 290.880 Recovery = 100.75%
Zn 206.200† 44597.1 1.01 mg/L 0.006 1.01 mg/L 0.006 0.63%
QC value within limits for Zn 206.200 Recovery = 100.54%
K 766.490† 147309.0 49.3 mg/L 0.04 49.3 mg/L 0.04 0.09%
QC value within limits for K 766.490 Recovery = 98.69%
Na 589.592† 980890.3 49.8 mg/L 0.34 49.8 mg/L 0.34 0.68%
QC value within limits for Na 589.592 Recovery = 99.57%
Sr 407.771† 2428866.9 1.02 mg/L 0.015 1.02 mg/L 0.015 1.43%
QC value within limits for Sr 407.771 Recovery = 101.63%
Li 670.784† 133467.2 1.000 mg/L 0.0007 1.000 mg/L 0.0007 0.07%
QC value within limits for Li 670.784 Recovery = 99.96%
All analyte(s) passed QC.

==========

Sequence No.: 16 **Autosampler Location: 1**
Sample ID: CCB **Date Collected: 11/19/2012 11:40:16 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	2446043.9						17356.55	0.71%
YRADIAL	286818.1						9039.15	3.15%
Ga 417.206	1207067.5						21698.14	1.80%
GaRADIAL	75837.1						88.40	0.12%
Ag 328.068†	0.7	-0.00078	mg/L	0.000405	-0.00078	mg/L	0.000405	51.95%
QC value within limits for Ag 328.068 Recovery = Not calculated								
Al 396.153†	29.4	-0.0113	mg/L	0.00200	-0.0113	mg/L	0.00200	17.72%

Approved: November 20, 2012

	QC value within limits for Al 396.153 Recovery = Not calculated							
As 188.979†	2.9	0.00093 mg/L	0.002005	0.00093 mg/L	0.002005	215.78%		
	QC value within limits for As 188.979 Recovery = Not calculated							
Ba 233.527†	21.8	-0.00181 mg/L	0.000095	-0.00181 mg/L	0.000095	5.26%		
	QC value within limits for Ba 233.527 Recovery = Not calculated							
Be 234.861†	65.8	0.00004 mg/L	0.000031	0.00004 mg/L	0.000031	83.84%		
	QC value within limits for Be 234.861 Recovery = Not calculated							
B 249.677†	286.0	0.00457 mg/L	0.000251	0.00457 mg/L	0.000251	5.48%		
	QC value within limits for B 249.677 Recovery = Not calculated							
Ca 227.546†	7.7	0.0213 mg/L	0.01091	0.0213 mg/L	0.01091	51.11%		
	QC value within limits for Ca 227.546 Recovery = Not calculated							
Cd 228.802†	5.7	0.00013 mg/L	0.000109	0.00013 mg/L	0.000109	84.57%		
	QC value within limits for Cd 228.802 Recovery = Not calculated							
Co 228.616†	3.1	-0.00044 mg/L	0.000145	-0.00044 mg/L	0.000145	33.20%		
	QC value within limits for Co 228.616 Recovery = Not calculated							
Cr 267.716†	15.7	-0.00056 mg/L	0.000030	-0.00056 mg/L	0.000030	5.29%		
	QC value within limits for Cr 267.716 Recovery = Not calculated							
Cu 327.393†	217.8	0.00005 mg/L	0.000111	0.00005 mg/L	0.000111	235.92%		
	QC value within limits for Cu 327.393 Recovery = Not calculated							
Fe 239.562†	32.4	-0.00307 mg/L	0.000199	-0.00307 mg/L	0.000199	6.47%		
	QC value within limits for Fe 239.562 Recovery = Not calculated							
Mg 279.077†	22.1	-0.00166 mg/L	0.000458	-0.00166 mg/L	0.000458	27.53%		
	QC value within limits for Mg 279.077 Recovery = Not calculated							
Mn 257.610†	604.9	-0.00143 mg/L	0.000019	-0.00143 mg/L	0.000019	1.34%		
	QC value within limits for Mn 257.610 Recovery = Not calculated							
Mo 202.031†	7.1	-0.00058 mg/L	0.000295	-0.00058 mg/L	0.000295	50.98%		
	QC value within limits for Mo 202.031 Recovery = Not calculated							
Ni 231.604†	0.9	-0.00166 mg/L	0.000312	-0.00166 mg/L	0.000312	18.74%		
	QC value within limits for Ni 231.604 Recovery = Not calculated							
Pb 220.353†	-4.3	-0.00124 mg/L	0.001471	-0.00124 mg/L	0.001471	118.72%		
	QC value within limits for Pb 220.353 Recovery = Not calculated							
Sb 206.836†	-4.8	-0.00129 mg/L	0.001018	-0.00129 mg/L	0.001018	78.94%		
	QC value within limits for Sb 206.836 Recovery = Not calculated							
Se 196.026†	9.0	0.00642 mg/L	0.001138	0.00642 mg/L	0.001138	17.71%		
	QC value within limits for Se 196.026 Recovery = Not calculated							
Si 251.611†	17.2	-0.00990 mg/L	0.000341	-0.00990 mg/L	0.000341	3.44%		
	QC value within limits for Si 251.611 Recovery = Not calculated							
Sn 189.927†	-22.3	-0.00318 mg/L	0.000376	-0.00318 mg/L	0.000376	11.84%		
	QC value within limits for Sn 189.927 Recovery = Not calculated							
Ti 334.940†	100.7	-0.00041 mg/L	0.000152	-0.00041 mg/L	0.000152	37.44%		
	QC value within limits for Ti 334.940 Recovery = Not calculated							
Tl 190.801†	-7.6	-0.00413 mg/L	0.004048	-0.00413 mg/L	0.004048	97.97%		
	QC value within limits for Tl 190.801 Recovery = Not calculated							
V 290.880†	329.0	-0.00046 mg/L	0.000276	-0.00046 mg/L	0.000276	60.67%		
	QC value within limits for V 290.880 Recovery = Not calculated							
Zn 206.200†	7.5	-0.00159 mg/L	0.000021	-0.00159 mg/L	0.000021	1.35%		
	QC value within limits for Zn 206.200 Recovery = Not calculated							
K 766.490†	1.6	0.0172 mg/L	0.00773	0.0172 mg/L	0.00773	44.89%		
	QC value within limits for K 766.490 Recovery = Not calculated							
Na 589.592†	581.5	0.0283 mg/L	0.00981	0.0283 mg/L	0.00981	34.63%		
	QC value within limits for Na 589.592 Recovery = Not calculated							
Sr 407.771†	286.8	-0.00274 mg/L	0.000025	-0.00274 mg/L	0.000025	0.90%		
	QC value within limits for Sr 407.771 Recovery = Not calculated							
Li 670.784†	55.5	-0.00256 mg/L	0.000592	-0.00256 mg/L	0.000592	23.11%		
	QC value within limits for Li 670.784 Recovery = Not calculated							

All analyte(s) passed QC.

==========

Sequence No.: 17 **Autosampler Location: 32**
Sample ID: LLCCV **Date Collected: 11/19/2012 11:47:10 AM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: LLCCV

Analyte	Back Pressure	Flow
All	174.0 kPa	0.50 L/min

Mean Data: LLCCV

	Mean Corrected	Calib.	Sample

Approved: November 20, 2012

Kim H. Rhoden

Analyte	Intensity	Conc.	Units	Std.Dev.	Conc.	Units	Std.Dev.	RSD
Y 371.029	2472606.4						16659.34	0.67%
YRADIAL	288750.1						4138.42	1.43%
Ga 417.206	1217736.0						9056.99	0.74%
GaRADIAL	76616.1						1061.92	1.39%
Ag 328.068†	1397.9	0.00355	mg/L	0.000392	0.00355	mg/L	0.000392	11.04%
Al 396.153†	689.4	0.0879	mg/L	0.00162	0.0879	mg/L	0.00162	1.84%
As 188.979†	14.7	0.00517	mg/L	0.001253	0.00517	mg/L	0.001253	24.21%
Ba 233.527†	1559.4	0.00865	mg/L	0.000148	0.00865	mg/L	0.000148	1.71%
Be 234.861†	631.8	0.00054	mg/L	0.000012	0.00054	mg/L	0.000012	2.19%
B 249.677†	619.3	0.00809	mg/L	0.000377	0.00809	mg/L	0.000377	4.65%
Ca 227.546†	65.6	0.178	mg/L	0.0162	0.178	mg/L	0.0162	9.06%
Cd 228.802†	19.8	0.00043	mg/L	0.000090	0.00043	mg/L	0.000090	21.12%
Co 228.616†	81.5	0.00170	mg/L	0.000387	0.00170	mg/L	0.000387	22.81%
Cr 267.716†	697.2	0.00470	mg/L	0.000146	0.00470	mg/L	0.000146	3.11%
Cu 327.393†	1500.1	0.00483	mg/L	0.000114	0.00483	mg/L	0.000114	2.37%
Fe 239.562†	404.5	0.0360	mg/L	0.00042	0.0360	mg/L	0.00042	1.17%
Mg 279.077†	303.8	0.1000	mg/L	0.00183	0.1000	mg/L	0.00183	1.83%
Mn 257.610†	4899.5	0.00373	mg/L	0.000074	0.00373	mg/L	0.000074	1.98%
Mo 202.031†	303.1	0.00944	mg/L	0.000145	0.00944	mg/L	0.000145	1.54%
Ni 231.604†	334.9	0.00397	mg/L	0.000216	0.00397	mg/L	0.000216	5.44%
Pb 220.353†	43.4	0.00333	mg/L	0.000914	0.00333	mg/L	0.000914	27.43%
Sb 206.836†	45.2	0.0127	mg/L	0.00024	0.0127	mg/L	0.00024	1.87%
Se 196.026†	10.3	0.00722	mg/L	0.004534	0.00722	mg/L	0.004534	62.78%
Si 251.611†	2458.1	0.0417	mg/L	0.00110	0.0417	mg/L	0.00110	2.63%
Sn 189.927†	72.2	0.00673	mg/L	0.000472	0.00673	mg/L	0.000472	7.02%
Ti 334.940†	11147.4	0.00951	mg/L	0.000072	0.00951	mg/L	0.000072	0.76%
Tl 190.801†	0.0	-0.00138	mg/L	0.000516	-0.00138	mg/L	0.000516	37.39%
V 290.880†	2450.9	0.00882	mg/L	0.001350	0.00882	mg/L	0.001350	15.31%
Zn 206.200†	566.4	0.0110	mg/L	0.00027	0.0110	mg/L	0.00027	2.49%
K 766.490†	1524.7	0.523	mg/L	0.0057	0.523	mg/L	0.0057	1.09%
Na 589.592†	10383.8	0.514	mg/L	0.0127	0.514	mg/L	0.0127	2.46%
Sr 407.771†	25494.0	0.00783	mg/L	0.000236	0.00783	mg/L	0.000236	3.01%
Li 670.784†	1377.7	0.00737	mg/L	0.000572	0.00737	mg/L	0.000572	7.77%

==========

Sequence No.: 18 **Autosampler Location: 33**
Sample ID: LLCCV **Date Collected: 11/19/2012 11:54:05 AM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: LLCCV

Analyte	Back Pressure	Flow
All	174.0 kPa	0.50 L/min

Mean Data: LLCCV

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2458631.8						19623.43	0.80%
YRADIAL	290983.6						3555.15	1.22%
Ga 417.206	1211245.3						14208.01	1.17%
GaRADIAL	77160.2						1695.36	2.20%
Ag 328.068†	2737.7	0.00771	mg/L	0.000090	0.00771	mg/L	0.000090	1.17%
Al 396.153†	1342.5	0.186	mg/L	0.0019	0.186	mg/L	0.0019	1.01%
As 188.979†	20.4	0.00718	mg/L	0.000594	0.00718	mg/L	0.000594	8.27%
Ba 233.527†	3116.7	0.0192	mg/L	0.00025	0.0192	mg/L	0.00025	1.31%
Be 234.861†	1191.1	0.00104	mg/L	0.000031	0.00104	mg/L	0.000031	3.00%
B 249.677†	1046.4	0.0126	mg/L	0.00007	0.0126	mg/L	0.00007	0.58%
Ca 227.546†	88.8	0.245	mg/L	0.0160	0.245	mg/L	0.0160	6.56%
Cd 228.802†	42.1	0.00092	mg/L	0.000165	0.00092	mg/L	0.000165	17.87%
Co 228.616†	157.6	0.00376	mg/L	0.000328	0.00376	mg/L	0.000328	8.71%
Cr 267.716†	1376.8	0.00995	mg/L	0.000264	0.00995	mg/L	0.000264	2.65%
Cu 327.393†	2853.7	0.00987	mg/L	0.000446	0.00987	mg/L	0.000446	4.52%
Fe 239.562†	801.3	0.0777	mg/L	0.00192	0.0777	mg/L	0.00192	2.47%
Mg 279.077†	589.0	0.203	mg/L	0.0034	0.203	mg/L	0.0034	1.66%
Mn 257.610†	9265.1	0.00898	mg/L	0.000148	0.00898	mg/L	0.000148	1.65%
Mo 202.031†	599.7	0.0195	mg/L	0.00040	0.0195	mg/L	0.00040	2.04%
Ni 231.604†	692.4	0.00999	mg/L	0.000104	0.00999	mg/L	0.000104	1.05%
Pb 220.353†	110.0	0.00970	mg/L	0.001949	0.00970	mg/L	0.001949	20.09%

Approved: November 20, 2012

Kim H. Rhoden

Sb 206.836†	82.2	0.0230 mg/L	0.00178	0.0230 mg/L	0.00178	7.74%
Se 196.026†	17.8	0.0119 mg/L	0.00109	0.0119 mg/L	0.00109	9.18%
Si 251.611†	4973.2	0.0948 mg/L	0.00165	0.0948 mg/L	0.00165	1.74%
Sn 189.927†	167.2	0.0167 mg/L	0.00020	0.0167 mg/L	0.00020	1.21%
Ti 334.940†	22357.4	0.0196 mg/L	0.00019	0.0196 mg/L	0.00019	0.99%
Tl 190.801†	25.9	0.00758 mg/L	0.001249	0.00758 mg/L	0.001249	16.48%
V 290.880†	4895.7	0.0195 mg/L	0.00100	0.0195 mg/L	0.00100	5.13%
Zn 206.200†	1061.2	0.0222 mg/L	0.00036	0.0222 mg/L	0.00036	1.62%
K 766.490†	2952.1	0.996 mg/L	0.0072	0.996 mg/L	0.0072	0.72%
Na 589.592†	20718.8	1.03 mg/L	0.014	1.03 mg/L	0.014	1.38%
Sr 407.771†	50581.3	0.0184 mg/L	0.00052	0.0184 mg/L	0.00052	2.85%
Li 670.784†	2693.8	0.0173 mg/L	0.00013	0.0173 mg/L	0.00013	0.73%

Sequence No.: 19 **Autosampler Location: 34**
Sample ID: L1211042903 **Date Collected: 11/19/2012 12:01:02 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1211042903

Analyte	Back Pressure	Flow
All	175.0 kPa	0.50 L/min

Mean Data: L1211042903

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2302136.7						8410.38	0.37%
YRADIAL	279797.9						1949.83	0.70%
Ga 417.206	1273416.9						8885.39	0.70%
GaRADIAL	78570.9						2280.95	2.90%
Ag 328.068†	1215.5	0.00274	mg/L	0.000351	0.00274	mg/L	0.000351	12.84%
Al 396.153†	188.0	0.0122	mg/L	0.00118	0.0122	mg/L	0.00118	9.66%
As 188.979†	-5.8	-0.00225	mg/L	0.001346	-0.00225	mg/L	0.001346	59.84%
Ba 233.527†	7249.3	0.0474	mg/L	0.00029	0.0474	mg/L	0.00029	0.61%
Be 234.861†	248.2	0.00018	mg/L	0.000024	0.00018	mg/L	0.000024	12.89%
B 249.677†	297344.5	3.17	mg/L	0.011	3.17	mg/L	0.011	0.34%
Ca 227.546†	80089.1	210	mg/L	1.7	210	mg/L	1.7	0.81%
Cd 228.802†	-2.8	-0.00004	mg/L	0.000085	-0.00004	mg/L	0.000085	224.04%
Co 228.616†	76.7	0.00165	mg/L	0.000055	0.00165	mg/L	0.000055	3.32%
Cr 267.716†	167.3	0.00061	mg/L	0.000071	0.00061	mg/L	0.000071	11.73%
Cu 327.393†	-188.6	-0.00149	mg/L	0.000491	-0.00149	mg/L	0.000491	32.91%
Fe 239.562†	1047.7	0.103	mg/L	0.0015	0.103	mg/L	0.0015	1.46%
Mg 279.077†	106813.1	38.5	mg/L	0.35	38.5	mg/L	0.35	0.91%
Mn 257.610†	19138.7	0.0208	mg/L	0.00015	0.0208	mg/L	0.00015	0.71%
Mo 202.031†	232.9	0.00707	mg/L	0.000190	0.00707	mg/L	0.000190	2.68%
Ni 231.604†	62.5	-0.00062	mg/L	0.000360	-0.00062	mg/L	0.000360	57.78%
Pb 220.353†	8.0	-0.00008	mg/L	0.001247	-0.00008	mg/L	0.001247	>999.9%
Sb 206.836†	-2.0	-0.00050	mg/L	0.001275	-0.00050	mg/L	0.001275	256.70%
Se 196.026†	14.5	0.00980	mg/L	0.003601	0.00980	mg/L	0.003601	36.73%
Si 251.611†	378820.5	8.01	mg/L	0.056	8.01	mg/L	0.056	0.70%
Sn 189.927†	-354.8	-0.0381	mg/L	0.00015	-0.0381	mg/L	0.00015	0.39%
Ti 334.940†	-38155.5	-0.00316	mg/L	0.001290	-0.00316	mg/L	0.001290	40.79%
Tl 190.801†	-38.1	-0.0149	mg/L	0.00345	-0.0149	mg/L	0.00345	23.11%
V 290.880†	1114.2	0.00197	mg/L	0.002413	0.00197	mg/L	0.002413	122.43%
Zn 206.200†	107.2	0.00066	mg/L	0.000236	0.00066	mg/L	0.000236	35.93%
K 766.490†	11421.5	3.78	mg/L	0.044	3.78	mg/L	0.044	1.18%
Na 589.592†	690890.2	34.8	mg/L	1.61	34.8	mg/L	1.61	4.61%
Sr 407.771†	3256558.8	1.36	mg/L	0.028	1.36	mg/L	0.028	2.08%
Li 670.784†	4710.7	0.0324	mg/L	0.00113	0.0324	mg/L	0.00113	3.49%

Sequence No.: 20 **Autosampler Location: 35**
Sample ID: L1211043902 WG414452-02 **Date Collected: 11/19/2012 12:08:03 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1211043902 WG414452-02

Approved: November 20, 2012

Kim H. Rhoden

Analyte	Back Pressure	Flow
All	177.0 kPa	0.50 L/min

Mean Data: L1211043902 WG414452-02

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	2792262.3						11660.25	0.42%
YRADIAL	354992.6						3156.80	0.89%
Ga 417.206	1181667.8						19201.05	1.62%
GaRADIAL	76087.9						706.73	0.93%
Ag 328.068†	977.8	0.00581	mg/L	0.000445	0.00581	mg/L	0.000445	7.66%
Al 396.153†	274284.5	41.5	mg/L	0.28	41.5	mg/L	0.28	0.67%
As 188.979†	11.7	0.00443	mg/L	0.000845	0.00443	mg/L	0.000845	19.09%
Ba 233.527†	12938.9	0.0853	mg/L	0.00168	0.0853	mg/L	0.00168	1.96%
Be 234.861†	17990.4	0.0148	mg/L	0.00026	0.0148	mg/L	0.00026	1.74%
B 249.677†	10337.5	0.105	mg/L	0.0029	0.105	mg/L	0.0029	2.81%
Ca 227.546†	210730.8	553	mg/L	9.6	553	mg/L	9.6	1.74%
Cd 228.802†	251.3	0.00643	mg/L	0.000081	0.00643	mg/L	0.000081	1.26%
Co 228.616†	8603.0	0.234	mg/L	0.0009	0.234	mg/L	0.0009	0.39%
Cr 267.716†	312.5	0.00172	mg/L	0.000469	0.00172	mg/L	0.000469	27.30%
Cu 327.393†	19000.1	0.0710	mg/L	0.00163	0.0710	mg/L	0.00163	2.29%
Fe 239.562†	123703.5	13.0	mg/L	0.02	13.0	mg/L	0.02	0.19%
Mg 279.077†	121969.7	43.9	mg/L	0.12	43.9	mg/L	0.12	0.26%
Mn 257.610†	12737342.0	15.3	mg/L	0.22	15.3	mg/L	0.22	1.42%
Mo 202.031†	25.8	0.00388	mg/L	0.000146	0.00388	mg/L	0.000146	3.76%
Ni 231.604†	8355.6	0.139	mg/L	0.0010	0.139	mg/L	0.0010	0.70%
Pb 220.353†	-33.0	-0.00672	mg/L	0.000822	-0.00672	mg/L	0.000822	12.22%
Sb 206.836†	-15.0	-0.00375	mg/L	0.001660	-0.00375	mg/L	0.001660	44.26%
Se 196.026†	8.6	0.00567	mg/L	0.002948	0.00567	mg/L	0.002948	51.98%
Si 251.611†	715246.3	15.1	mg/L	0.15	15.1	mg/L	0.15	0.98%
Sn 189.927†	-398.3	-0.0426	mg/L	0.00135	-0.0426	mg/L	0.00135	3.16%
Ti 334.940†	-79941.8	0.0108	mg/L	0.00373	0.0108	mg/L	0.00373	34.45%
Tl 190.801†	-34.2	-0.0284	mg/L	0.00610	-0.0284	mg/L	0.00610	21.45%
V 290.880†	-190.4	-0.00467	mg/L	0.000440	-0.00467	mg/L	0.000440	9.43%
Zn 206.200†	29774.6	0.667	mg/L	0.0163	0.667	mg/L	0.0163	2.45%
K 766.490†	25175.9	7.96	mg/L	0.004	7.96	mg/L	0.004	0.05%
Na 589.592†	6903939.9	427	mg/L	7.3	427	mg/L	7.3	1.71%
Sr 407.771†	4262423.1	1.77	mg/L	0.019	1.77	mg/L	0.019	1.09%
Li 670.784†	9520.0	0.0685	mg/L	0.00042	0.0685	mg/L	0.00042	0.62%

Sequence No.: 21 **Autosampler Location: 36**
Sample ID: L1211043904S WG414452-08 **Date Collected: 11/19/2012 12:14:13 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1211043904S WG414452-08

Analyte	Back Pressure	Flow
All	177.0 kPa	0.50 L/min

Mean Data: L1211043904S WG414452-08

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	2769893.5						31209.09	1.13%
YRADIAL	339557.0						3544.51	1.04%
Ga 417.206	1162581.9						15093.68	1.30%
GaRADIAL	73553.2						1201.17	1.63%
Ag 328.068†	64806.5	0.204	mg/L	0.0052	0.204	mg/L	0.0052	2.54%
Al 396.153†	314578.1	47.5	mg/L	0.04	47.5	mg/L	0.04	0.08%
As 188.979†	567.1	0.204	mg/L	0.0023	0.204	mg/L	0.0023	1.12%
Ba 233.527†	67709.0	0.458	mg/L	0.0019	0.458	mg/L	0.0019	0.41%
Be 234.861†	45080.7	0.0388	mg/L	0.00084	0.0388	mg/L	0.00084	2.17%
B 249.677†	100874.8	1.07	mg/L	0.031	1.07	mg/L	0.031	2.93%
Ca 227.546†	219040.8	575	mg/L	15.4	575	mg/L	15.4	2.69%
Cd 228.802†	1300.8	0.0290	mg/L	0.00069	0.0290	mg/L	0.00069	2.36%
Co 228.616†	11381.2	0.310	mg/L	0.0054	0.310	mg/L	0.0054	1.76%
Cr 267.716†	25548.1	0.197	mg/L	0.0013	0.197	mg/L	0.0013	0.65%
Cu 327.393†	84313.4	0.314	mg/L	0.0080	0.314	mg/L	0.0080	2.54%

Approved: November 20, 2012

Fe 239.562†	143270.8	15.0	mg/L	0.03	15.0	mg/L	0.03	0.22%
Mg 279.077†	137950.3	49.7	mg/L	0.17	49.7	mg/L	0.17	0.35%
Mn 257.610†	13100594.5	15.7	mg/L	0.19	15.7	mg/L	0.19	1.23%
Mo 202.031†	11325.3	0.387	mg/L	0.0039	0.387	mg/L	0.0039	1.01%
Ni 231.604†	19424.4	0.326	mg/L	0.0043	0.326	mg/L	0.0043	1.31%
Pb 220.353†	1849.5	0.174	mg/L	0.0023	0.174	mg/L	0.0023	1.35%
Sb 206.836†	2066.9	0.578	mg/L	0.0110	0.578	mg/L	0.0110	1.90%
Se 196.026†	323.7	0.200	mg/L	0.0065	0.200	mg/L	0.0065	3.25%
Si 251.611†	850840.1	18.0	mg/L	0.23	18.0	mg/L	0.23	1.27%
Sn 189.927†	3267.5	0.342	mg/L	0.0060	0.342	mg/L	0.0060	1.76%
Ti 334.940†	349770.9	0.399	mg/L	0.0047	0.399	mg/L	0.0047	1.17%
Tl 190.801†	478.2	0.151	mg/L	0.0020	0.151	mg/L	0.0020	1.29%
V 290.880†	87874.4	0.380	mg/L	0.0010	0.380	mg/L	0.0010	0.27%
Zn 206.200†	46027.0	1.03	mg/L	0.005	1.03	mg/L	0.005	0.47%
K 766.490†	100542.8	33.1	mg/L	0.20	33.1	mg/L	0.20	0.61%
Na 589.592†	7696014.6	495	mg/L	5.0	495	mg/L	5.0	1.01%
Sr 407.771†	5406722.0	2.25	mg/L	0.043	2.25	mg/L	0.043	1.90%
Li 670.784†	75823.1	0.567	mg/L	0.0010	0.567	mg/L	0.0010	0.18%

Sequence No.: 22 **Autosampler Location: 37**
Sample ID: L1211043906SD WG414452-09 **Date Collected: 11/19/2012 12:20:19 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1211043906SD WG414452-09

Analyte	Back Pressure	Flow
All	178.0 kPa	0.50 L/min

Mean Data: L1211043906SD WG414452-09

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2757489.0						4150.08	0.15%
YRADIAL	340960.9						2611.72	0.77%
Ga 417.206	1174903.9						18195.55	1.55%
GaRADIAL	74604.3						593.06	0.79%
Ag 328.068†	62632.3	0.197	mg/L	0.0034	0.197	mg/L	0.0034	1.75%
Al 396.153†	300843.6	45.5	mg/L	0.13	45.5	mg/L	0.13	0.28%
As 188.979†	546.0	0.196	mg/L	0.0017	0.196	mg/L	0.0017	0.89%
Ba 233.527†	66716.4	0.451	mg/L	0.0015	0.451	mg/L	0.0015	0.32%
Be 234.861†	43413.2	0.0373	mg/L	0.00081	0.0373	mg/L	0.00081	2.17%
B 249.677†	97661.7	1.03	mg/L	0.020	1.03	mg/L	0.020	1.90%
Ca 227.546†	208277.3	547	mg/L	12.3	547	mg/L	12.3	2.26%
Cd 228.802†	1248.5	0.0279	mg/L	0.00079	0.0279	mg/L	0.00079	2.83%
Co 228.616†	11010.0	0.299	mg/L	0.0008	0.299	mg/L	0.0008	0.26%
Cr 267.716†	25083.0	0.193	mg/L	0.0018	0.193	mg/L	0.0018	0.96%
Cu 327.393†	81188.7	0.303	mg/L	0.0054	0.303	mg/L	0.0054	1.80%
Fe 239.562†	138379.4	14.5	mg/L	0.08	14.5	mg/L	0.08	0.52%
Mg 279.077†	133237.5	48.0	mg/L	0.23	48.0	mg/L	0.23	0.48%
Mn 257.610†	12662408.2	15.2	mg/L	0.12	15.2	mg/L	0.12	0.76%
Mo 202.031†	11138.4	0.380	mg/L	0.0017	0.380	mg/L	0.0017	0.44%
Ni 231.604†	18963.3	0.318	mg/L	0.0007	0.318	mg/L	0.0007	0.22%
Pb 220.353†	1826.1	0.172	mg/L	0.0019	0.172	mg/L	0.0019	1.10%
Sb 206.836†	1999.2	0.559	mg/L	0.0123	0.559	mg/L	0.0123	2.20%
Se 196.026†	314.7	0.195	mg/L	0.0070	0.195	mg/L	0.0070	3.62%
Si 251.611†	813654.1	17.2	mg/L	0.20	17.2	mg/L	0.20	1.15%
Sn 189.927†	3676.6	0.385	mg/L	0.0027	0.385	mg/L	0.0027	0.70%
Ti 334.940†	347881.0	0.393	mg/L	0.0051	0.393	mg/L	0.0051	1.29%
Tl 190.801†	466.2	0.148	mg/L	0.0022	0.148	mg/L	0.0022	1.50%
V 290.880†	86917.9	0.376	mg/L	0.0025	0.376	mg/L	0.0025	0.67%
Zn 206.200†	44729.5	1.00	mg/L	0.007	1.00	mg/L	0.007	0.66%
K 766.490†	97916.0	32.3	mg/L	0.14	32.3	mg/L	0.14	0.43%
Na 589.592†	7398194.0	468	mg/L	6.7	468	mg/L	6.7	1.44%
Sr 407.771†	5307647.3	2.21	mg/L	0.044	2.21	mg/L	0.044	1.97%
Li 670.784†	73935.0	0.552	mg/L	0.0063	0.552	mg/L	0.0063	1.14%

Sequence No.: 23 **Autosampler Location: 38**
Sample ID: L1211044702 **Date Collected: 11/19/2012 12:26:25 PM**

Approved: November 20, 2012

Kim H. Rhoden

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

Nebulizer Parameters: L1211044702

Analyte	Back Pressure	Flow
All	176.0 kPa	0.50 L/min

Mean Data: L1211044702

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2506677.0						34656.54	1.38%
YRADIAL	299156.2						4650.96	1.55%
Ga 417.206	1258549.4						11353.98	0.90%
GaRADIAL	78493.7						603.05	0.77%
Ag 328.068†	81.2	-0.00036	mg/L	0.000506	-0.00036	mg/L	0.000506	140.03%
Al 396.153†	1483.8	0.209	mg/L	0.0072	0.209	mg/L	0.0072	3.43%
As 188.979†	-1.6	-0.00061	mg/L	0.002074	-0.00061	mg/L	0.002074	339.40%
Ba 233.527†	1721.5	0.00973	mg/L	0.000125	0.00973	mg/L	0.000125	1.28%
Be 234.861†	541.9	0.00038	mg/L	0.000030	0.00038	mg/L	0.000030	7.80%
B 249.677†	1626.9	0.0187	mg/L	0.00059	0.0187	mg/L	0.00059	3.17%
Ca 227.546†	853.6	2.25	mg/L	0.007	2.25	mg/L	0.007	0.32%
Cd 228.802†	11.1	0.00026	mg/L	0.000235	0.00026	mg/L	0.000235	90.47%
Co 228.616†	23.5	0.00010	mg/L	0.000228	0.00010	mg/L	0.000228	223.63%
Cr 267.716†	41.4	-0.00037	mg/L	0.000127	-0.00037	mg/L	0.000127	34.19%
Cu 327.393†	386.8	0.00072	mg/L	0.000206	0.00072	mg/L	0.000206	28.69%
Fe 239.562†	3680.6	0.380	mg/L	0.0090	0.380	mg/L	0.0090	2.36%
Mg 279.077†	2594.3	0.925	mg/L	0.0384	0.925	mg/L	0.0384	4.16%
Mn 257.610†	14782.1	0.0156	mg/L	0.00023	0.0156	mg/L	0.00023	1.45%
Mo 202.031†	19.0	-0.00016	mg/L	0.000083	-0.00016	mg/L	0.000083	53.07%
Ni 231.604†	104.2	0.00008	mg/L	0.000758	0.00008	mg/L	0.000758	980.79%
Pb 220.353†	-35.5	-0.00422	mg/L	0.002272	-0.00422	mg/L	0.002272	53.81%
Sb 206.836†	-4.1	-0.00107	mg/L	0.001390	-0.00107	mg/L	0.001390	129.93%
Se 196.026†	6.2	0.00477	mg/L	0.002434	0.00477	mg/L	0.002434	51.01%
Si 251.611†	216621.9	4.58	mg/L	0.044	4.58	mg/L	0.044	0.96%
Sn 189.927†	-62.2	-0.00737	mg/L	0.000730	-0.00737	mg/L	0.000730	9.91%
Ti 334.940†	3967.7	0.00339	mg/L	0.000096	0.00339	mg/L	0.000096	2.82%
Tl 190.801†	-0.6	-0.00171	mg/L	0.001947	-0.00171	mg/L	0.001947	113.67%
V 290.880†	364.6	-0.00035	mg/L	0.000614	-0.00035	mg/L	0.000614	176.89%
Zn 206.200†	173.4	0.00211	mg/L	0.000229	0.00211	mg/L	0.000229	10.85%
K 766.490†	2529.7	0.855	mg/L	0.0275	0.855	mg/L	0.0275	3.22%
Na 589.592†	38539.5	1.91	mg/L	0.013	1.91	mg/L	0.013	0.68%
Sr 407.771†	36255.0	0.0123	mg/L	0.00008	0.0123	mg/L	0.00008	0.65%
Li 670.784†	239.2	-0.00118	mg/L	0.000071	-0.00118	mg/L	0.000071	5.96%

==========

Sequence No.: 24 **Autosampler Location: 39**
Sample ID: L1211044705 WG414452-03 **Date Collected: 11/19/2012 12:32:23 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1211044705 WG414452-03

Analyte	Back Pressure	Flow
All	176.0 kPa	0.50 L/min

Mean Data: L1211044705 WG414452-03

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2484372.9						21846.36	0.88%
YRADIAL	299496.1						1409.12	0.47%
Ga 417.206	1239135.6						22314.46	1.80%
GaRADIAL	77787.9						129.04	0.17%
Ag 328.068†	150.8	-0.00017	mg/L	0.000133	-0.00017	mg/L	0.000133	76.56%
Al 396.153†	1110.1	0.152	mg/L	0.0030	0.152	mg/L	0.0030	2.00%
As 188.979†	5.1	0.00179	mg/L	0.001643	0.00179	mg/L	0.001643	91.58%
Ba 233.527†	1580.2	0.00877	mg/L	0.000120	0.00877	mg/L	0.000120	1.37%
Be 234.861†	461.6	0.00032	mg/L	0.000091	0.00032	mg/L	0.000091	28.31%

Approved: November 20, 2012

Kim H. Rhoden

B 249.677†	1295.3	0.0152	mg/L	0.00059	0.0152	mg/L	0.00059 3.87%
Ca 227.546†	709.7	1.87	mg/L	0.040	1.87	mg/L	0.040 2.13%
Cd 228.802†	9.1	0.00020	mg/L	0.000213	0.00020	mg/L	0.000213 105.40%
Co 228.616†	21.7	0.00006	mg/L	0.000269	0.00006	mg/L	0.000269 476.63%
Cr 267.716†	28.4	-0.00047	mg/L	0.000145	-0.00047	mg/L	0.000145 30.91%
Cu 327.393†	385.0	0.00070	mg/L	0.000568	0.00070	mg/L	0.000568 80.63%
Fe 239.562†	3105.0	0.320	mg/L	0.0019	0.320	mg/L	0.0019 0.58%
Mg 279.077†	2520.9	0.898	mg/L	0.0253	0.898	mg/L	0.0253 2.82%
Mn 257.610†	14929.5	0.0158	mg/L	0.00088	0.0158	mg/L	0.00088 5.55%
Mo 202.031†	5.4	-0.00062	mg/L	0.000308	-0.00062	mg/L	0.000308 49.90%
Ni 231.604†	92.6	-0.00012	mg/L	0.000589	-0.00012	mg/L	0.000589 493.47%
Pb 220.353†	-31.0	-0.00380	mg/L	0.001668	-0.00380	mg/L	0.001668 43.89%
Sb 206.836†	-6.6	-0.00179	mg/L	0.000999	-0.00179	mg/L	0.000999 55.97%
Se 196.026†	5.8	0.00448	mg/L	0.002768	0.00448	mg/L	0.002768 61.81%
Si 251.611†	225853.1	4.77	mg/L	0.075	4.77	mg/L	0.075 1.57%
Sn 189.927†	-49.7	-0.00606	mg/L	0.000528	-0.00606	mg/L	0.000528 8.72%
Ti 334.940†	2930.1	0.00240	mg/L	0.000200	0.00240	mg/L	0.000200 8.33%
Tl 190.801†	3.5	-0.00031	mg/L	0.001927	-0.00031	mg/L	0.001927 615.99%
V 290.880†	529.5	0.00038	mg/L	0.000246	0.00038	mg/L	0.000246 64.99%
Zn 206.200†	210.6	0.00295	mg/L	0.000151	0.00295	mg/L	0.000151 5.13%
K 766.490†	2134.7	0.724	mg/L	0.0340	0.724	mg/L	0.0340 4.70%
Na 589.592†	36788.2	1.83	mg/L	0.006	1.83	mg/L	0.006 0.31%
Sr 407.771†	32911.3	0.0109	mg/L	0.00005	0.0109	mg/L	0.00005 0.44%
Li 670.784†	212.9	-0.00138	mg/L	0.000663	-0.00138	mg/L	0.000663 47.98%

Sequence No.: 25 **Autosampler Location: 40**
Sample ID: L1211044708 WG414452-10 **Date Collected: 11/19/2012 12:38:20 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1211044708 WG414452-10

Analyte	Back Pressure	Flow
All	176.0 kPa	0.50 L/min

Mean Data: L1211044708 WG414452-10

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2440703.0						33211.91	1.36%
YRADIAL	293609.4						521.46	0.18%
Ga 417.206	1222582.4						18310.63	1.50%
GaRADIAL	76357.0						210.94	0.28%
Ag 328.068†	63692.4	0.197	mg/L	0.0045	0.197	mg/L	0.0045	2.28%
Al 396.153†	33887.7	5.08	mg/L	0.019	5.08	mg/L	0.019	0.37%
As 188.979†	513.7	0.184	mg/L	0.0023	0.184	mg/L	0.0023	1.24%
Ba 233.527†	73665.9	0.499	mg/L	0.0050	0.499	mg/L	0.0050	1.00%
Be 234.861†	26776.5	0.0237	mg/L	0.00065	0.0237	mg/L	0.00065	2.73%
B 249.677†	90617.7	0.966	mg/L	0.0237	0.966	mg/L	0.0237	2.45%
Ca 227.546†	2542.4	6.92	mg/L	0.121	6.92	mg/L	0.121	1.75%
Cd 228.802†	1063.9	0.0231	mg/L	0.00081	0.0231	mg/L	0.00081	3.53%
Co 228.616†	3621.4	0.0979	mg/L	0.00168	0.0979	mg/L	0.00168	1.72%
Cr 267.716†	31897.7	0.246	mg/L	0.0022	0.246	mg/L	0.0022	0.88%
Cu 327.393†	66483.1	0.247	mg/L	0.0047	0.247	mg/L	0.0047	1.92%
Fe 239.562†	21919.9	2.30	mg/L	0.019	2.30	mg/L	0.019	0.81%
Mg 279.077†	16097.1	5.80	mg/L	0.064	5.80	mg/L	0.064	1.10%
Mn 257.610†	223865.3	0.267	mg/L	0.0036	0.267	mg/L	0.0036	1.34%
Mo 202.031†	14180.3	0.479	mg/L	0.0044	0.479	mg/L	0.0044	0.92%
Ni 231.604†	15369.4	0.257	mg/L	0.0042	0.257	mg/L	0.0042	1.64%
Pb 220.353†	2565.3	0.245	mg/L	0.0041	0.245	mg/L	0.0041	1.67%
Sb 206.836†	2058.0	0.575	mg/L	0.0117	0.575	mg/L	0.0117	2.03%
Se 196.026†	308.1	0.191	mg/L	0.0029	0.191	mg/L	0.0029	1.51%
Si 251.611†	352920.2	7.46	mg/L	0.107	7.46	mg/L	0.107	1.43%
Sn 189.927†	4852.6	0.508	mg/L	0.0087	0.508	mg/L	0.0087	1.72%
Ti 334.940†	545901.3	0.489	mg/L	0.0022	0.489	mg/L	0.0022	0.45%
Tl 190.801†	739.5	0.257	mg/L	0.0022	0.257	mg/L	0.0022	0.85%
V 290.880†	113043.0	0.492	mg/L	0.0061	0.492	mg/L	0.0061	1.25%
Zn 206.200†	21235.6	0.478	mg/L	0.0043	0.478	mg/L	0.0043	0.90%
K 766.490†	74246.4	24.8	mg/L	0.07	24.8	mg/L	0.07	0.27%
Na 589.592†	521848.1	26.2	mg/L	0.16	26.2	mg/L	0.16	0.62%

Approved: November 20, 2012

Kym H. Rhoden

Sr 407.771†	1241029.6	0.518	mg/L	0.0015	0.518	mg/L	0.0015	0.29%
Li 670.784†	67804.8	0.506	mg/L	0.0024	0.506	mg/L	0.0024	0.47%

Sequence No.: 26 **Autosampler Location: 41**
Sample ID: L1211044711SD WG414452-11 **Date Collected: 11/19/2012 12:44:18 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1211044711SD WG414452-11

Analyte	Back Pressure	Flow
All	176.0 kPa	0.50 L/min

Mean Data: L1211044711SD WG414452-11

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2442758.4						17675.81	0.72%
YRADIAL	295046.7						3294.98	1.12%
Ga 417.206	1232541.8						32778.79	2.66%
GaRADIAL	76763.5						1090.93	1.42%
Ag 328.068†	63354.7	0.196	mg/L	0.0071	0.196	mg/L	0.0071	3.63%
Al 396.153†	33983.5	5.09	mg/L	0.025	5.09	mg/L	0.025	0.49%
As 188.979†	511.6	0.183	mg/L	0.0036	0.183	mg/L	0.0036	1.95%
Ba 233.527†	73645.7	0.499	mg/L	0.0075	0.499	mg/L	0.0075	1.50%
Be 234.861†	26577.0	0.0235	mg/L	0.00104	0.0235	mg/L	0.00104	4.43%
B 249.677†	90303.6	0.963	mg/L	0.0361	0.963	mg/L	0.0361	3.75%
Ca 227.546†	2543.4	6.92	mg/L	0.211	6.92	mg/L	0.211	3.05%
Cd 228.802†	1060.3	0.0230	mg/L	0.00101	0.0230	mg/L	0.00101	4.40%
Co 228.616†	3616.9	0.0977	mg/L	0.00111	0.0977	mg/L	0.00111	1.14%
Cr 267.716†	31835.7	0.245	mg/L	0.0035	0.245	mg/L	0.0035	1.43%
Cu 327.393†	66259.4	0.246	mg/L	0.0071	0.246	mg/L	0.0071	2.88%
Fe 239.562†	22024.9	2.31	mg/L	0.016	2.31	mg/L	0.016	0.71%
Mg 279.077†	16152.1	5.82	mg/L	0.059	5.82	mg/L	0.059	1.02%
Mn 257.610†	223507.1	0.266	mg/L	0.0024	0.266	mg/L	0.0024	0.90%
Mo 202.031†	14188.2	0.480	mg/L	0.0069	0.480	mg/L	0.0069	1.45%
Ni 231.604†	15396.9	0.258	mg/L	0.0027	0.258	mg/L	0.0027	1.04%
Pb 220.353†	2569.0	0.245	mg/L	0.0037	0.245	mg/L	0.0037	1.51%
Sb 206.836†	2042.0	0.570	mg/L	0.0161	0.570	mg/L	0.0161	2.82%
Se 196.026†	305.8	0.190	mg/L	0.0049	0.190	mg/L	0.0049	2.60%
Si 251.611†	354822.2	7.50	mg/L	0.215	7.50	mg/L	0.215	2.87%
Sn 189.927†	4882.2	0.511	mg/L	0.0050	0.511	mg/L	0.0050	0.98%
Ti 334.940†	548180.5	0.492	mg/L	0.0013	0.492	mg/L	0.0013	0.27%
Tl 190.801†	739.8	0.257	mg/L	0.0021	0.257	mg/L	0.0021	0.80%
V 290.880†	113104.2	0.493	mg/L	0.0073	0.493	mg/L	0.0073	1.48%
Zn 206.200†	21142.3	0.476	mg/L	0.0125	0.476	mg/L	0.0125	2.63%
K 766.490†	74544.1	24.9	mg/L	0.08	24.9	mg/L	0.08	0.34%
Na 589.592†	521390.8	26.2	mg/L	0.32	26.2	mg/L	0.32	1.24%
Sr 407.771†	1240430.6	0.518	mg/L	0.0067	0.518	mg/L	0.0067	1.30%
Li 670.784†	68257.7	0.510	mg/L	0.0039	0.510	mg/L	0.0039	0.76%

User canceled analysis.

Approved: November 20, 2012

==========

Analysis Begun

Start Time: 11/19/2012 12:53:26 PM **Plasma On Time: 11/19/2012 5:57:57 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\MONDAY1.sif
Batch ID:
Results Data Set: 111912HR
Results Library: C:\pe\peicp2\Results\Results.mdb

==========

Sequence No.: 1 **Autosampler Location: 42**
Sample ID: L1211044714 **Date Collected: 11/19/2012 12:53:28 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1211044714

Analyte	Back Pressure	Flow
All	175.0 kPa	0.50 L/min

Mean Data: L1211044714

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Calib. Std.Dev.	Sample Conc.	Sample Units	Sample Std.Dev.	Sample RSD
Y 371.029	2498858.9						26678.17	1.07%
YRADIAL	298042.8						2677.89	0.90%
Ga 417.206	1252176.6						17550.35	1.40%
GaRADIAL	78401.2						886.43	1.13%
Ag 328.068†	102.6	-0.00024	mg/L	0.000327	-0.00024	mg/L	0.000327	135.19%
Al 396.153†	1314.9	0.183	mg/L	0.0016	0.183	mg/L	0.0016	0.88%
As 188.979†	-0.4	-0.00015	mg/L	0.000894	-0.00015	mg/L	0.000894	580.64%
Ba 233.527†	1849.4	0.0106	mg/L	0.00016	0.0106	mg/L	0.00016	1.50%
Be 234.861†	572.1	0.00038	mg/L	0.000093	0.00038	mg/L	0.000093	24.18%
B 249.677†	1322.6	0.0154	mg/L	0.00053	0.0154	mg/L	0.00053	3.45%
Ca 227.546†	879.2	2.32	mg/L	0.038	2.32	mg/L	0.038	1.65%
Cd 228.802†	8.9	0.00021	mg/L	0.000207	0.00021	mg/L	0.000207	99.52%
Co 228.616†	21.1	0.00003	mg/L	0.000448	0.00003	mg/L	0.000448	>999.9%
Cr 267.716†	44.5	-0.00035	mg/L	0.000062	-0.00035	mg/L	0.000062	17.48%
Cu 327.393†	387.0	0.00073	mg/L	0.000595	0.00073	mg/L	0.000595	81.32%
Fe 239.562†	4793.7	0.497	mg/L	0.0096	0.497	mg/L	0.0096	1.93%
Mg 279.077†	3126.7	1.12	mg/L	0.019	1.12	mg/L	0.019	1.70%
Mn 257.610†	14798.0	0.0156	mg/L	0.00033	0.0156	mg/L	0.00033	2.13%
Mo 202.031†	11.7	-0.00040	mg/L	0.000451	-0.00040	mg/L	0.000451	113.61%
Ni 231.604†	93.1	-0.00011	mg/L	0.000430	-0.00011	mg/L	0.000430	386.85%
Pb 220.353†	-28.1	-0.00353	mg/L	0.001449	-0.00353	mg/L	0.001449	40.99%
Sb 206.836†	-1.7	-0.00039	mg/L	0.000556	-0.00039	mg/L	0.000556	143.25%
Se 196.026†	7.5	0.00554	mg/L	0.002978	0.00554	mg/L	0.002978	53.73%
Si 251.611†	254173.6	5.37	mg/L	0.087	5.37	mg/L	0.087	1.62%
Sn 189.927†	-54.4	-0.00655	mg/L	0.000205	-0.00655	mg/L	0.000205	3.13%
Ti 334.940†	3903.8	0.00334	mg/L	0.000110	0.00334	mg/L	0.000110	3.30%
Tl 190.801†	-1.3	-0.00193	mg/L	0.002170	-0.00193	mg/L	0.002170	112.20%
V 290.880†	418.3	-0.00012	mg/L	0.000379	-0.00012	mg/L	0.000379	305.03%
Zn 206.200†	128.2	0.00109	mg/L	0.000201	0.00109	mg/L	0.000201	18.55%
K 766.490†	2650.3	0.895	mg/L	0.0054	0.895	mg/L	0.0054	0.60%
Na 589.592†	44897.4	2.23	mg/L	0.024	2.23	mg/L	0.024	1.09%
Sr 407.771†	43177.7	0.0152	mg/L	0.00007	0.0152	mg/L	0.00007	0.44%
Li 670.784†	226.3	-0.00128	mg/L	0.000215	-0.00128	mg/L	0.000215	16.79%

==========

Sequence No.: 2 **Autosampler Location: 6**
Sample ID: CCV **Date Collected: 11/19/2012 12:59:26 PM**
Analyst: **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: CCV

Approved: November 20, 2012

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	2391711.2						23492.90	0.98%
YRADIAL	284573.3						1585.39	0.56%
Ga 417.206	1173857.8						21185.63	1.80%
GaRADIAL	73813.5						549.14	0.74%
Ag 328.068†	130853.9	0.405	mg/L	0.0109	0.405	mg/L	0.0109	2.70%
QC value within limits for Ag 328.068 Recovery = 101.28%								
Al 396.153†	65998.5	9.90	mg/L	0.021	9.90	mg/L	0.021	0.22%
QC value within limits for Al 396.153 Recovery = 99.00%								
As 188.979†	1097.4	0.393	mg/L	0.0084	0.393	mg/L	0.0084	2.13%
QC value within limits for As 188.979 Recovery = 98.21%								
Ba 233.527†	147798.1	1.00	mg/L	0.012	1.00	mg/L	0.012	1.24%
QC value within limits for Ba 233.527 Recovery = 100.37%								
Be 234.861†	55834.2	0.0495	mg/L	0.00125	0.0495	mg/L	0.00125	2.53%
QC value within limits for Be 234.861 Recovery = 99.08%								
B 249.677†	47230.3	0.502	mg/L	0.0134	0.502	mg/L	0.0134	2.67%
QC value within limits for B 249.677 Recovery = 100.31%								
Ca 227.546†	3768.5	10.4	mg/L	0.24	10.4	mg/L	0.24	2.27%
QC value within limits for Ca 227.546 Recovery = 103.51%								
Cd 228.802†	2233.5	0.0484	mg/L	0.00196	0.0484	mg/L	0.00196	4.04%
QC value within limits for Cd 228.802 Recovery = 96.83%								
Co 228.616†	7370.9	0.200	mg/L	0.0015	0.200	mg/L	0.0015	0.74%
QC value within limits for Co 228.616 Recovery = 99.90%								
Cr 267.716†	64806.8	0.500	mg/L	0.0046	0.500	mg/L	0.0046	0.92%
QC value within limits for Cr 267.716 Recovery = 99.96%								
Cu 327.393†	135644.6	0.505	mg/L	0.0128	0.505	mg/L	0.0128	2.54%
QC value within limits for Cu 327.393 Recovery = 100.96%								
Fe 239.562†	38230.9	4.01	mg/L	0.024	4.01	mg/L	0.024	0.60%
QC value within limits for Fe 239.562 Recovery = 100.25%								
Mg 279.077†	27914.7	10.1	mg/L	0.11	10.1	mg/L	0.11	1.06%
QC value within limits for Mg 279.077 Recovery = 100.60%								
Mn 257.610†	425727.2	0.509	mg/L	0.0074	0.509	mg/L	0.0074	1.46%
QC value within limits for Mn 257.610 Recovery = 101.88%								
Mo 202.031†	29127.2	0.985	mg/L	0.0113	0.985	mg/L	0.0113	1.14%
QC value within limits for Mo 202.031 Recovery = 98.55%								
Ni 231.604†	29882.6	0.502	mg/L	0.0057	0.502	mg/L	0.0057	1.13%
QC value within limits for Ni 231.604 Recovery = 100.38%								
Pb 220.353†	5236.3	0.501	mg/L	0.0049	0.501	mg/L	0.0049	0.98%
QC value within limits for Pb 220.353 Recovery = 100.15%								
Sb 206.836†	4246.8	1.19	mg/L	0.036	1.19	mg/L	0.036	3.00%
QC value within limits for Sb 206.836 Recovery = 98.85%								
Se 196.026†	649.1	0.401	mg/L	0.0140	0.401	mg/L	0.0140	3.50%
QC value within limits for Se 196.026 Recovery = 100.37%								
Si 251.611†	239435.6	5.05	mg/L	0.072	5.05	mg/L	0.072	1.43%
QC value within limits for Si 251.611 Recovery = 101.01%								
Sn 189.927†	9447.0	0.990	mg/L	0.0055	0.990	mg/L	0.0055	0.55%
QC value within limits for Sn 189.927 Recovery = 99.03%								
Ti 334.940†	1102895.0	0.989	mg/L	0.0029	0.989	mg/L	0.0029	0.30%
QC value within limits for Ti 334.940 Recovery = 98.89%								
Tl 190.801†	1475.6	0.515	mg/L	0.0034	0.515	mg/L	0.0034	0.65%
QC value within limits for Tl 190.801 Recovery = 103.04%								
V 290.880†	230256.8	1.00	mg/L	0.012	1.00	mg/L	0.012	1.21%
QC value within limits for V 290.880 Recovery = 100.47%								
Zn 206.200†	43928.3	0.990	mg/L	0.0029	0.990	mg/L	0.0029	0.30%
QC value within limits for Zn 206.200 Recovery = 99.03%								
K 766.490†	148054.5	49.6	mg/L	0.43	49.6	mg/L	0.43	0.87%
QC value within limits for K 766.490 Recovery = 99.19%								
Na 589.592†	998359.5	50.7	mg/L	0.55	50.7	mg/L	0.55	1.09%
QC value within limits for Na 589.592 Recovery = 101.38%								
Sr 407.771†	2479913.8	1.04	mg/L	0.000	1.04	mg/L	0.000	0.05%
QC value within limits for Sr 407.771 Recovery = 103.77%								
Li 670.784†	133420.4	0.999	mg/L	0.0019	0.999	mg/L	0.0019	0.19%
QC value within limits for Li 670.784 Recovery = 99.92%								

All analyte(s) passed QC.

Approved: November 20, 2012

Kim H. Rhoden

Sequence No.: 3 Autosampler Location: 1
Sample ID: CCB Date Collected: 11/19/2012 1:05:27 PM
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	2503531.9						12296.12	0.49%
YRADIAL	290312.2						508.22	0.18%
Ga 417.206	1222373.6						16866.31	1.38%
GaRADIAL	77581.5						2520.17	3.25%
Ag 328.068†	139.3	-0.00036	mg/L	0.000278	-0.00036	mg/L	0.000278	78.07%
QC value within limits for Ag 328.068 Recovery = Not calculated								
Al 396.153†	19.9	-0.0127	mg/L	0.00025	-0.0127	mg/L	0.00025	1.96%
QC value within limits for Al 396.153 Recovery = Not calculated								
As 188.979†	2.8	0.00087	mg/L	0.002679	0.00087	mg/L	0.002679	306.48%
QC value within limits for As 188.979 Recovery = Not calculated								
Ba 233.527†	16.3	-0.00185	mg/L	0.000124	-0.00185	mg/L	0.000124	6.70%
QC value within limits for Ba 233.527 Recovery = Not calculated								
Be 234.861†	69.6	0.00004	mg/L	0.000026	0.00004	mg/L	0.000026	62.21%
QC value within limits for Be 234.861 Recovery = Not calculated								
B 249.677†	731.3	0.00933	mg/L	0.000519	0.00933	mg/L	0.000519	5.56%
QC value within limits for B 249.677 Recovery = Not calculated								
Ca 227.546†	24.1	0.0647	mg/L	0.02021	0.0647	mg/L	0.02021	31.25%
QC value within limits for Ca 227.546 Recovery = Not calculated								
Cd 228.802†	1.9	0.00004	mg/L	0.000219	0.00004	mg/L	0.000219	499.18%
QC value within limits for Cd 228.802 Recovery = Not calculated								
Co 228.616†	-3.7	-0.00062	mg/L	0.000077	-0.00062	mg/L	0.000077	12.38%
QC value within limits for Co 228.616 Recovery = Not calculated								
Cr 267.716†	5.7	-0.00064	mg/L	0.000028	-0.00064	mg/L	0.000028	4.40%
QC value within limits for Cr 267.716 Recovery = Not calculated								
Cu 327.393†	166.6	-0.00014	mg/L	0.000317	-0.00014	mg/L	0.000317	220.86%
QC value within limits for Cu 327.393 Recovery = Not calculated								
Fe 239.562†	22.3	-0.00414	mg/L	0.000442	-0.00414	mg/L	0.000442	10.67%
QC value within limits for Fe 239.562 Recovery = Not calculated								
Mg 279.077†	12.3	-0.00517	mg/L	0.001873	-0.00517	mg/L	0.001873	36.22%
QC value within limits for Mg 279.077 Recovery = Not calculated								
Mn 257.610†	1043.7	-0.00090	mg/L	0.000064	-0.00090	mg/L	0.000064	7.09%
QC value within limits for Mn 257.610 Recovery = Not calculated								
Mo 202.031†	0.8	-0.00079	mg/L	0.000098	-0.00079	mg/L	0.000098	12.37%
QC value within limits for Mo 202.031 Recovery = Not calculated								
Ni 231.604†	18.1	-0.00137	mg/L	0.000151	-0.00137	mg/L	0.000151	10.99%
QC value within limits for Ni 231.604 Recovery = Not calculated								
Pb 220.353†	-0.6	-0.00089	mg/L	0.001521	-0.00089	mg/L	0.001521	171.51%
QC value within limits for Pb 220.353 Recovery = Not calculated								
Sb 206.836†	1.0	0.00035	mg/L	0.001299	0.00035	mg/L	0.001299	371.57%
QC value within limits for Sb 206.836 Recovery = Not calculated								
Se 196.026†	9.1	0.00646	mg/L	0.003474	0.00646	mg/L	0.003474	53.81%
QC value within limits for Se 196.026 Recovery = Not calculated								
Si 251.611†	41.3	-0.00939	mg/L	0.000394	-0.00939	mg/L	0.000394	4.19%
QC value within limits for Si 251.611 Recovery = Not calculated								
Sn 189.927†	-24.5	-0.00342	mg/L	0.000209	-0.00342	mg/L	0.000209	6.12%
QC value within limits for Sn 189.927 Recovery = Not calculated								
Ti 334.940†	111.0	-0.00039	mg/L	0.000059	-0.00039	mg/L	0.000059	15.07%
QC value within limits for Ti 334.940 Recovery = Not calculated								
Tl 190.801†	-3.7	-0.00281	mg/L	0.002276	-0.00281	mg/L	0.002276	81.00%
QC value within limits for Tl 190.801 Recovery = Not calculated								
V 290.880†	93.7	-0.00148	mg/L	0.000760	-0.00148	mg/L	0.000760	51.17%
QC value within limits for V 290.880 Recovery = Not calculated								
Zn 206.200†	6.8	-0.00160	mg/L	0.000152	-0.00160	mg/L	0.000152	9.51%
QC value within limits for Zn 206.200 Recovery = Not calculated								
K 766.490†	93.3	0.0477	mg/L	0.02211	0.0477	mg/L	0.02211	46.36%
QC value within limits for K 766.490 Recovery = Not calculated								
Na 589.592†	733.8	0.0359	mg/L	0.00385	0.0359	mg/L	0.00385	10.74%

Approved: November 20, 2012

QC value within limits for Na 589.592 Recovery = Not calculated

Sr 407.771†	421.5	-0.00269	mg/L	0.000013	-0.00269	mg/L	0.000013	0.48%

QC value within limits for Sr 407.771 Recovery = Not calculated

Li 670.784†	69.6	-0.00246	mg/L	0.000264	-0.00246	mg/L	0.000264	10.73%

QC value within limits for Li 670.784 Recovery = Not calculated

All analyte(s) passed QC.

Sequence No.: 4 **Autosampler Location: 43**
Sample ID: L1211044717 **Date Collected: 11/19/2012 1:12:20 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1211044717

Analyte	Back Pressure	Flow
All	176.0 kPa	0.50 L/min

Mean Data: L1211044717

	Mean Corrected	Calib.			Sample			
Analyte	**Intensity**	**Conc.**	**Units**	**Std.Dev.**	**Conc.**	**Units**	**Std.Dev.**	**RSD**
Y 371.029	2515659.8						13946.27	0.55%
YRADIAL	299035.3						1720.77	0.58%
Ga 417.206	1263117.7						42382.68	3.36%
GaRADIAL	78758.3						759.72	0.96%
Ag 328.068†	85.6	-0.00028	mg/L	0.000185	-0.00028	mg/L	0.000185	65.08%
Al 396.153†	1382.6	0.193	mg/L	0.0043	0.193	mg/L	0.0043	2.23%
As 188.979†	-3.6	-0.00132	mg/L	0.001383	-0.00132	mg/L	0.001383	104.73%
Ba 233.527†	1891.6	0.0109	mg/L	0.00034	0.0109	mg/L	0.00034	3.09%
Be 234.861†	524.9	0.00034	mg/L	0.000107	0.00034	mg/L	0.000107	31.70%
B 249.677†	941.3	0.0113	mg/L	0.00080	0.0113	mg/L	0.00080	7.05%
Ca 227.546†	915.9	2.42	mg/L	0.095	2.42	mg/L	0.095	3.92%
Cd 228.802†	6.5	0.00016	mg/L	0.000213	0.00016	mg/L	0.000213	132.96%
Co 228.616†	17.9	-0.00006	mg/L	0.000284	-0.00006	mg/L	0.000284	513.21%
Cr 267.716†	34.5	-0.00043	mg/L	0.000116	-0.00043	mg/L	0.000116	27.07%
Cu 327.393†	397.3	0.00077	mg/L	0.000244	0.00077	mg/L	0.000244	31.66%
Fe 239.562†	4984.6	0.517	mg/L	0.0087	0.517	mg/L	0.0087	1.67%
Mg 279.077†	3163.5	1.13	mg/L	0.013	1.13	mg/L	0.013	1.15%
Mn 257.610†	14941.9	0.0158	mg/L	0.00023	0.0158	mg/L	0.00023	1.46%
Mo 202.031†	14.6	-0.00030	mg/L	0.000268	-0.00030	mg/L	0.000268	90.19%
Ni 231.604†	90.1	-0.00016	mg/L	0.000531	-0.00016	mg/L	0.000531	329.91%
Pb 220.353†	-22.7	-0.00302	mg/L	0.001733	-0.00302	mg/L	0.001733	57.39%
Sb 206.836†	-4.4	-0.00116	mg/L	0.000993	-0.00116	mg/L	0.000993	85.43%
Se 196.026†	5.3	0.00424	mg/L	0.000819	0.00424	mg/L	0.000819	19.32%
Si 251.611†	262959.7	5.56	mg/L	0.148	5.56	mg/L	0.148	2.66%
Sn 189.927†	-60.9	-0.00723	mg/L	0.000303	-0.00723	mg/L	0.000303	4.20%
Ti 334.940†	3991.3	0.00344	mg/L	0.000056	0.00344	mg/L	0.000056	1.62%
Tl 190.801†	0.6	-0.00131	mg/L	0.004444	-0.00131	mg/L	0.004444	339.95%
V 290.880†	463.8	0.00007	mg/L	0.000858	0.00007	mg/L	0.000858	>999.9%
Zn 206.200†	110.9	0.00069	mg/L	0.000016	0.00069	mg/L	0.000016	2.37%
K 766.490†	2647.6	0.894	mg/L	0.0180	0.894	mg/L	0.0180	2.01%
Na 589.592†	46279.3	2.30	mg/L	0.021	2.30	mg/L	0.021	0.90%
Sr 407.771†	44833.3	0.0159	mg/L	0.00031	0.0159	mg/L	0.00031	1.95%
Li 670.784†	165.5	-0.00174	mg/L	0.000535	-0.00174	mg/L	0.000535	30.76%

Sequence No.: 5 **Autosampler Location: 44**
Sample ID: L1211044720 **Date Collected: 11/19/2012 1:18:19 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1211044720

Analyte	Back Pressure	Flow
All	175.0 kPa	0.50 L/min

Mean Data: L1211044720

	Mean Corrected	Calib.			Sample			

Approved: November 20, 2012

Kim H. Rhoden

Analyte	Intensity	Conc.	Units	Std.Dev.	Conc.	Units	Std.Dev.	RSD
Y 371.029	2479261.5						40115.75	1.62%
YRADIAL	289249.0						3419.72	1.18%
Ga 417.206	1269561.5						13398.37	1.06%
GaRADIAL	77821.8						1501.27	1.93%
Ag 328.068†	39.6	-0.00066	mg/L	0.000193	-0.00066	mg/L	0.000193	29.34%
Al 396.153†	16.8	-0.0132	mg/L	0.00139	-0.0132	mg/L	0.00139	10.56%
As 188.979†	0.6	0.00008	mg/L	0.000821	0.00008	mg/L	0.000821	>999.9%
Ba 233.527†	98.8	-0.00129	mg/L	0.000111	-0.00129	mg/L	0.000111	8.58%
Be 234.861†	134.7	0.00010	mg/L	0.000008	0.00010	mg/L	0.000008	8.37%
B 249.677†	554.7	0.00745	mg/L	0.000040	0.00745	mg/L	0.000040	0.54%
Ca 227.546†	29.1	0.0775	mg/L	0.00690	0.0775	mg/L	0.00690	8.91%
Cd 228.802†	-3.8	-0.00008	mg/L	0.000075	-0.00008	mg/L	0.000075	95.50%
Co 228.616†	-1.7	-0.00057	mg/L	0.000026	-0.00057	mg/L	0.000026	4.58%
Cr 267.716†	8.0	-0.00062	mg/L	0.000043	-0.00062	mg/L	0.000043	6.89%
Cu 327.393†	181.8	-0.00009	mg/L	0.000278	-0.00009	mg/L	0.000278	322.20%
Fe 239.562†	15.3	-0.00487	mg/L	0.000520	-0.00487	mg/L	0.000520	10.68%
Mg 279.077†	0.1	-0.00957	mg/L	0.001290	-0.00957	mg/L	0.001290	13.49%
Mn 257.610†	861.6	-0.00112	mg/L	0.000038	-0.00112	mg/L	0.000038	3.37%
Mo 202.031†	-6.9	-0.00105	mg/L	0.000270	-0.00105	mg/L	0.000270	25.60%
Ni 231.604†	5.3	-0.00159	mg/L	0.000169	-0.00159	mg/L	0.000169	10.61%
Pb 220.353†	3.9	-0.00046	mg/L	0.001774	-0.00046	mg/L	0.001774	389.09%
Sb 206.836†	1.1	0.00037	mg/L	0.001505	0.00037	mg/L	0.001505	406.02%
Se 196.026†	5.0	0.00396	mg/L	0.001644	0.00396	mg/L	0.001644	41.55%
Si 251.611†	18049.2	0.372	mg/L	0.0046	0.372	mg/L	0.0046	1.23%
Sn 189.927†	-34.1	-0.00442	mg/L	0.000911	-0.00442	mg/L	0.000911	20.63%
Ti 334.940†	-29.7	-0.00052	mg/L	0.000201	-0.00052	mg/L	0.000201	38.99%
Tl 190.801†	-7.7	-0.00415	mg/L	0.002568	-0.00415	mg/L	0.002568	61.84%
V 290.880†	437.7	0.00002	mg/L	0.001603	0.00002	mg/L	0.001603	>999.9%
Zn 206.200†	83.9	0.00013	mg/L	0.000040	0.00013	mg/L	0.000040	30.48%
K 766.490†	38.3	0.0286	mg/L	0.00333	0.0286	mg/L	0.00333	11.66%
Na 589.592†	18077.1	0.896	mg/L	0.0236	0.896	mg/L	0.0236	2.63%
Sr 407.771†	670.7	-0.00258	mg/L	0.000021	-0.00258	mg/L	0.000021	0.80%
Li 670.784†	-9.7	-0.00305	mg/L	0.000376	-0.00305	mg/L	0.000376	12.31%

Sequence No.: 6 **Autosampler Location: 45**
Sample ID: L1211044723 **Date Collected: 11/19/2012 1:25:14 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1211044723

Analyte	Back Pressure	Flow
All	176.0 kPa	0.50 L/min

Mean Data: L1211044723

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2452694.8						43604.13	1.78%
YRADIAL	290965.5						2557.18	0.88%
Ga 417.206	1242050.8						4812.45	0.39%
GaRADIAL	78270.2						2878.55	3.68%
Ag 328.068†	97.7	-0.00048	mg/L	0.000373	-0.00048	mg/L	0.000373	77.45%
Al 396.153†	22.0	-0.0124	mg/L	0.00100	-0.0124	mg/L	0.00100	8.07%
As 188.979†	-0.8	-0.00042	mg/L	0.000665	-0.00042	mg/L	0.000665	157.07%
Ba 233.527†	112.7	-0.00120	mg/L	0.000102	-0.00120	mg/L	0.000102	8.52%
Be 234.861†	93.3	0.00006	mg/L	0.000041	0.00006	mg/L	0.000041	66.52%
B 249.677†	532.5	0.00721	mg/L	0.000257	0.00721	mg/L	0.000257	3.56%
Ca 227.546†	20.6	0.0551	mg/L	0.01201	0.0551	mg/L	0.01201	21.81%
Cd 228.802†	-4.3	-0.00009	mg/L	0.000124	-0.00009	mg/L	0.000124	142.55%
Co 228.616†	-3.9	-0.00063	mg/L	0.000270	-0.00063	mg/L	0.000270	43.09%
Cr 267.716†	-3.7	-0.00071	mg/L	0.000082	-0.00071	mg/L	0.000082	11.63%
Cu 327.393†	277.6	0.00027	mg/L	0.000403	0.00027	mg/L	0.000403	149.51%
Fe 239.562†	16.0	-0.00480	mg/L	0.000329	-0.00480	mg/L	0.000329	6.86%
Mg 279.077†	-3.7	-0.0109	mg/L	0.00240	-0.0109	mg/L	0.00240	21.89%
Mn 257.610†	790.7	-0.00120	mg/L	0.000055	-0.00120	mg/L	0.000055	4.59%
Mo 202.031†	-8.8	-0.00112	mg/L	0.000078	-0.00112	mg/L	0.000078	6.96%
Ni 231.604†	-1.7	-0.00171	mg/L	0.000225	-0.00171	mg/L	0.000225	13.15%
Pb 220.353†	-1.9	-0.00101	mg/L	0.001419	-0.00101	mg/L	0.001419	140.00%

Approved: November 20, 2012

Kim H. Rhoden

Sb 206.836†	-2.1	-0.00053	mg/L	0.000658	-0.00053 mg/L	0.000658 125.34%
Se 196.026†	3.8	0.00321	mg/L	0.005496	0.00321 mg/L	0.005496 171.28%
Si 251.611†	12980.3	0.265	mg/L	0.0027	0.265 mg/L	0.0027 1.04%
Sn 189.927†	-29.2	-0.00391	mg/L	0.000573	-0.00391 mg/L	0.000573 14.67%
Ti 334.940†	236.5	-0.00028	mg/L	0.000061	-0.00028 mg/L	0.000061 21.91%
Tl 190.801†	-6.5	-0.00374	mg/L	0.002005	-0.00374 mg/L	0.002005 53.69%
V 290.880†	377.4	-0.00024	mg/L	0.000729	-0.00024 mg/L	0.000729 300.30%
Zn 206.200†	130.7	0.00118	mg/L	0.000067	0.00118 mg/L	0.000067 5.65%
K 766.490†	-11.9	0.0117	mg/L	0.00906	0.0117 mg/L	0.00906 77.16%
Na 589.592†	20672.1	1.02	mg/L	0.014	1.02 mg/L	0.014 1.41%
Sr 407.771†	753.2	-0.00255	mg/L	0.000042	-0.00255 mg/L	0.000042 1.63%
Li 670.784†	-16.9	-0.00311	mg/L	0.000244	-0.00311 mg/L	0.000244 7.84%

Sequence No.: 7 **Autosampler Location: 50**
Sample ID: L1211043901 WG414452-01 **Date Collected: 11/19/2012 1:32:11 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1211043901 WG414452-01

Analyte	Back Pressure	Flow
All	175.0 kPa	0.50 L/min

Mean Data: L1211043901 WG414452-01

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2436422.5						26774.74	1.10%
YRADIAL	282791.7						1709.87	0.60%
Ga 417.206	1252286.5						19882.44	1.59%
GaRADIAL	77938.0						2823.06	3.62%
Ag 328.068†	155.4	-0.00018	mg/L	0.000216	-0.00018	mg/L	0.000216	120.34%
Al 396.153†	4493.4	0.664	mg/L	0.0694	0.664	mg/L	0.0694	10.45%
As 188.979†	-0.5	-0.00027	mg/L	0.001841	-0.00027	mg/L	0.001841	683.45%
Ba 233.527†	188.3	-0.00070	mg/L	0.000182	-0.00070	mg/L	0.000182	26.02%
Be 234.861†	543.4	0.00041	mg/L	0.000081	0.00041	mg/L	0.000081	19.78%
B 249.677†	297.4	0.00453	mg/L	0.000207	0.00453	mg/L	0.000207	4.57%
Ca 227.546†	1972.2	5.18	mg/L	0.156	5.18	mg/L	0.156	3.02%
Cd 228.802†	-4.2	-0.00008	mg/L	0.000102	-0.00008	mg/L	0.000102	135.64%
Co 228.616†	117.4	0.00268	mg/L	0.000266	0.00268	mg/L	0.000266	9.94%
Cr 267.716†	-1.3	-0.00069	mg/L	0.000152	-0.00069	mg/L	0.000152	21.84%
Cu 327.393†	289.2	0.00035	mg/L	0.000132	0.00035	mg/L	0.000132	38.00%
Fe 239.562†	3355.7	0.346	mg/L	0.0351	0.346	mg/L	0.0351	10.14%
Mg 279.077†	2087.1	0.742	mg/L	0.0655	0.742	mg/L	0.0655	8.82%
Mn 257.610†	188558.3	0.224	mg/L	0.0081	0.224	mg/L	0.0081	3.62%
Mo 202.031†	1.2	-0.00072	mg/L	0.000153	-0.00072	mg/L	0.000153	21.31%
Ni 231.604†	101.9	0.00004	mg/L	0.000273	0.00004	mg/L	0.000273	768.57%
Pb 220.353†	17.1	0.00076	mg/L	0.000133	0.00076	mg/L	0.000133	17.38%
Sb 206.836†	-0.8	-0.00015	mg/L	0.000484	-0.00015	mg/L	0.000484	318.55%
Se 196.026†	1.4	0.00178	mg/L	0.001573	0.00178	mg/L	0.001573	88.59%
Si 251.611†	8053.8	0.160	mg/L	0.0075	0.160	mg/L	0.0075	4.70%
Sn 189.927†	-87.6	-0.0100	mg/L	0.00064	-0.0100	mg/L	0.00064	6.34%
Ti 334.940†	-1015.3	-0.00063	mg/L	0.000013	-0.00063	mg/L	0.000013	2.04%
Tl 190.801†	2.1	-0.00104	mg/L	0.002323	-0.00104	mg/L	0.002323	224.06%
V 290.880†	273.1	-0.00074	mg/L	0.001455	-0.00074	mg/L	0.001455	196.54%
Zn 206.200†	485.0	0.00912	mg/L	0.000278	0.00912	mg/L	0.000278	3.05%
K 766.490†	479.7	0.172	mg/L	0.0151	0.172	mg/L	0.0151	8.81%
Na 589.592†	90872.5	4.51	mg/L	0.374	4.51	mg/L	0.374	8.28%
Sr 407.771†	74624.7	0.0284	mg/L	0.00134	0.0284	mg/L	0.00134	4.74%
Li 670.784†	100.8	-0.00222	mg/L	0.000207	-0.00222	mg/L	0.000207	9.30%

Sequence No.: 8 **Autosampler Location: 51**
Sample ID: L1211043903S WG414452-06 **Date Collected: 11/19/2012 1:39:05 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1211043903S WG414452-06

Approved: November 20, 2012

Analyte	Back Pressure	Flow
All	176.0 kPa	0.50 L/min

Mean Data: L1211043903S WG414452-06

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2454496.8						15971.74	0.65%
YRADIAL	286394.9						4586.20	1.60%
Ga 417.206	1264245.7						20305.00	1.61%
GaRADIAL	78313.2						2186.05	2.79%
Ag 328.068†	595.5	0.00118	mg/L	0.000310	0.00118	mg/L	0.000310	26.33%
Al 396.153†	4419.1	0.652	mg/L	0.0439	0.652	mg/L	0.0439	6.72%
As 188.979†	5.1	0.00172	mg/L	0.000502	0.00172	mg/L	0.000502	29.13%
Ba 233.527†	940.4	0.00442	mg/L	0.000164	0.00442	mg/L	0.000164	3.71%
Be 234.861†	733.4	0.00059	mg/L	0.000034	0.00059	mg/L	0.000034	5.86%
B 249.677†	1148.9	0.0136	mg/L	0.00033	0.0136	mg/L	0.00033	2.44%
Ca 227.546†	2079.8	5.47	mg/L	0.134	5.47	mg/L	0.134	2.45%
Cd 228.802†	6.8	0.00016	mg/L	0.000191	0.00016	mg/L	0.000191	116.46%
Co 228.616†	159.4	0.00382	mg/L	0.000210	0.00382	mg/L	0.000210	5.51%
Cr 267.716†	317.9	0.00177	mg/L	0.000013	0.00177	mg/L	0.000013	0.73%
Cu 327.393†	923.4	0.00271	mg/L	0.000215	0.00271	mg/L	0.000215	7.93%
Fe 239.562†	3300.8	0.340	mg/L	0.0181	0.340	mg/L	0.0181	5.32%
Mg 279.077†	2010.2	0.714	mg/L	0.0352	0.714	mg/L	0.0352	4.93%
Mn 257.610†	197216.4	0.235	mg/L	0.0014	0.235	mg/L	0.0014	0.58%
Mo 202.031†	140.1	0.00399	mg/L	0.000247	0.00399	mg/L	0.000247	6.19%
Ni 231.604†	268.5	0.00284	mg/L	0.000314	0.00284	mg/L	0.000314	11.03%
Pb 220.353†	37.5	0.00270	mg/L	0.000602	0.00270	mg/L	0.000602	22.32%
Sb 206.836†	18.5	0.00524	mg/L	0.000571	0.00524	mg/L	0.000571	10.90%
Se 196.026†	6.1	0.00463	mg/L	0.004436	0.00463	mg/L	0.004436	95.75%
Si 251.611†	9492.4	0.191	mg/L	0.0056	0.191	mg/L	0.0056	2.93%
Sn 189.927†	-41.5	-0.00520	mg/L	0.000304	-0.00520	mg/L	0.000304	5.84%
Ti 334.940†	4531.7	0.00438	mg/L	0.000040	0.00438	mg/L	0.000040	0.91%
Tl 190.801†	4.3	-0.00024	mg/L	0.002779	-0.00024	mg/L	0.002779	>999.9%
V 290.880†	1271.6	0.00363	mg/L	0.001987	0.00363	mg/L	0.001987	54.78%
Zn 206.200†	712.1	0.0142	mg/L	0.00032	0.0142	mg/L	0.00032	2.27%
K 766.490†	1242.4	0.425	mg/L	0.0279	0.425	mg/L	0.0279	6.56%
Na 589.592†	86436.7	4.29	mg/L	0.329	4.29	mg/L	0.329	7.65%
Sr 407.771†	80102.9	0.0306	mg/L	0.00090	0.0306	mg/L	0.00090	2.93%
Li 670.784†	799.0	0.00302	mg/L	0.000559	0.00302	mg/L	0.000559	18.50%

Sequence No.: 9 **Autosampler Location: 52**
Sample ID: L1211043905SD WG414452-07 **Date Collected: 11/19/2012 1:46:00 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1211043905SD WG414452-07

Analyte	Back Pressure	Flow
All	176.0 kPa	0.50 L/min

Mean Data: L1211043905SD WG414452-07

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2437075.4						41427.39	1.70%
YRADIAL	287882.5						3480.60	1.21%
Ga 417.206	1260112.6						14697.19	1.17%
GaRADIAL	78853.7						2265.25	2.87%
Ag 328.068†	689.7	0.00148	mg/L	0.000416	0.00148	mg/L	0.000416	28.01%
Al 396.153†	4707.1	0.696	mg/L	0.0424	0.696	mg/L	0.0424	6.09%
As 188.979†	6.2	0.00215	mg/L	0.000775	0.00215	mg/L	0.000775	36.10%
Ba 233.527†	950.7	0.00449	mg/L	0.000077	0.00449	mg/L	0.000077	1.71%
Be 234.861†	730.2	0.00057	mg/L	0.000056	0.00057	mg/L	0.000056	9.82%
B 249.677†	1090.4	0.0130	mg/L	0.00024	0.0130	mg/L	0.00024	1.86%
Ca 227.546†	2093.1	5.50	mg/L	0.142	5.50	mg/L	0.142	2.57%
Cd 228.802†	3.9	0.00010	mg/L	0.000158	0.00010	mg/L	0.000158	161.83%
Co 228.616†	160.9	0.00386	mg/L	0.000197	0.00386	mg/L	0.000197	5.10%
Cr 267.716†	321.0	0.00179	mg/L	0.000057	0.00179	mg/L	0.000057	3.18%
Cu 327.393†	930.1	0.00274	mg/L	0.000059	0.00274	mg/L	0.000059	2.16%

Approved: November 20, 2012

Kim H. Rhoden

Fe 239.562†	3649.6	0.377	mg/L	0.0210	0.377	mg/L	0.0210	5.58%
Mg 279.077†	2119.0	0.754	mg/L	0.0325	0.754	mg/L	0.0325	4.31%
Mn 257.610†	199827.9	0.238	mg/L	0.0058	0.238	mg/L	0.0058	2.45%
Mo 202.031†	139.2	0.00396	mg/L	0.000253	0.00396	mg/L	0.000253	6.40%
Ni 231.604†	270.4	0.00288	mg/L	0.000300	0.00288	mg/L	0.000300	10.43%
Pb 220.353†	34.7	0.00244	mg/L	0.000965	0.00244	mg/L	0.000965	39.56%
Sb 206.836†	17.0	0.00483	mg/L	0.000846	0.00483	mg/L	0.000846	17.52%
Se 196.026†	3.0	0.00274	mg/L	0.000986	0.00274	mg/L	0.000986	35.96%
Si 251.611†	9672.1	0.195	mg/L	0.0062	0.195	mg/L	0.0062	3.18%
Sn 189.927†	-56.4	-0.00676	mg/L	0.000372	-0.00676	mg/L	0.000372	5.50%
Ti 334.940†	4471.9	0.00433	mg/L	0.000089	0.00433	mg/L	0.000089	2.06%
Tl 190.801†	6.2	0.00043	mg/L	0.002271	0.00043	mg/L	0.002271	533.08%
V 290.880†	1349.5	0.00397	mg/L	0.001131	0.00397	mg/L	0.001131	28.53%
Zn 206.200†	731.1	0.0147	mg/L	0.00021	0.0147	mg/L	0.00021	1.41%
K 766.490†	1290.6	0.441	mg/L	0.0219	0.441	mg/L	0.0219	4.96%
Na 589.592†	91453.3	4.54	mg/L	0.166	4.54	mg/L	0.166	3.66%
Sr 407.771†	85103.2	0.0327	mg/L	0.00060	0.0327	mg/L	0.00060	1.83%
Li 670.784†	829.1	0.00325	mg/L	0.000474	0.00325	mg/L	0.000474	14.59%

==========

Sequence No.: 10 **Autosampler Location: 60**
Sample ID: L1211043902 WG414452-02 **Date Collected: 11/19/2012 1:52:55 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1211043902 WG414452-02

Analyte	Back Pressure	Flow
All	176.0 kPa	0.50 L/min

Mean Data: L1211043902 WG414452-02

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2420356.7						13253.27	0.55%
YRADIAL	286126.7						2824.77	0.99%
Ga 417.206	1251448.3						11633.05	0.93%
GaRADIAL	77572.7						2061.89	2.66%
Ag 328.068†	40.2	-0.00061	mg/L	0.000368	-0.00061	mg/L	0.000368	60.72%
Al 396.153†	3101.9	0.454	mg/L	0.0327	0.454	mg/L	0.0327	7.22%
As 188.979†	1.1	0.00028	mg/L	0.001415	0.00028	mg/L	0.001415	496.80%
Ba 233.527†	173.8	-0.00079	mg/L	0.000091	-0.00079	mg/L	0.000091	11.49%
Be 234.861†	413.5	0.00033	mg/L	0.000032	0.00033	mg/L	0.000032	9.59%
B 249.677†	167.2	0.00321	mg/L	0.000205	0.00321	mg/L	0.000205	6.39%
Ca 227.546†	1979.8	5.20	mg/L	0.122	5.20	mg/L	0.122	2.35%
Cd 228.802†	-3.6	-0.00006	mg/L	0.000093	-0.00006	mg/L	0.000093	145.29%
Co 228.616†	116.1	0.00265	mg/L	0.000257	0.00265	mg/L	0.000257	9.71%
Cr 267.716†	-10.0	-0.00076	mg/L	0.000063	-0.00076	mg/L	0.000063	8.25%
Cu 327.393†	331.8	0.00049	mg/L	0.000405	0.00049	mg/L	0.000405	82.85%
Fe 239.562†	1832.3	0.186	mg/L	0.0132	0.186	mg/L	0.0132	7.10%
Mg 279.077†	1841.2	0.653	mg/L	0.0405	0.653	mg/L	0.0405	6.20%
Mn 257.610†	188305.7	0.224	mg/L	0.0032	0.224	mg/L	0.0032	1.41%
Mo 202.031†	-2.7	-0.00085	mg/L	0.000191	-0.00085	mg/L	0.000191	22.38%
Ni 231.604†	101.5	0.00003	mg/L	0.000315	0.00003	mg/L	0.000315	>999.9%
Pb 220.353†	0.7	-0.00083	mg/L	0.000797	-0.00083	mg/L	0.000797	96.06%
Sb 206.836†	-4.6	-0.00121	mg/L	0.000630	-0.00121	mg/L	0.000630	52.15%
Se 196.026†	2.5	0.00239	mg/L	0.001846	0.00239	mg/L	0.001846	77.33%
Si 251.611†	7099.6	0.140	mg/L	0.0032	0.140	mg/L	0.0032	2.32%
Sn 189.927†	-100.4	-0.0114	mg/L	0.00062	-0.0114	mg/L	0.00062	5.49%
Ti 334.940†	-1214.7	-0.00081	mg/L	0.000166	-0.00081	mg/L	0.000166	20.56%
Tl 190.801†	-4.3	-0.00322	mg/L	0.001695	-0.00322	mg/L	0.001695	52.70%
V 290.880†	221.8	-0.00095	mg/L	0.000606	-0.00095	mg/L	0.000606	63.63%
Zn 206.200†	452.5	0.00840	mg/L	0.000225	0.00840	mg/L	0.000225	2.68%
K 766.490†	444.5	0.160	mg/L	0.0061	0.160	mg/L	0.0061	3.81%
Na 589.592†	81942.6	4.07	mg/L	0.265	4.07	mg/L	0.265	6.52%
Sr 407.771†	66059.9	0.0248	mg/L	0.00071	0.0248	mg/L	0.00071	2.86%
Li 670.784†	78.5	-0.00239	mg/L	0.000108	-0.00239	mg/L	0.000108	4.50%

==========

Sequence No.: 11 **Autosampler Location: 61**
Sample ID: L1211043904S WG414452-08 **Date Collected: 11/19/2012 1:59:49 PM**

Approved: November 20, 2012

Kim H. Rhoden

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

Nebulizer Parameters: L1211043904S WG414452-08

Analyte	Back Pressure	Flow
All	175.0 kPa	0.50 L/min

Mean Data: L1211043904S WG414452-08

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2393273.1						17488.01	0.73%
YRADIAL	278789.1						3947.43	1.42%
Ga 417.206	1228728.4						18733.32	1.52%
GaRADIAL	76422.8						1676.55	2.19%
Ag 328.068†	601.6	0.00115	mg/L	0.000137	0.00115	mg/L	0.000137	11.97%
Al 396.153†	3612.8	0.530	mg/L	0.0192	0.530	mg/L	0.0192	3.62%
As 188.979†	9.3	0.00322	mg/L	0.001196	0.00322	mg/L	0.001196	37.08%
Ba 233.527†	955.4	0.00453	mg/L	0.000341	0.00453	mg/L	0.000341	7.52%
Be 234.861†	640.0	0.00053	mg/L	0.000024	0.00053	mg/L	0.000024	4.54%
B 249.677†	1023.7	0.0123	mg/L	0.00176	0.0123	mg/L	0.00176	14.32%
Ca 227.546†	2087.3	5.49	mg/L	0.204	5.49	mg/L	0.204	3.72%
Cd 228.802†	8.2	0.00019	mg/L	0.000215	0.00019	mg/L	0.000215	114.82%
Co 228.616†	159.4	0.00382	mg/L	0.000461	0.00382	mg/L	0.000461	12.06%
Cr 267.716†	332.5	0.00189	mg/L	0.000044	0.00189	mg/L	0.000044	2.33%
Cu 327.393†	944.5	0.00278	mg/L	0.000314	0.00278	mg/L	0.000314	11.30%
Fe 239.562†	2166.2	0.221	mg/L	0.0080	0.221	mg/L	0.0080	3.64%
Mg 279.077†	2117.1	0.753	mg/L	0.0217	0.753	mg/L	0.0217	2.88%
Mn 257.610†	200033.2	0.238	mg/L	0.0101	0.238	mg/L	0.0101	4.26%
Mo 202.031†	144.8	0.00414	mg/L	0.000504	0.00414	mg/L	0.000504	12.16%
Ni 231.604†	267.8	0.00283	mg/L	0.000204	0.00283	mg/L	0.000204	7.20%
Pb 220.353†	30.7	0.00203	mg/L	0.000883	0.00203	mg/L	0.000883	43.39%
Sb 206.836†	23.8	0.00671	mg/L	0.000501	0.00671	mg/L	0.000501	7.47%
Se 196.026†	2.3	0.00230	mg/L	0.000833	0.00230	mg/L	0.000833	36.16%
Si 251.611†	8809.4	0.176	mg/L	0.0101	0.176	mg/L	0.0101	5.73%
Sn 189.927†	-46.7	-0.00574	mg/L	0.000362	-0.00574	mg/L	0.000362	6.31%
Ti 334.940†	4367.1	0.00423	mg/L	0.000401	0.00423	mg/L	0.000401	9.47%
Tl 190.801†	4.0	-0.00034	mg/L	0.003436	-0.00034	mg/L	0.003436	>999.9%
V 290.880†	1733.7	0.00566	mg/L	0.002048	0.00566	mg/L	0.002048	36.21%
Zn 206.200†	741.5	0.0149	mg/L	0.00078	0.0149	mg/L	0.00078	5.22%
K 766.490†	1297.8	0.443	mg/L	0.0163	0.443	mg/L	0.0163	3.68%
Na 589.592†	89051.0	4.42	mg/L	0.163	4.42	mg/L	0.163	3.69%
Sr 407.771†	82465.7	0.0316	mg/L	0.00059	0.0316	mg/L	0.00059	1.85%
Li 670.784†	839.1	0.00332	mg/L	0.000371	0.00332	mg/L	0.000371	11.18%

==========

Sequence No.: 12 **Autosampler Location: 62**
Sample ID: L1211043906SD WG414452-09 **Date Collected: 11/19/2012 2:06:43 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1211043906SD WG414452-09

Analyte	Back Pressure	Flow
All	176.0 kPa	0.50 L/min

Mean Data: L1211043906SD WG414452-09

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2408077.3						11345.14	0.47%
YRADIAL	283884.9						5611.10	1.98%
Ga 417.206	1240223.5						18647.52	1.50%
GaRADIAL	77691.2						957.50	1.23%
Ag 328.068†	687.6	0.00141	mg/L	0.000449	0.00141	mg/L	0.000449	31.92%
Al 396.153†	3550.8	0.521	mg/L	0.0182	0.521	mg/L	0.0182	3.49%
As 188.979†	7.1	0.00245	mg/L	0.000693	0.00245	mg/L	0.000693	28.33%
Ba 233.527†	888.4	0.00407	mg/L	0.000351	0.00407	mg/L	0.000351	8.62%
Be 234.861†	635.6	0.00052	mg/L	0.000045	0.00052	mg/L	0.000045	8.51%

Approved: November 20, 2012

Kym H. Rhoden

B 249.677†	982.1	0.0119 mg/L	0.00042	0.0119 mg/L	0.00042	3.51%
Ca 227.546†	1944.8	5.11 mg/L	0.225	5.11 mg/L	0.225	4.40%
Cd 228.802†	9.7	0.00022 mg/L	0.000193	0.00022 mg/L	0.000193	86.37%
Co 228.616†	153.1	0.00365 mg/L	0.000230	0.00365 mg/L	0.000230	6.29%
Cr 267.716†	305.1	0.00167 mg/L	0.000068	0.00167 mg/L	0.000068	4.08%
Cu 327.393†	868.4	0.00249 mg/L	0.000077	0.00249 mg/L	0.000077	3.10%
Fe 239.562†	2131.2	0.217 mg/L	0.0071	0.217 mg/L	0.0071	3.28%
Mg 279.077†	2070.9	0.736 mg/L	0.0243	0.736 mg/L	0.0243	3.31%
Mn 257.610†	186063.3	0.221 mg/L	0.0113	0.221 mg/L	0.0113	5.11%
Mo 202.031†	138.2	0.00391 mg/L	0.000326	0.00391 mg/L	0.000326	8.33%
Ni 231.604†	253.3	0.00259 mg/L	0.000411	0.00259 mg/L	0.000411	15.88%
Pb 220.353†	42.7	0.00319 mg/L	0.000557	0.00319 mg/L	0.000557	17.46%
Sb 206.836†	14.8	0.00419 mg/L	0.000554	0.00419 mg/L	0.000554	13.22%
Se 196.026†	2.2	0.00223 mg/L	0.002809	0.00223 mg/L	0.002809	125.91%
Si 251.611†	8087.7	0.161 mg/L	0.0073	0.161 mg/L	0.0073	4.53%
Sn 189.927†	-48.2	-0.00590 mg/L	0.000501	-0.00590 mg/L	0.000501	8.49%
Ti 334.940†	4136.1	0.00397 mg/L	0.000276	0.00397 mg/L	0.000276	6.95%
Tl 190.801†	-2.7	-0.00259 mg/L	0.002075	-0.00259 mg/L	0.002075	80.08%
V 290.880†	1347.4	0.00397 mg/L	0.001458	0.00397 mg/L	0.001458	36.76%
Zn 206.200†	674.9	0.0134 mg/L	0.00043	0.0134 mg/L	0.00043	3.19%
K 766.490†	1285.7	0.439 mg/L	0.0124	0.439 mg/L	0.0124	2.83%
Na 589.592†	88461.5	4.39 mg/L	0.168	4.39 mg/L	0.168	3.83%
Sr 407.771†	82507.2	0.0317 mg/L	0.00038	0.0317 mg/L	0.00038	1.20%
Li 670.784†	846.1	0.00337 mg/L	0.000342	0.00337 mg/L	0.000342	10.13%

Sequence No.: 13 **Autosampler Location: 6**
Sample ID: CCV **Date Collected: 11/19/2012 2:13:37 PM**
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	2365599.2						21364.19	0.90%
YRADIAL	278017.8						1949.33	0.70%
Ga 417.206	1168559.8						19322.14	1.65%
GaRADIAL	72918.8						693.44	0.95%
Ag 328.068†	129430.3	0.401	mg/L	0.0082	0.401	mg/L	0.0082	2.04%
QC value within limits for Ag 328.068 Recovery = 100.18%								
Al 396.153†	65254.7	9.79	mg/L	0.036	9.79	mg/L	0.036	0.37%
QC value within limits for Al 396.153 Recovery = 97.88%								
As 188.979†	1081.9	0.387	mg/L	0.0060	0.387	mg/L	0.0060	1.54%
QC value within limits for As 188.979 Recovery = 96.80%								
Ba 233.527†	147559.7	1.00	mg/L	0.013	1.00	mg/L	0.013	1.29%
QC value within limits for Ba 233.527 Recovery = 100.21%								
Be 234.861†	55140.3	0.0489	mg/L	0.00080	0.0489	mg/L	0.00080	1.64%
QC value within limits for Be 234.861 Recovery = 97.85%								
B 249.677†	45639.9	0.485	mg/L	0.0110	0.485	mg/L	0.0110	2.26%
QC value within limits for B 249.677 Recovery = 96.92%								
Ca 227.546†	3713.9	10.2	mg/L	0.19	10.2	mg/L	0.19	1.87%
QC value within limits for Ca 227.546 Recovery = 102.05%								
Cd 228.802†	2213.3	0.0480	mg/L	0.00146	0.0480	mg/L	0.00146	3.04%
QC value within limits for Cd 228.802 Recovery = 95.99%								
Co 228.616†	7399.3	0.201	mg/L	0.0027	0.201	mg/L	0.0027	1.37%
QC value within limits for Co 228.616 Recovery = 100.29%								
Cr 267.716†	64489.3	0.497	mg/L	0.0052	0.497	mg/L	0.0052	1.04%
QC value within limits for Cr 267.716 Recovery = 99.47%								
Cu 327.393†	134115.0	0.499	mg/L	0.0122	0.499	mg/L	0.0122	2.44%
QC value within limits for Cu 327.393 Recovery = 99.82%								
Fe 239.562†	37842.9	3.97	mg/L	0.022	3.97	mg/L	0.022	0.55%
QC value within limits for Fe 239.562 Recovery = 99.23%								
Mg 279.077†	27705.3	9.98	mg/L	0.057	9.98	mg/L	0.057	0.57%
QC value within limits for Mg 279.077 Recovery = 99.85%								
Mn 257.610†	424508.5	0.508	mg/L	0.0082	0.508	mg/L	0.0082	1.62%

Approved: November 20, 2012

QC value within limits for Mn 257.610 Recovery = 101.59%
Mo 202.031† 29028.4 0.982 mg/L 0.0168 0.982 mg/L 0.0168 1.71%
QC value within limits for Mo 202.031 Recovery = 98.21%
Ni 231.604† 29768.6 0.500 mg/L 0.0090 0.500 mg/L 0.0090 1.80%
QC value within limits for Ni 231.604 Recovery = 99.99%
Pb 220.353† 5256.0 0.503 mg/L 0.0053 0.503 mg/L 0.0053 1.06%
QC value within limits for Pb 220.353 Recovery = 100.52%
Sb 206.836† 4189.5 1.17 mg/L 0.029 1.17 mg/L 0.029 2.49%
QC value within limits for Sb 206.836 Recovery = 97.52%
Se 196.026† 631.2 0.390 mg/L 0.0076 0.390 mg/L 0.0076 1.95%
QC value within limits for Se 196.026 Recovery = 97.61%
Si 251.611† 236646.3 4.99 mg/L 0.063 4.99 mg/L 0.063 1.27%
QC value within limits for Si 251.611 Recovery = 99.82%
Sn 189.927† 9416.7 0.987 mg/L 0.0099 0.987 mg/L 0.0099 1.00%
QC value within limits for Sn 189.927 Recovery = 98.71%
Ti 334.940† 1097776.8 0.984 mg/L 0.0048 0.984 mg/L 0.0048 0.48%
QC value within limits for Ti 334.940 Recovery = 98.43%
Tl 190.801† 1477.3 0.516 mg/L 0.0039 0.516 mg/L 0.0039 0.76%
QC value within limits for Tl 190.801 Recovery = 103.14%
V 290.880† 229500.4 1.00 mg/L 0.007 1.00 mg/L 0.007 0.73%
QC value within limits for V 290.880 Recovery = 100.14%
Zn 206.200† 43880.0 0.989 mg/L 0.0138 0.989 mg/L 0.0138 1.39%
QC value within limits for Zn 206.200 Recovery = 98.92%
K 766.490† 146118.4 48.9 mg/L 0.29 48.9 mg/L 0.29 0.59%
QC value within limits for K 766.490 Recovery = 97.89%
Na 589.592† 971089.7 49.3 mg/L 0.41 49.3 mg/L 0.41 0.84%
QC value within limits for Na 589.592 Recovery = 98.55%
Sr 407.771† 2437303.3 1.02 mg/L 0.009 1.02 mg/L 0.009 0.88%
QC value within limits for Sr 407.771 Recovery = 101.98%
Li 670.784† 130650.9 0.978 mg/L 0.0060 0.978 mg/L 0.0060 0.62%
QC value within limits for Li 670.784 Recovery = 97.84%
All analyte(s) passed QC.

==========

Sequence No.: 14 **Autosampler Location: 1**
Sample ID: CCB **Date Collected: 11/19/2012 2:19:38 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

Mean Data: CCB

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2455052.2						9817.55	0.40%
YRADIAL	284061.7						5282.04	1.86%
Ga 417.206	1219101.1						23494.42	1.93%
GaRADIAL	76428.5						1178.70	1.54%
Ag 328.068†	129.3	-0.00039	mg/L	0.000239	-0.00039	mg/L	0.000239	61.96%
QC value within limits for Ag 328.068 Recovery = Not calculated								
Al 396.153†	27.7	-0.0115	mg/L	0.00067	-0.0115	mg/L	0.00067	5.85%
QC value within limits for Al 396.153 Recovery = Not calculated								
As 188.979†	-1.5	-0.00068	mg/L	0.002405	-0.00068	mg/L	0.002405	355.50%
QC value within limits for As 188.979 Recovery = Not calculated								
Ba 233.527†	2.0	-0.00195	mg/L	0.000166	-0.00195	mg/L	0.000166	8.55%
QC value within limits for Ba 233.527 Recovery = Not calculated								
Be 234.861†	50.9	0.00002	mg/L	0.000035	0.00002	mg/L	0.000035	144.33%
QC value within limits for Be 234.861 Recovery = Not calculated								
B 249.677†	191.6	0.00357	mg/L	0.000306	0.00357	mg/L	0.000306	8.56%
QC value within limits for B 249.677 Recovery = Not calculated								
Ca 227.546†	25.4	0.0678	mg/L	0.00633	0.0678	mg/L	0.00633	9.33%
QC value within limits for Ca 227.546 Recovery = Not calculated								
Cd 228.802†	-2.2	-0.00004	mg/L	0.000159	-0.00004	mg/L	0.000159	388.79%
QC value within limits for Cd 228.802 Recovery = Not calculated								
Co 228.616†	-5.9	-0.00068	mg/L	0.000122	-0.00068	mg/L	0.000122	17.89%
QC value within limits for Co 228.616 Recovery = Not calculated								
Cr 267.716†	10.6	-0.00060	mg/L	0.000140	-0.00060	mg/L	0.000140	23.42%

Approved: November 20, 2012

```
   QC value within limits for Cr 267.716  Recovery = Not calculated
Cu 327.393†             -16.4    -0.00082 mg/L      0.000323    -0.00082 mg/L      0.000323  39.30%
   QC value within limits for Cu 327.393  Recovery = Not calculated
Fe 239.562†              20.5    -0.00433 mg/L      0.000239    -0.00433 mg/L      0.000239   5.51%
   QC value within limits for Fe 239.562  Recovery = Not calculated
Mg 279.077†               9.9    -0.00605 mg/L      0.004352    -0.00605 mg/L      0.004352  71.89%
   QC value within limits for Mg 279.077  Recovery = Not calculated
Mn 257.610†             914.3    -0.00106 mg/L      0.000029    -0.00106 mg/L      0.000029   2.71%
   QC value within limits for Mn 257.610  Recovery = Not calculated
Mo 202.031†              -4.6    -0.00098 mg/L      0.000247    -0.00098 mg/L      0.000247  25.35%
   QC value within limits for Mo 202.031  Recovery = Not calculated
Ni 231.604†               7.5    -0.00155 mg/L      0.000181    -0.00155 mg/L      0.000181  11.65%
   QC value within limits for Ni 231.604  Recovery = Not calculated
Pb 220.353†               6.4    -0.00022 mg/L      0.000958    -0.00022 mg/L      0.000958 428.52%
   QC value within limits for Pb 220.353  Recovery = Not calculated
Sb 206.836†               4.8     0.00140 mg/L      0.001040     0.00140 mg/L      0.001040  74.28%
   QC value within limits for Sb 206.836  Recovery = Not calculated
Se 196.026†               3.6     0.00307 mg/L      0.002101     0.00307 mg/L      0.002101  68.50%
   QC value within limits for Se 196.026  Recovery = Not calculated
Si 251.611†              10.4     -0.0100 mg/L       0.00057     -0.0100 mg/L       0.00057   5.64%
   QC value within limits for Si 251.611  Recovery = Not calculated
Sn 189.927†             -29.4    -0.00393 mg/L      0.000372    -0.00393 mg/L      0.000372   9.48%
   QC value within limits for Sn 189.927  Recovery = Not calculated
Ti 334.940†             165.6    -0.00034 mg/L      0.000043    -0.00034 mg/L      0.000043  12.67%
   QC value within limits for Ti 334.940  Recovery = Not calculated
Tl 190.801†              -1.7    -0.00211 mg/L      0.003621    -0.00211 mg/L      0.003621 171.42%
   QC value within limits for Tl 190.801  Recovery = Not calculated
V 290.880†              161.6    -0.00119 mg/L      0.001687    -0.00119 mg/L      0.001687 142.12%
   QC value within limits for V 290.880  Recovery = Not calculated
Zn 206.200†               9.3    -0.00154 mg/L      0.000179    -0.00154 mg/L      0.000179  11.60%
   QC value within limits for Zn 206.200  Recovery = Not calculated
K 766.490†               17.1      0.0224 mg/L       0.01074      0.0224 mg/L       0.01074  47.98%
   QC value within limits for K 766.490  Recovery = Not calculated
Na 589.592†             391.2      0.0189 mg/L       0.00313      0.0189 mg/L       0.00313  16.58%
   QC value within limits for Na 589.592  Recovery = Not calculated
Sr 407.771†             406.7    -0.00269 mg/L      0.000084    -0.00269 mg/L      0.000084   3.12%
   QC value within limits for Sr 407.771  Recovery = Not calculated
Li 670.784†              35.3    -0.00272 mg/L      0.000761    -0.00272 mg/L      0.000761  28.04%
   QC value within limits for Li 670.784  Recovery = Not calculated
All analyte(s) passed QC.

================================================================================================================
Sequence No.: 15                                    Autosampler Location: 53
Sample ID: L1211029004 WG414030-01                  Date Collected: 11/19/2012 2:26:33 PM
Analyst: KHR                                        Data Type: Original
Initial Sample Wt:                                  Initial Sample Vol:
Dilution:                                           Sample Prep Vol:

----------------------------------------------------------------------------------------------------------------
Nebulizer Parameters: L1211029004 WG414030-01
Analyte                Back Pressure    Flow
All                  175.0 kPa         0.50 L/min

----------------------------------------------------------------------------------------------------------------
Mean Data: L1211029004 WG414030-01
                Mean Corrected          Calib.                                Sample
Analyte            Intensity      Conc. Units      Std.Dev.      Conc. Units      Std.Dev.   RSD
Y 371.029          2399684.5                                                    22147.74   0.92%
YRADIAL             286957.3                                                     3102.76   1.08%
Ga 417.206         1237668.0                                                    16305.13   1.32%
GaRADIAL             76805.5                                                      256.56   0.33%
Ag 328.068†          -6157.9    -0.00041 mg/L      0.000128    -0.00041 mg/L      0.000128  31.59%
Al 396.153†             -2.3     -0.0107 mg/L       0.00571     -0.0107 mg/L       0.00571  53.41%
As 188.979†             -3.3     0.00949 mg/L      0.000632     0.00949 mg/L      0.000632   6.66%
Ba 233.527†          19595.6       0.129 mg/L        0.0006       0.129 mg/L        0.0006   0.44%
Be 234.861†          11092.0     0.00099 mg/L      0.000138     0.00099 mg/L      0.000138  13.96%
B 249.677†            5203.6      0.0377 mg/L       0.00080      0.0377 mg/L       0.00080   2.13%
Ca 227.546†           8764.3        24.1 mg/L          0.54        24.1 mg/L          0.54   2.24%
Cd 228.802†              4.1     0.00011 mg/L      0.000144     0.00011 mg/L      0.000144 136.20%
Co 228.616†            384.2     0.00875 mg/L      0.000269     0.00875 mg/L      0.000269   3.07%
Cr 267.716†            -28.1    -0.00253 mg/L      0.000168    -0.00253 mg/L      0.000168   6.63%
Cu 327.393†            -529.9     0.00197 mg/L      0.000271     0.00197 mg/L      0.000271  13.78%
```

Approved: November 20, 2012

Kim H. Rhoden

Fe 239.562†	426051.9	44.8	mg/L	0.51	44.8	mg/L	0.51	1.13%
Mg 279.077†	21717.8	7.79	mg/L	0.169	7.79	mg/L	0.169	2.18%
Mn 257.610†	7327829.3	8.79	mg/L	0.096	8.79	mg/L	0.096	1.09%
Mo 202.031†	-22.9	0.00244	mg/L	0.000355	0.00244	mg/L	0.000355	14.55%
Ni 231.604†	306.4	0.00348	mg/L	0.000515	0.00348	mg/L	0.000515	14.80%
Pb 220.353†	47.2	-0.00548	mg/L	0.001106	-0.00548	mg/L	0.001106	20.17%
Sb 206.836†	-6.6	-0.00016	mg/L	0.001244	-0.00016	mg/L	0.001244	789.44%
Se 196.026†	-11.7	-0.00189	mg/L	0.002013	-0.00189	mg/L	0.002013	106.46%
Si 251.611†	297417.5	6.29	mg/L	0.047	6.29	mg/L	0.047	0.74%
Sn 189.927†	-208.0	-0.0227	mg/L	0.00073	-0.0227	mg/L	0.00073	3.22%
Ti 334.940†	-4170.2	-0.00079	mg/L	0.000330	-0.00079	mg/L	0.000330	41.89%
Tl 190.801†	-8.1	-0.0131	mg/L	0.00324	-0.0131	mg/L	0.00324	24.70%
V 290.880†	1422.6	0.00139	mg/L	0.001522	0.00139	mg/L	0.001522	109.45%
Zn 206.200†	168.7	-0.00205	mg/L	0.000170	-0.00205	mg/L	0.000170	8.28%
K 766.490†	961.8	0.329	mg/L	0.0159	0.329	mg/L	0.0159	4.85%
Na 589.592†	152484.1	7.59	mg/L	0.027	7.59	mg/L	0.027	0.35%
Sr 407.771†	232986.2	0.0945	mg/L	0.00152	0.0945	mg/L	0.00152	1.61%
Li 670.784†	56.9	-0.00255	mg/L	0.000432	-0.00255	mg/L	0.000432	16.92%

==========

Sequence No.: 16 **Autosampler Location: 54**
Sample ID: L1211029006S WG414030-04 **Date Collected: 11/19/2012 2:32:33 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1211029006S WG414030-04

Analyte	Back Pressure	Flow
All	176.0 kPa	0.50 L/min

Mean Data: L1211029006S WG414030-04

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2416416.3						16440.74	0.68%
YRADIAL	295424.7						2470.75	0.84%
Ga 417.206	1243108.1						29398.66	2.36%
GaRADIAL	77148.5						250.27	0.32%
Ag 328.068†	23623.5	0.0911	mg/L	0.00366	0.0911	mg/L	0.00366	4.02%
Al 396.153†	15176.5	2.27	mg/L	0.003	2.27	mg/L	0.003	0.15%
As 188.979†	238.2	0.0954	mg/L	0.00219	0.0954	mg/L	0.00219	2.29%
Ba 233.527†	53398.2	0.359	mg/L	0.0005	0.359	mg/L	0.0005	0.13%
Be 234.861†	23473.0	0.0124	mg/L	0.00063	0.0124	mg/L	0.00063	5.07%
B 249.677†	46888.2	0.482	mg/L	0.0173	0.482	mg/L	0.0173	3.59%
Ca 227.546†	9645.5	26.4	mg/L	0.97	26.4	mg/L	0.97	3.67%
Cd 228.802†	495.4	0.0108	mg/L	0.00065	0.0108	mg/L	0.00065	6.01%
Co 228.616†	2072.8	0.0547	mg/L	0.00020	0.0547	mg/L	0.00020	0.36%
Cr 267.716†	15089.8	0.114	mg/L	0.0014	0.114	mg/L	0.0014	1.25%
Cu 327.393†	30027.8	0.116	mg/L	0.0042	0.116	mg/L	0.0042	3.60%
Fe 239.562†	416536.7	43.8	mg/L	0.42	43.8	mg/L	0.42	0.97%
Mg 279.077†	27372.4	9.83	mg/L	0.071	9.83	mg/L	0.071	0.72%
Mn 257.610†	7249048.5	8.70	mg/L	0.035	8.70	mg/L	0.035	0.40%
Mo 202.031†	6884.8	0.236	mg/L	0.0003	0.236	mg/L	0.0003	0.14%
Ni 231.604†	7494.0	0.125	mg/L	0.0002	0.125	mg/L	0.0002	0.16%
Pb 220.353†	1272.6	0.112	mg/L	0.0017	0.112	mg/L	0.0017	1.47%
Sb 206.836†	961.3	0.270	mg/L	0.0087	0.270	mg/L	0.0087	3.23%
Se 196.026†	136.4	0.0893	mg/L	0.00722	0.0893	mg/L	0.00722	8.08%
Si 251.611†	349372.9	7.39	mg/L	0.193	7.39	mg/L	0.193	2.62%
Sn 189.927†	2180.2	0.228	mg/L	0.0021	0.228	mg/L	0.0021	0.92%
Ti 334.940†	260041.1	0.236	mg/L	0.0010	0.236	mg/L	0.0010	0.42%
Tl 190.801†	334.9	0.107	mg/L	0.0032	0.107	mg/L	0.0032	2.98%
V 290.880†	55186.3	0.237	mg/L	0.0020	0.237	mg/L	0.0020	0.84%
Zn 206.200†	10388.9	0.229	mg/L	0.0006	0.229	mg/L	0.0006	0.25%
K 766.490†	34712.2	11.5	mg/L	0.03	11.5	mg/L	0.03	0.30%
Na 589.592†	382070.9	19.1	mg/L	0.27	19.1	mg/L	0.27	1.40%
Sr 407.771†	798294.9	0.332	mg/L	0.0066	0.332	mg/L	0.0066	1.99%
Li 670.784†	31600.0	0.234	mg/L	0.0004	0.234	mg/L	0.0004	0.17%

==========

Sequence No.: 17 **Autosampler Location: 55**
Sample ID: L1211029008SD WG414030-05 **Date Collected: 11/19/2012 2:38:38 PM**

Approved: November 20, 2012

Kim H. Rhoden

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

Nebulizer Parameters: L1211029008SD WG414030-05

Analyte	Back Pressure	Flow
All	175.0 kPa	0.50 L/min

Mean Data: L1211029008SD WG414030-05

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2372838.5						13040.33	0.55%
YRADIAL	292479.9						5283.60	1.81%
Ga 417.206	1233282.5						20422.31	1.66%
GaRADIAL	76649.8						1610.15	2.10%
Ag 328.068†	24085.1	0.0941	mg/L	0.00437	0.0941	mg/L	0.00437	4.64%
Al 396.153†	16243.7	2.43	mg/L	0.014	2.43	mg/L	0.014	0.58%
As 188.979†	240.0	0.0968	mg/L	0.00421	0.0968	mg/L	0.00421	4.35%
Ba 233.527†	55295.6	0.372	mg/L	0.0083	0.372	mg/L	0.0083	2.24%
Be 234.861†	23856.8	0.0120	mg/L	0.00054	0.0120	mg/L	0.00054	4.51%
B 249.677†	47855.9	0.491	mg/L	0.0189	0.491	mg/L	0.0189	3.85%
Ca 227.546†	9477.5	26.1	mg/L	1.22	26.1	mg/L	1.22	4.67%
Cd 228.802†	496.4	0.0108	mg/L	0.00060	0.0108	mg/L	0.00060	5.55%
Co 228.616†	2053.1	0.0541	mg/L	0.00088	0.0541	mg/L	0.00088	1.64%
Cr 267.716†	15693.5	0.119	mg/L	0.0031	0.119	mg/L	0.0031	2.64%
Cu 327.393†	30579.0	0.118	mg/L	0.0047	0.118	mg/L	0.0047	3.97%
Fe 239.562†	447554.3	47.0	mg/L	0.96	47.0	mg/L	0.96	2.03%
Mg 279.077†	28474.2	10.2	mg/L	0.19	10.2	mg/L	0.19	1.87%
Mn 257.610†	7157359.6	8.59	mg/L	0.165	8.59	mg/L	0.165	1.92%
Mo 202.031†	7028.1	0.241	mg/L	0.0040	0.241	mg/L	0.0040	1.65%
Ni 231.604†	7622.3	0.127	mg/L	0.0020	0.127	mg/L	0.0020	1.59%
Pb 220.353†	1312.9	0.116	mg/L	0.0021	0.116	mg/L	0.0021	1.81%
Sb 206.836†	966.5	0.272	mg/L	0.0116	0.272	mg/L	0.0116	4.26%
Se 196.026†	133.4	0.0880	mg/L	0.00544	0.0880	mg/L	0.00544	6.18%
Si 251.611†	356830.0	7.55	mg/L	0.250	7.55	mg/L	0.250	3.31%
Sn 189.927†	2250.8	0.235	mg/L	0.0026	0.235	mg/L	0.0026	1.08%
Ti 334.940†	268219.6	0.243	mg/L	0.0049	0.243	mg/L	0.0049	2.03%
Tl 190.801†	342.8	0.110	mg/L	0.0029	0.110	mg/L	0.0029	2.59%
V 290.880†	57082.0	0.245	mg/L	0.0059	0.245	mg/L	0.0059	2.43%
Zn 206.200†	10627.9	0.234	mg/L	0.0041	0.234	mg/L	0.0041	1.75%
K 766.490†	37161.4	12.4	mg/L	0.05	12.4	mg/L	0.05	0.44%
Na 589.592†	400922.2	20.1	mg/L	0.39	20.1	mg/L	0.39	1.96%
Sr 407.771†	839912.1	0.349	mg/L	0.0052	0.349	mg/L	0.0052	1.49%
Li 670.784†	34088.7	0.253	mg/L	0.0030	0.253	mg/L	0.0030	1.18%

==========

Sequence No.: 18 **Autosampler Location: 56**
Sample ID: L1211029017 0.5 **Date Collected: 11/19/2012 2:44:38 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1211029017 0.5

Analyte	Back Pressure	Flow
All	176.0 kPa	0.50 L/min

Mean Data: L1211029017 0.5

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2431396.2						18840.11	0.77%
YRADIAL	288729.9						1712.38	0.59%
Ga 417.206	1288883.0						19866.38	1.54%
GaRADIAL	79475.7						2504.56	3.15%
Ag 328.068†	159.1	-0.00057	mg/L	0.000326	-0.00057	mg/L	0.000326	56.80%
Al 396.153†	147.6	0.00660	mg/L	0.000908	0.00660	mg/L	0.000908	13.76%
As 188.979†	-4.9	-0.00186	mg/L	0.001323	-0.00186	mg/L	0.001323	71.17%
Ba 233.527†	8656.4	0.0569	mg/L	0.00051	0.0569	mg/L	0.00051	0.90%
Be 234.861†	169.5	0.00037	mg/L	0.000001	0.00037	mg/L	0.000001	0.25%

Approved: November 20, 2012

Kym H. Rhoden

B 249.677†	1366.1	0.0159	mg/L	0.00069	0.0159	mg/L	0.00069 4.34%
Ca 227.546†	5281.3	13.9	mg/L	0.21	13.9	mg/L	0.21 1.52%
Cd 228.802†	-2.6	0.00000	mg/L	0.000119	0.00000	mg/L	0.000119 >999.9%
Co 228.616†	435.0	0.0113	mg/L	0.00021	0.0113	mg/L	0.00021 1.83%
Cr 267.716†	114.8	0.00020	mg/L	0.000061	0.00020	mg/L	0.000061 30.81%
Cu 327.393†	165.5	-0.00013	mg/L	0.000074	-0.00013	mg/L	0.000074 56.73%
Fe 239.562†	2070.0	0.211	mg/L	0.0017	0.211	mg/L	0.0017 0.79%
Mg 279.077†	16041.3	5.77	mg/L	0.022	5.77	mg/L	0.022 0.38%
Mn 257.610†	2358169.8	2.83	mg/L	0.025	2.83	mg/L	0.025 0.88%
Mo 202.031†	16.2	0.00033	mg/L	0.000352	0.00033	mg/L	0.000352 106.53%
Ni 231.604†	479.9	0.00640	mg/L	0.000298	0.00640	mg/L	0.000298 4.66%
Pb 220.353†	14.6	-0.00115	mg/L	0.000990	-0.00115	mg/L	0.000990 85.91%
Sb 206.836†	-2.1	-0.00053	mg/L	0.000166	-0.00053	mg/L	0.000166 31.05%
Se 196.026†	3.4	0.00216	mg/L	0.000763	0.00216	mg/L	0.000763 35.42%
Si 251.611†	182242.3	3.85	mg/L	0.034	3.85	mg/L	0.034 0.89%
Sn 189.927†	-157.4	-0.0174	mg/L	0.00041	-0.0174	mg/L	0.00041 2.37%
Ti 334.940†	-2438.6	-0.00061	mg/L	0.000095	-0.00061	mg/L	0.000095 15.72%
Tl 190.801†	-6.8	-0.00672	mg/L	0.002986	-0.00672	mg/L	0.002986 44.44%
V 290.880†	472.6	0.00001	mg/L	0.001869	0.00001	mg/L	0.001869 >999.9%
Zn 206.200†	411.8	0.00749	mg/L	0.000172	0.00749	mg/L	0.000172 2.29%
K 766.490†	1435.0	0.489	mg/L	0.0066	0.489	mg/L	0.0066 1.35%
Na 589.592†	92757.1	4.61	mg/L	0.100	4.61	mg/L	0.100 2.17%
Sr 407.771†	165048.3	0.0661	mg/L	0.00185	0.0661	mg/L	0.00185 2.79%
Li 670.784†	92.7	-0.00228	mg/L	0.000170	-0.00228	mg/L	0.000170 7.44%

Sequence No.: 19 **Autosampler Location: 57**
Sample ID: L1211033901 500X **Date Collected: 11/19/2012 2:51:34 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1211033901 500X

Analyte	Back Pressure	Flow
All	175.0 kPa	0.50 L/min

Mean Data: L1211033901 500X

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2334014.5						18403.18	0.79%
YRADIAL	273856.4						6237.68	2.28%
Ga 417.206	1209963.6						5729.99	0.47%
GaRADIAL	74714.2						1521.47	2.04%
Ag 328.068†	254.9	0.00006	mg/L	0.000229	0.00006	mg/L	0.000229	414.29%
Al 396.153†	-2.0	-0.0162	mg/L	0.00190	-0.0162	mg/L	0.00190	11.73%
As 188.979†	-3.3	-0.00130	mg/L	0.003034	-0.00130	mg/L	0.003034	232.68%
Ba 233.527†	170561.6	1.16	mg/L	0.001	1.16	mg/L	0.001	0.06%
Be 234.861†	107.2	0.00005	mg/L	0.000011	0.00005	mg/L	0.000011	21.86%
B 249.677†	9278.9	0.100	mg/L	0.0020	0.100	mg/L	0.0020	1.98%
Ca 227.546†	13102.7	34.4	mg/L	0.72	34.4	mg/L	0.72	2.09%
Cd 228.802†	1.1	0.00003	mg/L	0.000062	0.00003	mg/L	0.000062	200.09%
Co 228.616†	-59.1	-0.00251	mg/L	0.000091	-0.00251	mg/L	0.000091	3.64%
Cr 267.716†	60.7	-0.00021	mg/L	0.000101	-0.00021	mg/L	0.000101	46.95%
Cu 327.393†	4.6	-0.00076	mg/L	0.000469	-0.00076	mg/L	0.000469	61.58%
Fe 239.562†	1139.8	0.113	mg/L	0.0017	0.113	mg/L	0.0017	1.51%
Mg 279.077†	10720.6	3.85	mg/L	0.082	3.85	mg/L	0.082	2.13%
Mn 257.610†	22165.9	0.0245	mg/L	0.00033	0.0245	mg/L	0.00033	1.36%
Mo 202.031†	67.7	0.00148	mg/L	0.000276	0.00148	mg/L	0.000276	18.62%
Ni 231.604†	0.3	-0.00167	mg/L	0.000316	-0.00167	mg/L	0.000316	18.94%
Pb 220.353†	17.4	0.00081	mg/L	0.000942	0.00081	mg/L	0.000942	116.37%
Sb 206.836†	0.9	0.00031	mg/L	0.002001	0.00031	mg/L	0.002001	641.26%
Se 196.026†	5.9	0.00451	mg/L	0.001919	0.00451	mg/L	0.001919	42.51%
Si 251.611†	528.8	0.00091	mg/L	0.000268	0.00091	mg/L	0.000268	29.32%
Sn 189.927†	-231.9	-0.0252	mg/L	0.00071	-0.0252	mg/L	0.00071	2.81%
Ti 334.940†	-6541.6	-0.00120	mg/L	0.000099	-0.00120	mg/L	0.000099	8.21%
Tl 190.801†	-21.4	-0.00891	mg/L	0.002665	-0.00891	mg/L	0.002665	29.90%
V 290.880†	689.6	0.00097	mg/L	0.001169	0.00097	mg/L	0.001169	120.66%
Zn 206.200†	168.7	0.00203	mg/L	0.000232	0.00203	mg/L	0.000232	11.40%
K 766.490†	5038.8	1.61	mg/L	0.017	1.61	mg/L	0.017	1.07%
Na 589.592†	1603541.8	82.7	mg/L	1.97	82.7	mg/L	1.97	2.38%

Approved: November 20, 2012

Sr 407.771†	Saturated2					
Li 670.784†	20612.5	0.152 mg/L	0.0045	0.152 mg/L	0.0045	2.97%

Sequence No.: 20 **Autosampler Location: 58**
Sample ID: L1211033901PS WG414094-03 **Date Collected: 11/19/2012 2:58:32 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1211033901PS WG414094-03

Analyte	Back Pressure	Flow
All	175.0 kPa	0.50 L/min

Mean Data: L1211033901PS WG414094-03

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2399769.5						27359.44	1.14%
YRADIAL	285750.9						582.24	0.20%
Ga 417.206	1198435.7						22548.99	1.88%
GaRADIAL	74878.3						173.38	0.23%
Ag 328.068†	63120.0	0.195	mg/L	0.0072	0.195	mg/L	0.0072	3.70%
Al 396.153†	31835.9	4.77	mg/L	0.024	4.77	mg/L	0.024	0.51%
As 188.979†	521.2	0.186	mg/L	0.0043	0.186	mg/L	0.0043	2.28%
Ba 233.527†	233597.6	1.59	mg/L	0.012	1.59	mg/L	0.012	0.77%
Be 234.861†	26999.9	0.0239	mg/L	0.00084	0.0239	mg/L	0.00084	3.49%
B 249.677†	98467.9	1.05	mg/L	0.043	1.05	mg/L	0.043	4.10%
Ca 227.546†	14973.1	39.5	mg/L	1.30	39.5	mg/L	1.30	3.29%
Cd 228.802†	1064.7	0.0231	mg/L	0.00111	0.0231	mg/L	0.00111	4.80%
Co 228.616†	3470.1	0.0934	mg/L	0.00111	0.0934	mg/L	0.00111	1.19%
Cr 267.716†	31084.2	0.239	mg/L	0.0019	0.239	mg/L	0.0019	0.78%
Cu 327.393†	63974.4	0.238	mg/L	0.0071	0.238	mg/L	0.0071	3.00%
Fe 239.562†	19539.0	2.05	mg/L	0.004	2.05	mg/L	0.004	0.17%
Mg 279.077†	23382.4	8.42	mg/L	0.082	8.42	mg/L	0.082	0.97%
Mn 257.610†	223451.3	0.266	mg/L	0.0021	0.266	mg/L	0.0021	0.81%
Mo 202.031†	14115.6	0.477	mg/L	0.0049	0.477	mg/L	0.0049	1.02%
Ni 231.604†	14953.1	0.250	mg/L	0.0022	0.250	mg/L	0.0022	0.88%
Pb 220.353†	2536.5	0.242	mg/L	0.0033	0.242	mg/L	0.0033	1.38%
Sb 206.836†	2067.6	0.578	mg/L	0.0172	0.578	mg/L	0.0172	2.97%
Se 196.026†	311.1	0.193	mg/L	0.0035	0.193	mg/L	0.0035	1.84%
Si 251.611†	115210.0	2.42	mg/L	0.063	2.42	mg/L	0.063	2.59%
Sn 189.927†	-239.1	-0.0259	mg/L	0.00116	-0.0259	mg/L	0.00116	4.48%
Ti 334.940†	529768.9	0.480	mg/L	0.0037	0.480	mg/L	0.0037	0.78%
Tl 190.801†	693.5	0.241	mg/L	0.0028	0.241	mg/L	0.0028	1.15%
V 290.880†	111352.7	0.485	mg/L	0.0034	0.485	mg/L	0.0034	0.70%
Zn 206.200†	21281.0	0.479	mg/L	0.0009	0.479	mg/L	0.0009	0.19%
K 766.490†	76342.5	25.4	mg/L	0.09	25.4	mg/L	0.09	0.36%
Na 589.592†	2001388.2	104	mg/L	1.7	104	mg/L	1.7	1.67%
Sr 407.771†	Saturated2							
Li 670.784†	84371.1	0.631	mg/L	0.0043	0.631	mg/L	0.0043	0.68%

Sequence No.: 21 **Autosampler Location: 59**
Sample ID: L1211034513 0.5 **Date Collected: 11/19/2012 3:04:32 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1211034513 0.5

Analyte	Back Pressure	Flow
All	176.0 kPa	0.50 L/min

Mean Data: L1211034513 0.5

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2392743.1						24781.10	1.04%
YRADIAL	284563.8						2404.46	0.84%
Ga 417.206	1232972.7						15631.96	1.27%

Approved: November 20, 2012

GaRADIAL	76051.1				1094.79	1.44%
Ag 328.068†	-103.4	0.00044 mg/L	0.000177	0.00044 mg/L	0.000177	40.67%
Al 396.153†	15.3	-0.0130 mg/L	0.00100	-0.0130 mg/L	0.00100	7.71%
As 188.979†	11.7	0.00516 mg/L	0.001938	0.00516 mg/L	0.001938	37.54%
Ba 233.527†	14278.8	0.0949 mg/L	0.00003	0.0949 mg/L	0.00003	0.03%
Be 234.861†	1261.4	0.00049 mg/L	0.000055	0.00049 mg/L	0.000055	11.29%
B 249.677†	2879.3	0.0304 mg/L	0.00116	0.0304 mg/L	0.00116	3.81%
Ca 227.546†	16453.3	43.3 mg/L	0.97	43.3 mg/L	0.97	2.23%
Cd 228.802†	11.6	0.00025 mg/L	0.000238	0.00025 mg/L	0.000238	95.11%
Co 228.616†	106.8	0.00227 mg/L	0.000212	0.00227 mg/L	0.000212	9.36%
Cr 267.716†	104.8	-0.00003 mg/L	0.000069	-0.00003 mg/L	0.000069	250.56%
Cu 327.393†	7.2	-0.00029 mg/L	0.000111	-0.00029 mg/L	0.000111	38.69%
Fe 239.562†	41303.9	4.33 mg/L	0.063	4.33 mg/L	0.063	1.45%
Mg 279.077†	35501.3	12.8 mg/L	0.20	12.8 mg/L	0.20	1.55%
Mn 257.610†	2761143.6	3.31 mg/L	0.023	3.31 mg/L	0.023	0.69%
Mo 202.031†	49.1	0.00175 mg/L	0.000093	0.00175 mg/L	0.000093	5.30%
Ni 231.604†	102.4	0.00005 mg/L	0.000460	0.00005 mg/L	0.000460	988.81%
Pb 220.353†	9.7	-0.00227 mg/L	0.000973	-0.00227 mg/L	0.000973	42.84%
Sb 206.836†	-2.4	-0.00046 mg/L	0.001327	-0.00046 mg/L	0.001327	291.32%
Se 196.026†	0.3	0.00073 mg/L	0.000425	0.00073 mg/L	0.000425	58.60%
Si 251.611†	221270.5	4.68 mg/L	0.073	4.68 mg/L	0.073	1.57%
Sn 189.927†	-252.2	-0.0273 mg/L	0.00091	-0.0273 mg/L	0.00091	3.34%
Ti 334.940†	-6995.7	-0.00029 mg/L	0.000661	-0.00029 mg/L	0.000661	226.37%
Tl 190.801†	-15.6	-0.0102 mg/L	0.00027	-0.0102 mg/L	0.00027	2.64%
V 290.880†	995.5	0.00186 mg/L	0.000944	0.00186 mg/L	0.000944	50.79%
Zn 206.200†	100.7	0.00012 mg/L	0.000058	0.00012 mg/L	0.000058	47.89%
K 766.490†	936.9	0.311 mg/L	0.0221	0.311 mg/L	0.0221	7.10%
Na 589.592†	343667.0	17.2 mg/L	0.18	17.2 mg/L	0.18	1.04%
Sr 407.771†	282509.8	0.115 mg/L	0.0004	0.115 mg/L	0.0004	0.36%
Li 670.784†	247.0	-0.00113 mg/L	0.000524	-0.00113 mg/L	0.000524	46.57%

==========

Sequence No.: 22 **Autosampler Location: 6**
Sample ID: CCV **Date Collected: 11/19/2012 3:10:29 PM**
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	2395789.1						24109.51	1.01%
YRADIAL	282765.8						3298.52	1.17%
Ga 417.206	1179437.0						24700.96	2.09%
GaRADIAL	73614.3						144.59	0.20%
Ag 328.068†	128254.8	0.397	mg/L	0.0111	0.397	mg/L	0.0111	2.80%
QC value within limits for Ag 328.068 Recovery = 99.27%								
Al 396.153†	64703.5	9.71	mg/L	0.010	9.71	mg/L	0.010	0.11%
QC value within limits for Al 396.153 Recovery = 97.05%								
As 188.979†	1080.9	0.387	mg/L	0.0059	0.387	mg/L	0.0059	1.52%
QC value within limits for As 188.979 Recovery = 96.73%								
Ba 233.527†	146085.3	0.992	mg/L	0.0047	0.992	mg/L	0.0047	0.48%
QC value within limits for Ba 233.527 Recovery = 99.21%								
Be 234.861†	54693.9	0.0485	mg/L	0.00152	0.0485	mg/L	0.00152	3.14%
QC value within limits for Be 234.861 Recovery = 97.05%								
B 249.677†	45483.4	0.483	mg/L	0.0164	0.483	mg/L	0.0164	3.39%
QC value within limits for B 249.677 Recovery = 96.59%								
Ca 227.546†	3695.9	10.2	mg/L	0.29	10.2	mg/L	0.29	2.88%
QC value within limits for Ca 227.546 Recovery = 101.55%								
Cd 228.802†	2205.1	0.0478	mg/L	0.00185	0.0478	mg/L	0.00185	3.87%
QC value within limits for Cd 228.802 Recovery = 95.62%								
Co 228.616†	7324.1	0.199	mg/L	0.0027	0.199	mg/L	0.0027	1.36%
QC value within limits for Co 228.616 Recovery = 99.26%								
Cr 267.716†	63907.5	0.493	mg/L	0.0045	0.493	mg/L	0.0045	0.92%
QC value within limits for Cr 267.716 Recovery = 98.57%								
Cu 327.393†	131866.3	0.491	mg/L	0.0120	0.491	mg/L	0.0120	2.44%

Approved: November 20, 2012

Kim H. Rhoden

QC value within limits for Cu 327.393 Recovery = 98.15%

Fe 239.562†	37763.4	3.96 mg/L	0.030	3.96 mg/L	0.030	0.76%
QC value within limits for Fe 239.562 Recovery = 99.03%							
Mg 279.077†	27565.7	9.93 mg/L	0.077	9.93 mg/L	0.077	0.78%
QC value within limits for Mg 279.077 Recovery = 99.34%							
Mn 257.610†	420442.5	0.503 mg/L	0.0037	0.503 mg/L	0.0037	0.74%
QC value within limits for Mn 257.610 Recovery = 100.61%							
Mo 202.031†	28681.6	0.970 mg/L	0.0063	0.970 mg/L	0.0063	0.65%
QC value within limits for Mo 202.031 Recovery = 97.04%							
Ni 231.604†	29570.0	0.497 mg/L	0.0008	0.497 mg/L	0.0008	0.15%
QC value within limits for Ni 231.604 Recovery = 99.32%							
Pb 220.353†	5201.0	0.497 mg/L	0.0049	0.497 mg/L	0.0049	0.99%
QC value within limits for Pb 220.353 Recovery = 99.47%							
Sb 206.836†	4188.2	1.17 mg/L	0.035	1.17 mg/L	0.035	2.95%
QC value within limits for Sb 206.836 Recovery = 97.49%							
Se 196.026†	635.9	0.393 mg/L	0.0165	0.393 mg/L	0.0165	4.19%
QC value within limits for Se 196.026 Recovery = 98.33%							
Si 251.611†	234124.7	4.94 mg/L	0.096	4.94 mg/L	0.096	1.94%
QC value within limits for Si 251.611 Recovery = 98.76%							
Sn 189.927†	9348.4	0.980 mg/L	0.0072	0.980 mg/L	0.0072	0.74%
QC value within limits for Sn 189.927 Recovery = 98.00%							
Ti 334.940†	1090448.0	0.978 mg/L	0.0033	0.978 mg/L	0.0033	0.34%
QC value within limits for Ti 334.940 Recovery = 97.77%							
Tl 190.801†	1464.6	0.511 mg/L	0.0070	0.511 mg/L	0.0070	1.37%
QC value within limits for Tl 190.801 Recovery = 102.26%							
V 290.880†	226664.7	0.989 mg/L	0.0074	0.989 mg/L	0.0074	0.75%
QC value within limits for V 290.880 Recovery = 98.90%							
Zn 206.200†	43798.6	0.987 mg/L	0.0054	0.987 mg/L	0.0054	0.54%
QC value within limits for Zn 206.200 Recovery = 98.73%							
K 766.490†	145206.4	48.6 mg/L	0.23	48.6 mg/L	0.23	0.47%
QC value within limits for K 766.490 Recovery = 97.27%							
Na 589.592†	954323.3	48.4 mg/L	0.43	48.4 mg/L	0.43	0.88%
QC value within limits for Na 589.592 Recovery = 96.81%							
Sr 407.771†	2367462.4	0.990 mg/L	0.0194	0.990 mg/L	0.0194	1.96%
QC value within limits for Sr 407.771 Recovery = 99.05%							
Li 670.784†	129086.2	0.967 mg/L	0.0091	0.967 mg/L	0.0091	0.94%
QC value within limits for Li 670.784 Recovery = 96.67%							

All analyte(s) passed QC.

==========

Sequence No.: 23 **Autosampler Location: 1**
Sample ID: CCB **Date Collected: 11/19/2012 3:16:31 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

Mean Data: CCB

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	2461598.8						47463.65	1.93%
YRADIAL	289530.6						5098.83	1.76%
Ga 417.206	1204356.0						23187.41	1.93%
GaRADIAL	77207.4						1622.71	2.10%
Ag 328.068†	55.1	-0.00061	mg/L	0.000388	-0.00061	mg/L	0.000388	63.15%
QC value within limits for Ag 328.068 Recovery = Not calculated								
Al 396.153†	16.8	-0.0132	mg/L	0.00162	-0.0132	mg/L	0.00162	12.29%
QC value within limits for Al 396.153 Recovery = Not calculated								
As 188.979†	2.9	0.00092	mg/L	0.000710	0.00092	mg/L	0.000710	76.93%
QC value within limits for As 188.979 Recovery = Not calculated								
Ba 233.527†	7.7	-0.00191	mg/L	0.000140	-0.00191	mg/L	0.000140	7.34%
QC value within limits for Ba 233.527 Recovery = Not calculated								
Be 234.861†	38.3	0.00001	mg/L	0.000031	0.00001	mg/L	0.000031	235.47%
QC value within limits for Be 234.861 Recovery = Not calculated								
B 249.677†	360.6	0.00538	mg/L	0.000438	0.00538	mg/L	0.000438	8.15%
QC value within limits for B 249.677 Recovery = Not calculated								
Ca 227.546†	8.1	0.0223	mg/L	0.02922	0.0223	mg/L	0.02922	130.99%

Approved: November 20, 2012

QC value within limits for Ca 227.546 Recovery = Not calculated

Cd	228.802†	-1.5	-0.00003	mg/L	0.000105	-0.00003	mg/L	0.000105	308.88%
	QC value within limits for Cd 228.802 Recovery = Not calculated								
Co	228.616†	-12.9	-0.00087	mg/L	0.000189	-0.00087	mg/L	0.000189	21.67%
	QC value within limits for Co 228.616 Recovery = Not calculated								
Cr	267.716†	3.7	-0.00065	mg/L	0.000081	-0.00065	mg/L	0.000081	12.36%
	QC value within limits for Cr 267.716 Recovery = Not calculated								
Cu	327.393†	125.7	-0.00030	mg/L	0.000304	-0.00030	mg/L	0.000304	102.88%
	QC value within limits for Cu 327.393 Recovery = Not calculated								
Fe	239.562†	15.6	-0.00485	mg/L	0.000801	-0.00485	mg/L	0.000801	16.53%
	QC value within limits for Fe 239.562 Recovery = Not calculated								
Mg	279.077†	6.5	-0.00727	mg/L	0.003790	-0.00727	mg/L	0.003790	52.16%
	QC value within limits for Mg 279.077 Recovery = Not calculated								
Mn	257.610†	1450.1	-0.00041	mg/L	0.000053	-0.00041	mg/L	0.000053	12.86%
	QC value within limits for Mn 257.610 Recovery = Not calculated								
Mo	202.031†	-6.1	-0.00103	mg/L	0.000175	-0.00103	mg/L	0.000175	17.02%
	QC value within limits for Mo 202.031 Recovery = Not calculated								
Ni	231.604†	3.2	-0.00162	mg/L	0.000337	-0.00162	mg/L	0.000337	20.73%
	QC value within limits for Ni 231.604 Recovery = Not calculated								
Pb	220.353†	-8.7	-0.00167	mg/L	0.001126	-0.00167	mg/L	0.001126	67.57%
	QC value within limits for Pb 220.353 Recovery = Not calculated								
Sb	206.836†	6.4	0.00183	mg/L	0.000313	0.00183	mg/L	0.000313	17.08%
	QC value within limits for Sb 206.836 Recovery = Not calculated								
Se	196.026†	7.6	0.00553	mg/L	0.000570	0.00553	mg/L	0.000570	10.31%
	QC value within limits for Se 196.026 Recovery = Not calculated								
Si	251.611†	4.9	-0.0102	mg/L	0.00037	-0.0102	mg/L	0.00037	3.63%
	QC value within limits for Si 251.611 Recovery = Not calculated								
Sn	189.927†	-38.9	-0.00492	mg/L	0.000874	-0.00492	mg/L	0.000874	17.77%
	QC value within limits for Sn 189.927 Recovery = Not calculated								
Ti	334.940†	115.1	-0.00039	mg/L	0.000231	-0.00039	mg/L	0.000231	58.63%
	QC value within limits for Ti 334.940 Recovery = Not calculated								
Tl	190.801†	-8.2	-0.00431	mg/L	0.002588	-0.00431	mg/L	0.002588	60.03%
	QC value within limits for Tl 190.801 Recovery = Not calculated								
V	290.880†	136.0	-0.00130	mg/L	0.001158	-0.00130	mg/L	0.001158	89.15%
	QC value within limits for V 290.880 Recovery = Not calculated								
Zn	206.200†	6.5	-0.00161	mg/L	0.000037	-0.00161	mg/L	0.000037	2.30%
	QC value within limits for Zn 206.200 Recovery = Not calculated								
K	766.490†	15.4	0.0218	mg/L	0.01682	0.0218	mg/L	0.01682	77.10%
	QC value within limits for K 766.490 Recovery = Not calculated								
Na	589.592†	382.3	0.0184	mg/L	0.00188	0.0184	mg/L	0.00188	10.21%
	QC value within limits for Na 589.592 Recovery = Not calculated								
Sr	407.771†	273.7	-0.00275	mg/L	0.000086	-0.00275	mg/L	0.000086	3.13%
	QC value within limits for Sr 407.771 Recovery = Not calculated								
Li	670.784†	58.2	-0.00254	mg/L	0.000175	-0.00254	mg/L	0.000175	6.89%
	QC value within limits for Li 670.784 Recovery = Not calculated								

All analyte(s) passed QC.

==========

Sequence No.: 24 **Autosampler Location: 71**
Sample ID: PBW ZB WG414500-02 **Date Collected: 11/19/2012 3:23:24 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: PBW ZB WG414500-02

Analyte	Back Pressure	Flow
All	175.0 kPa	0.50 L/min

Mean Data: PBW ZB WG414500-02

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2486755.7						24583.92	0.99%
YRADIAL	293905.9						5064.86	1.72%
Ga 417.206	1181642.9						32936.75	2.79%
GaRADIAL	78734.6						1986.39	2.52%
Ag 328.068†	61.8	-0.00059	mg/L	0.000400	-0.00059	mg/L	0.000400	67.74%
Al 396.153†	35.8	-0.0103	mg/L	0.00076	-0.0103	mg/L	0.00076	7.33%
As 188.979†	-4.8	-0.00186	mg/L	0.002651	-0.00186	mg/L	0.002651	142.63%
Ba 233.527†	-29.7	-0.00216	mg/L	0.000070	-0.00216	mg/L	0.000070	3.25%
Be 234.861†	-246.2	-0.00024	mg/L	0.000046	-0.00024	mg/L	0.000046	19.08%

Approved: November 20, 2012

Kim H. Rhoden

B 249.677†	270.5	0.00441	mg/L	0.000378	0.00441	mg/L	0.000378	8.57%
Ca 227.546†	15.4	0.0413	mg/L	0.03136	0.0413	mg/L	0.03136	75.89%
Cd 228.802†	8.4	0.00020	mg/L	0.000090	0.00020	mg/L	0.000090	44.69%
Co 228.616†	-5.5	-0.00067	mg/L	0.000259	-0.00067	mg/L	0.000259	38.81%
Cr 267.716†	34.5	-0.00041	mg/L	0.000062	-0.00041	mg/L	0.000062	14.92%
Cu 327.393†	152.6	-0.00019	mg/L	0.000491	-0.00019	mg/L	0.000491	251.91%
Fe 239.562†	66.2	0.00047	mg/L	0.000424	0.00047	mg/L	0.000424	90.30%
Mg 279.077†	54.1	0.00989	mg/L	0.004612	0.00989	mg/L	0.004612	46.63%
Mn 257.610†	826.4	-0.00116	mg/L	0.000067	-0.00116	mg/L	0.000067	5.73%
Mo 202.031†	10.0	-0.00048	mg/L	0.000350	-0.00048	mg/L	0.000350	72.72%
Ni 231.604†	-28.1	-0.00215	mg/L	0.000440	-0.00215	mg/L	0.000440	20.47%
Pb 220.353†	7.9	-0.00008	mg/L	0.001316	-0.00008	mg/L	0.001316	>999.9%
Sb 206.836†	5.4	0.00157	mg/L	0.001135	0.00157	mg/L	0.001135	72.28%
Se 196.026†	12.0	0.00826	mg/L	0.003213	0.00826	mg/L	0.003213	38.91%
Si 251.611†	128.5	-0.00754	mg/L	0.000735	-0.00754	mg/L	0.000735	9.74%
Sn 189.927†	-11.3	-0.00203	mg/L	0.000376	-0.00203	mg/L	0.000376	18.53%
Ti 334.940†	139.9	-0.00037	mg/L	0.000103	-0.00037	mg/L	0.000103	27.83%
Tl 190.801†	-18.5	-0.00785	mg/L	0.001396	-0.00785	mg/L	0.001396	17.79%
V 290.880†	247.8	-0.00081	mg/L	0.001282	-0.00081	mg/L	0.001282	158.25%
Zn 206.200†	78.1	0.00000	mg/L	0.000230	0.00000	mg/L	0.000230	>999.9%
K 766.490†	4.0	0.0181	mg/L	0.01078	0.0181	mg/L	0.01078	59.67%
Na 589.592†	55.8	0.00226	mg/L	0.010116	0.00226	mg/L	0.010116	446.97%
Sr 407.771†	457.0	-0.00267	mg/L	0.000014	-0.00267	mg/L	0.000014	0.51%
Li 670.784†	-61.4	-0.00344	mg/L	0.000414	-0.00344	mg/L	0.000414	12.02%

Sequence No.: 25 **Autosampler Location: 72**
Sample ID: LCSW ZB WG414500-03 **Date Collected: 11/19/2012 3:30:19 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: LCSW ZB WG414500-03

Analyte	Back Pressure	Flow
All	176.0 kPa	0.50 L/min

Mean Data: LCSW ZB WG414500-03

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2434483.4						26473.09	1.09%
YRADIAL	285187.4						4635.93	1.63%
Ga 417.206	1180444.9						17542.43	1.49%
GaRADIAL	75330.3						260.82	0.35%
Ag 328.068†	64202.7	0.198	mg/L	0.0035	0.198	mg/L	0.0035	1.74%
Al 396.153†	32772.4	4.91	mg/L	0.038	4.91	mg/L	0.038	0.77%
As 188.979†	517.0	0.185	mg/L	0.0056	0.185	mg/L	0.0056	3.05%
Ba 233.527†	72423.9	0.491	mg/L	0.0053	0.491	mg/L	0.0053	1.08%
Be 234.861†	26091.0	0.0231	mg/L	0.00058	0.0231	mg/L	0.00058	2.51%
B 249.677†	87685.4	0.935	mg/L	0.0212	0.935	mg/L	0.0212	2.27%
Ca 227.546†	1796.3	4.95	mg/L	0.074	4.95	mg/L	0.074	1.50%
Cd 228.802†	1077.8	0.0234	mg/L	0.00074	0.0234	mg/L	0.00074	3.16%
Co 228.616†	3615.0	0.0977	mg/L	0.00116	0.0977	mg/L	0.00116	1.18%
Cr 267.716†	32186.3	0.248	mg/L	0.0018	0.248	mg/L	0.0018	0.74%
Cu 327.393†	67734.9	0.252	mg/L	0.0046	0.252	mg/L	0.0046	1.85%
Fe 239.562†	19220.8	2.01	mg/L	0.022	2.01	mg/L	0.022	1.10%
Mg 279.077†	13783.0	4.96	mg/L	0.074	4.96	mg/L	0.074	1.50%
Mn 257.610†	211182.7	0.252	mg/L	0.0034	0.252	mg/L	0.0034	1.37%
Mo 202.031†	14354.3	0.485	mg/L	0.0052	0.485	mg/L	0.0052	1.07%
Ni 231.604†	15210.7	0.255	mg/L	0.0022	0.255	mg/L	0.0022	0.85%
Pb 220.353†	2512.5	0.240	mg/L	0.0032	0.240	mg/L	0.0032	1.34%
Sb 206.836†	2091.7	0.584	mg/L	0.0117	0.584	mg/L	0.0117	2.00%
Se 196.026†	312.7	0.194	mg/L	0.0049	0.194	mg/L	0.0049	2.53%
Si 251.611†	116710.5	2.46	mg/L	0.037	2.46	mg/L	0.037	1.49%
Sn 189.927†	-70.3	-0.00822	mg/L	0.000798	-0.00822	mg/L	0.000798	9.71%
Ti 334.940†	549502.8	0.492	mg/L	0.0028	0.492	mg/L	0.0028	0.56%
Tl 190.801†	706.3	0.246	mg/L	0.0024	0.246	mg/L	0.0024	0.96%
V 290.880†	113957.0	0.496	mg/L	0.0030	0.496	mg/L	0.0030	0.61%
Zn 206.200†	20756.6	0.467	mg/L	0.0043	0.467	mg/L	0.0043	0.92%
K 766.490†	72772.8	24.3	mg/L	0.14	24.3	mg/L	0.14	0.57%
Na 589.592†	479221.0	24.0	mg/L	0.16	24.0	mg/L	0.16	0.65%

Approved: November 20, 2012

Kim H. Rhoden

Sr 407.771†	1230605.4	0.513	mg/L	0.0058	0.513	mg/L	0.0058	1.12%
Li 670.784†	67563.1	0.505	mg/L	0.0069	0.505	mg/L	0.0069	1.37%

Sequence No.: 26 **Autosampler Location: 73**
Sample ID: FBLK WG414334-01 **Date Collected: 11/19/2012 3:36:18 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: FBLK WG414334-01

Analyte	Back Pressure	Flow
All	175.0 kPa	0.50 L/min

Mean Data: FBLK WG414334-01

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2384022.1						10425.71	0.44%
YRADIAL	284841.4						5328.01	1.87%
Ga 417.206	1209762.2						17459.80	1.44%
GaRADIAL	74738.7						1266.33	1.69%
Ag 328.068†	-34.9	-0.00088	mg/L	0.000188	-0.00088	mg/L	0.000188	21.22%
Al 396.153†	17.1	-0.0132	mg/L	0.00069	-0.0132	mg/L	0.00069	5.24%
As 188.979†	-13.6	-0.00506	mg/L	0.001336	-0.00506	mg/L	0.001336	26.40%
Ba 233.527†	-17.2	-0.00208	mg/L	0.000117	-0.00208	mg/L	0.000117	5.64%
Be 234.861†	-205.0	-0.00021	mg/L	0.000019	-0.00021	mg/L	0.000019	9.09%
B 249.677†	434.1	0.00615	mg/L	0.000438	0.00615	mg/L	0.000438	7.12%
Ca 227.546†	34.2	0.0904	mg/L	0.01790	0.0904	mg/L	0.01790	19.79%
Cd 228.802†	9.2	0.00024	mg/L	0.000075	0.00024	mg/L	0.000075	31.96%
Co 228.616†	-9.4	-0.00077	mg/L	0.000135	-0.00077	mg/L	0.000135	17.50%
Cr 267.716†	38.8	-0.00038	mg/L	0.000021	-0.00038	mg/L	0.000021	5.61%
Cu 327.393†	215.6	0.00004	mg/L	0.000452	0.00004	mg/L	0.000452	>999.9%
Fe 239.562†	45.5	-0.00170	mg/L	0.000314	-0.00170	mg/L	0.000314	18.50%
Mg 279.077†	111.1	0.0304	mg/L	0.00147	0.0304	mg/L	0.00147	4.83%
Mn 257.610†	340.2	-0.00174	mg/L	0.000022	-0.00174	mg/L	0.000022	1.24%
Mo 202.031†	22.8	-0.00005	mg/L	0.000398	-0.00005	mg/L	0.000398	814.31%
Ni 231.604†	-42.4	-0.00239	mg/L	0.000094	-0.00239	mg/L	0.000094	3.94%
Pb 220.353†	6.0	-0.00026	mg/L	0.000448	-0.00026	mg/L	0.000448	173.98%
Sb 206.836†	3.8	0.00111	mg/L	0.000966	0.00111	mg/L	0.000966	87.44%
Se 196.026†	18.8	0.0125	mg/L	0.00228	0.0125	mg/L	0.00228	18.30%
Si 251.611†	174.1	-0.00658	mg/L	0.000191	-0.00658	mg/L	0.000191	2.91%
Sn 189.927†	-11.1	-0.00200	mg/L	0.000528	-0.00200	mg/L	0.000528	26.34%
Ti 334.940†	79.5	-0.00042	mg/L	0.000148	-0.00042	mg/L	0.000148	35.74%
Tl 190.801†	-27.9	-0.0110	mg/L	0.00214	-0.0110	mg/L	0.00214	19.38%
V 290.880†	715.9	0.00124	mg/L	0.000835	0.00124	mg/L	0.000835	67.47%
Zn 206.200†	132.1	0.00122	mg/L	0.000107	0.00122	mg/L	0.000107	8.78%
K 766.490†	118.0	-0.0915	mg/L	0.00218	-0.0915	mg/L	0.00218	2.39%
Na 589.592†	2769330.1	147	mg/L	4.3	147	mg/L	4.3	2.94%
Sr 407.771†	1297.4	-0.00232	mg/L	0.000023	-0.00232	mg/L	0.000023	1.00%
Li 670.784†	-89.5	-0.00365	mg/L	0.000522	-0.00365	mg/L	0.000522	14.28%

Sequence No.: 27 **Autosampler Location: 74**
Sample ID: FBLK1 WG414458-01 **Date Collected: 11/19/2012 3:43:16 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: FBLK1 WG414458-01

Analyte	Back Pressure	Flow
All	176.0 kPa	0.50 L/min

Mean Data: FBLK1 WG414458-01

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2362586.6						16088.04	0.68%
YRADIAL	286825.1						4125.25	1.44%
Ga 417.206	1186175.4						15714.52	1.32%

Approved: November 20, 2012

GaRADIAL	74859.3					1287.83	1.72%
Ag 328.068†	20.4	-0.00071	mg/L	0.000089	-0.00071 mg/L	0.000089	12.47%
Al 396.153†	21.1	-0.0126	mg/L	0.00060	-0.0126 mg/L	0.00060	4.80%
As 188.979†	-7.8	-0.00295	mg/L	0.001510	-0.00295 mg/L	0.001510	51.17%
Ba 233.527†	-33.5	-0.00219	mg/L	0.000136	-0.00219 mg/L	0.000136	6.23%
Be 234.861†	-224.7	-0.00022	mg/L	0.000012	-0.00022 mg/L	0.000012	5.55%
B 249.677†	234.6	0.00403	mg/L	0.000203	0.00403 mg/L	0.000203	5.04%
Ca 227.546†	23.5	0.0623	mg/L	0.02841	0.0623 mg/L	0.02841	45.57%
Cd 228.802†	1.4	0.00005	mg/L	0.000097	0.00005 mg/L	0.000097	190.62%
Co 228.616†	-7.6	-0.00072	mg/L	0.000229	-0.00072 mg/L	0.000229	31.61%
Cr 267.716†	44.2	-0.00034	mg/L	0.000030	-0.00034 mg/L	0.000030	8.99%
Cu 327.393†	195.8	-0.00003	mg/L	0.000277	-0.00003 mg/L	0.000277	814.75%
Fe 239.562†	30.9	-0.00324	mg/L	0.000113	-0.00324 mg/L	0.000113	3.48%
Mg 279.077†	59.3	0.0118	mg/L	0.00173	0.0118 mg/L	0.00173	14.72%
Mn 257.610†	330.7	-0.00176	mg/L	0.000004	-0.00176 mg/L	0.000004	0.20%
Mo 202.031†	24.4	0.00001	mg/L	0.000262	0.00001 mg/L	0.000262	>999.9%
Ni 231.604†	-41.1	-0.00237	mg/L	0.000146	-0.00237 mg/L	0.000146	6.17%
Pb 220.353†	-5.8	-0.00139	mg/L	0.000762	-0.00139 mg/L	0.000762	54.90%
Sb 206.836†	4.4	0.00129	mg/L	0.001251	0.00129 mg/L	0.001251	97.04%
Se 196.026†	15.9	0.0106	mg/L	0.00148	0.0106 mg/L	0.00148	13.94%
Si 251.611†	-20.2	-0.0107	mg/L	0.00018	-0.0107 mg/L	0.00018	1.64%
Sn 189.927†	-8.5	-0.00173	mg/L	0.000455	-0.00173 mg/L	0.000455	26.32%
Ti 334.940†	80.3	-0.00042	mg/L	0.000033	-0.00042 mg/L	0.000033	7.92%
Tl 190.801†	-27.2	-0.0108	mg/L	0.00071	-0.0108 mg/L	0.00071	6.56%
V 290.880†	705.4	0.00119	mg/L	0.001720	0.00119 mg/L	0.001720	144.31%
Zn 206.200†	139.2	0.00138	mg/L	0.000125	0.00138 mg/L	0.000125	9.06%
K 766.490†	11.3	-0.125	mg/L	0.0236	-0.125 mg/L	0.0236	18.86%
Na 589.592†	2741587.3	146	mg/L	3.0	146 mg/L	3.0	2.08%
Sr 407.771†	948.3	-0.00247	mg/L	0.000041	-0.00247 mg/L	0.000041	1.65%
Li 670.784†	-22.7	-0.00315	mg/L	0.000392	-0.00315 mg/L	0.000392	12.43%

==========

Sequence No.: 28 **Autosampler Location: 75**
Sample ID: FBLK2 WG414458-02 **Date Collected: 11/19/2012 3:50:14 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: FBLK2 WG414458-02

Analyte	Back Pressure	Flow
All	175.0 kPa	0.50 L/min

Mean Data: FBLK2 WG414458-02

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2476841.7						2997.59	0.12%
YRADIAL	289783.5						4624.10	1.60%
Ga 417.206	1165905.0						11566.05	0.99%
GaRADIAL	77885.8						1304.92	1.68%
Ag 328.068†	-69.6	-0.00099	mg/L	0.000133	-0.00099	mg/L	0.000133	13.35%
Al 396.153†	24.1	-0.0121	mg/L	0.00112	-0.0121	mg/L	0.00112	9.22%
As 188.979†	-7.5	-0.00284	mg/L	0.002134	-0.00284	mg/L	0.002134	75.08%
Ba 233.527†	-19.8	-0.00210	mg/L	0.000139	-0.00210	mg/L	0.000139	6.65%
Be 234.861†	-300.5	-0.00029	mg/L	0.000022	-0.00029	mg/L	0.000022	7.67%
B 249.677†	162.3	0.00326	mg/L	0.000210	0.00326	mg/L	0.000210	6.45%
Ca 227.546†	7.0	0.0198	mg/L	0.02750	0.0198	mg/L	0.02750	138.54%
Cd 228.802†	3.1	0.00009	mg/L	0.000199	0.00009	mg/L	0.000199	222.62%
Co 228.616†	-6.1	-0.00068	mg/L	0.000251	-0.00068	mg/L	0.000251	36.67%
Cr 267.716†	36.9	-0.00039	mg/L	0.000111	-0.00039	mg/L	0.000111	28.25%
Cu 327.393†	184.8	-0.00007	mg/L	0.000464	-0.00007	mg/L	0.000464	619.32%
Fe 239.562†	55.4	-0.00066	mg/L	0.000163	-0.00066	mg/L	0.000163	24.58%
Mg 279.077†	9.0	-0.00636	mg/L	0.001048	-0.00636	mg/L	0.001048	16.48%
Mn 257.610†	649.3	-0.00137	mg/L	0.000016	-0.00137	mg/L	0.000016	1.20%
Mo 202.031†	16.6	-0.00026	mg/L	0.000259	-0.00026	mg/L	0.000259	100.14%
Ni 231.604†	20.5	-0.00133	mg/L	0.000160	-0.00133	mg/L	0.000160	12.02%
Pb 220.353†	2.1	-0.00063	mg/L	0.002460	-0.00063	mg/L	0.002460	387.38%
Sb 206.836†	8.8	0.00252	mg/L	0.000918	0.00252	mg/L	0.000918	36.37%
Se 196.026†	17.5	0.0116	mg/L	0.00129	0.0116	mg/L	0.00129	11.11%
Si 251.611†	-12.9	-0.0105	mg/L	0.00042	-0.0105	mg/L	0.00042	4.02%
Sn 189.927†	-9.3	-0.00182	mg/L	0.000335	-0.00182	mg/L	0.000335	18.43%

Approved: November 20, 2012

Ti 334.940†	151.7	-0.00036 mg/L	0.000099	-0.00036 mg/L	0.000099	27.32%
Tl 190.801†	-28.6	-0.0113 mg/L	0.00024	-0.0113 mg/L	0.00024	2.15%
V 290.880†	209.1	-0.00098 mg/L	0.001154	-0.00098 mg/L	0.001154	117.84%
Zn 206.200†	594.7	0.0116 mg/L	0.00013	0.0116 mg/L	0.00013	1.10%
K 766.490†	29.7	0.0265 mg/L	0.01015	0.0265 mg/L	0.01015	38.23%
Na 589.592†	1045.5	0.0513 mg/L	0.00868	0.0513 mg/L	0.00868	16.92%
Sr 407.771†	75.6	-0.00283 mg/L	0.000037	-0.00283 mg/L	0.000037	1.30%
Li 670.784†	-86.3	-0.00363 mg/L	0.000231	-0.00363 mg/L	0.000231	6.36%

Sequence No.: 29 **Autosampler Location: 76**
Sample ID: L1211037502 **Date Collected: 11/19/2012 3:57:08 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1211037502

Analyte	Back Pressure	Flow
All	176.0 kPa	0.50 L/min

Mean Data: L1211037502

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2333128.5						12866.32	0.55%
YRADIAL	284055.2						4333.95	1.53%
Ga 417.206	1219892.9						24409.35	2.00%
GaRADIAL	76771.7						1118.12	1.46%
Ag 328.068†	453.8	0.00061	mg/L	0.000549	0.00061	mg/L	0.000549	89.47%
Al 396.153†	440.6	0.0507	mg/L	0.00056	0.0507	mg/L	0.00056	1.11%
As 188.979†	-22.2	-0.00817	mg/L	0.002481	-0.00817	mg/L	0.002481	30.36%
Ba 233.527†	4580.5	0.0292	mg/L	0.00025	0.0292	mg/L	0.00025	0.85%
Be 234.861†	-146.0	-0.00016	mg/L	0.000029	-0.00016	mg/L	0.000029	18.65%
B 249.677†	1229.6	0.0146	mg/L	0.00118	0.0146	mg/L	0.00118	8.04%
Ca 227.546†	24886.5	65.3	mg/L	2.44	65.3	mg/L	2.44	3.74%
Cd 228.802†	-2.2	0.00000	mg/L	0.000139	0.00000	mg/L	0.000139	>999.9%
Co 228.616†	-4.9	-0.00064	mg/L	0.000397	-0.00064	mg/L	0.000397	62.08%
Cr 267.716†	115.4	0.00021	mg/L	0.000151	0.00021	mg/L	0.000151	71.16%
Cu 327.393†	165.0	-0.00015	mg/L	0.000520	-0.00015	mg/L	0.000520	341.54%
Fe 239.562†	319.9	0.0271	mg/L	0.00048	0.0271	mg/L	0.00048	1.76%
Mg 279.077†	2986.6	1.07	mg/L	0.017	1.07	mg/L	0.017	1.57%
Mn 257.610†	13631.5	0.0142	mg/L	0.00025	0.0142	mg/L	0.00025	1.73%
Mo 202.031†	109.3	0.00288	mg/L	0.000426	0.00288	mg/L	0.000426	14.78%
Ni 231.604†	1.6	-0.00165	mg/L	0.000181	-0.00165	mg/L	0.000181	10.97%
Pb 220.353†	26.8	0.00173	mg/L	0.000353	0.00173	mg/L	0.000353	20.38%
Sb 206.836†	3.1	0.00093	mg/L	0.000557	0.00093	mg/L	0.000557	59.93%
Se 196.026†	13.6	0.00926	mg/L	0.004279	0.00926	mg/L	0.004279	46.22%
Si 251.611†	138193.6	2.92	mg/L	0.068	2.92	mg/L	0.068	2.32%
Sn 189.927†	-272.0	-0.0294	mg/L	0.00044	-0.0294	mg/L	0.00044	1.49%
Ti 334.940†	-8779.6	0.00143	mg/L	0.000414	0.00143	mg/L	0.000414	28.96%
Tl 190.801†	-44.9	-0.0169	mg/L	0.00259	-0.0169	mg/L	0.00259	15.30%
V 290.880†	1078.5	0.00279	mg/L	0.002216	0.00279	mg/L	0.002216	79.28%
Zn 206.200†	133.6	0.00125	mg/L	0.000093	0.00125	mg/L	0.000093	7.42%
K 766.490†	2676.3	0.771	mg/L	0.0091	0.771	mg/L	0.0091	1.18%
Na 589.592†	2543732.1	135	mg/L	4.4	135	mg/L	4.4	3.25%
Sr 407.771†	223206.4	0.0895	mg/L	0.00196	0.0895	mg/L	0.00196	2.19%
Li 670.784†	1.1	-0.00297	mg/L	0.000543	-0.00297	mg/L	0.000543	18.27%

Sequence No.: 30 **Autosampler Location: 77**
Sample ID: L1211037504 **Date Collected: 11/19/2012 4:04:11 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1211037504

Analyte	Back Pressure	Flow
All	175.0 kPa	0.50 L/min

Approved: November 20, 2012

Kim H. Rhoden

Mean Data: L1211037504

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2383653.6						3683.70	0.15%
YRADIAL	282226.9						2389.13	0.85%
Ga 417.206	1220388.0						14687.91	1.20%
GaRADIAL	75658.5						513.57	0.68%
Ag 328.068†	254.8	0.00063	mg/L	0.000082	0.00063	mg/L	0.000082	13.11%
Al 396.153†	5403.0	0.802	mg/L	0.0088	0.802	mg/L	0.0088	1.10%
As 188.979†	-16.0	-0.00561	mg/L	0.002392	-0.00561	mg/L	0.002392	42.66%
Ba 233.527†	6917.4	0.0450	mg/L	0.00018	0.0450	mg/L	0.00018	0.41%
Be 234.861†	541.6	0.00015	mg/L	0.000044	0.00015	mg/L	0.000044	30.04%
B 249.677†	3575.1	0.0389	mg/L	0.00077	0.0389	mg/L	0.00077	1.99%
Ca 227.546†	28532.8	74.9	mg/L	1.69	74.9	mg/L	1.69	2.26%
Cd 228.802†	22.0	0.00053	mg/L	0.000108	0.00053	mg/L	0.000108	20.23%
Co 228.616†	79.5	0.00161	mg/L	0.000420	0.00161	mg/L	0.000420	26.12%
Cr 267.716†	389.9	0.00228	mg/L	0.000043	0.00228	mg/L	0.000043	1.88%
Cu 327.393†	601.6	0.00164	mg/L	0.000274	0.00164	mg/L	0.000274	16.70%
Fe 239.562†	15404.0	1.61	mg/L	0.014	1.61	mg/L	0.014	0.86%
Mg 279.077†	4273.4	1.53	mg/L	0.014	1.53	mg/L	0.014	0.89%
Mn 257.610†	295242.1	0.352	mg/L	0.0024	0.352	mg/L	0.0024	0.68%
Mo 202.031†	85.1	0.00221	mg/L	0.000108	0.00221	mg/L	0.000108	4.87%
Ni 231.604†	226.8	0.00215	mg/L	0.000613	0.00215	mg/L	0.000613	28.54%
Pb 220.353†	155.1	0.0138	mg/L	0.00266	0.0138	mg/L	0.00266	19.28%
Sb 206.836†	-2.5	-0.00061	mg/L	0.001741	-0.00061	mg/L	0.001741	285.30%
Se 196.026†	10.2	0.00736	mg/L	0.003795	0.00736	mg/L	0.003795	51.54%
Si 251.611†	57938.2	1.22	mg/L	0.011	1.22	mg/L	0.011	0.87%
Sn 189.927†	-273.3	-0.0295	mg/L	0.00064	-0.0295	mg/L	0.00064	2.17%
Ti 334.940†	-4925.1	0.00632	mg/L	0.000940	0.00632	mg/L	0.000940	14.88%
Tl 190.801†	-42.0	-0.0162	mg/L	0.00432	-0.0162	mg/L	0.00432	26.66%
V 290.880†	1144.0	0.00297	mg/L	0.000164	0.00297	mg/L	0.000164	5.51%
Zn 206.200†	2435.8	0.0529	mg/L	0.00035	0.0529	mg/L	0.00035	0.66%
K 766.490†	1887.3	0.502	mg/L	0.0070	0.502	mg/L	0.0070	1.40%
Na 589.592†	2670532.0	142	mg/L	0.4	142	mg/L	0.4	0.26%
Sr 407.771†	885879.2	0.367	mg/L	0.0020	0.367	mg/L	0.0020	0.54%
Li 670.784†	60.5	-0.00253	mg/L	0.000237	-0.00253	mg/L	0.000237	9.39%

==========

Sequence No.: 31 **Autosampler Location: 78**
Sample ID: L1211037509 **Date Collected: 11/19/2012 4:10:10 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1211037509

Analyte	Back Pressure	Flow
All	176.0 kPa	0.50 L/min

Mean Data: L1211037509

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2332621.9						5176.28	0.22%
YRADIAL	280425.5						2087.86	0.74%
Ga 417.206	1191065.9						20640.08	1.73%
GaRADIAL	74760.4						261.72	0.35%
Ag 328.068†	-221.7	0.00085	mg/L	0.000368	0.00085	mg/L	0.000368	43.44%
Al 396.153†	428.9	0.0495	mg/L	0.00497	0.0495	mg/L	0.00497	10.03%
As 188.979†	-21.5	-0.00670	mg/L	0.002144	-0.00670	mg/L	0.002144	31.98%
Ba 233.527†	11989.2	0.0793	mg/L	0.00044	0.0793	mg/L	0.00044	0.56%
Be 234.861†	1261.3	0.00000	mg/L	0.000087	0.00000	mg/L	0.000087	>999.9%
B 249.677†	2820.1	0.0294	mg/L	0.00088	0.0294	mg/L	0.00088	2.99%
Ca 227.546†	26332.6	69.2	mg/L	1.63	69.2	mg/L	1.63	2.36%
Cd 228.802†	12.8	0.00035	mg/L	0.000208	0.00035	mg/L	0.000208	59.69%
Co 228.616†	221.4	0.00538	mg/L	0.000239	0.00538	mg/L	0.000239	4.43%
Cr 267.716†	61.8	-0.00038	mg/L	0.000082	-0.00038	mg/L	0.000082	21.32%
Cu 327.393†	6.2	-0.00020	mg/L	0.000228	-0.00020	mg/L	0.000228	116.56%
Fe 239.562†	49172.7	5.16	mg/L	0.055	5.16	mg/L	0.055	1.07%
Mg 279.077†	7449.0	2.67	mg/L	0.055	2.67	mg/L	0.055	2.07%
Mn 257.610†	139669.6	0.166	mg/L	0.0013	0.166	mg/L	0.0013	0.81%
Mo 202.031†	101.0	0.00289	mg/L	0.000119	0.00289	mg/L	0.000119	4.14%

Approved: November 20, 2012

Kim H. Rhoden

Ni 231.604†	709.1	0.0103	mg/L	0.00066	0.0103	mg/L	0.00066 6.41%
Pb 220.353†	8.0	-0.00060	mg/L	0.002212	-0.00060	mg/L	0.002212 368.55%
Sb 206.836†	1.3	0.00062	mg/L	0.000559	0.00062	mg/L	0.000559 90.65%
Se 196.026†	10.5	0.00808	mg/L	0.004995	0.00808	mg/L	0.004995 61.83%
Si 251.611†	43851.4	0.919	mg/L	0.0077	0.919	mg/L	0.0077 0.84%
Sn 189.927†	-275.8	-0.0298	mg/L	0.00166	-0.0298	mg/L	0.00166 5.59%
Ti 334.940†	-7608.6	0.00305	mg/L	0.000814	0.00305	mg/L	0.000814 26.73%
Tl 190.801†	-30.4	-0.0121	mg/L	0.00383	-0.0121	mg/L	0.00383 31.60%
V 290.880†	1136.9	0.00269	mg/L	0.000433	0.00269	mg/L	0.000433 16.09%
Zn 206.200†	7444.6	0.165	mg/L	0.0011	0.165	mg/L	0.0011 0.67%
K 766.490†	4178.8	1.26	mg/L	0.021	1.26	mg/L	0.021 1.64%
Na 589.592†	2740728.9	146	mg/L	0.9	146	mg/L	0.9 0.62%
Sr 407.771†	418333.8	0.171	mg/L	0.0005	0.171	mg/L	0.0005 0.29%
Li 670.784†	99.9	-0.00223	mg/L	0.000247	-0.00223	mg/L	0.000247 11.07%

Sequence No.: 32 **Autosampler Location: 79**
Sample ID: L1211037509PS WG414522-01 **Date Collected: 11/19/2012 4:16:10 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1211037509PS WG414522-01

Analyte	Back Pressure	Flow
All	176.0 kPa	0.50 L/min

Mean Data: L1211037509PS WG414522-01

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2318852.0						17639.14	0.76%
YRADIAL	283904.0						2046.64	0.72%
Ga 417.206	1165479.5						27947.90	2.40%
GaRADIAL	74048.3						646.82	0.87%
Ag 328.068†	63935.4	0.200	mg/L	0.0052	0.200	mg/L	0.0052	2.61%
Al 396.153†	33473.9	5.01	mg/L	0.024	5.01	mg/L	0.024	0.47%
As 188.979†	520.2	0.187	mg/L	0.0034	0.187	mg/L	0.0034	1.84%
Ba 233.527†	82662.9	0.560	mg/L	0.0146	0.560	mg/L	0.0146	2.60%
Be 234.861†	28056.9	0.0239	mg/L	0.00028	0.0239	mg/L	0.00028	1.15%
B 249.677†	91126.8	0.970	mg/L	0.0279	0.970	mg/L	0.0279	2.87%
Ca 227.546†	25848.2	68.2	mg/L	2.23	68.2	mg/L	2.23	3.27%
Cd 228.802†	1074.1	0.0233	mg/L	0.00096	0.0233	mg/L	0.00096	4.10%
Co 228.616†	3767.2	0.102	mg/L	0.0010	0.102	mg/L	0.0010	1.01%
Cr 267.716†	32551.8	0.251	mg/L	0.0039	0.251	mg/L	0.0039	1.57%
Cu 327.393†	67479.2	0.251	mg/L	0.0093	0.251	mg/L	0.0093	3.72%
Fe 239.562†	62088.5	6.52	mg/L	0.073	6.52	mg/L	0.073	1.12%
Mg 279.077†	20066.6	7.22	mg/L	0.075	7.22	mg/L	0.075	1.04%
Mn 257.610†	339482.6	0.406	mg/L	0.0102	0.406	mg/L	0.0102	2.52%
Mo 202.031†	14774.5	0.500	mg/L	0.0097	0.500	mg/L	0.0097	1.95%
Ni 231.604†	15747.4	0.264	mg/L	0.0021	0.264	mg/L	0.0021	0.79%
Pb 220.353†	2522.9	0.240	mg/L	0.0018	0.240	mg/L	0.0018	0.76%
Sb 206.836†	2104.3	0.588	mg/L	0.0183	0.588	mg/L	0.0183	3.12%
Se 196.026†	316.1	0.197	mg/L	0.0064	0.197	mg/L	0.0064	3.24%
Si 251.611†	157601.8	3.32	mg/L	0.042	3.32	mg/L	0.042	1.27%
Sn 189.927†	-260.4	-0.0282	mg/L	0.00029	-0.0282	mg/L	0.00029	1.05%
Ti 334.940†	553195.6	0.505	mg/L	0.0014	0.505	mg/L	0.0014	0.28%
Tl 190.801†	656.0	0.229	mg/L	0.0026	0.229	mg/L	0.0026	1.16%
V 290.880†	117854.8	0.513	mg/L	0.0065	0.513	mg/L	0.0065	1.27%
Zn 206.200†	28048.8	0.631	mg/L	0.0214	0.631	mg/L	0.0214	3.39%
K 766.490†	77869.0	25.8	mg/L	0.13	25.8	mg/L	0.13	0.52%
Na 589.592†	2949054.7	158	mg/L	1.4	158	mg/L	1.4	0.89%
Sr 407.771†	1577003.0	0.658	mg/L	0.0095	0.658	mg/L	0.0095	1.44%
Li 670.784†	66960.7	0.500	mg/L	0.0035	0.500	mg/L	0.0035	0.70%

Sequence No.: 33 **Autosampler Location: 80**
Sample ID: L1211037509DL WG414522-02 **Date Collected: 11/19/2012 4:22:10 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Approved: November 20, 2012

Nebulizer Parameters: L1211037509DL WG414522-02

Analyte	Back Pressure	Flow
All	176.0 kPa	0.50 L/min

Mean Data: L1211037509DL WG414522-02

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2395138.5						16467.06	0.69%
YRADIAL	283167.8						7203.60	2.54%
Ga 417.206	1236136.6						12734.80	1.03%
GaRADIAL	77060.2						789.43	1.02%
Ag 328.068†	25.2	-0.00023	mg/L	0.000280	-0.00023	mg/L	0.000280	120.97%
Al 396.153†	111.1	0.00117	mg/L	0.002107	0.00117	mg/L	0.002107	180.32%
As 188.979†	-12.4	-0.00437	mg/L	0.000554	-0.00437	mg/L	0.000554	12.67%
Ba 233.527†	2410.6	0.0144	mg/L	0.00011	0.0144	mg/L	0.00011	0.79%
Be 234.861†	370.1	0.00008	mg/L	0.000025	0.00008	mg/L	0.000025	29.92%
B 249.677†	871.9	0.0104	mg/L	0.00045	0.0104	mg/L	0.00045	4.31%
Ca 227.546†	5169.4	13.6	mg/L	0.21	13.6	mg/L	0.21	1.53%
Cd 228.802†	-2.5	-0.00002	mg/L	0.000067	-0.00002	mg/L	0.000067	272.21%
Co 228.616†	32.7	0.00034	mg/L	0.000461	0.00034	mg/L	0.000461	133.97%
Cr 267.716†	36.5	-0.00043	mg/L	0.000124	-0.00043	mg/L	0.000124	28.60%
Cu 327.393†	-51.8	-0.00084	mg/L	0.000251	-0.00084	mg/L	0.000251	29.75%
Fe 239.562†	10049.5	1.05	mg/L	0.002	1.05	mg/L	0.002	0.19%
Mg 279.077†	1532.9	0.542	mg/L	0.0076	0.542	mg/L	0.0076	1.40%
Mn 257.610†	29187.5	0.0329	mg/L	0.00047	0.0329	mg/L	0.00047	1.44%
Mo 202.031†	23.3	0.00003	mg/L	0.000181	0.00003	mg/L	0.000181	624.60%
Ni 231.604†	116.5	0.00029	mg/L	0.000289	0.00029	mg/L	0.000289	101.11%
Pb 220.353†	15.7	0.00056	mg/L	0.001235	0.00056	mg/L	0.001235	221.96%
Sb 206.836†	2.6	0.00081	mg/L	0.001176	0.00081	mg/L	0.001176	145.22%
Se 196.026†	7.5	0.00563	mg/L	0.001232	0.00563	mg/L	0.001232	21.88%
Si 251.611†	8787.7	0.176	mg/L	0.0012	0.176	mg/L	0.0012	0.71%
Sn 189.927†	-151.2	-0.0167	mg/L	0.00068	-0.0167	mg/L	0.00068	4.06%
Ti 334.940†	-1812.3	-0.00009	mg/L	0.000149	-0.00009	mg/L	0.000149	166.92%
Tl 190.801†	-18.2	-0.00779	mg/L	0.000816	-0.00779	mg/L	0.000816	10.48%
V 290.880†	612.4	0.00071	mg/L	0.000698	0.00071	mg/L	0.000698	98.84%
Zn 206.200†	1600.2	0.0341	mg/L	0.00035	0.0341	mg/L	0.00035	1.03%
K 766.490†	1045.5	0.336	mg/L	0.0042	0.336	mg/L	0.0042	1.24%
Na 589.592†	556536.2	28.0	mg/L	0.92	28.0	mg/L	0.92	3.29%
Sr 407.771†	87562.0	0.0336	mg/L	0.00053	0.0336	mg/L	0.00053	1.57%
Li 670.784†	39.9	-0.00268	mg/L	0.000103	-0.00268	mg/L	0.000103	3.84%

==========

Sequence No.: 34 **Autosampler Location: 6**
Sample ID: CCV **Date Collected: 11/19/2012 4:29:06 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	2426024.7						13721.08	0.57%
YRADIAL	287473.5						4420.10	1.54%
Ga 417.206	1193565.4						1542.37	0.13%
GaRADIAL	74962.2						616.44	0.82%
Ag 328.068†	126349.7	0.391	mg/L	0.0019	0.391	mg/L	0.0019	0.47%
QC value within limits for Ag 328.068 Recovery = 97.79%								
Al 396.153†	63773.5	9.57	mg/L	0.033	9.57	mg/L	0.033	0.35%
QC value within limits for Al 396.153 Recovery = 95.66%								
As 188.979†	1049.0	0.375	mg/L	0.0013	0.375	mg/L	0.0013	0.34%
QC value within limits for As 188.979 Recovery = 93.86%								
Ba 233.527†	143372.0	0.974	mg/L	0.0082	0.974	mg/L	0.0082	0.84%
QC value within limits for Ba 233.527 Recovery = 97.36%								
Be 234.861†	53743.1	0.0477	mg/L	0.00042	0.0477	mg/L	0.00042	0.89%

Approved: November 20, 2012

Kym H. Rhoden

QC value within limits for Be 234.861 Recovery = 95.37%

B 249.677†	44912.0	0.477 mg/L	0.0043	0.477 mg/L	0.0043	0.90%
QC value within limits for B 249.677 Recovery = 95.39%							
Ca 227.546†	3637.8	9.99 mg/L	0.068	9.99 mg/L	0.068	0.68%
QC value within limits for Ca 227.546 Recovery = 99.93%							
Cd 228.802†	2144.5	0.0465 mg/L	0.00111	0.0465 mg/L	0.00111	2.38%
QC value within limits for Cd 228.802 Recovery = 93.01%							
Co 228.616†	7184.5	0.195 mg/L	0.0013	0.195 mg/L	0.0013	0.68%
QC value within limits for Co 228.616 Recovery = 97.37%							
Cr 267.716†	62663.3	0.483 mg/L	0.0036	0.483 mg/L	0.0036	0.74%
QC value within limits for Cr 267.716 Recovery = 96.65%							
Cu 327.393†	130674.3	0.486 mg/L	0.0008	0.486 mg/L	0.0008	0.16%
QC value within limits for Cu 327.393 Recovery = 97.26%							
Fe 239.562†	36869.5	3.87 mg/L	0.027	3.87 mg/L	0.027	0.71%
QC value within limits for Fe 239.562 Recovery = 96.68%							
Mg 279.077†	26766.2	9.65 mg/L	0.099	9.65 mg/L	0.099	1.03%
QC value within limits for Mg 279.077 Recovery = 96.46%							
Mn 257.610†	413212.8	0.494 mg/L	0.0050	0.494 mg/L	0.0050	1.01%
QC value within limits for Mn 257.610 Recovery = 98.87%							
Mo 202.031†	28205.5	0.954 mg/L	0.0102	0.954 mg/L	0.0102	1.07%
QC value within limits for Mo 202.031 Recovery = 95.43%							
Ni 231.604†	28987.5	0.487 mg/L	0.0023	0.487 mg/L	0.0023	0.48%
QC value within limits for Ni 231.604 Recovery = 97.36%							
Pb 220.353†	5094.1	0.487 mg/L	0.0013	0.487 mg/L	0.0013	0.26%
QC value within limits for Pb 220.353 Recovery = 97.42%							
Sb 206.836†	4092.4	1.14 mg/L	0.012	1.14 mg/L	0.012	1.08%
QC value within limits for Sb 206.836 Recovery = 95.26%							
Se 196.026†	627.9	0.388 mg/L	0.0033	0.388 mg/L	0.0033	0.84%
QC value within limits for Se 196.026 Recovery = 97.10%							
Si 251.611†	231867.9	4.89 mg/L	0.022	4.89 mg/L	0.022	0.45%
QC value within limits for Si 251.611 Recovery = 97.81%							
Sn 189.927†	9145.6	0.959 mg/L	0.0022	0.959 mg/L	0.0022	0.23%
QC value within limits for Sn 189.927 Recovery = 95.87%							
Ti 334.940†	1073851.4	0.963 mg/L	0.0019	0.963 mg/L	0.0019	0.20%
QC value within limits for Ti 334.940 Recovery = 96.28%							
Tl 190.801†	1435.7	0.501 mg/L	0.0025	0.501 mg/L	0.0025	0.50%
QC value within limits for Tl 190.801 Recovery = 100.24%							
V 290.880†	222036.6	0.969 mg/L	0.0034	0.969 mg/L	0.0034	0.35%
QC value within limits for V 290.880 Recovery = 96.88%							
Zn 206.200†	42581.4	0.960 mg/L	0.0101	0.960 mg/L	0.0101	1.05%
QC value within limits for Zn 206.200 Recovery = 95.99%							
K 766.490†	144163.2	48.3 mg/L	0.23	48.3 mg/L	0.23	0.48%
QC value within limits for K 766.490 Recovery = 96.57%							
Na 589.592†	939371.6	47.6 mg/L	1.13	47.6 mg/L	1.13	2.38%
QC value within limits for Na 589.592 Recovery = 95.25%							
Sr 407.771†	2345024.0	0.981 mg/L	0.0311	0.981 mg/L	0.0311	3.17%
QC value within limits for Sr 407.771 Recovery = 98.11%							
Li 670.784†	128111.2	0.959 mg/L	0.0079	0.959 mg/L	0.0079	0.83%
QC value within limits for Li 670.784 Recovery = 95.93%							

All analyte(s) passed QC.

==========

Sequence No.: 35 **Autosampler Location: 1**
Sample ID: CCB **Date Collected: 11/19/2012 4:35:08 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

Mean Data: CCB

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2481087.5						26490.21	1.07%
YRADIAL	286766.0						2466.01	0.86%
Ga 417.206	1216540.6						16929.46	1.39%
GaRADIAL	77130.9						3091.47	4.01%
Ag 328.068†	64.2	-0.00059	mg/L	0.000095	-0.00059	mg/L	0.000095	16.12%

Approved: November 20, 2012

Kim H. Rhoden

QC value within limits for Ag 328.068 Recovery = Not calculated							
Al 396.153†	13.9	-0.0136 mg/L	0.00128	-0.0136 mg/L	0.00128	9.41%	
QC value within limits for Al 396.153 Recovery = Not calculated							
As 188.979†	1.5	0.00042 mg/L	0.001339	0.00042 mg/L	0.001339	315.26%	
QC value within limits for As 188.979 Recovery = Not calculated							
Ba 233.527†	-12.9	-0.00205 mg/L	0.000046	-0.00205 mg/L	0.000046	2.25%	
QC value within limits for Ba 233.527 Recovery = Not calculated							
Be 234.861†	61.1	0.00003 mg/L	0.000014	0.00003 mg/L	0.000014	43.35%	
QC value within limits for Be 234.861 Recovery = Not calculated							
B 249.677†	282.6	0.00454 mg/L	0.000353	0.00454 mg/L	0.000353	7.77%	
QC value within limits for B 249.677 Recovery = Not calculated							
Ca 227.546†	20.0	0.0535 mg/L	0.01227	0.0535 mg/L	0.01227	22.95%	
QC value within limits for Ca 227.546 Recovery = Not calculated							
Cd 228.802†	-3.6	-0.00008 mg/L	0.000108	-0.00008 mg/L	0.000108	141.51%	
QC value within limits for Cd 228.802 Recovery = Not calculated							
Co 228.616†	0.6	-0.00050 mg/L	0.000172	-0.00050 mg/L	0.000172	34.04%	
QC value within limits for Co 228.616 Recovery = Not calculated							
Cr 267.716†	-8.3	-0.00074 mg/L	0.000064	-0.00074 mg/L	0.000064	8.62%	
QC value within limits for Cr 267.716 Recovery = Not calculated							
Cu 327.393†	127.6	-0.00029 mg/L	0.000207	-0.00029 mg/L	0.000207	71.85%	
QC value within limits for Cu 327.393 Recovery = Not calculated							
Fe 239.562†	22.1	-0.00416 mg/L	0.000414	-0.00416 mg/L	0.000414	9.95%	
QC value within limits for Fe 239.562 Recovery = Not calculated							
Mg 279.077†	7.8	-0.00679 mg/L	0.003799	-0.00679 mg/L	0.003799	55.96%	
QC value within limits for Mg 279.077 Recovery = Not calculated							
Mn 257.610†	707.4	-0.00130 mg/L	0.000041	-0.00130 mg/L	0.000041	3.10%	
QC value within limits for Mn 257.610 Recovery = Not calculated							
Mo 202.031†	-4.3	-0.00097 mg/L	0.000363	-0.00097 mg/L	0.000363	37.51%	
QC value within limits for Mo 202.031 Recovery = Not calculated							
Ni 231.604†	-10.5	-0.00186 mg/L	0.000332	-0.00186 mg/L	0.000332	17.90%	
QC value within limits for Ni 231.604 Recovery = Not calculated							
Pb 220.353†	8.3	-0.00004 mg/L	0.000445	-0.00004 mg/L	0.000445	>999.9%	
QC value within limits for Pb 220.353 Recovery = Not calculated							
Sb 206.836†	2.6	0.00079 mg/L	0.001288	0.00079 mg/L	0.001288	163.53%	
QC value within limits for Sb 206.836 Recovery = Not calculated							
Se 196.026†	5.6	0.00431 mg/L	0.004230	0.00431 mg/L	0.004230	98.09%	
QC value within limits for Se 196.026 Recovery = Not calculated							
Si 251.611†	-44.0	-0.0112 mg/L	0.00024	-0.0112 mg/L	0.00024	2.17%	
QC value within limits for Si 251.611 Recovery = Not calculated							
Sn 189.927†	-38.6	-0.00490 mg/L	0.000446	-0.00490 mg/L	0.000446	9.11%	
QC value within limits for Sn 189.927 Recovery = Not calculated							
Ti 334.940†	-77.9	-0.00056 mg/L	0.000106	-0.00056 mg/L	0.000106	18.94%	
QC value within limits for Ti 334.940 Recovery = Not calculated							
Tl 190.801†	-9.0	-0.00459 mg/L	0.002076	-0.00459 mg/L	0.002076	45.27%	
QC value within limits for Tl 190.801 Recovery = Not calculated							
V 290.880†	20.0	-0.00181 mg/L	0.001164	-0.00181 mg/L	0.001164	64.40%	
QC value within limits for V 290.880 Recovery = Not calculated							
Zn 206.200†	9.1	-0.00155 mg/L	0.000070	-0.00155 mg/L	0.000070	4.53%	
QC value within limits for Zn 206.200 Recovery = Not calculated							
K 766.490†	21.5	0.0238 mg/L	0.01841	0.0238 mg/L	0.01841	77.26%	
QC value within limits for K 766.490 Recovery = Not calculated							
Na 589.592†	556.2	0.0271 mg/L	0.00432	0.0271 mg/L	0.00432	15.95%	
QC value within limits for Na 589.592 Recovery = Not calculated							
Sr 407.771†	102.5	-0.00282 mg/L	0.000032	-0.00282 mg/L	0.000032	1.12%	
QC value within limits for Sr 407.771 Recovery = Not calculated							
Li 670.784†	30.7	-0.00275 mg/L	0.000770	-0.00275 mg/L	0.000770	27.99%	
QC value within limits for Li 670.784 Recovery = Not calculated							

All analyte(s) passed QC.

==========

Sequence No.: 36 **Autosampler Location: 81**
Sample ID: L1211043304 **Date Collected: 11/19/2012 4:42:01 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1211043304

Analyte	Back Pressure	Flow
All	175.0 kPa	0.50 L/min

Approved: November 20, 2012

Mean Data: L1211043304

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2355133.6						29484.12	1.25%
YRADIAL	282562.0						1645.27	0.58%
Ga 417.206	1192451.1						6258.47	0.52%
GaRADIAL	75166.2						906.27	1.21%
Ag 328.068†	182.2	0.00003	mg/L	0.000186	0.00003	mg/L	0.000186	727.30%
Al 396.153†	443.7	0.0513	mg/L	0.00381	0.0513	mg/L	0.00381	7.43%
As 188.979†	-14.6	-0.00529	mg/L	0.001517	-0.00529	mg/L	0.001517	28.65%
Ba 233.527†	13791.9	0.0918	mg/L	0.00104	0.0918	mg/L	0.00104	1.14%
Be 234.861†	275.1	0.00011	mg/L	0.000077	0.00011	mg/L	0.000077	70.60%
B 249.677†	2835.8	0.0314	mg/L	0.00086	0.0314	mg/L	0.00086	2.75%
Ca 227.546†	11340.4	29.8	mg/L	0.28	29.8	mg/L	0.28	0.95%
Cd 228.802†	53.4	0.00124	mg/L	0.000246	0.00124	mg/L	0.000246	19.81%
Co 228.616†	200.7	0.00492	mg/L	0.000384	0.00492	mg/L	0.000384	7.81%
Cr 267.716†	185.1	0.00073	mg/L	0.000095	0.00073	mg/L	0.000095	12.92%
Cu 327.393†	659.8	0.00176	mg/L	0.000664	0.00176	mg/L	0.000664	37.76%
Fe 239.562†	6084.4	0.633	mg/L	0.0099	0.633	mg/L	0.0099	1.56%
Mg 279.077†	3053.5	1.09	mg/L	0.014	1.09	mg/L	0.014	1.27%
Mn 257.610†	191903.1	0.228	mg/L	0.0046	0.228	mg/L	0.0046	2.04%
Mo 202.031†	70.5	0.00165	mg/L	0.000070	0.00165	mg/L	0.000070	4.23%
Ni 231.604†	495.3	0.00667	mg/L	0.000554	0.00667	mg/L	0.000554	8.31%
Pb 220.353†	1756.8	0.167	mg/L	0.0029	0.167	mg/L	0.0029	1.75%
Sb 206.836†	1.5	0.00050	mg/L	0.002227	0.00050	mg/L	0.002227	448.43%
Se 196.026†	15.3	0.0103	mg/L	0.00122	0.0103	mg/L	0.00122	11.82%
Si 251.611†	92024.8	1.94	mg/L	0.016	1.94	mg/L	0.016	0.80%
Sn 189.927†	-208.7	-0.0227	mg/L	0.00079	-0.0227	mg/L	0.00079	3.46%
Ti 334.940†	-3238.0	0.00106	mg/L	0.000413	0.00106	mg/L	0.000413	38.91%
Tl 190.801†	-17.5	-0.00775	mg/L	0.002045	-0.00775	mg/L	0.002045	26.40%
V 290.880†	934.4	0.00212	mg/L	0.000459	0.00212	mg/L	0.000459	21.60%
Zn 206.200†	6375.7	0.142	mg/L	0.0039	0.142	mg/L	0.0039	2.73%
K 766.490†	2694.3	0.773	mg/L	0.0169	0.773	mg/L	0.0169	2.19%
Na 589.592†	2610467.1	138	mg/L	0.7	138	mg/L	0.7	0.53%
Sr 407.771†	234569.1	0.0950	mg/L	0.00083	0.0950	mg/L	0.00083	0.87%
Li 670.784†	73.8	-0.00243	mg/L	0.000422	-0.00243	mg/L	0.000422	17.41%

==========

Sequence No.: 37 **Autosampler Location: 82**
Sample ID: L1211043309 **Date Collected: 11/19/2012 4:48:02 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1211043309

Analyte	Back Pressure	Flow
All	176.0 kPa	0.50 L/min

Mean Data: L1211043309

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2350886.4						22283.49	0.95%
YRADIAL	282984.5						2042.97	0.72%
Ga 417.206	1251715.5						8930.07	0.71%
GaRADIAL	78262.0						1707.44	2.18%
Ag 328.068†	1028.4	0.00236	mg/L	0.000132	0.00236	mg/L	0.000132	5.60%
Al 396.153†	436.6	0.0501	mg/L	0.00055	0.0501	mg/L	0.00055	1.09%
As 188.979†	-28.2	-0.0103	mg/L	0.00268	-0.0103	mg/L	0.00268	25.95%
Ba 233.527†	10329.7	0.0683	mg/L	0.00081	0.0683	mg/L	0.00081	1.19%
Be 234.861†	-38.1	-0.00006	mg/L	0.000020	-0.00006	mg/L	0.000020	34.85%
B 249.677†	981.7	0.0120	mg/L	0.00020	0.0120	mg/L	0.00020	1.63%
Ca 227.546†	67125.5	176	mg/L	1.2	176	mg/L	1.2	0.66%
Cd 228.802†	3.3	0.00013	mg/L	0.000117	0.00013	mg/L	0.000117	90.36%
Co 228.616†	-12.4	-0.00081	mg/L	0.000167	-0.00081	mg/L	0.000167	20.55%
Cr 267.716†	135.3	0.00037	mg/L	0.000127	0.00037	mg/L	0.000127	34.63%
Cu 327.393†	-220.8	-0.00161	mg/L	0.000452	-0.00161	mg/L	0.000452	28.10%
Fe 239.562†	179.7	0.0124	mg/L	0.00096	0.0124	mg/L	0.00096	7.79%
Mg 279.077†	5873.6	2.11	mg/L	0.014	2.11	mg/L	0.014	0.66%
Mn 257.610†	936.6	-0.00103	mg/L	0.000024	-0.00103	mg/L	0.000024	2.38%
Mo 202.031†	86.5	0.00211	mg/L	0.000276	0.00211	mg/L	0.000276	13.06%

Approved: November 20, 2012

Kim H. Rhoden

Ni 231.604†	8.3	-0.00153	mg/L	0.000062	-0.00153	mg/L	0.000062 4.07%
Pb 220.353†	20.8	0.00117	mg/L	0.000268	0.00117	mg/L	0.000268 22.91%
Sb 206.836†	-0.0	0.00004	mg/L	0.000463	0.00004	mg/L	0.000463 >999.9%
Se 196.026†	11.9	0.00817	mg/L	0.004234	0.00817	mg/L	0.004234 51.83%
Si 251.611†	158252.6	3.34	mg/L	0.027	3.34	mg/L	0.027 0.80%
Sn 189.927†	-330.1	-0.0355	mg/L	0.00142	-0.0355	mg/L	0.00142 4.00%
Ti 334.940†	-31518.2	-0.00232	mg/L	0.001183	-0.00232	mg/L	0.001183 51.03%
Tl 190.801†	-49.4	-0.0187	mg/L	0.00257	-0.0187	mg/L	0.00257 13.78%
V 290.880†	884.0	0.00192	mg/L	0.002121	0.00192	mg/L	0.002121 110.67%
Zn 206.200†	248.9	0.00385	mg/L	0.000205	0.00385	mg/L	0.000205 5.34%
K 766.490†	2445.7	0.828	mg/L	0.0113	0.828	mg/L	0.0113 1.37%
Na 589.592†	24619.4	1.22	mg/L	0.021	1.22	mg/L	0.021 1.76%
Sr 407.771†	366896.4	0.148	mg/L	0.0034	0.148	mg/L	0.0034 2.28%
Li 670.784†	317.2	-0.00060	mg/L	0.000614	-0.00060	mg/L	0.000614 102.75%

==========

Sequence No.: 38 **Autosampler Location: 83**
Sample ID: L1211043314 **Date Collected: 11/19/2012 4:54:58 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1211043314

Analyte	Back Pressure	Flow
All	176.0 kPa	0.50 L/min

Mean Data: L1211043314

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2308844.1						28603.75	1.24%
YRADIAL	278083.4						263.72	0.09%
Ga 417.206	1168533.5						23512.91	2.01%
GaRADIAL	74367.4						252.15	0.34%
Ag 328.068†	-113.5	0.00045	mg/L	0.000637	0.00045	mg/L	0.000637	139.98%
Al 396.153†	229.0	0.0192	mg/L	0.00384	0.0192	mg/L	0.00384	20.00%
As 188.979†	-26.5	-0.00887	mg/L	0.000466	-0.00887	mg/L	0.000466	5.26%
Ba 233.527†	7703.8	0.0502	mg/L	0.00042	0.0502	mg/L	0.00042	0.84%
Be 234.861†	867.3	-0.00001	mg/L	0.000024	-0.00001	mg/L	0.000024	331.47%
B 249.677†	4668.3	0.0497	mg/L	0.00247	0.0497	mg/L	0.00247	4.96%
Ca 227.546†	25415.5	66.8	mg/L	1.30	66.8	mg/L	1.30	1.94%
Cd 228.802†	20.5	0.00052	mg/L	0.000203	0.00052	mg/L	0.000203	38.75%
Co 228.616†	139.5	0.00319	mg/L	0.000289	0.00319	mg/L	0.000289	9.06%
Cr 267.716†	74.0	-0.00023	mg/L	0.000063	-0.00023	mg/L	0.000063	27.24%
Cu 327.393†	39.9	-0.00023	mg/L	0.000581	-0.00023	mg/L	0.000581	249.27%
Fe 239.562†	34557.9	3.62	mg/L	0.043	3.62	mg/L	0.043	1.18%
Mg 279.077†	4862.2	1.74	mg/L	0.010	1.74	mg/L	0.010	0.56%
Mn 257.610†	257847.6	0.307	mg/L	0.0036	0.307	mg/L	0.0036	1.18%
Mo 202.031†	81.6	0.00219	mg/L	0.000446	0.00219	mg/L	0.000446	20.41%
Ni 231.604†	1383.6	0.0217	mg/L	0.00063	0.0217	mg/L	0.00063	2.89%
Pb 220.353†	19.6	0.00055	mg/L	0.000947	0.00055	mg/L	0.000947	170.86%
Sb 206.836†	-3.1	-0.00066	mg/L	0.000561	-0.00066	mg/L	0.000561	85.01%
Se 196.026†	5.8	0.00493	mg/L	0.002516	0.00493	mg/L	0.002516	50.99%
Si 251.611†	49792.9	1.04	mg/L	0.018	1.04	mg/L	0.018	1.69%
Sn 189.927†	-279.4	-0.0302	mg/L	0.00090	-0.0302	mg/L	0.00090	2.98%
Ti 334.940†	-8262.5	0.00210	mg/L	0.000812	0.00210	mg/L	0.000812	38.65%
Tl 190.801†	-43.7	-0.0168	mg/L	0.00542	-0.0168	mg/L	0.00542	32.31%
V 290.880†	1113.8	0.00271	mg/L	0.000640	0.00271	mg/L	0.000640	23.59%
Zn 206.200†	7969.9	0.177	mg/L	0.0033	0.177	mg/L	0.0033	1.85%
K 766.490†	2624.4	0.746	mg/L	0.0271	0.746	mg/L	0.0271	3.64%
Na 589.592†	2680679.3	142	mg/L	0.3	142	mg/L	0.3	0.23%
Sr 407.771†	479622.9	0.197	mg/L	0.0009	0.197	mg/L	0.0009	0.45%
Li 670.784†	547.1	0.00113	mg/L	0.000237	0.00113	mg/L	0.000237	21.03%

==========

Sequence No.: 39 **Autosampler Location: 84**
Sample ID: L1211043319 **Date Collected: 11/19/2012 5:00:57 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Approved: November 20, 2012

Kim H. Rhoden

Nebulizer Parameters: L1211043319

Analyte	Back Pressure	Flow
All	176.0 kPa	0.50 L/min

Mean Data: L1211043319

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2375173.2						24551.21	1.03%
YRADIAL	287276.3						2190.50	0.76%
Ga 417.206	1170484.9						14432.82	1.23%
GaRADIAL	75274.7						812.65	1.08%
Ag 328.068†	-268.6	-0.00039	mg/L	0.000408	-0.00039	mg/L	0.000408	105.19%
Al 396.153†	1167.2	0.161	mg/L	0.0047	0.161	mg/L	0.0047	2.90%
As 188.979†	-10.6	-0.00334	mg/L	0.001442	-0.00334	mg/L	0.001442	43.18%
Ba 233.527†	6940.6	0.0451	mg/L	0.00037	0.0451	mg/L	0.00037	0.83%
Be 234.861†	824.8	0.00014	mg/L	0.000069	0.00014	mg/L	0.000069	49.43%
B 249.677†	2244.6	0.0243	mg/L	0.00076	0.0243	mg/L	0.00076	3.11%
Ca 227.546†	1865.2	4.96	mg/L	0.099	4.96	mg/L	0.099	1.99%
Cd 228.802†	22.3	0.00053	mg/L	0.000254	0.00053	mg/L	0.000254	47.68%
Co 228.616†	125.1	0.00280	mg/L	0.000454	0.00280	mg/L	0.000454	16.21%
Cr 267.716†	167.9	0.00052	mg/L	0.000133	0.00052	mg/L	0.000133	25.50%
Cu 327.393†	767.0	0.00238	mg/L	0.000674	0.00238	mg/L	0.000674	28.32%
Fe 239.562†	25878.1	2.71	mg/L	0.053	2.71	mg/L	0.053	1.94%
Mg 279.077†	3569.9	1.27	mg/L	0.012	1.27	mg/L	0.012	0.96%
Mn 257.610†	141519.1	0.168	mg/L	0.0020	0.168	mg/L	0.0020	1.22%
Mo 202.031†	32.6	0.00045	mg/L	0.000221	0.00045	mg/L	0.000221	48.84%
Ni 231.604†	342.0	0.00408	mg/L	0.000747	0.00408	mg/L	0.000747	18.30%
Pb 220.353†	109.7	0.00934	mg/L	0.000571	0.00934	mg/L	0.000571	6.12%
Sb 206.836†	-3.9	-0.00095	mg/L	0.001059	-0.00095	mg/L	0.001059	111.84%
Se 196.026†	10.2	0.00754	mg/L	0.005687	0.00754	mg/L	0.005687	75.44%
Si 251.611†	15055.9	0.309	mg/L	0.0082	0.309	mg/L	0.0082	2.65%
Sn 189.927†	-75.1	-0.00872	mg/L	0.000607	-0.00872	mg/L	0.000607	6.96%
Ti 334.940†	3999.6	0.00382	mg/L	0.000141	0.00382	mg/L	0.000141	3.70%
Tl 190.801†	-10.5	-0.00524	mg/L	0.002367	-0.00524	mg/L	0.002367	45.19%
V 290.880†	878.3	0.00175	mg/L	0.000690	0.00175	mg/L	0.000690	39.47%
Zn 206.200†	2230.7	0.0482	mg/L	0.00005	0.0482	mg/L	0.00005	0.10%
K 766.490†	4382.1	1.34	mg/L	0.024	1.34	mg/L	0.024	1.79%
Na 589.592†	2561268.8	135	mg/L	0.1	135	mg/L	0.1	0.09%
Sr 407.771†	66270.2	0.0249	mg/L	0.00021	0.0249	mg/L	0.00021	0.83%
Li 670.784†	33.6	-0.00273	mg/L	0.000345	-0.00273	mg/L	0.000345	12.66%

Sequence No.: 40 **Autosampler Location: 85**
Sample ID: L1211043324 WG414500-01 **Date Collected: 11/19/2012 5:06:56 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1211043324 WG414500-01

Analyte	Back Pressure	Flow
All	176.0 kPa	0.50 L/min

Mean Data: L1211043324 WG414500-01

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2378130.7						17136.56	0.72%
YRADIAL	285357.6						1521.19	0.53%
Ga 417.206	1176057.3						29692.23	2.52%
GaRADIAL	75225.4						629.69	0.84%
Ag 328.068†	-35.3	-0.00047	mg/L	0.000161	-0.00047	mg/L	0.000161	34.02%
Al 396.153†	578.7	0.0718	mg/L	0.00421	0.0718	mg/L	0.00421	5.86%
As 188.979†	-11.6	-0.00411	mg/L	0.001421	-0.00411	mg/L	0.001421	34.56%
Ba 233.527†	10030.8	0.0662	mg/L	0.00065	0.0662	mg/L	0.00065	0.99%
Be 234.861†	371.9	0.00013	mg/L	0.000059	0.00013	mg/L	0.000059	46.77%
B 249.677†	2666.3	0.0295	mg/L	0.00220	0.0295	mg/L	0.00220	7.46%
Ca 227.546†	3558.7	9.36	mg/L	0.329	9.36	mg/L	0.329	3.51%
Cd 228.802†	28.4	0.00068	mg/L	0.000413	0.00068	mg/L	0.000413	61.18%
Co 228.616†	163.8	0.00390	mg/L	0.000414	0.00390	mg/L	0.000414	10.60%

Approved: November 20, 2012

Cr 267.716†	73.1	-0.00015	mg/L	0.000116	-0.00015	mg/L	0.000116 77.91%
Cu 327.393†	292.8	0.00043	mg/L	0.000580	0.00043	mg/L	0.000580 133.79%
Fe 239.562†	9665.9	1.01	mg/L	0.013	1.01	mg/L	0.013 1.34%
Mg 279.077†	3595.7	1.28	mg/L	0.008	1.28	mg/L	0.008 0.65%
Mn 257.610†	299656.0	0.358	mg/L	0.0038	0.358	mg/L	0.0038 1.06%
Mo 202.031†	43.4	0.00077	mg/L	0.000368	0.00077	mg/L	0.000368 47.56%
Ni 231.604†	185.6	0.00145	mg/L	0.000486	0.00145	mg/L	0.000486 33.55%
Pb 220.353†	71.9	0.00575	mg/L	0.001293	0.00575	mg/L	0.001293 22.50%
Sb 206.836†	-1.1	-0.00022	mg/L	0.002245	-0.00022	mg/L	0.002245 >999.9%
Se 196.026†	14.9	0.0101	mg/L	0.00464	0.0101	mg/L	0.00464 45.89%
Si 251.611†	20469.5	0.423	mg/L	0.0115	0.423	mg/L	0.0115 2.71%
Sn 189.927†	-112.4	-0.0126	mg/L	0.00107	-0.0126	mg/L	0.00107 8.51%
Ti 334.940†	889.1	0.00170	mg/L	0.000110	0.00170	mg/L	0.000110 6.46%
Tl 190.801†	-20.6	-0.00887	mg/L	0.001936	-0.00887	mg/L	0.001936 21.81%
V 290.880†	881.1	0.00186	mg/L	0.000758	0.00186	mg/L	0.000758 40.69%
Zn 206.200†	891.3	0.0182	mg/L	0.00007	0.0182	mg/L	0.00007 0.38%
K 766.490†	1057.5	0.234	mg/L	0.0162	0.234	mg/L	0.0162 6.93%
Na 589.592†	2535512.4	134	mg/L	0.8	134	mg/L	0.8 0.60%
Sr 407.771†	66760.9	0.0250	mg/L	0.00007	0.0250	mg/L	0.00007 0.30%
Li 670.784†	14.3	-0.00287	mg/L	0.000374	-0.00287	mg/L	0.000374 13.00%

Sequence No.: 41 **Autosampler Location: 86**
Sample ID: L1211043324S WG414500-04 **Date Collected: 11/19/2012 5:12:55 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1211043324S WG414500-04

Analyte	Back Pressure	Flow
All	176.0 kPa	0.50 L/min

Mean Data: L1211043324S WG414500-04

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2335745.3						9078.43	0.39%
YRADIAL	283730.5						2405.69	0.85%
Ga 417.206	1166009.2						21921.60	1.88%
GaRADIAL	73330.3						684.20	0.93%
Ag 328.068†	61978.7	0.192	mg/L	0.0051	0.192	mg/L	0.0051	2.63%
Al 396.153†	34256.9	5.13	mg/L	0.024	5.13	mg/L	0.024	0.47%
As 188.979†	509.1	0.182	mg/L	0.0016	0.182	mg/L	0.0016	0.88%
Ba 233.527†	80557.4	0.546	mg/L	0.0021	0.546	mg/L	0.0021	0.38%
Be 234.861†	26111.4	0.0229	mg/L	0.00067	0.0229	mg/L	0.00067	2.91%
B 249.677†	87759.7	0.935	mg/L	0.0251	0.935	mg/L	0.0251	2.68%
Ca 227.546†	5419.3	14.5	mg/L	0.41	14.5	mg/L	0.41	2.85%
Cd 228.802†	1043.2	0.0226	mg/L	0.00097	0.0226	mg/L	0.00097	4.29%
Co 228.616†	3657.3	0.0988	mg/L	0.00027	0.0988	mg/L	0.00027	0.27%
Cr 267.716†	31459.1	0.242	mg/L	0.0021	0.242	mg/L	0.0021	0.85%
Cu 327.393†	65783.7	0.245	mg/L	0.0057	0.245	mg/L	0.0057	2.34%
Fe 239.562†	30727.8	3.22	mg/L	0.031	3.22	mg/L	0.031	0.96%
Mg 279.077†	16802.5	6.05	mg/L	0.067	6.05	mg/L	0.067	1.11%
Mn 257.610†	522831.6	0.626	mg/L	0.0052	0.626	mg/L	0.0052	0.82%
Mo 202.031†	14147.5	0.478	mg/L	0.0061	0.478	mg/L	0.0061	1.27%
Ni 231.604†	14834.0	0.248	mg/L	0.0002	0.248	mg/L	0.0002	0.09%
Pb 220.353†	2524.6	0.241	mg/L	0.0005	0.241	mg/L	0.0005	0.20%
Sb 206.836†	2020.9	0.565	mg/L	0.0174	0.565	mg/L	0.0174	3.08%
Se 196.026†	314.3	0.195	mg/L	0.0045	0.195	mg/L	0.0045	2.30%
Si 251.611†	135636.8	2.86	mg/L	0.055	2.86	mg/L	0.055	1.92%
Sn 189.927†	-140.0	-0.0155	mg/L	0.00067	-0.0155	mg/L	0.00067	4.33%
Ti 334.940†	542796.5	0.488	mg/L	0.0018	0.488	mg/L	0.0018	0.37%
Tl 190.801†	659.1	0.230	mg/L	0.0035	0.230	mg/L	0.0035	1.53%
V 290.880†	112794.8	0.491	mg/L	0.0011	0.491	mg/L	0.0011	0.22%
Zn 206.200†	21768.3	0.490	mg/L	0.0034	0.490	mg/L	0.0034	0.70%
K 766.490†	72665.9	24.1	mg/L	0.07	24.1	mg/L	0.07	0.31%
Na 589.592†	3050648.1	164	mg/L	4.7	164	mg/L	4.7	2.89%
Sr 407.771†	1260304.8	0.526	mg/L	0.0158	0.526	mg/L	0.0158	3.00%
Li 670.784†	65438.0	0.489	mg/L	0.0014	0.489	mg/L	0.0014	0.28%

Approved: November 20, 2012

Kim H. Rhoden

Sequence No.: 42 **Autosampler Location: 87**
Sample ID: L1211043324SD WG414500-05 **Date Collected: 11/19/2012 5:18:54 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1211043324SD WG414500-05

Analyte	Back Pressure	Flow
All	176.0 kPa	0.50 L/min

Mean Data: L1211043324SD WG414500-05

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2377181.3						23238.64	0.98%
YRADIAL	287881.5						2424.08	0.84%
Ga 417.206	1176272.7						17899.69	1.52%
GaRADIAL	74571.6						558.68	0.75%
Ag 328.068†	61587.1	0.191	mg/L	0.0049	0.191	mg/L	0.0049	2.58%
Al 396.153†	32163.7	4.82	mg/L	0.025	4.82	mg/L	0.025	0.52%
As 188.979†	498.1	0.178	mg/L	0.0055	0.178	mg/L	0.0055	3.08%
Ba 233.527†	78614.6	0.533	mg/L	0.0042	0.533	mg/L	0.0042	0.79%
Be 234.861†	25735.4	0.0226	mg/L	0.00057	0.0226	mg/L	0.00057	2.52%
B 249.677†	87840.5	0.936	mg/L	0.0301	0.936	mg/L	0.0301	3.21%
Ca 227.546†	5342.4	14.3	mg/L	0.34	14.3	mg/L	0.34	2.40%
Cd 228.802†	1039.2	0.0226	mg/L	0.00091	0.0226	mg/L	0.00091	4.04%
Co 228.616†	3595.0	0.0971	mg/L	0.00106	0.0971	mg/L	0.00106	1.09%
Cr 267.716†	30858.0	0.238	mg/L	0.0028	0.238	mg/L	0.0028	1.19%
Cu 327.393†	65570.8	0.244	mg/L	0.0081	0.244	mg/L	0.0081	3.32%
Fe 239.562†	27426.4	2.88	mg/L	0.010	2.88	mg/L	0.010	0.36%
Mg 279.077†	16590.5	5.97	mg/L	0.024	5.97	mg/L	0.024	0.39%
Mn 257.610†	507020.5	0.607	mg/L	0.0041	0.607	mg/L	0.0041	0.67%
Mo 202.031†	13902.7	0.470	mg/L	0.0031	0.470	mg/L	0.0031	0.66%
Ni 231.604†	14637.8	0.245	mg/L	0.0021	0.245	mg/L	0.0021	0.85%
Pb 220.353†	2487.6	0.237	mg/L	0.0019	0.237	mg/L	0.0019	0.80%
Sb 206.836†	2006.7	0.561	mg/L	0.0158	0.561	mg/L	0.0158	2.82%
Se 196.026†	313.7	0.195	mg/L	0.0009	0.195	mg/L	0.0009	0.47%
Si 251.611†	131869.9	2.78	mg/L	0.056	2.78	mg/L	0.056	2.01%
Sn 189.927†	-137.7	-0.0153	mg/L	0.00057	-0.0153	mg/L	0.00057	3.70%
Ti 334.940†	528260.1	0.475	mg/L	0.0030	0.475	mg/L	0.0030	0.63%
Tl 190.801†	652.6	0.227	mg/L	0.0037	0.227	mg/L	0.0037	1.62%
V 290.880†	110235.0	0.480	mg/L	0.0062	0.480	mg/L	0.0062	1.29%
Zn 206.200†	21177.8	0.476	mg/L	0.0026	0.476	mg/L	0.0026	0.54%
K 766.490†	70998.1	23.5	mg/L	0.06	23.5	mg/L	0.06	0.24%
Na 589.592†	2976473.9	159	mg/L	1.0	159	mg/L	1.0	0.64%
Sr 407.771†	1237215.2	0.516	mg/L	0.0056	0.516	mg/L	0.0056	1.09%
Li 670.784†	63396.5	0.473	mg/L	0.0037	0.473	mg/L	0.0037	0.79%

==========

Sequence No.: 43 **Autosampler Location: 88**
Sample ID: L1211043329 **Date Collected: 11/19/2012 5:24:53 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1211043329

Analyte	Back Pressure	Flow
All	176.0 kPa	0.50 L/min

Mean Data: L1211043329

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2362749.2						11390.16	0.48%
YRADIAL	280297.5						291.80	0.10%
Ga 417.206	1184081.6						23611.70	1.99%
GaRADIAL	74423.9						407.65	0.55%
Ag 328.068†	-2542.9	0.00003	mg/L	0.000700	0.00003	mg/L	0.000700	>999.9%
Al 396.153†	36.4	-0.00812	mg/L	0.009610	-0.00812	mg/L	0.009610	118.33%
As 188.979†	-24.1	-0.00428	mg/L	0.002956	-0.00428	mg/L	0.002956	69.01%

Approved: November 20, 2012

Kym H. Rhoden

Ba 233.527†	20258.8	0.135	mg/L	0.0016	0.135	mg/L	0.0016 1.18%
Be 234.861†	4763.7	0.00011	mg/L	0.000139	0.00011	mg/L	0.000139 127.21%
B 249.677†	3038.2	0.0257	mg/L	0.00141	0.0257	mg/L	0.00141 5.46%
Ca 227.546†	17942.5	47.5	mg/L	1.70	47.5	mg/L	1.70 3.57%
Cd 228.802†	17.8	0.00045	mg/L	0.000182	0.00045	mg/L	0.000182 40.67%
Co 228.616†	169.9	0.00359	mg/L	0.000314	0.00359	mg/L	0.000314 8.75%
Cr 267.716†	-6.4	-0.00142	mg/L	0.000170	-0.00142	mg/L	0.000170 11.98%
Cu 327.393†	-223.4	0.00040	mg/L	0.000526	0.00040	mg/L	0.000526 131.16%
Fe 239.562†	180927.3	19.0	mg/L	0.09	19.0	mg/L	0.09 0.46%
Mg 279.077†	5301.6	1.89	mg/L	0.011	1.89	mg/L	0.011 0.60%
Mn 257.610†	221179.4	0.263	mg/L	0.0030	0.263	mg/L	0.0030 1.14%
Mo 202.031†	72.7	0.00263	mg/L	0.000049	0.00263	mg/L	0.000049 1.87%
Ni 231.604†	731.4	0.0107	mg/L	0.00050	0.0107	mg/L	0.00050 4.69%
Pb 220.353†	35.4	0.00075	mg/L	0.001834	0.00075	mg/L	0.001834 245.54%
Sb 206.836†	-3.6	-0.00024	mg/L	0.000909	-0.00024	mg/L	0.000909 382.14%
Se 196.026†	9.2	0.00946	mg/L	0.001892	0.00946	mg/L	0.001892 20.00%
Si 251.611†	28222.9	0.587	mg/L	0.0119	0.587	mg/L	0.0119 2.03%
Sn 189.927†	-248.3	-0.0269	mg/L	0.00062	-0.0269	mg/L	0.00062 2.32%
Ti 334.940†	-7296.5	0.00002	mg/L	0.000695	0.00002	mg/L	0.000695 >999.9%
Tl 190.801†	-36.2	-0.0142	mg/L	0.00297	-0.0142	mg/L	0.00297 20.88%
V 290.880†	976.8	0.00117	mg/L	0.000612	0.00117	mg/L	0.000612 52.49%
Zn 206.200†	4147.8	0.0898	mg/L	0.00041	0.0898	mg/L	0.00041 0.46%
K 766.490†	3593.0	1.07	mg/L	0.019	1.07	mg/L	0.019 1.72%
Na 589.592†	2560871.7	135	mg/L	1.0	135	mg/L	1.0 0.71%
Sr 407.771†	403568.5	0.166	mg/L	0.0007	0.166	mg/L	0.0007 0.42%
Li 670.784†	67.6	-0.00247	mg/L	0.000755	-0.00247	mg/L	0.000755 30.55%

Sequence No.: 44 **Autosampler Location: 89**
Sample ID: L1211043602 **Date Collected: 11/19/2012 5:30:53 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1211043602

Analyte	Back Pressure	Flow
All	176.0 kPa	0.50 L/min

Mean Data: L1211043602

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2359324.6						25764.90	1.09%
YRADIAL	288151.2						7941.43	2.76%
Ga 417.206	1218639.6						14655.71	1.20%
GaRADIAL	76250.1						402.24	0.53%
Ag 328.068†	174.6	-0.00025	mg/L	0.000079	-0.00025	mg/L	0.000079	31.53%
Al 396.153†	405.5	0.0455	mg/L	0.00198	0.0455	mg/L	0.00198	4.35%
As 188.979†	-11.7	-0.00436	mg/L	0.000823	-0.00436	mg/L	0.000823	18.86%
Ba 233.527†	11762.8	0.0781	mg/L	0.00039	0.0781	mg/L	0.00039	0.50%
Be 234.861†	-148.4	-0.00016	mg/L	0.000016	-0.00016	mg/L	0.000016	10.06%
B 249.677†	15918.0	0.171	mg/L	0.0013	0.171	mg/L	0.0013	0.75%
Ca 227.546†	9882.2	25.9	mg/L	0.25	25.9	mg/L	0.25	0.96%
Cd 228.802†	61.2	0.00139	mg/L	0.000091	0.00139	mg/L	0.000091	6.54%
Co 228.616†	-17.5	-0.00102	mg/L	0.000104	-0.00102	mg/L	0.000104	10.21%
Cr 267.716†	146.6	0.00046	mg/L	0.000049	0.00046	mg/L	0.000049	10.77%
Cu 327.393†	138.9	-0.00023	mg/L	0.000035	-0.00023	mg/L	0.000035	14.94%
Fe 239.562†	444.3	0.0402	mg/L	0.00026	0.0402	mg/L	0.00026	0.65%
Mg 279.077†	3896.0	1.39	mg/L	0.027	1.39	mg/L	0.027	1.91%
Mn 257.610†	41268.6	0.0474	mg/L	0.00014	0.0474	mg/L	0.00014	0.29%
Mo 202.031†	45.4	0.00073	mg/L	0.000239	0.00073	mg/L	0.000239	32.77%
Ni 231.604†	-24.9	-0.00209	mg/L	0.000272	-0.00209	mg/L	0.000272	13.00%
Pb 220.353†	36.4	0.00263	mg/L	0.001010	0.00263	mg/L	0.001010	38.49%
Sb 206.836†	5.4	0.00157	mg/L	0.001341	0.00157	mg/L	0.001341	85.30%
Se 196.026†	11.0	0.00763	mg/L	0.001783	0.00763	mg/L	0.001783	23.35%
Si 251.611†	21523.8	0.446	mg/L	0.0025	0.446	mg/L	0.0025	0.55%
Sn 189.927†	-194.3	-0.0212	mg/L	0.00083	-0.0212	mg/L	0.00083	3.93%
Ti 334.940†	-3115.8	0.00060	mg/L	0.000230	0.00060	mg/L	0.000230	38.56%
Tl 190.801†	-38.2	-0.0146	mg/L	0.00217	-0.0146	mg/L	0.00217	14.87%
V 290.880†	700.0	0.00113	mg/L	0.001460	0.00113	mg/L	0.001460	129.59%
Zn 206.200†	8057.0	0.179	mg/L	0.0023	0.179	mg/L	0.0023	1.28%

Approved: November 20, 2012

K 766.490†	1856.6	0.485	mg/L	0.0222	0.485	mg/L	0.0222	4.58%
Na 589.592†	2781672.2	148	mg/L	1.0	148	mg/L	1.0	0.66%
Sr 407.771†	285091.4	0.116	mg/L	0.0043	0.116	mg/L	0.0043	3.66%
Li 670.784†	-45.9	-0.00333	mg/L	0.000316	-0.00333	mg/L	0.000316	9.51%

Sequence No.: 45 **Autosampler Location: 90**
Sample ID: L1211046201 **Date Collected: 11/19/2012 5:37:52 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1211046201

Analyte	Back Pressure	Flow
All	176.0 kPa	0.50 L/min

Mean Data: L1211046201

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2385200.2						11311.87	0.47%
YRADIAL	289354.6						4840.21	1.67%
Ga 417.206	1248515.0						6263.77	0.50%
GaRADIAL	78455.3						1418.20	1.81%
Ag 328.068†	-95.0	-0.00085	mg/L	0.000012	-0.00085	mg/L	0.000012	1.40%
Al 396.153†	3047.5	0.445	mg/L	0.0023	0.445	mg/L	0.0023	0.52%
As 188.979†	-6.2	-0.00228	mg/L	0.001671	-0.00228	mg/L	0.001671	73.43%
Ba 233.527†	3531.1	0.0220	mg/L	0.00007	0.0220	mg/L	0.00007	0.33%
Be 234.861†	127.9	-0.00001	mg/L	0.000039	-0.00001	mg/L	0.000039	267.24%
B 249.677†	18610.7	0.200	mg/L	0.0027	0.200	mg/L	0.0027	1.34%
Ca 227.546†	2333.9	6.14	mg/L	0.037	6.14	mg/L	0.037	0.60%
Cd 228.802†	4.3	0.00011	mg/L	0.000208	0.00011	mg/L	0.000208	182.87%
Co 228.616†	0.6	-0.00053	mg/L	0.000225	-0.00053	mg/L	0.000225	42.44%
Cr 267.716†	219.5	0.00100	mg/L	0.000035	0.00100	mg/L	0.000035	3.48%
Cu 327.393†	3009.9	0.0105	mg/L	0.00031	0.0105	mg/L	0.00031	3.00%
Fe 239.562†	4872.1	0.505	mg/L	0.0028	0.505	mg/L	0.0028	0.55%
Mg 279.077†	1849.1	0.656	mg/L	0.0123	0.656	mg/L	0.0123	1.87%
Mn 257.610†	29584.2	0.0334	mg/L	0.00016	0.0334	mg/L	0.00016	0.49%
Mo 202.031†	27.7	0.00015	mg/L	0.000223	0.00015	mg/L	0.000223	149.54%
Ni 231.604†	28.5	-0.00120	mg/L	0.000156	-0.00120	mg/L	0.000156	13.05%
Pb 220.353†	40.5	0.00305	mg/L	0.001365	0.00305	mg/L	0.001365	44.76%
Sb 206.836†	5.9	0.00172	mg/L	0.002177	0.00172	mg/L	0.002177	126.26%
Se 196.026†	12.7	0.00879	mg/L	0.002867	0.00879	mg/L	0.002867	32.60%
Si 251.611†	52553.5	1.10	mg/L	0.009	1.10	mg/L	0.009	0.83%
Sn 189.927†	-83.5	-0.00961	mg/L	0.000533	-0.00961	mg/L	0.000533	5.55%
Ti 334.940†	3899.1	0.00391	mg/L	0.000086	0.00391	mg/L	0.000086	2.20%
Tl 190.801†	-32.4	-0.0125	mg/L	0.00185	-0.0125	mg/L	0.00185	14.75%
V 290.880†	851.1	0.00178	mg/L	0.001865	0.00178	mg/L	0.001865	104.71%
Zn 206.200†	1169.3	0.0245	mg/L	0.00025	0.0245	mg/L	0.00025	1.01%
K 766.490†	2061.2	0.553	mg/L	0.0056	0.553	mg/L	0.0056	1.01%
Na 589.592†	2789750.3	149	mg/L	3.3	149	mg/L	3.3	2.23%
Sr 407.771†	109930.0	0.0432	mg/L	0.00084	0.0432	mg/L	0.00084	1.94%
Li 670.784†	81.0	-0.00237	mg/L	0.000063	-0.00237	mg/L	0.000063	2.65%

Sequence No.: 46 **Autosampler Location: 6**
Sample ID: CCV **Date Collected: 11/19/2012 5:44:51 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	2357438.2						33446.28	1.42%

Approved: November 20, 2012

YRADIAL	281606.1				2539.81	0.90%
Ga 417.206	1171677.8				22040.59	1.88%
GaRADIAL	73782.1				856.74	1.16%
Ag 328.068†	129124.8	0.400 mg/L	0.0112	0.400 mg/L	0.0112	2.81%
QC value within limits for Ag 328.068 Recovery = 99.95%						
Al 396.153†	66417.7	9.96 mg/L	0.059	9.96 mg/L	0.059	0.59%
QC value within limits for Al 396.153 Recovery = 99.64%						
As 188.979†	1073.4	0.384 mg/L	0.0060	0.384 mg/L	0.0060	1.56%
QC value within limits for As 188.979 Recovery = 96.03%						
Ba 233.527†	148068.2	1.01 mg/L	0.011	1.01 mg/L	0.011	1.11%
QC value within limits for Ba 233.527 Recovery = 100.56%						
Be 234.861†	55116.1	0.0489 mg/L	0.00127	0.0489 mg/L	0.00127	2.59%
QC value within limits for Be 234.861 Recovery = 97.79%						
B 249.677†	45944.0	0.488 mg/L	0.0153	0.488 mg/L	0.0153	3.14%
QC value within limits for B 249.677 Recovery = 97.57%						
Ca 227.546†	3727.0	10.2 mg/L	0.30	10.2 mg/L	0.30	2.92%
QC value within limits for Ca 227.546 Recovery = 102.42%						
Cd 228.802†	2201.0	0.0477 mg/L	0.00172	0.0477 mg/L	0.00172	3.61%
QC value within limits for Cd 228.802 Recovery = 95.48%						
Co 228.616†	7419.4	0.201 mg/L	0.0029	0.201 mg/L	0.0029	1.42%
QC value within limits for Co 228.616 Recovery = 100.56%						
Cr 267.716†	64805.1	0.500 mg/L	0.0014	0.500 mg/L	0.0014	0.28%
QC value within limits for Cr 267.716 Recovery = 99.96%						
Cu 327.393†	134360.9	0.500 mg/L	0.0144	0.500 mg/L	0.0144	2.89%
QC value within limits for Cu 327.393 Recovery = 100.00%						
Fe 239.562†	38355.6	4.02 mg/L	0.015	4.02 mg/L	0.015	0.37%
QC value within limits for Fe 239.562 Recovery = 100.58%						
Mg 279.077†	27972.9	10.1 mg/L	0.02	10.1 mg/L	0.02	0.23%
QC value within limits for Mg 279.077 Recovery = 100.81%						
Mn 257.610†	427844.9	0.512 mg/L	0.0070	0.512 mg/L	0.0070	1.37%
QC value within limits for Mn 257.610 Recovery = 102.39%						
Mo 202.031†	29095.0	0.984 mg/L	0.0051	0.984 mg/L	0.0051	0.52%
QC value within limits for Mo 202.031 Recovery = 98.44%						
Ni 231.604†	29915.4	0.502 mg/L	0.0019	0.502 mg/L	0.0019	0.37%
QC value within limits for Ni 231.604 Recovery = 100.49%						
Pb 220.353†	5266.5	0.504 mg/L	0.0063	0.504 mg/L	0.0063	1.26%
QC value within limits for Pb 220.353 Recovery = 100.73%						
Sb 206.836†	4178.2	1.17 mg/L	0.033	1.17 mg/L	0.033	2.86%
QC value within limits for Sb 206.836 Recovery = 97.25%						
Se 196.026†	644.1	0.398 mg/L	0.0122	0.398 mg/L	0.0122	3.06%
QC value within limits for Se 196.026 Recovery = 99.60%						
Si 251.611†	237712.7	5.01 mg/L	0.089	5.01 mg/L	0.089	1.77%
QC value within limits for Si 251.611 Recovery = 100.28%						
Sn 189.927†	9416.7	0.987 mg/L	0.0123	0.987 mg/L	0.0123	1.24%
QC value within limits for Sn 189.927 Recovery = 98.71%						
Ti 334.940†	1104796.4	0.991 mg/L	0.0013	0.991 mg/L	0.0013	0.13%
QC value within limits for Ti 334.940 Recovery = 99.06%						
Tl 190.801†	1486.5	0.519 mg/L	0.0023	0.519 mg/L	0.0023	0.44%
QC value within limits for Tl 190.801 Recovery = 103.79%						
V 290.880†	230426.7	1.01 mg/L	0.005	1.01 mg/L	0.005	0.52%
QC value within limits for V 290.880 Recovery = 100.55%						
Zn 206.200†	43685.9	0.985 mg/L	0.0076	0.985 mg/L	0.0076	0.77%
QC value within limits for Zn 206.200 Recovery = 98.48%						
K 766.490†	149106.9	50.0 mg/L	0.47	50.0 mg/L	0.47	0.94%
QC value within limits for K 766.490 Recovery = 99.91%						
Na 589.592†	977207.8	49.6 mg/L	0.36	49.6 mg/L	0.36	0.72%
QC value within limits for Na 589.592 Recovery = 99.18%						
Sr 407.771†	2461229.1	1.03 mg/L	0.005	1.03 mg/L	0.005	0.49%
QC value within limits for Sr 407.771 Recovery = 102.98%						
Li 670.784†	133168.0	0.997 mg/L	0.0066	0.997 mg/L	0.0066	0.66%
QC value within limits for Li 670.784 Recovery = 99.73%						

All analyte(s) passed QC.

Sequence No.: 47 **Autosampler Location: 1**
Sample ID: CCB **Date Collected: 11/19/2012 5:50:52 PM**
Analyst: **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: CCB

Approved: November 20, 2012

Analyte	Back Pressure	Flow
All	176.0 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	2484465.4						13141.07	0.53%
YRADIAL	283017.6						4908.11	1.73%
Ga 417.206	1229991.2						16433.28	1.34%
GaRADIAL	76448.5						1939.48	2.54%
Ag 328.068†	27.1	-0.00070	mg/L	0.000077	-0.00070	mg/L	0.000077	10.95%
QC value within limits for Ag 328.068 Recovery = Not calculated								
Al 396.153†	15.6	-0.0134	mg/L	0.00114	-0.0134	mg/L	0.00114	8.51%
QC value within limits for Al 396.153 Recovery = Not calculated								
As 188.979†	5.9	0.00203	mg/L	0.001066	0.00203	mg/L	0.001066	52.50%
QC value within limits for As 188.979 Recovery = Not calculated								
Ba 233.527†	5.8	-0.00192	mg/L	0.000100	-0.00192	mg/L	0.000100	5.22%
QC value within limits for Ba 233.527 Recovery = Not calculated								
Be 234.861†	73.3	0.00004	mg/L	0.000023	0.00004	mg/L	0.000023	52.84%
QC value within limits for Be 234.861 Recovery = Not calculated								
B 249.677†	339.1	0.00515	mg/L	0.000429	0.00515	mg/L	0.000429	8.34%
QC value within limits for B 249.677 Recovery = Not calculated								
Ca 227.546†	17.9	0.0479	mg/L	0.00434	0.0479	mg/L	0.00434	9.06%
QC value within limits for Ca 227.546 Recovery = Not calculated								
Cd 228.802†	-7.2	-0.00017	mg/L	0.000030	-0.00017	mg/L	0.000030	17.97%
QC value within limits for Cd 228.802 Recovery = Not calculated								
Co 228.616†	-4.8	-0.00065	mg/L	0.000044	-0.00065	mg/L	0.000044	6.82%
QC value within limits for Co 228.616 Recovery = Not calculated								
Cr 267.716†	-0.5	-0.00068	mg/L	0.000028	-0.00068	mg/L	0.000028	4.11%
QC value within limits for Cr 267.716 Recovery = Not calculated								
Cu 327.393†	92.2	-0.00042	mg/L	0.000168	-0.00042	mg/L	0.000168	39.95%
QC value within limits for Cu 327.393 Recovery = Not calculated								
Fe 239.562†	17.9	-0.00460	mg/L	0.000144	-0.00460	mg/L	0.000144	3.12%
QC value within limits for Fe 239.562 Recovery = Not calculated								
Mg 279.077†	7.0	-0.00710	mg/L	0.001641	-0.00710	mg/L	0.001641	23.09%
QC value within limits for Mg 279.077 Recovery = Not calculated								
Mn 257.610†	547.8	-0.00150	mg/L	0.000057	-0.00150	mg/L	0.000057	3.80%
QC value within limits for Mn 257.610 Recovery = Not calculated								
Mo 202.031†	-2.4	-0.00090	mg/L	0.000147	-0.00090	mg/L	0.000147	16.29%
QC value within limits for Mo 202.031 Recovery = Not calculated								
Ni 231.604†	-8.9	-0.00183	mg/L	0.000139	-0.00183	mg/L	0.000139	7.60%
QC value within limits for Ni 231.604 Recovery = Not calculated								
Pb 220.353†	7.0	-0.00016	mg/L	0.000564	-0.00016	mg/L	0.000564	353.93%
QC value within limits for Pb 220.353 Recovery = Not calculated								
Sb 206.836†	1.4	0.00044	mg/L	0.000589	0.00044	mg/L	0.000589	135.26%
QC value within limits for Sb 206.836 Recovery = Not calculated								
Se 196.026†	4.3	0.00352	mg/L	0.002414	0.00352	mg/L	0.002414	68.51%
QC value within limits for Se 196.026 Recovery = Not calculated								
Si 251.611†	-13.4	-0.0105	mg/L	0.00050	-0.0105	mg/L	0.00050	4.72%
QC value within limits for Si 251.611 Recovery = Not calculated								
Sn 189.927†	-32.6	-0.00427	mg/L	0.000795	-0.00427	mg/L	0.000795	18.62%
QC value within limits for Sn 189.927 Recovery = Not calculated								
Ti 334.940†	137.4	-0.00037	mg/L	0.000092	-0.00037	mg/L	0.000092	24.95%
QC value within limits for Ti 334.940 Recovery = Not calculated								
Tl 190.801†	-6.4	-0.00371	mg/L	0.001965	-0.00371	mg/L	0.001965	52.99%
QC value within limits for Tl 190.801 Recovery = Not calculated								
V 290.880†	-63.2	-0.00217	mg/L	0.001496	-0.00217	mg/L	0.001496	68.89%
QC value within limits for V 290.880 Recovery = Not calculated								
Zn 206.200†	17.8	-0.00136	mg/L	0.000205	-0.00136	mg/L	0.000205	15.15%
QC value within limits for Zn 206.200 Recovery = Not calculated								
K 766.490†	68.2	0.0393	mg/L	0.01454	0.0393	mg/L	0.01454	36.96%
QC value within limits for K 766.490 Recovery = Not calculated								
Na 589.592†	825.5	0.0404	mg/L	0.00653	0.0404	mg/L	0.00653	16.16%
QC value within limits for Na 589.592 Recovery = Not calculated								
Sr 407.771†	179.6	-0.00279	mg/L	0.000024	-0.00279	mg/L	0.000024	0.86%
QC value within limits for Sr 407.771 Recovery = Not calculated								
Li 670.784†	-8.8	-0.00305	mg/L	0.000501	-0.00305	mg/L	0.000501	16.44%
QC value within limits for Li 670.784 Recovery = Not calculated								

All analyte(s) passed QC.

Approved: November 20, 2012

Sequence No.: 48 **Autosampler Location: 91**
Sample ID: LLCCV **Date Collected: 11/19/2012 5:57:45 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: LLCCV

Analyte	Back Pressure	Flow
All	176.0 kPa	0.50 L/min

Mean Data: LLCCV

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2475260.0						14050.35	0.57%
YRADIAL	287013.9						8087.51	2.82%
Ga 417.206	1236349.7						12131.69	0.98%
GaRADIAL	77373.2						800.43	1.03%
Ag 328.068†	1302.1	0.00325	mg/L	0.000337	0.00325	mg/L	0.000337	10.36%
Al 396.153†	673.6	0.0855	mg/L	0.00159	0.0855	mg/L	0.00159	1.86%
As 188.979†	10.0	0.00345	mg/L	0.000864	0.00345	mg/L	0.000864	25.02%
Ba 233.527†	1504.9	0.00828	mg/L	0.000034	0.00828	mg/L	0.000034	0.41%
Be 234.861†	610.4	0.00052	mg/L	0.000011	0.00052	mg/L	0.000011	2.10%
B 249.677†	638.5	0.00831	mg/L	0.000199	0.00831	mg/L	0.000199	2.39%
Ca 227.546†	56.9	0.155	mg/L	0.0295	0.155	mg/L	0.0295	19.03%
Cd 228.802†	14.5	0.00032	mg/L	0.000113	0.00032	mg/L	0.000113	35.40%
Co 228.616†	62.9	0.00119	mg/L	0.000299	0.00119	mg/L	0.000299	25.18%
Cr 267.716†	670.3	0.00450	mg/L	0.000092	0.00450	mg/L	0.000092	2.04%
Cu 327.393†	1461.3	0.00468	mg/L	0.000370	0.00468	mg/L	0.000370	7.91%
Fe 239.562†	390.0	0.0345	mg/L	0.00133	0.0345	mg/L	0.00133	3.85%
Mg 279.077†	285.7	0.0934	mg/L	0.00189	0.0934	mg/L	0.00189	2.02%
Mn 257.610†	4717.8	0.00351	mg/L	0.000037	0.00351	mg/L	0.000037	1.06%
Mo 202.031†	281.4	0.00871	mg/L	0.000170	0.00871	mg/L	0.000170	1.95%
Ni 231.604†	313.8	0.00361	mg/L	0.000152	0.00361	mg/L	0.000152	4.20%
Pb 220.353†	63.7	0.00527	mg/L	0.000620	0.00527	mg/L	0.000620	11.77%
Sb 206.836†	43.8	0.0123	mg/L	0.00048	0.0123	mg/L	0.00048	3.91%
Se 196.026†	10.9	0.00762	mg/L	0.001646	0.00762	mg/L	0.001646	21.60%
Si 251.611†	2343.5	0.0393	mg/L	0.00096	0.0393	mg/L	0.00096	2.45%
Sn 189.927†	63.0	0.00577	mg/L	0.000674	0.00577	mg/L	0.000674	11.68%
Ti 334.940†	11145.6	0.00951	mg/L	0.000100	0.00951	mg/L	0.000100	1.05%
Tl 190.801†	5.6	0.00053	mg/L	0.001545	0.00053	mg/L	0.001545	293.23%
V 290.880†	2053.6	0.00708	mg/L	0.001382	0.00708	mg/L	0.001382	19.51%
Zn 206.200†	533.4	0.0103	mg/L	0.00038	0.0103	mg/L	0.00038	3.67%
K 766.490†	1453.6	0.499	mg/L	0.0389	0.499	mg/L	0.0389	7.79%
Na 589.592†	10005.9	0.496	mg/L	0.0073	0.496	mg/L	0.0073	1.47%
Sr 407.771†	25196.7	0.00771	mg/L	0.000293	0.00771	mg/L	0.000293	3.80%
Li 670.784†	1283.4	0.00666	mg/L	0.000557	0.00666	mg/L	0.000557	8.36%

==========

Sequence No.: 49 **Autosampler Location: 92**
Sample ID: LLCCV **Date Collected: 11/19/2012 6:04:40 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: LLCCV

Analyte	Back Pressure	Flow
All	176.0 kPa	0.50 L/min

Mean Data: LLCCV

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2479034.4						20838.12	0.84%
YRADIAL	291825.4						5542.81	1.90%
Ga 417.206	1235678.0						12499.35	1.01%
GaRADIAL	78367.0						2131.98	2.72%
Ag 328.068†	2586.6	0.00724	mg/L	0.000176	0.00724	mg/L	0.000176	2.44%
Al 396.153†	1315.7	0.182	mg/L	0.0035	0.182	mg/L	0.0035	1.90%
As 188.979†	18.1	0.00636	mg/L	0.000315	0.00636	mg/L	0.000315	4.95%

Approved: November 20, 2012

Ba 233.527†	3059.4	0.0189	mg/L	0.00011	0.0189	mg/L	0.00011 0.57%
Be 234.861†	1160.4	0.00101	mg/L	0.000011	0.00101	mg/L	0.000011 1.11%
B 249.677†	1059.2	0.0128	mg/L	0.00013	0.0128	mg/L	0.00013 0.99%
Ca 227.546†	91.5	0.252	mg/L	0.0335	0.252	mg/L	0.0335 13.30%
Cd 228.802†	32.8	0.00072	mg/L	0.000122	0.00072	mg/L	0.000122 17.06%
Co 228.616†	142.0	0.00334	mg/L	0.000131	0.00334	mg/L	0.000131 3.91%
Cr 267.716†	1347.0	0.00972	mg/L	0.000099	0.00972	mg/L	0.000099 1.02%
Cu 327.393†	2747.5	0.00948	mg/L	0.000083	0.00948	mg/L	0.000083 0.87%
Fe 239.562†	790.6	0.0766	mg/L	0.00103	0.0766	mg/L	0.00103 1.34%
Mg 279.077†	555.9	0.191	mg/L	0.0035	0.191	mg/L	0.0035 1.83%
Mn 257.610†	9076.8	0.00875	mg/L	0.000045	0.00875	mg/L	0.000045 0.51%
Mo 202.031†	572.2	0.0186	mg/L	0.00009	0.0186	mg/L	0.00009 0.51%
Ni 231.604†	679.2	0.00977	mg/L	0.000281	0.00977	mg/L	0.000281 2.88%
Pb 220.353†	109.5	0.00965	mg/L	0.000544	0.00965	mg/L	0.000544 5.63%
Sb 206.836†	82.4	0.0231	mg/L	0.00158	0.0231	mg/L	0.00158 6.85%
Se 196.026†	20.6	0.0136	mg/L	0.00211	0.0136	mg/L	0.00211 15.54%
Si 251.611†	4790.9	0.0910	mg/L	0.00126	0.0910	mg/L	0.00126 1.39%
Sn 189.927†	159.6	0.0159	mg/L	0.00047	0.0159	mg/L	0.00047 2.93%
Ti 334.940†	22157.2	0.0194	mg/L	0.00023	0.0194	mg/L	0.00023 1.18%
Tl 190.801†	31.3	0.00940	mg/L	0.001621	0.00940	mg/L	0.001621 17.24%
V 290.880†	4283.0	0.0168	mg/L	0.00134	0.0168	mg/L	0.00134 7.97%
Zn 206.200†	970.8	0.0202	mg/L	0.00012	0.0202	mg/L	0.00012 0.60%
K 766.490†	2942.5	0.993	mg/L	0.0079	0.993	mg/L	0.0079 0.80%
Na 589.592†	20316.9	1.01	mg/L	0.028	1.01	mg/L	0.028 2.82%
Sr 407.771†	50570.5	0.0184	mg/L	0.00045	0.0184	mg/L	0.00045 2.45%
Li 670.784†	2693.2	0.0172	mg/L	0.00044	0.0172	mg/L	0.00044 2.53%

==========

Sequence No.: 50 **Autosampler Location: 93**
Sample ID: LRC **Date Collected: 11/19/2012 6:11:35 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: LRC

Analyte	Back Pressure	Flow
All	176.0 kPa	0.50 L/min

Mean Data: LRC

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2172523.8						9307.63	0.43%
YRADIAL	270540.7						6248.95	2.31%
Ga 417.206	1173198.8						2359.82	0.20%
GaRADIAL	73657.4						1496.85	2.03%
Ag 328.068†	2625.3	0.00729	mg/L	0.000827	0.00729	mg/L	0.000827	11.34%
Al 396.153†	-82.1	-0.0282	mg/L	0.00107	-0.0282	mg/L	0.00107	3.81%
As 188.979†	-13.8	-0.00513	mg/L	0.001963	-0.00513	mg/L	0.001963	38.25%
Ba 233.527†	22.0	-0.00181	mg/L	0.000064	-0.00181	mg/L	0.000064	3.54%
Be 234.861†	148.0	0.00011	mg/L	0.000012	0.00011	mg/L	0.000012	10.19%
B 249.677†	-43.1	0.00106	mg/L	0.000043	0.00106	mg/L	0.000043	4.02%
Ca 227.546†	191089.1	501	mg/L	9.1	501	mg/L	9.1	1.82%
Cd 228.802†	-5.6	-0.00009	mg/L	0.000213	-0.00009	mg/L	0.000213	228.81%
Co 228.616†	3.9	-0.00023	mg/L	0.000184	-0.00023	mg/L	0.000184	81.50%
Cr 267.716†	1179.0	0.00842	mg/L	0.000255	0.00842	mg/L	0.000255	3.03%
Cu 327.393†	-818.8	-0.00389	mg/L	0.000384	-0.00389	mg/L	0.000384	9.87%
Fe 239.562†	-32.1	-0.00985	mg/L	0.000339	-0.00985	mg/L	0.000339	3.44%
Mg 279.077†	39.7	0.00470	mg/L	0.001348	0.00470	mg/L	0.001348	28.66%
Mn 257.610†	354.9	-0.00173	mg/L	0.000010	-0.00173	mg/L	0.000010	0.58%
Mo 202.031†	27.1	0.00010	mg/L	0.000370	0.00010	mg/L	0.000370	383.27%
Ni 231.604†	-30.7	-0.00219	mg/L	0.000145	-0.00219	mg/L	0.000145	6.60%
Pb 220.353†	-25.6	-0.00328	mg/L	0.000428	-0.00328	mg/L	0.000428	13.07%
Sb 206.836†	-6.3	-0.00177	mg/L	0.001295	-0.00177	mg/L	0.001295	73.20%
Se 196.026†	4.5	0.00365	mg/L	0.001680	0.00365	mg/L	0.001680	46.03%
Si 251.611†	6.8	-0.0101	mg/L	0.00029	-0.0101	mg/L	0.00029	2.89%
Sn 189.927†	-475.9	-0.0508	mg/L	0.00115	-0.0508	mg/L	0.00115	2.27%
Ti 334.940†	-93089.7	-0.00869	mg/L	0.003075	-0.00869	mg/L	0.003075	35.36%
Tl 190.801†	-47.2	-0.0186	mg/L	0.00299	-0.0186	mg/L	0.00299	16.08%
V 290.880†	1090.2	0.00288	mg/L	0.001060	0.00288	mg/L	0.001060	36.84%
Zn 206.200†	104.5	0.00067	mg/L	0.000231	0.00067	mg/L	0.000231	34.54%

Approved: November 20, 2012

Kim H. Rhoden

K 766.490†	-36.2	0.00469 mg/L	0.034002	0.00469 mg/L	0.034002	725.74%
Na 589.592†	471.9	0.0229 mg/L	0.00520	0.0229 mg/L	0.00520	22.72%
Sr 407.771†	45902.4	0.00647 mg/L	0.001033	0.00647 mg/L	0.001033	15.96%
Li 670.784†	-88.4	-0.00365 mg/L	0.000257	-0.00365 mg/L	0.000257	7.04%

Sequence No.: 51 **Autosampler Location: 94**
Sample ID: LRC **Date Collected: 11/19/2012 6:18:32 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: LRC

Analyte	Back Pressure	Flow
All	176.0 kPa	0.50 L/min

Mean Data: LRC

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2237468.0						6013.84	0.27%
YRADIAL	269436.7						673.38	0.25%
Ga 417.206	1256253.2						10842.27	0.86%
GaRADIAL	76058.0						2321.64	3.05%
Ag 328.068†	48.8	-0.00063	mg/L	0.000270	-0.00063	mg/L	0.000270	43.09%
Al 396.153†	24.0	-0.0121	mg/L	0.00067	-0.0121	mg/L	0.00067	5.52%
As 188.979†	22.2	0.00791	mg/L	0.002156	0.00791	mg/L	0.002156	27.25%
Ba 233.527†	5.1	-0.00193	mg/L	0.000137	-0.00193	mg/L	0.000137	7.11%
Be 234.861†	208.8	0.00017	mg/L	0.000002	0.00017	mg/L	0.000002	1.38%
B 249.677†	77.5	0.00235	mg/L	0.000188	0.00235	mg/L	0.000188	8.01%
Ca 227.546†	45.3	0.0721	mg/L	0.01171	0.0721	mg/L	0.01171	16.24%
Cd 228.802†	-9.7	-0.00025	mg/L	0.000121	-0.00025	mg/L	0.000121	48.02%
Co 228.616†	-13.4	-0.00088	mg/L	0.000086	-0.00088	mg/L	0.000086	9.69%
Cr 267.716†	463.3	0.00290	mg/L	0.000555	0.00290	mg/L	0.000555	19.15%
Cu 327.393†	51.1	-0.00057	mg/L	0.000335	-0.00057	mg/L	0.000335	58.70%
Fe 239.562†	33.2	-0.0121	mg/L	0.00118	-0.0121	mg/L	0.00118	9.73%
Mg 279.077†	1265711.9	456	mg/L	21.1	456	mg/L	21.1	4.64%
Mn 257.610†	2481.4	0.00083	mg/L	0.000075	0.00083	mg/L	0.000075	9.08%
Mo 202.031†	-5.7	-0.00101	mg/L	0.000152	-0.00101	mg/L	0.000152	15.03%
Ni 231.604†	-32.3	-0.00222	mg/L	0.000330	-0.00222	mg/L	0.000330	14.83%
Pb 220.353†	1.4	-0.00070	mg/L	0.000733	-0.00070	mg/L	0.000733	104.10%
Sb 206.836†	3.5	0.00101	mg/L	0.001224	0.00101	mg/L	0.001224	121.02%
Se 196.026†	-7.1	-0.00351	mg/L	0.004045	-0.00351	mg/L	0.004045	115.16%
Si 251.611†	386.5	-0.00207	mg/L	0.000249	-0.00207	mg/L	0.000249	12.01%
Sn 189.927†	-19.5	-0.00288	mg/L	0.000769	-0.00288	mg/L	0.000769	26.66%
Ti 334.940†	70.9	-0.00042	mg/L	0.000205	-0.00042	mg/L	0.000205	48.84%
Tl 190.801†	-15.5	-0.00682	mg/L	0.003414	-0.00682	mg/L	0.003414	50.09%
V 290.880†	884.6	-0.00988	mg/L	0.000792	-0.00988	mg/L	0.000792	8.01%
Zn 206.200†	171.5	0.00213	mg/L	0.000237	0.00213	mg/L	0.000237	11.13%
K 766.490†	285.0	0.111	mg/L	0.0276	0.111	mg/L	0.0276	24.75%
Na 589.592†	180.2	0.00843	mg/L	0.004552	0.00843	mg/L	0.004552	54.00%
Sr 407.771†	42.1	-0.00285	mg/L	0.000036	-0.00285	mg/L	0.000036	1.28%
Li 670.784†	273.5	-0.00093	mg/L	0.000645	-0.00093	mg/L	0.000645	69.67%

Sequence No.: 52 **Autosampler Location: 95**
Sample ID: BLANK **Date Collected: 11/19/2012 6:25:29 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: BLANK

Analyte	Back Pressure	Flow
All	176.0 kPa	0.50 L/min

Mean Data: BLANK

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2470943.8						11676.09	0.47%

Approved: November 20, 2012

Kim H. Rhoden

YRADIAL	290852.6				8675.16	2.98%
Ga 417.206	1219432.3				6001.72	0.49%
GaRADIAL	78410.4				1307.89	1.67%
Ag 328.068†	-14.7	-0.00083 mg/L	0.000077	-0.00083 mg/L	0.000077	9.22%
Al 396.153†	9.8	-0.0142 mg/L	0.00020	-0.0142 mg/L	0.00020	1.40%
As 188.979†	0.7	0.00014 mg/L	0.001878	0.00014 mg/L	0.001878	>999.9%
Ba 233.527†	-18.7	-0.00209 mg/L	0.000118	-0.00209 mg/L	0.000118	5.64%
Be 234.861†	61.0	0.00003 mg/L	0.000018	0.00003 mg/L	0.000018	53.46%
B 249.677†	12.9	0.00167 mg/L	0.000042	0.00167 mg/L	0.000042	2.52%
Ca 227.546†	20.3	0.0543 mg/L	0.01231	0.0543 mg/L	0.01231	22.65%
Cd 228.802†	-3.2	-0.00007 mg/L	0.000151	-0.00007 mg/L	0.000151	230.54%
Co 228.616†	-4.9	-0.00065 mg/L	0.000347	-0.00065 mg/L	0.000347	52.98%
Cr 267.716†	4.4	-0.00065 mg/L	0.000074	-0.00065 mg/L	0.000074	11.51%
Cu 327.393†	129.1	-0.00028 mg/L	0.000355	-0.00028 mg/L	0.000355	124.87%
Fe 239.562†	4.4	-0.00602 mg/L	0.000485	-0.00602 mg/L	0.000485	8.05%
Mg 279.077†	38.4	0.00422 mg/L	0.005988	0.00422 mg/L	0.005988	141.90%
Mn 257.610†	242.5	-0.00186 mg/L	0.000025	-0.00186 mg/L	0.000025	1.32%
Mo 202.031†	-9.4	-0.00114 mg/L	0.000422	-0.00114 mg/L	0.000422	36.98%
Ni 231.604†	-4.8	-0.00176 mg/L	0.000261	-0.00176 mg/L	0.000261	14.82%
Pb 220.353†	14.3	0.00053 mg/L	0.000183	0.00053 mg/L	0.000183	34.37%
Sb 206.836†	4.5	0.00131 mg/L	0.001302	0.00131 mg/L	0.001302	99.72%
Se 196.026†	9.4	0.00666 mg/L	0.002022	0.00666 mg/L	0.002022	30.36%
Si 251.611†	-69.6	-0.0117 mg/L	0.00037	-0.0117 mg/L	0.00037	3.13%
Sn 189.927†	-34.7	-0.00448 mg/L	0.000069	-0.00448 mg/L	0.000069	1.53%
Ti 334.940†	12.7	-0.00048 mg/L	0.000056	-0.00048 mg/L	0.000056	11.55%
Tl 190.801†	-8.7	-0.00449 mg/L	0.005119	-0.00449 mg/L	0.005119	113.91%
V 290.880†	-229.9	-0.00290 mg/L	0.001607	-0.00290 mg/L	0.001607	55.42%
Zn 206.200†	55.6	-0.00050 mg/L	0.000155	-0.00050 mg/L	0.000155	30.81%
K 766.490†	-25.7	0.00817 mg/L	0.025537	0.00817 mg/L	0.025537	312.45%
Na 589.592†	103.9	0.00465 mg/L	0.008534	0.00465 mg/L	0.008534	183.59%
Sr 407.771†	-79.5	-0.00290 mg/L	0.000027	-0.00290 mg/L	0.000027	0.93%
Li 670.784†	61.8	-0.00252 mg/L	0.000372	-0.00252 mg/L	0.000372	14.77%

Sequence No.: 53 **Autosampler Location: 6**
Sample ID: CCV **Date Collected: 11/19/2012 6:32:23 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	2365908.9						33771.09	1.43%
YRADIAL	281515.6						3400.34	1.21%
Ga 417.206	1172397.1						13452.66	1.15%
GaRADIAL	74565.7						977.90	1.31%
Ag 328.068†	128358.7	0.397	mg/L	0.0059	0.397	mg/L	0.0059	1.49%
QC value within limits for Ag 328.068 Recovery = 99.36%								
Al 396.153†	65096.2	9.76	mg/L	0.033	9.76	mg/L	0.033	0.34%
QC value within limits for Al 396.153 Recovery = 97.64%								
As 188.979†	1087.0	0.389	mg/L	0.0077	0.389	mg/L	0.0077	1.97%
QC value within limits for As 188.979 Recovery = 97.27%								
Ba 233.527†	148600.3	1.01	mg/L	0.006	1.01	mg/L	0.006	0.58%
QC value within limits for Ba 233.527 Recovery = 100.92%								
Be 234.861†	54999.1	0.0488	mg/L	0.00098	0.0488	mg/L	0.00098	2.01%
QC value within limits for Be 234.861 Recovery = 97.60%								
B 249.677†	45302.0	0.481	mg/L	0.0049	0.481	mg/L	0.0049	1.01%
QC value within limits for B 249.677 Recovery = 96.20%								
Ca 227.546†	3721.7	10.2	mg/L	0.16	10.2	mg/L	0.16	1.55%
QC value within limits for Ca 227.546 Recovery = 102.27%								
Cd 228.802†	2201.9	0.0477	mg/L	0.00130	0.0477	mg/L	0.00130	2.72%
QC value within limits for Cd 228.802 Recovery = 95.48%								
Co 228.616†	7442.9	0.202	mg/L	0.0029	0.202	mg/L	0.0029	1.42%
QC value within limits for Co 228.616 Recovery = 100.88%								
Cr 267.716†	64398.7	0.497	mg/L	0.0021	0.497	mg/L	0.0021	0.42%

Approved: November 20, 2012

QC value within limits for Cr 267.716 Recovery = 99.33%

Cu 327.393†	131943.4	0.491 mg/L	0.0048	0.491 mg/L	0.0048	0.97%
QC value within limits for Cu 327.393 Recovery = 98.21%							
Fe 239.562†	37823.9	3.97 mg/L	0.036	3.97 mg/L	0.036	0.90%
QC value within limits for Fe 239.562 Recovery = 99.18%							
Mg 279.077†	27821.3	10.0 mg/L	0.11	10.0 mg/L	0.11	1.06%
QC value within limits for Mg 279.077 Recovery = 100.27%							
Mn 257.610†	426736.8	0.511 mg/L	0.0070	0.511 mg/L	0.0070	1.37%
QC value within limits for Mn 257.610 Recovery = 102.12%							
Mo 202.031†	28932.9	0.979 mg/L	0.0089	0.979 mg/L	0.0089	0.91%
QC value within limits for Mo 202.031 Recovery = 97.89%							
Ni 231.604†	29908.2	0.502 mg/L	0.0052	0.502 mg/L	0.0052	1.03%
QC value within limits for Ni 231.604 Recovery = 100.46%							
Pb 220.353†	5274.6	0.504 mg/L	0.0055	0.504 mg/L	0.0055	1.08%
QC value within limits for Pb 220.353 Recovery = 100.88%							
Sb 206.836†	4183.1	1.17 mg/L	0.026	1.17 mg/L	0.026	2.25%
QC value within limits for Sb 206.836 Recovery = 97.37%							
Se 196.026†	642.0	0.397 mg/L	0.0087	0.397 mg/L	0.0087	2.20%
QC value within limits for Se 196.026 Recovery = 99.27%							
Si 251.611†	236676.3	4.99 mg/L	0.054	4.99 mg/L	0.054	1.08%
QC value within limits for Si 251.611 Recovery = 99.84%							
Sn 189.927†	9447.2	0.990 mg/L	0.0127	0.990 mg/L	0.0127	1.28%
QC value within limits for Sn 189.927 Recovery = 99.03%							
Ti 334.940†	1102590.9	0.989 mg/L	0.0031	0.989 mg/L	0.0031	0.32%
QC value within limits for Ti 334.940 Recovery = 98.86%							
Tl 190.801†	1473.9	0.515 mg/L	0.0025	0.515 mg/L	0.0025	0.49%
QC value within limits for Tl 190.801 Recovery = 102.92%							
V 290.880†	229663.2	1.00 mg/L	0.008	1.00 mg/L	0.008	0.83%
QC value within limits for V 290.880 Recovery = 100.22%							
Zn 206.200†	44381.1	1.00 mg/L	0.005	1.00 mg/L	0.005	0.51%
QC value within limits for Zn 206.200 Recovery = 100.04%							
K 766.490†	146895.9	49.2 mg/L	0.15	49.2 mg/L	0.15	0.30%
QC value within limits for K 766.490 Recovery = 98.42%							
Na 589.592†	952116.1	48.3 mg/L	1.29	48.3 mg/L	1.29	2.67%
QC value within limits for Na 589.592 Recovery = 96.58%							
Sr 407.771†	2423022.6	1.01 mg/L	0.023	1.01 mg/L	0.023	2.26%
QC value within limits for Sr 407.771 Recovery = 101.38%							
Li 670.784†	130299.5	0.976 mg/L	0.0018	0.976 mg/L	0.0018	0.18%
QC value within limits for Li 670.784 Recovery = 97.58%							

All analyte(s) passed QC.

==========

Sequence No.: 54 **Autosampler Location: 1**
Sample ID: CCB **Date Collected: 11/19/2012 6:38:24 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

Mean Data: CCB

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2446274.2						9926.76	0.41%
YRADIAL	288094.0						3483.20	1.21%
Ga 417.206	1211287.2						10562.07	0.87%
GaRADIAL	77832.5						1728.00	2.22%
Ag 328.068†	91.5	-0.00050	mg/L	0.000516	-0.00050	mg/L	0.000516	102.43%
QC value within limits for Ag 328.068 Recovery = Not calculated								
Al 396.153†	12.0	-0.0139	mg/L	0.00157	-0.0139	mg/L	0.00157	11.31%
QC value within limits for Al 396.153 Recovery = Not calculated								
As 188.979†	4.3	0.00144	mg/L	0.002020	0.00144	mg/L	0.002020	139.93%
QC value within limits for As 188.979 Recovery = Not calculated								
Ba 233.527†	2.7	-0.00194	mg/L	0.000079	-0.00194	mg/L	0.000079	4.05%
QC value within limits for Ba 233.527 Recovery = Not calculated								
Be 234.861†	33.9	0.00001	mg/L	0.000033	0.00001	mg/L	0.000033	360.92%
QC value within limits for Be 234.861 Recovery = Not calculated								
B 249.677†	176.7	0.00341	mg/L	0.000210	0.00341	mg/L	0.000210	6.14%

Approved: November 20, 2012

QC value within limits for B 249.677 Recovery = Not calculated
Ca 227.546† 14.6 0.0391 mg/L 0.01717 0.0391 mg/L 0.01717 43.88%
QC value within limits for Ca 227.546 Recovery = Not calculated
Cd 228.802† -4.2 -0.00009 mg/L 0.000132 -0.00009 mg/L 0.000132 138.83%
QC value within limits for Cd 228.802 Recovery = Not calculated
Co 228.616† -7.1 -0.00071 mg/L 0.000188 -0.00071 mg/L 0.000188 26.37%
QC value within limits for Co 228.616 Recovery = Not calculated
Cr 267.716† 9.3 -0.00061 mg/L 0.000059 -0.00061 mg/L 0.000059 9.62%
QC value within limits for Cr 267.716 Recovery = Not calculated
Cu 327.393† 137.1 -0.00025 mg/L 0.000063 -0.00025 mg/L 0.000063 24.94%
QC value within limits for Cu 327.393 Recovery = Not calculated
Fe 239.562† 8.6 -0.00558 mg/L 0.000299 -0.00558 mg/L 0.000299 5.35%
QC value within limits for Fe 239.562 Recovery = Not calculated
Mg 279.077† 17.3 -0.00339 mg/L 0.001937 -0.00339 mg/L 0.001937 57.17%
QC value within limits for Mg 279.077 Recovery = Not calculated
Mn 257.610† 108.9 -0.00202 mg/L 0.000020 -0.00202 mg/L 0.000020 0.97%
QC value within limits for Mn 257.610 Recovery = Not calculated
Mo 202.031† 2.2 -0.00075 mg/L 0.000207 -0.00075 mg/L 0.000207 27.73%
QC value within limits for Mo 202.031 Recovery = Not calculated
Ni 231.604† -16.6 -0.00196 mg/L 0.000212 -0.00196 mg/L 0.000212 10.83%
QC value within limits for Ni 231.604 Recovery = Not calculated
Pb 220.353† 0.5 -0.00078 mg/L 0.000765 -0.00078 mg/L 0.000765 98.06%
QC value within limits for Pb 220.353 Recovery = Not calculated
Sb 206.836† 3.2 0.00096 mg/L 0.000684 0.00096 mg/L 0.000684 71.22%
QC value within limits for Sb 206.836 Recovery = Not calculated
Se 196.026† 10.9 0.00755 mg/L 0.004213 0.00755 mg/L 0.004213 55.78%
QC value within limits for Se 196.026 Recovery = Not calculated
Si 251.611† -23.9 -0.0108 mg/L 0.00018 -0.0108 mg/L 0.00018 1.69%
QC value within limits for Si 251.611 Recovery = Not calculated
Sn 189.927† -31.9 -0.00418 mg/L 0.000952 -0.00418 mg/L 0.000952 22.75%
QC value within limits for Sn 189.927 Recovery = Not calculated
Ti 334.940† 142.7 -0.00037 mg/L 0.000017 -0.00037 mg/L 0.000017 4.59%
QC value within limits for Ti 334.940 Recovery = Not calculated
Tl 190.801† -5.9 -0.00353 mg/L 0.002629 -0.00353 mg/L 0.002629 74.58%
QC value within limits for Tl 190.801 Recovery = Not calculated
V 290.880† 26.6 -0.00178 mg/L 0.000594 -0.00178 mg/L 0.000594 33.38%
QC value within limits for V 290.880 Recovery = Not calculated
Zn 206.200† 23.4 -0.00123 mg/L 0.000108 -0.00123 mg/L 0.000108 8.81%
QC value within limits for Zn 206.200 Recovery = Not calculated
K 766.490† 55.9 0.0353 mg/L 0.00186 0.0353 mg/L 0.00186 5.28%
QC value within limits for K 766.490 Recovery = Not calculated
Na 589.592† 389.6 0.0188 mg/L 0.00512 0.0188 mg/L 0.00512 27.23%
QC value within limits for Na 589.592 Recovery = Not calculated
Sr 407.771† 294.4 -0.00274 mg/L 0.000019 -0.00274 mg/L 0.000019 0.71%
QC value within limits for Sr 407.771 Recovery = Not calculated
Li 670.784† 51.1 -0.00260 mg/L 0.000271 -0.00260 mg/L 0.000271 10.42%
QC value within limits for Li 670.784 Recovery = Not calculated
All analyte(s) passed QC.

==========

Sequence No.: 55 **Autosampler Location: 96**
Sample ID: PBW 15 WG414642-02 **Date Collected: 11/19/2012 6:45:18 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: PBW 15 WG414642-02

Analyte	Back Pressure	Flow
All	176.0 kPa	0.50 L/min

Mean Data: PBW 15 WG414642-02

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2472486.5						21016.04	0.85%
YRADIAL	285254.2						1339.24	0.47%
Ga 417.206	1257973.7						13656.10	1.09%
GaRADIAL	77868.0						2003.31	2.57%
Ag 328.068†	52.2	-0.00062	mg/L	0.000068	-0.00062	mg/L	0.000068	10.94%
Al 396.153†	15.9	-0.0133	mg/L	0.00172	-0.0133	mg/L	0.00172	12.92%
As 188.979†	0.0	-0.00012	mg/L	0.000973	-0.00012	mg/L	0.000973	800.79%

Approved: November 20, 2012

Kim H. Rhoden

Ba 233.527†	-6.5	-0.00201 mg/L	0.000115	-0.00201 mg/L	0.000115	5.72%
Be 234.861†	128.4	0.00009 mg/L	0.000015	0.00009 mg/L	0.000015	15.47%
B 249.677†	49.9	0.00206 mg/L	0.000256	0.00206 mg/L	0.000256	12.40%
Ca 227.546†	23.9	0.0636 mg/L	0.02019	0.0636 mg/L	0.02019	31.73%
Cd 228.802†	-6.0	-0.00013 mg/L	0.000059	-0.00013 mg/L	0.000059	46.71%
Co 228.616†	-7.6	-0.00073 mg/L	0.000202	-0.00073 mg/L	0.000202	27.73%
Cr 267.716†	1.4	-0.00067 mg/L	0.000095	-0.00067 mg/L	0.000095	14.24%
Cu 327.393†	95.0	-0.00041 mg/L	0.000429	-0.00041 mg/L	0.000429	104.99%
Fe 239.562†	8.2	-0.00562 mg/L	0.000219	-0.00562 mg/L	0.000219	3.89%
Mg 279.077†	24.1	-0.00094 mg/L	0.006041	-0.00094 mg/L	0.006041	645.36%
Mn 257.610†	198.8	-0.00192 mg/L	0.000013	-0.00192 mg/L	0.000013	0.70%
Mo 202.031†	-7.0	-0.00106 mg/L	0.000139	-0.00106 mg/L	0.000139	13.15%
Ni 231.604†	-8.9	-0.00183 mg/L	0.000282	-0.00183 mg/L	0.000282	15.43%
Pb 220.353†	11.7	0.00028 mg/L	0.000835	0.00028 mg/L	0.000835	295.06%
Sb 206.836†	-0.9	-0.00018 mg/L	0.001020	-0.00018 mg/L	0.001020	563.24%
Se 196.026†	-0.3	0.00069 mg/L	0.000869	0.00069 mg/L	0.000869	126.36%
Si 251.611†	-48.0	-0.0113 mg/L	0.00052	-0.0113 mg/L	0.00052	4.57%
Sn 189.927†	-38.0	-0.00483 mg/L	0.000623	-0.00483 mg/L	0.000623	12.89%
Ti 334.940†	81.8	-0.00042 mg/L	0.000049	-0.00042 mg/L	0.000049	11.85%
Tl 190.801†	-6.7	-0.00380 mg/L	0.001312	-0.00380 mg/L	0.001312	34.51%
V 290.880†	161.4	-0.00119 mg/L	0.000955	-0.00119 mg/L	0.000955	80.39%
Zn 206.200†	89.8	0.00026 mg/L	0.000083	0.00026 mg/L	0.000083	31.46%
K 766.490†	-71.9	-0.00715 mg/L	0.011647	-0.00715 mg/L	0.011647	162.95%
Na 589.592†	-84.0	-0.00467 mg/L	0.003482	-0.00467 mg/L	0.003482	74.58%
Sr 407.771†	43.1	-0.00285 mg/L	0.000022	-0.00285 mg/L	0.000022	0.76%
Li 670.784†	4.4	-0.00295 mg/L	0.000473	-0.00295 mg/L	0.000473	16.05%

==========

Sequence No.: 56 **Autosampler Location: 97**
Sample ID: LCSW 15 WG414642-03 **Date Collected: 11/19/2012 6:52:12 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: LCSW 15 WG414642-03

Analyte	Back Pressure	Flow
All	177.0 kPa	0.50 L/min

Mean Data: LCSW 15 WG414642-03

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2419797.1						29128.29	1.20%
YRADIAL	286381.9						2553.04	0.89%
Ga 417.206	1240409.0						16029.55	1.29%
GaRADIAL	77249.8						484.95	0.63%
Ag 328.068†	61241.0	0.189	mg/L	0.0033	0.189	mg/L	0.0033	1.75%
Al 396.153†	31801.5	4.76	mg/L	0.081	4.76	mg/L	0.081	1.69%
As 188.979†	497.9	0.178	mg/L	0.0028	0.178	mg/L	0.0028	1.59%
Ba 233.527†	70854.4	0.480	mg/L	0.0048	0.480	mg/L	0.0048	1.00%
Be 234.861†	25622.2	0.0227	mg/L	0.00031	0.0227	mg/L	0.00031	1.35%
B 249.677†	85650.0	0.913	mg/L	0.0136	0.913	mg/L	0.0136	1.49%
Ca 227.546†	1756.5	4.84	mg/L	0.078	4.84	mg/L	0.078	1.62%
Cd 228.802†	1017.1	0.0221	mg/L	0.00056	0.0221	mg/L	0.00056	2.53%
Co 228.616†	3565.6	0.0964	mg/L	0.00090	0.0964	mg/L	0.00090	0.93%
Cr 267.716†	31116.1	0.240	mg/L	0.0015	0.240	mg/L	0.0015	0.63%
Cu 327.393†	63991.1	0.238	mg/L	0.0030	0.238	mg/L	0.0030	1.25%
Fe 239.562†	18611.3	1.95	mg/L	0.016	1.95	mg/L	0.016	0.82%
Mg 279.077†	13595.0	4.89	mg/L	0.035	4.89	mg/L	0.035	0.72%
Mn 257.610†	206062.3	0.245	mg/L	0.0036	0.245	mg/L	0.0036	1.45%
Mo 202.031†	13900.7	0.470	mg/L	0.0019	0.470	mg/L	0.0019	0.40%
Ni 231.604†	15132.2	0.253	mg/L	0.0027	0.253	mg/L	0.0027	1.08%
Pb 220.353†	2546.5	0.243	mg/L	0.0036	0.243	mg/L	0.0036	1.49%
Sb 206.836†	1964.6	0.549	mg/L	0.0144	0.549	mg/L	0.0144	2.62%
Se 196.026†	294.7	0.183	mg/L	0.0047	0.183	mg/L	0.0047	2.59%
Si 251.611†	110859.9	2.33	mg/L	0.010	2.33	mg/L	0.010	0.45%
Sn 189.927†	4880.3	0.511	mg/L	0.0051	0.511	mg/L	0.0051	0.99%
Ti 334.940†	533974.7	0.478	mg/L	0.0031	0.478	mg/L	0.0031	0.64%
Tl 190.801†	734.7	0.256	mg/L	0.0010	0.256	mg/L	0.0010	0.39%
V 290.880†	110159.6	0.480	mg/L	0.0040	0.480	mg/L	0.0040	0.83%
Zn 206.200†	20763.6	0.467	mg/L	0.0047	0.467	mg/L	0.0047	1.01%

Approved: November 20, 2012

K 766.490†	71429.0	23.8	mg/L	0.41	23.8	mg/L	0.41	1.73%
Na 589.592†	469567.3	23.5	mg/L	0.14	23.5	mg/L	0.14	0.60%
Sr 407.771†	1223568.4	0.511	mg/L	0.0027	0.511	mg/L	0.0027	0.53%
Li 670.784†	66101.1	0.494	mg/L	0.0114	0.494	mg/L	0.0114	2.31%

Sequence No.: 57 **Autosampler Location: 98**
Sample ID: L1211049201 **Date Collected: 11/19/2012 6:58:11 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1211049201

Analyte	Back Pressure	Flow
All	176.0 kPa	0.50 L/min

Mean Data: L1211049201

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2335744.5						22090.97	0.95%
YRADIAL	278587.0						5501.13	1.97%
Ga 417.206	1274446.5						31103.62	2.44%
GaRADIAL	77916.2						733.05	0.94%
Ag 328.068†	565.8	0.00095	mg/L	0.000115	0.00095	mg/L	0.000115	12.02%
Al 396.153†	40.5	-0.00968	mg/L	0.000438	-0.00968	mg/L	0.000438	4.52%
As 188.979†	-9.0	-0.00336	mg/L	0.001543	-0.00336	mg/L	0.001543	45.95%
Ba 233.527†	4897.8	0.0314	mg/L	0.00048	0.0314	mg/L	0.00048	1.53%
Be 234.861†	197.4	0.00014	mg/L	0.000005	0.00014	mg/L	0.000005	3.62%
B 249.677†	2319.3	0.0262	mg/L	0.00100	0.0262	mg/L	0.00100	3.81%
Ca 227.546†	33293.4	87.4	mg/L	1.44	87.4	mg/L	1.44	1.65%
Cd 228.802†	-9.5	-0.00019	mg/L	0.000095	-0.00019	mg/L	0.000095	50.55%
Co 228.616†	-1.4	-0.00053	mg/L	0.000365	-0.00053	mg/L	0.000365	68.35%
Cr 267.716†	89.4	0.00001	mg/L	0.000094	0.00001	mg/L	0.000094	>999.9%
Cu 327.393†	61.4	-0.00053	mg/L	0.000450	-0.00053	mg/L	0.000450	84.18%
Fe 239.562†	1354.1	0.136	mg/L	0.0016	0.136	mg/L	0.0016	1.17%
Mg 279.077†	33865.9	12.2	mg/L	0.22	12.2	mg/L	0.22	1.77%
Mn 257.610†	105522.8	0.125	mg/L	0.0005	0.125	mg/L	0.0005	0.38%
Mo 202.031†	45.7	0.00076	mg/L	0.000247	0.00076	mg/L	0.000247	32.53%
Ni 231.604†	31.3	-0.00115	mg/L	0.000213	-0.00115	mg/L	0.000213	18.53%
Pb 220.353†	43.1	0.00319	mg/L	0.000232	0.00319	mg/L	0.000232	7.26%
Sb 206.836†	-0.1	0.00004	mg/L	0.001435	0.00004	mg/L	0.001435	>999.9%
Se 196.026†	1.7	0.00193	mg/L	0.001854	0.00193	mg/L	0.001854	95.94%
Si 251.611†	172348.5	3.64	mg/L	0.054	3.64	mg/L	0.054	1.47%
Sn 189.927†	-303.1	-0.0326	mg/L	0.00013	-0.0326	mg/L	0.00013	0.39%
Ti 334.940†	-17007.6	-0.00263	mg/L	0.000554	-0.00263	mg/L	0.000554	21.05%
Tl 190.801†	-37.6	-0.0146	mg/L	0.00189	-0.0146	mg/L	0.00189	12.93%
V 290.880†	579.0	0.00031	mg/L	0.001031	0.00031	mg/L	0.001031	330.02%
Zn 206.200†	89.2	0.00025	mg/L	0.000027	0.00025	mg/L	0.000027	11.07%
K 766.490†	2107.6	0.689	mg/L	0.0042	0.689	mg/L	0.0042	0.60%
Na 589.592†	553944.5	27.8	mg/L	0.42	27.8	mg/L	0.42	1.52%
Sr 407.771†	641070.0	0.264	mg/L	0.0066	0.264	mg/L	0.0066	2.48%
Li 670.784†	77.5	-0.00240	mg/L	0.000047	-0.00240	mg/L	0.000047	1.95%

Sequence No.: 58 **Autosampler Location: 99**
Sample ID: L1211049202 WG414642-01 **Date Collected: 11/19/2012 7:05:06 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1211049202 WG414642-01

Analyte	Back Pressure	Flow
All	177.0 kPa	0.50 L/min

Mean Data: L1211049202 WG414642-01

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2300448.1						21255.47	0.92%

Approved: November 20, 2012

YRADIAL	282336.8					6529.58	2.31%
Ga 417.206	1259582.7					26001.36	2.06%
GaRADIAL	78437.1					785.71	1.00%
Ag 328.068†	917.9	0.00137	mg/L	0.000081	0.00137 mg/L	0.000081	5.95%
Al 396.153†	9.4	-0.0144	mg/L	0.00165	-0.0144 mg/L	0.00165	11.41%
As 188.979†	-13.5	-0.00503	mg/L	0.000422	-0.00503 mg/L	0.000422	8.38%
Ba 233.527†	5106.3	0.0328	mg/L	0.00024	0.0328 mg/L	0.00024	0.73%
Be 234.861†	-24.7	0.00042	mg/L	0.000015	0.00042 mg/L	0.000015	3.59%
B 249.677†	6039.3	0.0659	mg/L	0.00044	0.0659 mg/L	0.00044	0.66%
Ca 227.546†	47131.4	124	mg/L	2.6	124 mg/L	2.6	2.07%
Cd 228.802†	-7.9	-0.00014	mg/L	0.000068	-0.00014 mg/L	0.000068	50.04%
Co 228.616†	72.6	0.00150	mg/L	0.000436	0.00150 mg/L	0.000436	29.08%
Cr 267.716†	139.7	0.00040	mg/L	0.000083	0.00040 mg/L	0.000083	20.82%
Cu 327.393†	462.2	0.00094	mg/L	0.000856	0.00094 mg/L	0.000856	91.52%
Fe 239.562†	363.0	0.0313	mg/L	0.00126	0.0313 mg/L	0.00126	4.02%
Mg 279.077†	49594.3	17.9	mg/L	0.23	17.9 mg/L	0.23	1.27%
Mn 257.610†	3957607.0	4.75	mg/L	0.050	4.75 mg/L	0.050	1.05%
Mo 202.031†	58.8	0.00216	mg/L	0.000142	0.00216 mg/L	0.000142	6.54%
Ni 231.604†	219.3	0.00202	mg/L	0.000178	0.00202 mg/L	0.000178	8.80%
Pb 220.353†	46.7	0.00077	mg/L	0.000943	0.00077 mg/L	0.000943	121.74%
Sb 206.836†	-5.4	-0.00145	mg/L	0.001141	-0.00145 mg/L	0.001141	78.72%
Se 196.026†	3.8	0.00178	mg/L	0.002716	0.00178 mg/L	0.002716	152.63%
Si 251.611†	238372.5	5.04	mg/L	0.119	5.04 mg/L	0.119	2.37%
Sn 189.927†	-327.8	-0.0352	mg/L	0.00095	-0.0352 mg/L	0.00095	2.69%
Ti 334.940†	-24126.9	-0.00357	mg/L	0.001145	-0.00357 mg/L	0.001145	32.12%
Tl 190.801†	-25.7	-0.0153	mg/L	0.00228	-0.0153 mg/L	0.00228	14.91%
V 290.880†	706.9	0.00073	mg/L	0.001815	0.00073 mg/L	0.001815	248.13%
Zn 206.200†	397.3	0.00718	mg/L	0.000108	0.00718 mg/L	0.000108	1.51%
K 766.490†	3517.6	1.14	mg/L	0.022	1.14 mg/L	0.022	1.92%
Na 589.592†	933969.7	47.3	mg/L	0.80	47.3 mg/L	0.80	1.69%
Sr 407.771†	932093.3	0.386	mg/L	0.0104	0.386 mg/L	0.0104	2.69%
Li 670.784†	641.6	0.00184	mg/L	0.000175	0.00184 mg/L	0.000175	9.54%

Sequence No.: 59 **Autosampler Location: 100**
Sample ID: L1211049203 **Date Collected: 11/19/2012 7:12:05 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1211049203

Analyte	Back Pressure	Flow
All	175.0 kPa	0.50 L/min

Mean Data: L1211049203

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2315415.6						12934.98	0.56%
YRADIAL	295322.1						12648.15	4.28%
Ga 417.206	1285543.0						17588.32	1.37%
GaRADIAL	82045.0						5803.84	7.07%
Ag 328.068†	868.2	0.00117	mg/L	0.000125	0.00117	mg/L	0.000125	10.66%
Al 396.153†	15.4	-0.0135	mg/L	0.00019	-0.0135	mg/L	0.00019	1.38%
As 188.979†	-13.6	-0.00506	mg/L	0.001259	-0.00506	mg/L	0.001259	24.88%
Ba 233.527†	4742.0	0.0303	mg/L	0.00036	0.0303	mg/L	0.00036	1.17%
Be 234.861†	7.5	0.00048	mg/L	0.000014	0.00048	mg/L	0.000014	2.85%
B 249.677†	6033.2	0.0659	mg/L	0.00189	0.0659	mg/L	0.00189	2.87%
Ca 227.546†	46436.0	122	mg/L	2.2	122	mg/L	2.2	1.80%
Cd 228.802†	-5.3	-0.00008	mg/L	0.000051	-0.00008	mg/L	0.000051	65.29%
Co 228.616†	68.8	0.00140	mg/L	0.000183	0.00140	mg/L	0.000183	13.09%
Cr 267.716†	129.1	0.00032	mg/L	0.000115	0.00032	mg/L	0.000115	36.32%
Cu 327.393†	515.9	0.00113	mg/L	0.000311	0.00113	mg/L	0.000311	27.38%
Fe 239.562†	341.6	0.0291	mg/L	0.00102	0.0291	mg/L	0.00102	3.50%
Mg 279.077†	47828.0	17.2	mg/L	1.26	17.2	mg/L	1.26	7.35%
Mn 257.610†	4206335.6	5.05	mg/L	0.022	5.05	mg/L	0.022	0.44%
Mo 202.031†	46.8	0.00182	mg/L	0.000521	0.00182	mg/L	0.000521	28.59%
Ni 231.604†	223.8	0.00210	mg/L	0.000104	0.00210	mg/L	0.000104	4.98%
Pb 220.353†	36.1	-0.00042	mg/L	0.002156	-0.00042	mg/L	0.002156	511.83%
Sb 206.836†	-0.9	-0.00019	mg/L	0.001115	-0.00019	mg/L	0.001115	574.53%
Se 196.026†	7.9	0.00419	mg/L	0.002042	0.00419	mg/L	0.002042	48.69%

Approved: November 20, 2012

Kim H. Rhoden

Si 251.611†	241568.2	5.11	mg/L	0.072	5.11	mg/L	0.072 1.42%
Sn 189.927†	-321.8	-0.0346	mg/L	0.00110	-0.0346	mg/L	0.00110 3.17%
Ti 334.940†	-23984.2	-0.00371	mg/L	0.001138	-0.00371	mg/L	0.001138 30.66%
Tl 190.801†	-22.6	-0.0145	mg/L	0.00282	-0.0145	mg/L	0.00282 19.38%
V 290.880†	400.6	-0.00059	mg/L	0.001936	-0.00059	mg/L	0.001936 327.01%
Zn 206.200†	376.5	0.00672	mg/L	0.000221	0.00672	mg/L	0.000221 3.29%
K 766.490†	3404.2	1.10	mg/L	0.070	1.10	mg/L	0.070 6.39%
Na 589.592†	911570.0	46.2	mg/L	3.96	46.2	mg/L	3.96 8.57%
Sr 407.771†	902850.9	0.374	mg/L	0.0190	0.374	mg/L	0.0190 5.08%
Li 670.784†	614.3	0.00163	mg/L	0.000847	0.00163	mg/L	0.000847 51.85%

Sequence No.: 60 **Autosampler Location: 101**
Sample ID: L1211049205S WG414642-04 **Date Collected: 11/19/2012 7:19:05 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1211049205S WG414642-04

Analyte	Back Pressure	Flow
All	177.0 kPa	0.50 L/min

Mean Data: L1211049205S WG414642-04

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2332863.6						16822.70	0.72%
YRADIAL	287950.0						2385.51	0.83%
Ga 417.206	1232404.6						25097.12	2.04%
GaRADIAL	77516.3						271.57	0.35%
Ag 328.068†	60115.2	0.185	mg/L	0.0057	0.185	mg/L	0.0057	3.08%
Al 396.153†	31266.2	4.68	mg/L	0.019	4.68	mg/L	0.019	0.40%
As 188.979†	472.4	0.169	mg/L	0.0041	0.169	mg/L	0.0041	2.45%
Ba 233.527†	71877.7	0.487	mg/L	0.0045	0.487	mg/L	0.0045	0.92%
Be 234.861†	25204.6	0.0228	mg/L	0.00055	0.0228	mg/L	0.00055	2.41%
B 249.677†	90175.2	0.962	mg/L	0.0326	0.962	mg/L	0.0326	3.38%
Ca 227.546†	49874.2	131	mg/L	4.7	131	mg/L	4.7	3.55%
Cd 228.802†	976.9	0.0212	mg/L	0.00093	0.0212	mg/L	0.00093	4.41%
Co 228.616†	3448.1	0.0932	mg/L	0.00057	0.0932	mg/L	0.00057	0.61%
Cr 267.716†	30276.4	0.233	mg/L	0.0016	0.233	mg/L	0.0016	0.71%
Cu 327.393†	61426.8	0.228	mg/L	0.0078	0.228	mg/L	0.0078	3.41%
Fe 239.562†	17929.6	1.88	mg/L	0.010	1.88	mg/L	0.010	0.55%
Mg 279.077†	60697.9	21.9	mg/L	0.21	21.9	mg/L	0.21	0.98%
Mn 257.610†	4236031.1	5.08	mg/L	0.052	5.08	mg/L	0.052	1.03%
Mo 202.031†	13713.5	0.465	mg/L	0.0029	0.465	mg/L	0.0029	0.63%
Ni 231.604†	14442.1	0.242	mg/L	0.0016	0.242	mg/L	0.0016	0.67%
Pb 220.353†	2463.3	0.232	mg/L	0.0022	0.232	mg/L	0.0022	0.93%
Sb 206.836†	1918.8	0.536	mg/L	0.0176	0.536	mg/L	0.0176	3.29%
Se 196.026†	291.1	0.179	mg/L	0.0062	0.179	mg/L	0.0062	3.49%
Si 251.611†	353002.0	7.46	mg/L	0.171	7.46	mg/L	0.171	2.29%
Sn 189.927†	4391.6	0.460	mg/L	0.0033	0.460	mg/L	0.0033	0.71%
Ti 334.940†	505800.9	0.472	mg/L	0.0012	0.472	mg/L	0.0012	0.25%
Tl 190.801†	662.4	0.226	mg/L	0.0038	0.226	mg/L	0.0038	1.68%
V 290.880†	110034.4	0.479	mg/L	0.0025	0.479	mg/L	0.0025	0.53%
Zn 206.200†	19646.3	0.442	mg/L	0.0071	0.442	mg/L	0.0071	1.61%
K 766.490†	73901.4	24.6	mg/L	0.19	24.6	mg/L	0.19	0.77%
Na 589.592†	1400357.8	71.8	mg/L	0.69	71.8	mg/L	0.69	0.96%
Sr 407.771†	2070692.0	0.864	mg/L	0.0024	0.864	mg/L	0.0024	0.28%
Li 670.784†	64903.1	0.485	mg/L	0.0017	0.485	mg/L	0.0017	0.35%

Sequence No.: 61 **Autosampler Location: 102**
Sample ID: L1211049206SD WG414642-05 **Date Collected: 11/19/2012 7:25:05 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1211049206SD WG414642-05

Analyte	Back Pressure	Flow
All	175.0 kPa	0.50 L/min

Approved: November 20, 2012

Kim H. Rhoden

Mean Data: L1211049206SD WG414642-05

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2335657.0						8062.63	0.35%
YRADIAL	284007.8						5352.34	1.88%
Ga 417.206	1232501.5						20153.43	1.64%
GaRADIAL	76539.8						927.28	1.21%
Ag 328.068†	60148.9	0.185	mg/L	0.0046	0.185	mg/L	0.0046	2.49%
Al 396.153†	31265.4	4.68	mg/L	0.022	4.68	mg/L	0.022	0.46%
As 188.979†	485.5	0.174	mg/L	0.0029	0.174	mg/L	0.0029	1.67%
Ba 233.527†	72207.7	0.489	mg/L	0.0032	0.489	mg/L	0.0032	0.66%
Be 234.861†	25290.5	0.0229	mg/L	0.00046	0.0229	mg/L	0.00046	2.00%
B 249.677†	90696.6	0.967	mg/L	0.0272	0.967	mg/L	0.0272	2.81%
Ca 227.546†	49935.7	131	mg/L	4.1	131	mg/L	4.1	3.11%
Cd 228.802†	974.9	0.0211	mg/L	0.00081	0.0211	mg/L	0.00081	3.81%
Co 228.616†	3447.8	0.0932	mg/L	0.00055	0.0932	mg/L	0.00055	0.59%
Cr 267.716†	30410.0	0.234	mg/L	0.0008	0.234	mg/L	0.0008	0.36%
Cu 327.393†	60776.9	0.226	mg/L	0.0076	0.226	mg/L	0.0076	3.38%
Fe 239.562†	17999.7	1.88	mg/L	0.007	1.88	mg/L	0.007	0.38%
Mg 279.077†	61785.4	22.3	mg/L	0.19	22.3	mg/L	0.19	0.85%
Mn 257.610†	4272842.3	5.13	mg/L	0.030	5.13	mg/L	0.030	0.59%
Mo 202.031†	13871.3	0.470	mg/L	0.0018	0.470	mg/L	0.0018	0.37%
Ni 231.604†	14445.4	0.242	mg/L	0.0003	0.242	mg/L	0.0003	0.14%
Pb 220.353†	2458.5	0.232	mg/L	0.0014	0.232	mg/L	0.0014	0.62%
Sb 206.836†	1920.0	0.536	mg/L	0.0160	0.536	mg/L	0.0160	2.99%
Se 196.026†	293.3	0.180	mg/L	0.0045	0.180	mg/L	0.0045	2.47%
Si 251.611†	354888.5	7.50	mg/L	0.114	7.50	mg/L	0.114	1.53%
Sn 189.927†	4392.4	0.460	mg/L	0.0038	0.460	mg/L	0.0038	0.83%
Ti 334.940†	506564.6	0.473	mg/L	0.0034	0.473	mg/L	0.0034	0.72%
Tl 190.801†	659.7	0.225	mg/L	0.0030	0.225	mg/L	0.0030	1.33%
V 290.880†	109614.6	0.477	mg/L	0.0028	0.477	mg/L	0.0028	0.60%
Zn 206.200†	20004.0	0.450	mg/L	0.0063	0.450	mg/L	0.0063	1.40%
K 766.490†	74032.8	24.6	mg/L	0.10	24.6	mg/L	0.10	0.42%
Na 589.592†	1399616.4	71.8	mg/L	0.48	71.8	mg/L	0.48	0.67%
Sr 407.771†	2064851.0	0.861	mg/L	0.0132	0.861	mg/L	0.0132	1.53%
Li 670.784†	65077.5	0.486	mg/L	0.0038	0.486	mg/L	0.0038	0.78%

Sequence No.: 62 **Autosampler Location: 103**
Sample ID: L1211049701 **Date Collected: 11/19/2012 7:31:05 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1211049701

Analyte	Back Pressure	Flow
All	176.0 kPa	0.50 L/min

Mean Data: L1211049701

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2375210.9						13734.52	0.58%
YRADIAL	283848.3						1895.02	0.67%
Ga 417.206	1286632.2						28500.22	2.22%
GaRADIAL	78117.9						2429.26	3.11%
Ag 328.068†	433.0	0.00054	mg/L	0.000488	0.00054	mg/L	0.000488	90.61%
Al 396.153†	23.2	-0.0123	mg/L	0.00193	-0.0123	mg/L	0.00193	15.66%
As 188.979†	-15.4	-0.00573	mg/L	0.000681	-0.00573	mg/L	0.000681	11.89%
Ba 233.527†	1862.2	0.0107	mg/L	0.00005	0.0107	mg/L	0.00005	0.43%
Be 234.861†	190.7	0.00015	mg/L	0.000027	0.00015	mg/L	0.000027	18.34%
B 249.677†	1419.4	0.0167	mg/L	0.00062	0.0167	mg/L	0.00062	3.74%
Ca 227.546†	22176.2	58.2	mg/L	1.61	58.2	mg/L	1.61	2.76%
Cd 228.802†	-5.3	-0.00008	mg/L	0.000064	-0.00008	mg/L	0.000064	76.02%
Co 228.616†	-9.2	-0.00075	mg/L	0.000341	-0.00075	mg/L	0.000341	45.48%
Cr 267.716†	79.8	-0.00006	mg/L	0.000096	-0.00006	mg/L	0.000096	151.22%
Cu 327.393†	116.7	-0.00034	mg/L	0.000135	-0.00034	mg/L	0.000135	39.81%
Fe 239.562†	66.7	0.00036	mg/L	0.000415	0.00036	mg/L	0.000415	113.93%
Mg 279.077†	23014.2	8.28	mg/L	0.080	8.28	mg/L	0.080	0.96%

Approved: November 20, 2012

Mn 257.610†	1072.2	-0.00087	mg/L	0.000154	-0.00087	mg/L	0.000154 17.76%
Mo 202.031†	49.0	0.00084	mg/L	0.000153	0.00084	mg/L	0.000153 18.26%
Ni 231.604†	26.2	-0.00123	mg/L	0.000360	-0.00123	mg/L	0.000360 29.16%
Pb 220.353†	29.6	0.00200	mg/L	0.000233	0.00200	mg/L	0.000233 11.64%
Sb 206.836†	-2.5	-0.00065	mg/L	0.000387	-0.00065	mg/L	0.000387 59.89%
Se 196.026†	-0.5	0.00056	mg/L	0.002395	0.00056	mg/L	0.002395 430.65%
Si 251.611†	144220.2	3.04	mg/L	0.051	3.04	mg/L	0.051 1.68%
Sn 189.927†	-276.9	-0.0299	mg/L	0.00083	-0.0299	mg/L	0.00083 2.79%
Ti 334.940†	-11391.4	-0.00198	mg/L	0.000586	-0.00198	mg/L	0.000586 29.63%
Tl 190.801†	-27.1	-0.0109	mg/L	0.00185	-0.0109	mg/L	0.00185 16.98%
V 290.880†	421.0	-0.00027	mg/L	0.000995	-0.00027	mg/L	0.000995 371.55%
Zn 206.200†	93.3	0.00035	mg/L	0.000159	0.00035	mg/L	0.000159 45.62%
K 766.490†	2513.0	0.848	mg/L	0.0202	0.848	mg/L	0.0202 2.38%
Na 589.592†	65087.6	3.23	mg/L	0.055	3.23	mg/L	0.055 1.72%
Sr 407.771†	175214.0	0.0695	mg/L	0.00163	0.0695	mg/L	0.00163 2.34%
Li 670.784†	109.1	-0.00216	mg/L	0.000665	-0.00216	mg/L	0.000665 30.76%

Sequence No.: 63 **Autosampler Location: 104**
Sample ID: L1211049701PS WG414695-01 **Date Collected: 11/19/2012 7:38:00 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1211049701PS WG414695-01

Analyte	Back Pressure	Flow
All	176.0 kPa	0.50 L/min

Mean Data: L1211049701PS WG414695-01

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2362312.6						603.88	0.03%
YRADIAL	287863.7						2098.33	0.73%
Ga 417.206	1230719.7						16679.71	1.36%
GaRADIAL	77002.4						1292.00	1.68%
Ag 328.068†	62454.9	0.193	mg/L	0.0033	0.193	mg/L	0.0033	1.71%
Al 396.153†	32296.9	4.84	mg/L	0.027	4.84	mg/L	0.027	0.56%
As 188.979†	499.0	0.178	mg/L	0.0024	0.178	mg/L	0.0024	1.35%
Ba 233.527†	72917.3	0.494	mg/L	0.0047	0.494	mg/L	0.0047	0.95%
Be 234.861†	26309.0	0.0233	mg/L	0.00035	0.0233	mg/L	0.00035	1.50%
B 249.677†	89301.0	0.952	mg/L	0.0124	0.952	mg/L	0.0124	1.31%
Ca 227.546†	22594.8	59.5	mg/L	1.00	59.5	mg/L	1.00	1.68%
Cd 228.802†	1029.3	0.0223	mg/L	0.00073	0.0223	mg/L	0.00073	3.28%
Co 228.616†	3597.1	0.0972	mg/L	0.00034	0.0972	mg/L	0.00034	0.35%
Cr 267.716†	31892.0	0.246	mg/L	0.0017	0.246	mg/L	0.0017	0.71%
Cu 327.393†	64146.5	0.238	mg/L	0.0030	0.238	mg/L	0.0030	1.26%
Fe 239.562†	18445.4	1.93	mg/L	0.009	1.93	mg/L	0.009	0.48%
Mg 279.077†	33420.0	12.0	mg/L	0.07	12.0	mg/L	0.07	0.61%
Mn 257.610†	210122.0	0.250	mg/L	0.0024	0.250	mg/L	0.0024	0.98%
Mo 202.031†	14342.3	0.485	mg/L	0.0024	0.485	mg/L	0.0024	0.49%
Ni 231.604†	15232.3	0.255	mg/L	0.0008	0.255	mg/L	0.0008	0.31%
Pb 220.353†	2604.1	0.249	mg/L	0.0015	0.249	mg/L	0.0015	0.61%
Sb 206.836†	2029.5	0.567	mg/L	0.0103	0.567	mg/L	0.0103	1.81%
Se 196.026†	306.3	0.190	mg/L	0.0043	0.190	mg/L	0.0043	2.26%
Si 251.611†	245485.5	5.18	mg/L	0.046	5.18	mg/L	0.046	0.89%
Sn 189.927†	-236.4	-0.0256	mg/L	0.00101	-0.0256	mg/L	0.00101	3.93%
Ti 334.940†	538305.0	0.491	mg/L	0.0020	0.491	mg/L	0.0020	0.41%
Tl 190.801†	722.1	0.251	mg/L	0.0026	0.251	mg/L	0.0026	1.03%
V 290.880†	114080.2	0.497	mg/L	0.0015	0.497	mg/L	0.0015	0.29%
Zn 206.200†	20763.7	0.467	mg/L	0.0070	0.467	mg/L	0.0070	1.49%
K 766.490†	74498.1	24.8	mg/L	0.12	24.8	mg/L	0.12	0.49%
Na 589.592†	533290.4	26.8	mg/L	0.40	26.8	mg/L	0.40	1.50%
Sr 407.771†	1361132.4	0.567	mg/L	0.0087	0.567	mg/L	0.0087	1.53%
Li 670.784†	66299.8	0.495	mg/L	0.0016	0.495	mg/L	0.0016	0.33%

Sequence No.: 64 **Autosampler Location: 105**
Sample ID: L1211049701DL WG414695-02 **Date Collected: 11/19/2012 7:44:00 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**

Approved: November 20, 2012

Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1211049701DL WG414695-02

Analyte	Back Pressure	Flow
All	176.0 kPa	0.50 L/min

Mean Data: L1211049701DL WG414695-02

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	2426295.9						22662.81	0.93%
YRADIAL	289393.2						4251.95	1.47%
Ga 417.206	1248725.7						910.31	0.07%
GaRADIAL	78107.8						1419.13	1.82%
Ag 328.068†	91.5	-0.00051	mg/L	0.000228	-0.00051	mg/L	0.000228	45.20%
Al 396.153†	11.2	-0.0141	mg/L	0.00166	-0.0141	mg/L	0.00166	11.81%
As 188.979†	-6.1	-0.00235	mg/L	0.001304	-0.00235	mg/L	0.001304	55.49%
Ba 233.527†	378.8	0.00062	mg/L	0.000101	0.00062	mg/L	0.000101	16.33%
Be 234.861†	108.3	0.00008	mg/L	0.000026	0.00008	mg/L	0.000026	34.31%
B 249.677†	745.5	0.00949	mg/L	0.000278	0.00949	mg/L	0.000278	2.93%
Ca 227.546†	4549.0	11.9	mg/L	0.05	11.9	mg/L	0.05	0.42%
Cd 228.802†	-10.0	-0.00021	mg/L	0.000049	-0.00021	mg/L	0.000049	23.98%
Co 228.616†	-7.5	-0.00072	mg/L	0.000292	-0.00072	mg/L	0.000292	40.61%
Cr 267.716†	31.0	-0.00044	mg/L	0.000155	-0.00044	mg/L	0.000155	35.15%
Cu 327.393†	47.2	-0.00059	mg/L	0.000217	-0.00059	mg/L	0.000217	36.78%
Fe 239.562†	13.7	-0.00508	mg/L	0.000149	-0.00508	mg/L	0.000149	2.93%
Mg 279.077†	4696.5	1.68	mg/L	0.018	1.68	mg/L	0.018	1.09%
Mn 257.610†	479.7	-0.00158	mg/L	0.000058	-0.00158	mg/L	0.000058	3.68%
Mo 202.031†	18.7	-0.00019	mg/L	0.000049	-0.00019	mg/L	0.000049	26.18%
Ni 231.604†	-2.9	-0.00173	mg/L	0.000059	-0.00173	mg/L	0.000059	3.44%
Pb 220.353†	14.7	0.00057	mg/L	0.000430	0.00057	mg/L	0.000430	75.31%
Sb 206.836†	-0.9	-0.00019	mg/L	0.000876	-0.00019	mg/L	0.000876	452.11%
Se 196.026†	5.1	0.00401	mg/L	0.001101	0.00401	mg/L	0.001101	27.46%
Si 251.611†	29524.9	0.615	mg/L	0.0056	0.615	mg/L	0.0056	0.91%
Sn 189.927†	-140.8	-0.0156	mg/L	0.00032	-0.0156	mg/L	0.00032	2.08%
Ti 334.940†	-2383.1	-0.00084	mg/L	0.000188	-0.00084	mg/L	0.000188	22.28%
Tl 190.801†	-15.0	-0.00667	mg/L	0.001692	-0.00667	mg/L	0.001692	25.37%
V 290.880†	136.8	-0.00134	mg/L	0.000846	-0.00134	mg/L	0.000846	63.15%
Zn 206.200†	121.9	0.00099	mg/L	0.000291	0.00099	mg/L	0.000291	29.44%
K 766.490†	527.5	0.191	mg/L	0.0079	0.191	mg/L	0.0079	4.13%
Na 589.592†	13146.9	0.652	mg/L	0.0142	0.652	mg/L	0.0142	2.18%
Sr 407.771†	35091.5	0.0116	mg/L	0.00031	0.0116	mg/L	0.00031	2.64%
Li 670.784†	21.3	-0.00282	mg/L	0.000620	-0.00282	mg/L	0.000620	21.97%

==========

Sequence No.: 65 **Autosampler Location: 6**
Sample ID: CCV **Date Collected: 11/19/2012 7:50:57 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.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	2405279.6						21730.35	0.90%
YRADIAL	283718.6						3478.73	1.23%
Ga 417.206	1199692.2						23163.00	1.93%
GaRADIAL	74590.3						830.57	1.11%
Ag 328.068†	126302.2	0.391	mg/L	0.0078	0.391	mg/L	0.0078	1.99%
QC value within limits for Ag 328.068 Recovery = 97.76%								
Al 396.153†	64473.2	9.67	mg/L	0.041	9.67	mg/L	0.041	0.42%
QC value within limits for Al 396.153 Recovery = 96.71%								
As 188.979†	1042.9	0.373	mg/L	0.0050	0.373	mg/L	0.0050	1.34%
QC value within limits for As 188.979 Recovery = 93.29%								
Ba 233.527†	145577.9	0.989	mg/L	0.0116	0.989	mg/L	0.0116	1.18%

Approved: November 20, 2012

QC value within limits for Ba 233.527 Recovery = 98.86%

Be 234.861†	53736.4	0.0477 mg/L	0.00068	0.0477 mg/L	0.00068	1.42%
QC value within limits for Be 234.861 Recovery = 95.35%							
B 249.677†	45015.2	0.478 mg/L	0.0110	0.478 mg/L	0.0110	2.31%
QC value within limits for B 249.677 Recovery = 95.61%							
Ca 227.546†	3610.4	9.93 mg/L	0.232	9.93 mg/L	0.232	2.34%
QC value within limits for Ca 227.546 Recovery = 99.28%							
Cd 228.802†	2131.5	0.0462 mg/L	0.00185	0.0462 mg/L	0.00185	4.01%
QC value within limits for Cd 228.802 Recovery = 92.46%							
Co 228.616†	7243.9	0.196 mg/L	0.0017	0.196 mg/L	0.0017	0.85%
QC value within limits for Co 228.616 Recovery = 98.17%							
Cr 267.716†	63418.5	0.489 mg/L	0.0029	0.489 mg/L	0.0029	0.60%
QC value within limits for Cr 267.716 Recovery = 97.82%							
Cu 327.393†	130927.7	0.487 mg/L	0.0106	0.487 mg/L	0.0106	2.18%
QC value within limits for Cu 327.393 Recovery = 97.45%							
Fe 239.562†	37192.0	3.90 mg/L	0.012	3.90 mg/L	0.012	0.30%
QC value within limits for Fe 239.562 Recovery = 97.52%							
Mg 279.077†	27322.2	9.85 mg/L	0.014	9.85 mg/L	0.014	0.14%
QC value within limits for Mg 279.077 Recovery = 98.47%							
Mn 257.610†	419433.3	0.502 mg/L	0.0075	0.502 mg/L	0.0075	1.49%
QC value within limits for Mn 257.610 Recovery = 100.37%							
Mo 202.031†	28564.6	0.966 mg/L	0.0089	0.966 mg/L	0.0089	0.92%
QC value within limits for Mo 202.031 Recovery = 96.64%							
Ni 231.604†	29470.1	0.495 mg/L	0.0067	0.495 mg/L	0.0067	1.36%
QC value within limits for Ni 231.604 Recovery = 98.99%							
Pb 220.353†	5133.4	0.491 mg/L	0.0041	0.491 mg/L	0.0041	0.83%
QC value within limits for Pb 220.353 Recovery = 98.18%							
Sb 206.836†	4054.6	1.13 mg/L	0.036	1.13 mg/L	0.036	3.20%
QC value within limits for Sb 206.836 Recovery = 94.38%							
Se 196.026†	617.2	0.382 mg/L	0.0106	0.382 mg/L	0.0106	2.77%
QC value within limits for Se 196.026 Recovery = 95.46%							
Si 251.611†	232288.8	4.90 mg/L	0.072	4.90 mg/L	0.072	1.47%
QC value within limits for Si 251.611 Recovery = 97.98%							
Sn 189.927†	9198.1	0.964 mg/L	0.0076	0.964 mg/L	0.0076	0.79%
QC value within limits for Sn 189.927 Recovery = 96.42%							
Ti 334.940†	1084233.3	0.972 mg/L	0.0023	0.972 mg/L	0.0023	0.24%
QC value within limits for Ti 334.940 Recovery = 97.21%							
Tl 190.801†	1447.2	0.505 mg/L	0.0031	0.505 mg/L	0.0031	0.61%
QC value within limits for Tl 190.801 Recovery = 101.05%							
V 290.880†	225926.0	0.986 mg/L	0.0087	0.986 mg/L	0.0087	0.88%
QC value within limits for V 290.880 Recovery = 98.58%							
Zn 206.200†	43116.5	0.972 mg/L	0.0047	0.972 mg/L	0.0047	0.48%
QC value within limits for Zn 206.200 Recovery = 97.19%							
K 766.490†	144775.5	48.5 mg/L	0.11	48.5 mg/L	0.11	0.23%
QC value within limits for K 766.490 Recovery = 96.98%							
Na 589.592†	956957.1	48.5 mg/L	1.00	48.5 mg/L	1.00	2.05%
QC value within limits for Na 589.592 Recovery = 97.08%							
Sr 407.771†	2422260.8	1.01 mg/L	0.020	1.01 mg/L	0.020	2.01%
QC value within limits for Sr 407.771 Recovery = 101.35%							
Li 670.784†	128737.6	0.964 mg/L	0.0028	0.964 mg/L	0.0028	0.29%
QC value within limits for Li 670.784 Recovery = 96.40%							

All analyte(s) passed QC.

==========

Sequence No.: 66 **Autosampler Location: 1**
Sample ID: CCB **Date Collected: 11/19/2012 7:56:58 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

Mean Data: CCB

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2495453.4						6935.48	0.28%
YRADIAL	290136.2						1696.10	0.58%
Ga 417.206	1236302.2						8783.78	0.71%

Approved: November 20, 2012

Kim H. Rhoden

GaRADIAL	78431.1					1759.96	2.24%
Ag 328.068†	-3.7	-0.00080 mg/L	0.000291	-0.00080 mg/L	0.000291	36.42%	
QC value within limits for Ag 328.068 Recovery = Not calculated							
Al 396.153†	14.3	-0.0135 mg/L	0.00155	-0.0135 mg/L	0.00155	11.41%	
QC value within limits for Al 396.153 Recovery = Not calculated							
As 188.979†	4.3	0.00144 mg/L	0.001576	0.00144 mg/L	0.001576	109.34%	
QC value within limits for As 188.979 Recovery = Not calculated							
Ba 233.527†	5.8	-0.00192 mg/L	0.000126	-0.00192 mg/L	0.000126	6.55%	
QC value within limits for Ba 233.527 Recovery = Not calculated							
Be 234.861†	93.2	0.00006 mg/L	0.000011	0.00006 mg/L	0.000011	17.16%	
QC value within limits for Be 234.861 Recovery = Not calculated							
B 249.677†	426.0	0.00608 mg/L	0.000285	0.00608 mg/L	0.000285	4.69%	
QC value within limits for B 249.677 Recovery = Not calculated							
Ca 227.546†	23.7	0.0632 mg/L	0.02253	0.0632 mg/L	0.02253	35.67%	
QC value within limits for Ca 227.546 Recovery = Not calculated							
Cd 228.802†	-7.2	-0.00016 mg/L	0.000031	-0.00016 mg/L	0.000031	18.96%	
QC value within limits for Cd 228.802 Recovery = Not calculated							
Co 228.616†	-12.0	-0.00085 mg/L	0.000081	-0.00085 mg/L	0.000081	9.59%	
QC value within limits for Co 228.616 Recovery = Not calculated							
Cr 267.716†	21.7	-0.00051 mg/L	0.000106	-0.00051 mg/L	0.000106	20.56%	
QC value within limits for Cr 267.716 Recovery = Not calculated							
Cu 327.393†	150.3	-0.00020 mg/L	0.000152	-0.00020 mg/L	0.000152	74.35%	
QC value within limits for Cu 327.393 Recovery = Not calculated							
Fe 239.562†	9.6	-0.00548 mg/L	0.000529	-0.00548 mg/L	0.000529	9.66%	
QC value within limits for Fe 239.562 Recovery = Not calculated							
Mg 279.077†	5.9	-0.00750 mg/L	0.001286	-0.00750 mg/L	0.001286	17.15%	
QC value within limits for Mg 279.077 Recovery = Not calculated							
Mn 257.610†	334.8	-0.00175 mg/L	0.000043	-0.00175 mg/L	0.000043	2.44%	
QC value within limits for Mn 257.610 Recovery = Not calculated							
Mo 202.031†	-1.2	-0.00086 mg/L	0.000215	-0.00086 mg/L	0.000215	24.99%	
QC value within limits for Mo 202.031 Recovery = Not calculated							
Ni 231.604†	-15.1	-0.00193 mg/L	0.000274	-0.00193 mg/L	0.000274	14.17%	
QC value within limits for Ni 231.604 Recovery = Not calculated							
Pb 220.353†	3.9	-0.00046 mg/L	0.000325	-0.00046 mg/L	0.000325	70.71%	
QC value within limits for Pb 220.353 Recovery = Not calculated							
Sb 206.836†	1.8	0.00056 mg/L	0.001458	0.00056 mg/L	0.001458	258.21%	
QC value within limits for Sb 206.836 Recovery = Not calculated							
Se 196.026†	9.3	0.00656 mg/L	0.002902	0.00656 mg/L	0.002902	44.21%	
QC value within limits for Se 196.026 Recovery = Not calculated							
Si 251.611†	-3.2	-0.0103 mg/L	0.00031	-0.0103 mg/L	0.00031	3.00%	
QC value within limits for Si 251.611 Recovery = Not calculated							
Sn 189.927†	-34.4	-0.00445 mg/L	0.000696	-0.00445 mg/L	0.000696	15.64%	
QC value within limits for Sn 189.927 Recovery = Not calculated							
Ti 334.940†	181.6	-0.00033 mg/L	0.000103	-0.00033 mg/L	0.000103	31.41%	
QC value within limits for Ti 334.940 Recovery = Not calculated							
Tl 190.801†	-2.4	-0.00234 mg/L	0.000341	-0.00234 mg/L	0.000341	14.58%	
QC value within limits for Tl 190.801 Recovery = Not calculated							
V 290.880†	-256.4	-0.00302 mg/L	0.000997	-0.00302 mg/L	0.000997	33.04%	
QC value within limits for V 290.880 Recovery = Not calculated							
Zn 206.200†	16.8	-0.00138 mg/L	0.000194	-0.00138 mg/L	0.000194	14.11%	
QC value within limits for Zn 206.200 Recovery = Not calculated							
K 766.490†	76.2	0.0420 mg/L	0.00817	0.0420 mg/L	0.00817	19.44%	
QC value within limits for K 766.490 Recovery = Not calculated							
Na 589.592†	465.2	0.0226 mg/L	0.00386	0.0226 mg/L	0.00386	17.11%	
QC value within limits for Na 589.592 Recovery = Not calculated							
Sr 407.771†	282.3	-0.00274 mg/L	0.000032	-0.00274 mg/L	0.000032	1.17%	
QC value within limits for Sr 407.771 Recovery = Not calculated							
Li 670.784†	112.0	-0.00214 mg/L	0.000176	-0.00214 mg/L	0.000176	8.20%	
QC value within limits for Li 670.784 Recovery = Not calculated							

All analyte(s) passed QC.

==========

Sequence No.: 67 **Autosampler Location: 106**
Sample ID: L1211050601 **Date Collected: 11/19/2012 8:03:51 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1211050601

Analyte	Back Pressure	Flow
All	177.0 kPa	0.50 L/min

Approved: November 20, 2012

Kim H. Rhoden

Mean Data: L1211050601

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2447261.7						9993.23	0.41%
YRADIAL	290679.2						7388.31	2.54%
Ga 417.206	1256804.7						22974.97	1.83%
GaRADIAL	79472.6						713.35	0.90%
Ag 328.068†	34.7	-0.00067	mg/L	0.000414	-0.00067	mg/L	0.000414	61.37%
Al 396.153†	20.4	-0.0126	mg/L	0.00074	-0.0126	mg/L	0.00074	5.86%
As 188.979†	-3.4	-0.00134	mg/L	0.001489	-0.00134	mg/L	0.001489	111.00%
Ba 233.527†	-3.8	-0.00199	mg/L	0.000146	-0.00199	mg/L	0.000146	7.35%
Be 234.861†	105.9	0.00007	mg/L	0.000047	0.00007	mg/L	0.000047	63.84%
B 249.677†	375.5	0.00554	mg/L	0.000275	0.00554	mg/L	0.000275	4.98%
Ca 227.546†	64.7	0.171	mg/L	0.0431	0.171	mg/L	0.0431	25.19%
Cd 228.802†	-5.3	-0.00011	mg/L	0.000095	-0.00011	mg/L	0.000095	89.42%
Co 228.616†	-13.5	-0.00089	mg/L	0.000176	-0.00089	mg/L	0.000176	19.86%
Cr 267.716†	39.7	-0.00037	mg/L	0.000076	-0.00037	mg/L	0.000076	20.39%
Cu 327.393†	279.0	0.00027	mg/L	0.000459	0.00027	mg/L	0.000459	166.98%
Fe 239.562†	30.0	-0.00333	mg/L	0.001002	-0.00333	mg/L	0.001002	30.12%
Mg 279.077†	10.7	-0.00576	mg/L	0.002288	-0.00576	mg/L	0.002288	39.75%
Mn 257.610†	489.0	-0.00157	mg/L	0.000070	-0.00157	mg/L	0.000070	4.49%
Mo 202.031†	-4.9	-0.00099	mg/L	0.000078	-0.00099	mg/L	0.000078	7.93%
Ni 231.604†	8.7	-0.00153	mg/L	0.000101	-0.00153	mg/L	0.000101	6.61%
Pb 220.353†	14.4	0.00054	mg/L	0.000669	0.00054	mg/L	0.000669	123.57%
Sb 206.836†	5.9	0.00169	mg/L	0.000703	0.00169	mg/L	0.000703	41.56%
Se 196.026†	4.0	0.00333	mg/L	0.000366	0.00333	mg/L	0.000366	10.98%
Si 251.611†	7795.3	0.155	mg/L	0.0060	0.155	mg/L	0.0060	3.91%
Sn 189.927†	-36.3	-0.00465	mg/L	0.000332	-0.00465	mg/L	0.000332	7.14%
Ti 334.940†	33.3	-0.00044	mg/L	0.000131	-0.00044	mg/L	0.000131	29.50%
Tl 190.801†	-9.0	-0.00460	mg/L	0.001681	-0.00460	mg/L	0.001681	36.52%
V 290.880†	365.1	-0.00030	mg/L	0.001966	-0.00030	mg/L	0.001966	662.64%
Zn 206.200†	85.2	0.00016	mg/L	0.000083	0.00016	mg/L	0.000083	50.75%
K 766.490†	182.2	0.0754	mg/L	0.02140	0.0754	mg/L	0.02140	28.40%
Na 589.592†	37952.1	1.88	mg/L	0.033	1.88	mg/L	0.033	1.76%
Sr 407.771†	855.1	-0.00251	mg/L	0.000028	-0.00251	mg/L	0.000028	1.13%
Li 670.784†	11.0	-0.00290	mg/L	0.000417	-0.00290	mg/L	0.000417	14.38%

Sequence No.: 68 **Autosampler Location: 107**
Sample ID: L1211050602 **Date Collected: 11/19/2012 8:10:48 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1211050602

Analyte	Back Pressure	Flow
All	176.0 kPa	0.50 L/min

Mean Data: L1211050602

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2438727.6						37949.75	1.56%
YRADIAL	284344.6						3092.67	1.09%
Ga 417.206	1248370.9						34920.79	2.80%
GaRADIAL	77564.6						1488.84	1.92%
Ag 328.068†	-52.6	-0.00094	mg/L	0.000212	-0.00094	mg/L	0.000212	22.54%
Al 396.153†	35.1	-0.0104	mg/L	0.00069	-0.0104	mg/L	0.00069	6.63%
As 188.979†	1.1	0.00027	mg/L	0.001700	0.00027	mg/L	0.001700	635.81%
Ba 233.527†	-3.7	-0.00199	mg/L	0.000143	-0.00199	mg/L	0.000143	7.17%
Be 234.861†	114.4	0.00008	mg/L	0.000042	0.00008	mg/L	0.000042	52.09%
B 249.677†	310.9	0.00484	mg/L	0.000197	0.00484	mg/L	0.000197	4.06%
Ca 227.546†	69.0	0.182	mg/L	0.0330	0.182	mg/L	0.0330	18.12%
Cd 228.802†	-1.8	-0.00004	mg/L	0.000116	-0.00004	mg/L	0.000116	318.24%
Co 228.616†	-12.5	-0.00086	mg/L	0.000266	-0.00086	mg/L	0.000266	30.93%
Cr 267.716†	35.2	-0.00041	mg/L	0.000106	-0.00041	mg/L	0.000106	25.94%
Cu 327.393†	342.2	0.00051	mg/L	0.000264	0.00051	mg/L	0.000264	51.86%
Fe 239.562†	61.3	-0.00003	mg/L	0.000421	-0.00003	mg/L	0.000421	>999.9%
Mg 279.077†	13.0	-0.00492	mg/L	0.001685	-0.00492	mg/L	0.001685	34.25%

Approved: November 20, 2012

Kim H. Rhoden

Mn 257.610†	496.6	-0.00156	mg/L	0.000044	-0.00156	mg/L	0.000044 2.81%
Mo 202.031†	-1.6	-0.00088	mg/L	0.000113	-0.00088	mg/L	0.000113 12.91%
Ni 231.604†	0.5	-0.00167	mg/L	0.000366	-0.00167	mg/L	0.000366 21.89%
Pb 220.353†	11.1	0.00023	mg/L	0.001087	0.00023	mg/L	0.001087 482.20%
Sb 206.836†	4.4	0.00127	mg/L	0.001319	0.00127	mg/L	0.001319 103.63%
Se 196.026†	7.5	0.00549	mg/L	0.001312	0.00549	mg/L	0.001312 23.88%
Si 251.611†	7621.7	0.151	mg/L	0.0057	0.151	mg/L	0.0057 3.76%
Sn 189.927†	-38.9	-0.00492	mg/L	0.000097	-0.00492	mg/L	0.000097 1.97%
Ti 334.940†	129.0	-0.00036	mg/L	0.000091	-0.00036	mg/L	0.000091 25.60%
Tl 190.801†	-6.2	-0.00363	mg/L	0.001738	-0.00363	mg/L	0.001738 47.88%
V 290.880†	230.4	-0.00089	mg/L	0.000725	-0.00089	mg/L	0.000725 81.78%
Zn 206.200†	83.0	0.00011	mg/L	0.000165	0.00011	mg/L	0.000165 144.13%
K 766.490†	198.5	0.0808	mg/L	0.01878	0.0808	mg/L	0.01878 23.25%
Na 589.592†	38116.0	1.89	mg/L	0.055	1.89	mg/L	0.055 2.91%
Sr 407.771†	951.2	-0.00247	mg/L	0.000012	-0.00247	mg/L	0.000012 0.48%
Li 670.784†	-66.9	-0.00348	mg/L	0.000755	-0.00348	mg/L	0.000755 21.67%

Sequence No.: 69 **Autosampler Location: 108**
Sample ID: L1211050603 **Date Collected: 11/19/2012 8:17:43 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1211050603

Analyte	Back Pressure	Flow
All	176.0 kPa	0.50 L/min

Mean Data: L1211050603

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2432525.5						9559.54	0.39%
YRADIAL	291381.1						7643.53	2.62%
Ga 417.206	1258764.8						16409.21	1.30%
GaRADIAL	79032.7						807.47	1.02%
Ag 328.068†	-14.1	-0.00081	mg/L	0.000507	-0.00081	mg/L	0.000507	62.21%
Al 396.153†	106.9	0.00047	mg/L	0.000728	0.00047	mg/L	0.000728	155.67%
As 188.979†	-4.2	-0.00162	mg/L	0.000854	-0.00162	mg/L	0.000854	52.57%
Ba 233.527†	4.7	-0.00193	mg/L	0.000119	-0.00193	mg/L	0.000119	6.14%
Be 234.861†	116.2	0.00008	mg/L	0.000029	0.00008	mg/L	0.000029	37.87%
B 249.677†	253.7	0.00422	mg/L	0.000104	0.00422	mg/L	0.000104	2.47%
Ca 227.546†	58.8	0.156	mg/L	0.0079	0.156	mg/L	0.0079	5.07%
Cd 228.802†	-2.7	-0.00005	mg/L	0.000117	-0.00005	mg/L	0.000117	247.68%
Co 228.616†	-12.3	-0.00086	mg/L	0.000159	-0.00086	mg/L	0.000159	18.57%
Cr 267.716†	34.5	-0.00041	mg/L	0.000119	-0.00041	mg/L	0.000119	28.71%
Cu 327.393†	204.9	0.00000	mg/L	0.000386	0.00000	mg/L	0.000386	>999.9%
Fe 239.562†	255.4	0.0204	mg/L	0.00116	0.0204	mg/L	0.00116	5.68%
Mg 279.077†	16.1	-0.00382	mg/L	0.002754	-0.00382	mg/L	0.002754	72.04%
Mn 257.610†	760.2	-0.00124	mg/L	0.000021	-0.00124	mg/L	0.000021	1.70%
Mo 202.031†	-3.5	-0.00094	mg/L	0.000150	-0.00094	mg/L	0.000150	16.05%
Ni 231.604†	6.3	-0.00157	mg/L	0.000227	-0.00157	mg/L	0.000227	14.42%
Pb 220.353†	2.3	-0.00062	mg/L	0.001536	-0.00062	mg/L	0.001536	249.71%
Sb 206.836†	-0.7	-0.00015	mg/L	0.000923	-0.00015	mg/L	0.000923	625.21%
Se 196.026†	4.6	0.00369	mg/L	0.001065	0.00369	mg/L	0.001065	28.88%
Si 251.611†	8378.3	0.167	mg/L	0.0033	0.167	mg/L	0.0033	1.96%
Sn 189.927†	-36.2	-0.00464	mg/L	0.000668	-0.00464	mg/L	0.000668	14.41%
Ti 334.940†	164.0	-0.00033	mg/L	0.000076	-0.00033	mg/L	0.000076	22.94%
Tl 190.801†	-2.0	-0.00222	mg/L	0.004031	-0.00222	mg/L	0.004031	181.60%
V 290.880†	233.0	-0.00088	mg/L	0.001497	-0.00088	mg/L	0.001497	170.88%
Zn 206.200†	98.0	0.00045	mg/L	0.000097	0.00045	mg/L	0.000097	21.60%
K 766.490†	197.1	0.0803	mg/L	0.02039	0.0803	mg/L	0.02039	25.39%
Na 589.592†	38255.3	1.90	mg/L	0.042	1.90	mg/L	0.042	2.21%
Sr 407.771†	929.2	-0.00248	mg/L	0.000009	-0.00248	mg/L	0.000009	0.38%
Li 670.784†	29.6	-0.00276	mg/L	0.000409	-0.00276	mg/L	0.000409	14.83%

Sequence No.: 70 **Autosampler Location: 109**
Sample ID: L1211050604 **Date Collected: 11/19/2012 8:24:38 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**

Approved: November 20, 2012

Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1211050604

Analyte	Back Pressure	Flow
All	176.0 kPa	0.50 L/min

Mean Data: L1211050604

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Calib. Std.Dev.	Sample Conc.	Sample Units	Sample Std.Dev.	Sample RSD
Y 371.029	2450972.1						32829.55	1.34%
YRADIAL	290110.3						5912.58	2.04%
Ga 417.206	1264971.4						14720.47	1.16%
GaRADIAL	79224.1						987.80	1.25%
Ag 328.068†	48.6	-0.00063	mg/L	0.000313	-0.00063	mg/L	0.000313	49.60%
Al 396.153†	33.5	-0.0106	mg/L	0.00093	-0.0106	mg/L	0.00093	8.73%
As 188.979†	0.8	0.00015	mg/L	0.001977	0.00015	mg/L	0.001977	>999.9%
Ba 233.527†	-8.3	-0.00202	mg/L	0.000113	-0.00202	mg/L	0.000113	5.61%
Be 234.861†	107.1	0.00007	mg/L	0.000016	0.00007	mg/L	0.000016	21.34%
B 249.677†	206.3	0.00373	mg/L	0.000271	0.00373	mg/L	0.000271	7.25%
Ca 227.546†	57.9	0.153	mg/L	0.0292	0.153	mg/L	0.0292	19.11%
Cd 228.802†	-8.0	-0.00017	mg/L	0.000035	-0.00017	mg/L	0.000035	20.13%
Co 228.616†	-8.6	-0.00075	mg/L	0.000068	-0.00075	mg/L	0.000068	9.04%
Cr 267.716†	27.1	-0.00047	mg/L	0.000083	-0.00047	mg/L	0.000083	17.54%
Cu 327.393†	194.8	-0.00004	mg/L	0.000505	-0.00004	mg/L	0.000505	>999.9%
Fe 239.562†	47.5	-0.00149	mg/L	0.000603	-0.00149	mg/L	0.000603	40.54%
Mg 279.077†	6.2	-0.00739	mg/L	0.002010	-0.00739	mg/L	0.002010	27.20%
Mn 257.610†	402.5	-0.00167	mg/L	0.000008	-0.00167	mg/L	0.000008	0.47%
Mo 202.031†	-2.6	-0.00091	mg/L	0.000289	-0.00091	mg/L	0.000289	31.87%
Ni 231.604†	2.0	-0.00164	mg/L	0.000160	-0.00164	mg/L	0.000160	9.73%
Pb 220.353†	10.4	0.00016	mg/L	0.001191	0.00016	mg/L	0.001191	751.09%
Sb 206.836†	1.5	0.00047	mg/L	0.000390	0.00047	mg/L	0.000390	83.71%
Se 196.026†	5.4	0.00422	mg/L	0.003542	0.00422	mg/L	0.003542	83.89%
Si 251.611†	7493.3	0.148	mg/L	0.0021	0.148	mg/L	0.0021	1.44%
Sn 189.927†	-37.2	-0.00475	mg/L	0.000609	-0.00475	mg/L	0.000609	12.83%
Ti 334.940†	-31.6	-0.00051	mg/L	0.000030	-0.00051	mg/L	0.000030	5.92%
Tl 190.801†	-11.4	-0.00543	mg/L	0.000593	-0.00543	mg/L	0.000593	10.93%
V 290.880†	214.9	-0.00095	mg/L	0.001797	-0.00095	mg/L	0.001797	188.30%
Zn 206.200†	81.5	0.00008	mg/L	0.000064	0.00008	mg/L	0.000064	80.69%
K 766.490†	163.6	0.0692	mg/L	0.01030	0.0692	mg/L	0.01030	14.88%
Na 589.592†	37415.4	1.86	mg/L	0.043	1.86	mg/L	0.043	2.31%
Sr 407.771†	815.3	-0.00252	mg/L	0.000020	-0.00252	mg/L	0.000020	0.78%
Li 670.784†	-15.4	-0.00310	mg/L	0.000130	-0.00310	mg/L	0.000130	4.20%

==========

Sequence No.: 71 **Autosampler Location: 6**
Sample ID: CCV **Date Collected: 11/19/2012 8:31:33 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.	Calib. Units	Calib. Std.Dev.	Sample Conc.	Sample Units	Sample Std.Dev.	Sample RSD
Y 371.029	2362612.8						9454.62	0.40%
YRADIAL	285869.6						2070.24	0.72%
Ga 417.206	1185311.1						27032.88	2.28%
GaRADIAL	75202.7						613.60	0.82%
Ag 328.068†	126833.5	0.393	mg/L	0.0125	0.393	mg/L	0.0125	3.18%
QC value within limits for Ag 328.068 Recovery = 98.17%								
Al 396.153†	64751.2	9.71	mg/L	0.039	9.71	mg/L	0.039	0.40%
QC value within limits for Al 396.153 Recovery = 97.12%								
As 188.979†	1058.6	0.379	mg/L	0.0104	0.379	mg/L	0.0104	2.74%
QC value within limits for As 188.979 Recovery = 94.70%								
Ba 233.527†	146677.1	0.996	mg/L	0.0052	0.996	mg/L	0.0052	0.52%

Approved: November 20, 2012

QC value within limits for Ba 233.527 Recovery = 99.61%

Be 234.861†	54063.9	0.0480 mg/L	0.00128	0.0480 mg/L	0.00128	2.68%
QC value within limits for Be 234.861 Recovery = 95.95%							
B 249.677†	44868.4	0.476 mg/L	0.0178	0.476 mg/L	0.0178	3.74%
QC value within limits for B 249.677 Recovery = 95.29%							
Ca 227.546†	3680.1	10.1 mg/L	0.30	10.1 mg/L	0.30	2.95%
QC value within limits for Ca 227.546 Recovery = 101.12%							
Cd 228.802†	2162.8	0.0469 mg/L	0.00177	0.0469 mg/L	0.00177	3.77%
QC value within limits for Cd 228.802 Recovery = 93.82%							
Co 228.616†	7380.4	0.200 mg/L	0.0012	0.200 mg/L	0.0012	0.58%
QC value within limits for Co 228.616 Recovery = 100.03%							
Cr 267.716†	63820.2	0.492 mg/L	0.0062	0.492 mg/L	0.0062	1.26%
QC value within limits for Cr 267.716 Recovery = 98.44%							
Cu 327.393†	132156.3	0.492 mg/L	0.0164	0.492 mg/L	0.0164	3.33%
QC value within limits for Cu 327.393 Recovery = 98.36%							
Fe 239.562†	37123.3	3.89 mg/L	0.022	3.89 mg/L	0.022	0.56%
QC value within limits for Fe 239.562 Recovery = 97.34%							
Mg 279.077†	27039.5	9.75 mg/L	0.033	9.75 mg/L	0.033	0.34%
QC value within limits for Mg 279.077 Recovery = 97.45%							
Mn 257.610†	422644.5	0.506 mg/L	0.0006	0.506 mg/L	0.0006	0.12%
QC value within limits for Mn 257.610 Recovery = 101.14%							
Mo 202.031†	28789.0	0.974 mg/L	0.0089	0.974 mg/L	0.0089	0.91%
QC value within limits for Mo 202.031 Recovery = 97.40%							
Ni 231.604†	29598.7	0.497 mg/L	0.0012	0.497 mg/L	0.0012	0.24%
QC value within limits for Ni 231.604 Recovery = 99.42%							
Pb 220.353†	5231.6	0.500 mg/L	0.0012	0.500 mg/L	0.0012	0.23%
QC value within limits for Pb 220.353 Recovery = 100.06%							
Sb 206.836†	4119.4	1.15 mg/L	0.039	1.15 mg/L	0.039	3.38%
QC value within limits for Sb 206.836 Recovery = 95.89%							
Se 196.026†	620.3	0.384 mg/L	0.0098	0.384 mg/L	0.0098	2.55%
QC value within limits for Se 196.026 Recovery = 95.93%							
Si 251.611†	233453.1	4.92 mg/L	0.109	4.92 mg/L	0.109	2.22%
QC value within limits for Si 251.611 Recovery = 98.47%							
Sn 189.927†	9368.9	0.982 mg/L	0.0047	0.982 mg/L	0.0047	0.48%
QC value within limits for Sn 189.927 Recovery = 98.21%							
Ti 334.940†	1091522.6	0.979 mg/L	0.0027	0.979 mg/L	0.0027	0.27%
QC value within limits for Ti 334.940 Recovery = 97.87%							
Tl 190.801†	1467.6	0.512 mg/L	0.0021	0.512 mg/L	0.0021	0.41%
QC value within limits for Tl 190.801 Recovery = 102.46%							
V 290.880†	228253.7	0.996 mg/L	0.0145	0.996 mg/L	0.0145	1.46%
QC value within limits for V 290.880 Recovery = 99.60%							
Zn 206.200†	43076.5	0.971 mg/L	0.0046	0.971 mg/L	0.0046	0.48%
QC value within limits for Zn 206.200 Recovery = 97.11%							
K 766.490†	145788.5	48.8 mg/L	0.30	48.8 mg/L	0.30	0.62%
QC value within limits for K 766.490 Recovery = 97.67%							
Na 589.592†	951025.7	48.2 mg/L	0.73	48.2 mg/L	0.73	1.51%
QC value within limits for Na 589.592 Recovery = 96.46%							
Sr 407.771†	2419682.6	1.01 mg/L	0.021	1.01 mg/L	0.021	2.03%
QC value within limits for Sr 407.771 Recovery = 101.24%							
Li 670.784†	130935.6	0.981 mg/L	0.0083	0.981 mg/L	0.0083	0.84%
QC value within limits for Li 670.784 Recovery = 98.06%							

All analyte(s) passed QC.

==========

Sequence No.: 72 **Autosampler Location: 1**
Sample ID: CCB **Date Collected: 11/19/2012 8:37:34 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

Mean Data: CCB

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2469828.8						16608.11	0.67%
YRADIAL	286281.7						2270.86	0.79%
Ga 417.206	1227433.2						28027.40	2.28%

Approved: November 20, 2012

Kim H. Rhoden

GaRADIAL	77180.0					1903.28	2.47%
Ag 328.068†	-75.5	-0.00102 mg/L	0.000415	-0.00102 mg/L	0.000415	40.87%	
QC value within limits for Ag 328.068 Recovery = Not calculated							
Al 396.153†	25.2	-0.0119 mg/L	0.00142	-0.0119 mg/L	0.00142	11.93%	
QC value within limits for Al 396.153 Recovery = Not calculated							
As 188.979†	2.6	0.00082 mg/L	0.002069	0.00082 mg/L	0.002069	253.21%	
QC value within limits for As 188.979 Recovery = Not calculated							
Ba 233.527†	8.3	-0.00191 mg/L	0.000066	-0.00191 mg/L	0.000066	3.47%	
QC value within limits for Ba 233.527 Recovery = Not calculated							
Be 234.861†	55.1	0.00003 mg/L	0.000031	0.00003 mg/L	0.000031	108.71%	
QC value within limits for Be 234.861 Recovery = Not calculated							
B 249.677†	236.6	0.00405 mg/L	0.000299	0.00405 mg/L	0.000299	7.39%	
QC value within limits for B 249.677 Recovery = Not calculated							
Ca 227.546†	20.5	0.0547 mg/L	0.02817	0.0547 mg/L	0.02817	51.49%	
QC value within limits for Ca 227.546 Recovery = Not calculated							
Cd 228.802†	-5.1	-0.00011 mg/L	0.000115	-0.00011 mg/L	0.000115	101.57%	
QC value within limits for Cd 228.802 Recovery = Not calculated							
Co 228.616†	-8.1	-0.00074 mg/L	0.000256	-0.00074 mg/L	0.000256	34.52%	
QC value within limits for Co 228.616 Recovery = Not calculated							
Cr 267.716†	27.4	-0.00047 mg/L	0.000086	-0.00047 mg/L	0.000086	18.29%	
QC value within limits for Cr 267.716 Recovery = Not calculated							
Cu 327.393†	195.8	-0.00003 mg/L	0.000272	-0.00003 mg/L	0.000272	777.17%	
QC value within limits for Cu 327.393 Recovery = Not calculated							
Fe 239.562†	15.4	-0.00486 mg/L	0.000137	-0.00486 mg/L	0.000137	2.82%	
QC value within limits for Fe 239.562 Recovery = Not calculated							
Mg 279.077†	13.9	-0.00461 mg/L	0.001564	-0.00461 mg/L	0.001564	33.95%	
QC value within limits for Mg 279.077 Recovery = Not calculated							
Mn 257.610†	328.5	-0.00176 mg/L	0.000018	-0.00176 mg/L	0.000018	1.02%	
QC value within limits for Mn 257.610 Recovery = Not calculated							
Mo 202.031†	-0.4	-0.00083 mg/L	0.000285	-0.00083 mg/L	0.000285	34.17%	
QC value within limits for Mo 202.031 Recovery = Not calculated							
Ni 231.604†	-6.4	-0.00179 mg/L	0.000264	-0.00179 mg/L	0.000264	14.78%	
QC value within limits for Ni 231.604 Recovery = Not calculated							
Pb 220.353†	13.2	0.00043 mg/L	0.000441	0.00043 mg/L	0.000441	103.29%	
QC value within limits for Pb 220.353 Recovery = Not calculated							
Sb 206.836†	4.8	0.00139 mg/L	0.000768	0.00139 mg/L	0.000768	55.10%	
QC value within limits for Sb 206.836 Recovery = Not calculated							
Se 196.026†	7.4	0.00544 mg/L	0.001977	0.00544 mg/L	0.001977	36.38%	
QC value within limits for Se 196.026 Recovery = Not calculated							
Si 251.611†	2.8	-0.0102 mg/L	0.00053	-0.0102 mg/L	0.00053	5.18%	
QC value within limits for Si 251.611 Recovery = Not calculated							
Sn 189.927†	-31.5	-0.00414 mg/L	0.000307	-0.00414 mg/L	0.000307	7.41%	
QC value within limits for Sn 189.927 Recovery = Not calculated							
Ti 334.940†	259.6	-0.00026 mg/L	0.000030	-0.00026 mg/L	0.000030	11.61%	
QC value within limits for Ti 334.940 Recovery = Not calculated							
Tl 190.801†	-6.4	-0.00370 mg/L	0.001927	-0.00370 mg/L	0.001927	52.03%	
QC value within limits for Tl 190.801 Recovery = Not calculated							
V 290.880†	40.1	-0.00172 mg/L	0.001835	-0.00172 mg/L	0.001835	106.77%	
QC value within limits for V 290.880 Recovery = Not calculated							
Zn 206.200†	14.8	-0.00142 mg/L	0.000142	-0.00142 mg/L	0.000142	9.98%	
QC value within limits for Zn 206.200 Recovery = Not calculated							
K 766.490†	122.0	0.0572 mg/L	0.02058	0.0572 mg/L	0.02058	35.97%	
QC value within limits for K 766.490 Recovery = Not calculated							
Na 589.592†	489.9	0.0238 mg/L	0.00098	0.0238 mg/L	0.00098	4.14%	
QC value within limits for Na 589.592 Recovery = Not calculated							
Sr 407.771†	649.3	-0.00259 mg/L	0.000080	-0.00259 mg/L	0.000080	3.09%	
QC value within limits for Sr 407.771 Recovery = Not calculated							
Li 670.784†	56.4	-0.00256 mg/L	0.000327	-0.00256 mg/L	0.000327	12.79%	
QC value within limits for Li 670.784 Recovery = Not calculated							

All analyte(s) passed QC.

Sequence No.: 73 **Autosampler Location: 110**
Sample ID: PBW 52 WG414640-02 **Date Collected: 11/19/2012 8:44:27 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: PBW 52 WG414640-02

Analyte	Back Pressure	Flow
All	177.0 kPa	0.50 L/min

Approved: November 20, 2012

Kim H. Rhoden

Mean Data: PBW 52 WG414640-02

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2453090.0						24286.03	0.99%
YRADIAL	284950.1						3855.64	1.35%
Ga 417.206	1252542.5						17345.96	1.38%
GaRADIAL	77030.9						1412.75	1.83%
Ag 328.068†	6.9	-0.00076	mg/L	0.000294	-0.00076	mg/L	0.000294	38.55%
Al 396.153†	22.1	-0.0124	mg/L	0.00176	-0.0124	mg/L	0.00176	14.26%
As 188.979†	-0.0	-0.00014	mg/L	0.000650	-0.00014	mg/L	0.000650	480.50%
Ba 233.527†	112.4	-0.00120	mg/L	0.000136	-0.00120	mg/L	0.000136	11.39%
Be 234.861†	112.3	0.00008	mg/L	0.000013	0.00008	mg/L	0.000013	16.66%
B 249.677†	117.3	0.00279	mg/L	0.000280	0.00279	mg/L	0.000280	10.06%
Ca 227.546†	40.4	0.107	mg/L	0.0062	0.107	mg/L	0.0062	5.82%
Cd 228.802†	-8.6	-0.00019	mg/L	0.000098	-0.00019	mg/L	0.000098	52.27%
Co 228.616†	-14.8	-0.00092	mg/L	0.000137	-0.00092	mg/L	0.000137	14.79%
Cr 267.716†	-1.6	-0.00069	mg/L	0.000033	-0.00069	mg/L	0.000033	4.76%
Cu 327.393†	149.1	-0.00021	mg/L	0.000304	-0.00021	mg/L	0.000304	145.95%
Fe 239.562†	4.2	-0.00604	mg/L	0.000262	-0.00604	mg/L	0.000262	4.34%
Mg 279.077†	4.4	-0.00804	mg/L	0.002393	-0.00804	mg/L	0.002393	29.77%
Mn 257.610†	366.1	-0.00171	mg/L	0.000028	-0.00171	mg/L	0.000028	1.64%
Mo 202.031†	-5.5	-0.00101	mg/L	0.000299	-0.00101	mg/L	0.000299	29.73%
Ni 231.604†	-3.6	-0.00174	mg/L	0.000278	-0.00174	mg/L	0.000278	15.98%
Pb 220.353†	11.4	0.00026	mg/L	0.000895	0.00026	mg/L	0.000895	347.76%
Sb 206.836†	2.9	0.00085	mg/L	0.000595	0.00085	mg/L	0.000595	69.60%
Se 196.026†	7.9	0.00576	mg/L	0.001100	0.00576	mg/L	0.001100	19.12%
Si 251.611†	-49.7	-0.0113	mg/L	0.00053	-0.0113	mg/L	0.00053	4.67%
Sn 189.927†	-33.9	-0.00440	mg/L	0.000356	-0.00440	mg/L	0.000356	8.10%
Ti 334.940†	109.3	-0.00039	mg/L	0.000170	-0.00039	mg/L	0.000170	44.08%
Tl 190.801†	-8.0	-0.00426	mg/L	0.000993	-0.00426	mg/L	0.000993	23.29%
V 290.880†	80.0	-0.00154	mg/L	0.001183	-0.00154	mg/L	0.001183	76.61%
Zn 206.200†	83.1	0.00011	mg/L	0.000111	0.00011	mg/L	0.000111	96.97%
K 766.490†	19.1	0.0231	mg/L	0.01625	0.0231	mg/L	0.01625	70.42%
Na 589.592†	-167.9	-0.00883	mg/L	0.001210	-0.00883	mg/L	0.001210	13.70%
Sr 407.771†	283.5	-0.00275	mg/L	0.000026	-0.00275	mg/L	0.000026	0.94%
Li 670.784†	16.3	-0.00286	mg/L	0.000150	-0.00286	mg/L	0.000150	5.24%

Sequence No.: 74 **Autosampler Location: 111**
Sample ID: LCSW 52 WG414640-03 **Date Collected: 11/19/2012 8:51:22 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: LCSW 52 WG414640-03

Analyte	Back Pressure	Flow
All	175.0 kPa	0.50 L/min

Mean Data: LCSW 52 WG414640-03

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2426392.5						38778.09	1.60%
YRADIAL	286897.9						2401.75	0.84%
Ga 417.206	1232969.5						18953.11	1.54%
GaRADIAL	76732.7						753.84	0.98%
Ag 328.068†	62683.3	0.194	mg/L	0.0039	0.194	mg/L	0.0039	2.01%
Al 396.153†	31576.0	4.73	mg/L	0.075	4.73	mg/L	0.075	1.58%
As 188.979†	508.8	0.182	mg/L	0.0020	0.182	mg/L	0.0020	1.11%
Ba 233.527†	72088.4	0.489	mg/L	0.0079	0.489	mg/L	0.0079	1.61%
Be 234.861†	26084.9	0.0231	mg/L	0.00040	0.0231	mg/L	0.00040	1.73%
B 249.677†	87679.3	0.935	mg/L	0.0157	0.935	mg/L	0.0157	1.68%
Ca 227.546†	1783.6	4.91	mg/L	0.103	4.91	mg/L	0.103	2.09%
Cd 228.802†	1033.4	0.0224	mg/L	0.00055	0.0224	mg/L	0.00055	2.44%
Co 228.616†	3585.2	0.0969	mg/L	0.00145	0.0969	mg/L	0.00145	1.50%
Cr 267.716†	31624.7	0.244	mg/L	0.0028	0.244	mg/L	0.0028	1.16%
Cu 327.393†	64624.6	0.240	mg/L	0.0040	0.240	mg/L	0.0040	1.66%
Fe 239.562†	18463.9	1.93	mg/L	0.011	1.93	mg/L	0.011	0.59%
Mg 279.077†	13480.8	4.85	mg/L	0.058	4.85	mg/L	0.058	1.20%

Approved: November 20, 2012

Kim H. Rhoden

Mn 257.610†	208881.7	0.249	mg/L	0.0050	0.249	mg/L	0.0050 2.00%
Mo 202.031†	14147.0	0.478	mg/L	0.0080	0.478	mg/L	0.0080 1.68%
Ni 231.604†	15225.9	0.255	mg/L	0.0046	0.255	mg/L	0.0046 1.80%
Pb 220.353†	2550.1	0.243	mg/L	0.0043	0.243	mg/L	0.0043 1.75%
Sb 206.836†	2013.3	0.562	mg/L	0.0106	0.562	mg/L	0.0106 1.89%
Se 196.026†	301.2	0.187	mg/L	0.0031	0.187	mg/L	0.0031 1.68%
Si 251.611†	112551.3	2.37	mg/L	0.014	2.37	mg/L	0.014 0.60%
Sn 189.927†	-90.6	-0.0104	mg/L	0.00072	-0.0104	mg/L	0.00072 6.93%
Ti 334.940†	536847.5	0.481	mg/L	0.0036	0.481	mg/L	0.0036 0.74%
Tl 190.801†	735.8	0.256	mg/L	0.0018	0.256	mg/L	0.0018 0.70%
V 290.880†	111717.4	0.487	mg/L	0.0060	0.487	mg/L	0.0060 1.22%
Zn 206.200†	21249.9	0.478	mg/L	0.0060	0.478	mg/L	0.0060 1.26%
K 766.490†	70276.8	23.4	mg/L	0.31	23.4	mg/L	0.31 1.33%
Na 589.592†	469892.9	23.6	mg/L	0.10	23.6	mg/L	0.10 0.42%
Sr 407.771†	1217967.3	0.508	mg/L	0.0038	0.508	mg/L	0.0038 0.75%
Li 670.784†	65256.7	0.487	mg/L	0.0097	0.487	mg/L	0.0097 2.00%

==========

Sequence No.: 75 **Autosampler Location: 112**
Sample ID: L1211048901 WG414640-01 **Date Collected: 11/19/2012 8:57:22 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1211048901 WG414640-01

Analyte	Back Pressure	Flow
All	176.0 kPa	0.50 L/min

Mean Data: L1211048901 WG414640-01

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2387800.9						28690.04	1.20%
YRADIAL	285174.4						3269.74	1.15%
Ga 417.206	1255368.4						23431.59	1.87%
GaRADIAL	77664.7						568.55	0.73%
Ag 328.068†	181.0	-0.00009	mg/L	0.000549	-0.00009	mg/L	0.000549	628.27%
Al 396.153†	112.6	0.00120	mg/L	0.000301	0.00120	mg/L	0.000301	25.06%
As 188.979†	-4.9	-0.00180	mg/L	0.001717	-0.00180	mg/L	0.001717	95.62%
Ba 233.527†	5377.5	0.0346	mg/L	0.00029	0.0346	mg/L	0.00029	0.84%
Be 234.861†	381.5	0.00025	mg/L	0.000103	0.00025	mg/L	0.000103	41.30%
B 249.677†	2157.5	0.0244	mg/L	0.00116	0.0244	mg/L	0.00116	4.78%
Ca 227.546†	13570.9	35.6	mg/L	0.73	35.6	mg/L	0.73	2.06%
Cd 228.802†	6.1	0.00015	mg/L	0.000229	0.00015	mg/L	0.000229	150.73%
Co 228.616†	13.3	-0.00016	mg/L	0.000235	-0.00016	mg/L	0.000235	143.76%
Cr 267.716†	77.1	-0.00010	mg/L	0.000176	-0.00010	mg/L	0.000176	179.16%
Cu 327.393†	1208.0	0.00376	mg/L	0.000187	0.00376	mg/L	0.000187	4.97%
Fe 239.562†	4044.4	0.418	mg/L	0.0088	0.418	mg/L	0.0088	2.10%
Mg 279.077†	18423.6	6.63	mg/L	0.153	6.63	mg/L	0.153	2.31%
Mn 257.610†	166004.7	0.197	mg/L	0.0033	0.197	mg/L	0.0033	1.65%
Mo 202.031†	70.4	0.00162	mg/L	0.000453	0.00162	mg/L	0.000453	27.87%
Ni 231.604†	194.8	0.00161	mg/L	0.000418	0.00161	mg/L	0.000418	26.02%
Pb 220.353†	11.0	0.00007	mg/L	0.001105	0.00007	mg/L	0.001105	>999.9%
Sb 206.836†	-2.7	-0.00068	mg/L	0.001141	-0.00068	mg/L	0.001141	168.89%
Se 196.026†	0.4	0.00114	mg/L	0.001857	0.00114	mg/L	0.001857	162.59%
Si 251.611†	133889.6	2.83	mg/L	0.053	2.83	mg/L	0.053	1.87%
Sn 189.927†	-232.5	-0.0252	mg/L	0.00093	-0.0252	mg/L	0.00093	3.67%
Ti 334.940†	-5754.3	-0.00031	mg/L	0.000776	-0.00031	mg/L	0.000776	246.77%
Tl 190.801†	-17.7	-0.00780	mg/L	0.003308	-0.00780	mg/L	0.003308	42.44%
V 290.880†	908.6	0.00188	mg/L	0.000853	0.00188	mg/L	0.000853	45.35%
Zn 206.200†	903.5	0.0185	mg/L	0.00043	0.0185	mg/L	0.00043	2.30%
K 766.490†	7076.2	2.34	mg/L	0.042	2.34	mg/L	0.042	1.79%
Na 589.592†	592702.2	29.8	mg/L	0.30	29.8	mg/L	0.30	1.02%
Sr 407.771†	413274.9	0.170	mg/L	0.0008	0.170	mg/L	0.0008	0.49%
Li 670.784†	963.4	0.00426	mg/L	0.000603	0.00426	mg/L	0.000603	14.16%

==========

Sequence No.: 76 **Autosampler Location: 113**
Sample ID: L1211048901DU WG414640-04 **Date Collected: 11/19/2012 9:03:20 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**

Approved: November 20, 2012

Kim H. Rhoden

Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1211048901DU WG414640-04

Analyte	Back Pressure	Flow
All	176.0 kPa	0.50 L/min

Mean Data: L1211048901DU WG414640-04

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	2371912.4						24801.20	1.05%
YRADIAL	282820.5						2315.15	0.82%
Ga 417.206	1251556.6						32461.75	2.59%
GaRADIAL	77138.5						630.19	0.82%
Ag 328.068†	309.0	0.00031	mg/L	0.000400	0.00031	mg/L	0.000400	127.30%
Al 396.153†	82.8	-0.00330	mg/L	0.010000	-0.00330	mg/L	0.010000	303.37%
As 188.979†	-6.1	-0.00223	mg/L	0.000936	-0.00223	mg/L	0.000936	41.97%
Ba 233.527†	5575.3	0.0359	mg/L	0.00022	0.0359	mg/L	0.00022	0.60%
Be 234.861†	377.3	0.00024	mg/L	0.000083	0.00024	mg/L	0.000083	34.74%
B 249.677†	2059.5	0.0233	mg/L	0.00039	0.0233	mg/L	0.00039	1.66%
Ca 227.546†	14027.5	36.8	mg/L	0.88	36.8	mg/L	0.88	2.38%
Cd 228.802†	9.4	0.00023	mg/L	0.000094	0.00023	mg/L	0.000094	41.40%
Co 228.616†	10.8	-0.00023	mg/L	0.000203	-0.00023	mg/L	0.000203	86.83%
Cr 267.716†	90.1	0.00000	mg/L	0.000052	0.00000	mg/L	0.000052	>999.9%
Cu 327.393†	1211.6	0.00378	mg/L	0.000461	0.00378	mg/L	0.000461	12.21%
Fe 239.562†	4285.0	0.444	mg/L	0.0041	0.444	mg/L	0.0041	0.91%
Mg 279.077†	19562.5	7.04	mg/L	0.011	7.04	mg/L	0.011	0.16%
Mn 257.610†	172494.6	0.205	mg/L	0.0033	0.205	mg/L	0.0033	1.63%
Mo 202.031†	69.2	0.00159	mg/L	0.000169	0.00159	mg/L	0.000169	10.66%
Ni 231.604†	185.8	0.00145	mg/L	0.000223	0.00145	mg/L	0.000223	15.35%
Pb 220.353†	-1.6	-0.00115	mg/L	0.001774	-0.00115	mg/L	0.001774	154.51%
Sb 206.836†	-1.0	-0.00021	mg/L	0.001223	-0.00021	mg/L	0.001223	570.59%
Se 196.026†	1.9	0.00203	mg/L	0.001043	0.00203	mg/L	0.001043	51.32%
Si 251.611†	139190.7	2.94	mg/L	0.041	2.94	mg/L	0.041	1.39%
Sn 189.927†	-245.5	-0.0266	mg/L	0.00057	-0.0266	mg/L	0.00057	2.13%
Ti 334.940†	-6164.2	-0.00050	mg/L	0.000576	-0.00050	mg/L	0.000576	114.80%
Tl 190.801†	-8.5	-0.00469	mg/L	0.001934	-0.00469	mg/L	0.001934	41.21%
V 290.880†	765.0	0.00124	mg/L	0.000521	0.00124	mg/L	0.000521	41.96%
Zn 206.200†	929.1	0.0191	mg/L	0.00015	0.0191	mg/L	0.00015	0.78%
K 766.490†	7487.2	2.47	mg/L	0.050	2.47	mg/L	0.050	2.03%
Na 589.592†	616460.4	31.0	mg/L	0.25	31.0	mg/L	0.25	0.80%
Sr 407.771†	430459.3	0.177	mg/L	0.0009	0.177	mg/L	0.0009	0.50%
Li 670.784†	1036.3	0.00480	mg/L	0.000258	0.00480	mg/L	0.000258	5.37%

==========

Sequence No.: 77 **Autosampler Location: 114**
Sample ID: L1211048901MS WG414640-05 **Date Collected: 11/19/2012 9:09:18 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1211048901MS WG414640-05

Analyte	Back Pressure	Flow
All	177.0 kPa	0.50 L/min

Mean Data: L1211048901MS WG414640-05

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	2385524.6						13796.58	0.58%
YRADIAL	291097.4						2105.27	0.72%
Ga 417.206	1249975.2						30455.45	2.44%
GaRADIAL	78390.4						726.12	0.93%
Ag 328.068†	59697.0	0.185	mg/L	0.0053	0.185	mg/L	0.0053	2.89%
Al 396.153†	31167.7	4.67	mg/L	0.019	4.67	mg/L	0.019	0.40%
As 188.979†	495.8	0.177	mg/L	0.0055	0.177	mg/L	0.0055	3.12%
Ba 233.527†	74629.7	0.506	mg/L	0.0014	0.506	mg/L	0.0014	0.28%
Be 234.861†	25413.6	0.0225	mg/L	0.00049	0.0225	mg/L	0.00049	2.17%
B 249.677†	86591.1	0.923	mg/L	0.0278	0.923	mg/L	0.0278	3.01%
Ca 227.546†	15825.9	41.8	mg/L	1.45	41.8	mg/L	1.45	3.48%

Approved: November 20, 2012

Kim H. Rhoden

Cd 228.802†	985.7	0.0214	mg/L	0.00096	0.0214	mg/L	0.00096 4.50%
Co 228.616†	3480.3	0.0940	mg/L	0.00035	0.0940	mg/L	0.00035 0.37%
Cr 267.716†	30696.5	0.236	mg/L	0.0023	0.236	mg/L	0.0023 0.99%
Cu 327.393†	63136.9	0.235	mg/L	0.0078	0.235	mg/L	0.0078 3.31%
Fe 239.562†	21936.1	2.30	mg/L	0.034	2.30	mg/L	0.034 1.46%
Mg 279.077†	31586.9	11.4	mg/L	0.08	11.4	mg/L	0.08 0.70%
Mn 257.610†	372474.4	0.445	mg/L	0.0018	0.445	mg/L	0.0018 0.40%
Mo 202.031†	13958.5	0.472	mg/L	0.0048	0.472	mg/L	0.0048 1.02%
Ni 231.604†	14808.8	0.248	mg/L	0.0010	0.248	mg/L	0.0010 0.42%
Pb 220.353†	2496.7	0.238	mg/L	0.0011	0.238	mg/L	0.0011 0.46%
Sb 206.836†	1971.9	0.551	mg/L	0.0181	0.551	mg/L	0.0181 3.29%
Se 196.026†	295.7	0.183	mg/L	0.0073	0.183	mg/L	0.0073 4.00%
Si 251.611†	247722.2	5.23	mg/L	0.117	5.23	mg/L	0.117 2.23%
Sn 189.927†	-249.7	-0.0270	mg/L	0.00097	-0.0270	mg/L	0.00097 3.59%
Ti 334.940†	525855.4	0.477	mg/L	0.0008	0.477	mg/L	0.0008 0.17%
Tl 190.801†	686.3	0.239	mg/L	0.0012	0.239	mg/L	0.0012 0.51%
V 290.880†	110638.4	0.482	mg/L	0.0060	0.482	mg/L	0.0060 1.24%
Zn 206.200†	20882.3	0.470	mg/L	0.0023	0.470	mg/L	0.0023 0.49%
K 766.490†	76789.9	25.6	mg/L	0.08	25.6	mg/L	0.08 0.33%
Na 589.592†	1071180.9	54.5	mg/L	0.73	54.5	mg/L	0.73 1.34%
Sr 407.771†	1609708.9	0.672	mg/L	0.0081	0.672	mg/L	0.0081 1.21%
Li 670.784†	65350.0	0.488	mg/L	0.0021	0.488	mg/L	0.0021 0.43%

==========

Sequence No.: 78 **Autosampler Location: 115**
Sample ID: L1211048902 **Date Collected: 11/19/2012 9:15:17 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1211048902

Analyte	Back Pressure	Flow
All	177.0 kPa	0.50 L/min

Mean Data: L1211048902

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2387189.3						22934.93	0.96%
YRADIAL	285256.7						6241.95	2.19%
Ga 417.206	1260339.7						15847.60	1.26%
GaRADIAL	78328.1						1044.90	1.33%
Ag 328.068†	312.1	0.00044	mg/L	0.000328	0.00044	mg/L	0.000328	74.54%
Al 396.153†	1738.4	0.247	mg/L	0.0083	0.247	mg/L	0.0083	3.34%
As 188.979†	-11.0	-0.00400	mg/L	0.001415	-0.00400	mg/L	0.001415	35.34%
Ba 233.527†	5445.6	0.0350	mg/L	0.00001	0.0350	mg/L	0.00001	0.02%
Be 234.861†	590.8	0.00038	mg/L	0.000104	0.00038	mg/L	0.000104	27.28%
B 249.677†	3565.5	0.0392	mg/L	0.00114	0.0392	mg/L	0.00114	2.92%
Ca 227.546†	16926.2	44.4	mg/L	1.09	44.4	mg/L	1.09	2.45%
Cd 228.802†	152.9	0.00344	mg/L	0.000163	0.00344	mg/L	0.000163	4.75%
Co 228.616†	41.2	0.00057	mg/L	0.000423	0.00057	mg/L	0.000423	73.95%
Cr 267.716†	809.0	0.00558	mg/L	0.000101	0.00558	mg/L	0.000101	1.82%
Cu 327.393†	33473.4	0.124	mg/L	0.0019	0.124	mg/L	0.0019	1.55%
Fe 239.562†	5953.7	0.619	mg/L	0.0059	0.619	mg/L	0.0059	0.96%
Mg 279.077†	22780.7	8.20	mg/L	0.108	8.20	mg/L	0.108	1.32%
Mn 257.610†	74851.3	0.0877	mg/L	0.00156	0.0877	mg/L	0.00156	1.77%
Mo 202.031†	102.1	0.00269	mg/L	0.000522	0.00269	mg/L	0.000522	19.38%
Ni 231.604†	720.8	0.0105	mg/L	0.00061	0.0105	mg/L	0.00061	5.81%
Pb 220.353†	133.3	0.0117	mg/L	0.00247	0.0117	mg/L	0.00247	21.03%
Sb 206.836†	-2.6	-0.00068	mg/L	0.001012	-0.00068	mg/L	0.001012	148.73%
Se 196.026†	8.1	0.00596	mg/L	0.002707	0.00596	mg/L	0.002707	45.44%
Si 251.611†	179973.3	3.80	mg/L	0.033	3.80	mg/L	0.033	0.87%
Sn 189.927†	-257.3	-0.0278	mg/L	0.00102	-0.0278	mg/L	0.00102	3.68%
Ti 334.940†	6034.7	0.0116	mg/L	0.00093	0.0116	mg/L	0.00093	8.07%
Tl 190.801†	-15.3	-0.00671	mg/L	0.006105	-0.00671	mg/L	0.006105	91.05%
V 290.880†	4692.5	0.0184	mg/L	0.00039	0.0184	mg/L	0.00039	2.11%
Zn 206.200†	27949.5	0.627	mg/L	0.0081	0.627	mg/L	0.0081	1.29%
K 766.490†	29195.2	9.67	mg/L	0.148	9.67	mg/L	0.148	1.53%
Na 589.592†	1088215.2	55.4	mg/L	0.43	55.4	mg/L	0.43	0.77%
Sr 407.771†	500253.7	0.206	mg/L	0.0008	0.206	mg/L	0.0008	0.37%
Li 670.784†	1279.5	0.00663	mg/L	0.000560	0.00663	mg/L	0.000560	8.44%

Approved: November 20, 2012

Kim H. Rhoden

Sequence No.: 79 **Autosampler Location: 116**
Sample ID: L1211051101 **Date Collected: 11/19/2012 9:21:16 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1211051101

Analyte	Back Pressure	Flow
All	176.0 kPa	0.50 L/min

Mean Data: L1211051101

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2223372.4						20774.38	0.93%
YRADIAL	269028.2						1229.86	0.46%
Ga 417.206	1215802.3						25360.49	2.09%
GaRADIAL	75052.2						70.95	0.09%
Ag 328.068†	291.9	0.00112	mg/L	0.000296	0.00112	mg/L	0.000296	26.31%
Al 396.153†	877.9	0.116	mg/L	0.0071	0.116	mg/L	0.0071	6.07%
As 188.979†	-20.3	-0.00699	mg/L	0.001606	-0.00699	mg/L	0.001606	22.98%
Ba 233.527†	2407.8	0.0143	mg/L	0.00017	0.0143	mg/L	0.00017	1.18%
Be 234.861†	887.8	0.00027	mg/L	0.000007	0.00027	mg/L	0.000007	2.61%
B 249.677†	20177.8	0.216	mg/L	0.0067	0.216	mg/L	0.0067	3.11%
Ca 227.546†	44921.6	118	mg/L	3.2	118	mg/L	3.2	2.71%
Cd 228.802†	28.8	0.00069	mg/L	0.000159	0.00069	mg/L	0.000159	23.12%
Co 228.616†	30.3	0.00026	mg/L	0.000299	0.00026	mg/L	0.000299	113.13%
Cr 267.716†	5835.7	0.0443	mg/L	0.00047	0.0443	mg/L	0.00047	1.05%
Cu 327.393†	2275.4	0.00794	mg/L	0.000412	0.00794	mg/L	0.000412	5.18%
Fe 239.562†	22298.0	2.34	mg/L	0.017	2.34	mg/L	0.017	0.71%
Mg 279.077†	3126.0	1.12	mg/L	0.024	1.12	mg/L	0.024	2.16%
Mn 257.610†	15195.5	0.0161	mg/L	0.00016	0.0161	mg/L	0.00016	1.00%
Mo 202.031†	383.2	0.0123	mg/L	0.00019	0.0123	mg/L	0.00019	1.53%
Ni 231.604†	559.5	0.00776	mg/L	0.000507	0.00776	mg/L	0.000507	6.53%
Pb 220.353†	13.9	0.00030	mg/L	0.001933	0.00030	mg/L	0.001933	637.26%
Sb 206.836†	-4.7	-0.00152	mg/L	0.000594	-0.00152	mg/L	0.000594	39.05%
Se 196.026†	5.6	0.00472	mg/L	0.002686	0.00472	mg/L	0.002686	56.87%
Si 251.611†	221139.2	4.67	mg/L	0.100	4.67	mg/L	0.100	2.15%
Sn 189.927†	-328.9	-0.0353	mg/L	0.00049	-0.0353	mg/L	0.00049	1.38%
Ti 334.940†	3467.7	0.0203	mg/L	0.00075	0.0203	mg/L	0.00075	3.72%
Tl 190.801†	-43.4	-0.0163	mg/L	0.00234	-0.0163	mg/L	0.00234	14.39%
V 290.880†	1772.1	0.00569	mg/L	0.000472	0.00569	mg/L	0.000472	8.31%
Zn 206.200†	1679.7	0.0362	mg/L	0.00018	0.0362	mg/L	0.00018	0.48%
K 766.490†	72475.8	23.7	mg/L	0.04	23.7	mg/L	0.04	0.18%
Na 589.592†	7144642.0	447	mg/L	2.4	447	mg/L	2.4	0.53%
Sr 407.771†	854852.8	0.354	mg/L	0.0020	0.354	mg/L	0.0020	0.57%
Li 670.784†	987.8	0.00444	mg/L	0.000608	0.00444	mg/L	0.000608	13.69%

Sequence No.: 80 **Autosampler Location: 117**
Sample ID: L1211051102 **Date Collected: 11/19/2012 9:27:20 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1211051102

Analyte	Back Pressure	Flow
All	177.0 kPa	0.50 L/min

Mean Data: L1211051102

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2298621.1						25169.27	1.09%
YRADIAL	282139.3						1186.57	0.42%
Ga 417.206	1191978.0						21509.19	1.80%
GaRADIAL	75237.7						870.24	1.16%
Ag 328.068†	-1139.1	0.00027	mg/L	0.000407	0.00027	mg/L	0.000407	151.94%

Approved: November 20, 2012

Al 396.153†	474091.1	71.7	mg/L	0.14	71.7	mg/L	0.14 0.20%
As 188.979†	16.2	0.00329	mg/L	0.000914	0.00329	mg/L	0.000914 27.79%
Ba 233.527†	5748.7	0.0366	mg/L	0.00028	0.0366	mg/L	0.00028 0.77%
Be 234.861†	2738.8	0.00027	mg/L	0.000217	0.00027	mg/L	0.000217 80.18%
B 249.677†	4296.2	0.0430	mg/L	0.00103	0.0430	mg/L	0.00103 2.39%
Ca 227.546†	1895.3	5.25	mg/L	0.139	5.25	mg/L	0.139 2.64%
Cd 228.802†	8.4	0.00016	mg/L	0.000208	0.00016	mg/L	0.000208 129.56%
Co 228.616†	46.2	0.00046	mg/L	0.000307	0.00046	mg/L	0.000307 66.55%
Cr 267.716†	1713.1	0.0129	mg/L	0.00018	0.0129	mg/L	0.00018 1.38%
Cu 327.393†	9301.9	0.0349	mg/L	0.00117	0.0349	mg/L	0.00117 3.36%
Fe 239.562†	95885.2	10.1	mg/L	0.02	10.1	mg/L	0.02 0.20%
Mg 279.077†	3219.7	1.14	mg/L	0.006	1.14	mg/L	0.006 0.49%
Mn 257.610†	361881.5	0.432	mg/L	0.0056	0.432	mg/L	0.0056 1.29%
Mo 202.031†	118.0	0.00376	mg/L	0.000146	0.00376	mg/L	0.000146 3.88%
Ni 231.604†	1557.1	0.0246	mg/L	0.00057	0.0246	mg/L	0.00057 2.32%
Pb 220.353†	-135.3	-0.00158	mg/L	0.002616	-0.00158	mg/L	0.002616 165.23%
Sb 206.836†	6.1	0.00206	mg/L	0.000361	0.00206	mg/L	0.000361 17.51%
Se 196.026†	5.2	0.00887	mg/L	0.004454	0.00887	mg/L	0.004454 50.22%
Si 251.611†	183182.4	3.87	mg/L	0.100	3.87	mg/L	0.100 2.57%
Sn 189.927†	-68.2	-0.00799	mg/L	0.000895	-0.00799	mg/L	0.000895 11.20%
Ti 334.940†	4492.5	0.00427	mg/L	0.000491	0.00427	mg/L	0.000491 11.51%
Tl 190.801†	-9.6	-0.00323	mg/L	0.001760	-0.00323	mg/L	0.001760 54.58%
V 290.880†	1658.8	0.00472	mg/L	0.000387	0.00472	mg/L	0.000387 8.21%
Zn 206.200†	6406.5	0.141	mg/L	0.0017	0.141	mg/L	0.0017 1.19%
K 766.490†	39888.9	13.0	mg/L	0.16	13.0	mg/L	0.16 1.23%
Na 589.592†	4857779.0	276	mg/L	3.3	276	mg/L	3.3 1.20%
Sr 407.771†	67514.2	0.0254	mg/L	0.00019	0.0254	mg/L	0.00019 0.75%
Li 670.784†	26.0	-0.00279	mg/L	0.000169	-0.00279	mg/L	0.000169 6.05%

Sequence No.: 81 **Autosampler Location: 118**
Sample ID: L1211051102PS WG414696-01 **Date Collected: 11/19/2012 9:33:25 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1211051102PS WG414696-01

Analyte	Back Pressure	Flow
All	176.0 kPa	0.50 L/min

Mean Data: L1211051102PS WG414696-01

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2294067.0						21392.53	0.93%
YRADIAL	289397.2						4352.19	1.50%
Ga 417.206	1182730.7						20698.50	1.75%
GaRADIAL	76565.8						1303.93	1.70%
Ag 328.068†	62017.1	0.196	mg/L	0.0075	0.196	mg/L	0.0075	3.84%
Al 396.153†	447069.0	67.6	mg/L	1.66	67.6	mg/L	1.66	2.45%
As 188.979†	540.8	0.191	mg/L	0.0057	0.191	mg/L	0.0057	2.98%
Ba 233.527†	77206.3	0.523	mg/L	0.0063	0.523	mg/L	0.0063	1.21%
Be 234.861†	29178.8	0.0240	mg/L	0.00091	0.0240	mg/L	0.00091	3.79%
B 249.677†	93043.1	0.989	mg/L	0.0386	0.989	mg/L	0.0386	3.90%
Ca 227.546†	3531.2	9.73	mg/L	0.294	9.73	mg/L	0.294	3.02%
Cd 228.802†	1056.1	0.0229	mg/L	0.00104	0.0229	mg/L	0.00104	4.57%
Co 228.616†	3597.6	0.0970	mg/L	0.00037	0.0970	mg/L	0.00037	0.38%
Cr 267.716†	32698.3	0.252	mg/L	0.0048	0.252	mg/L	0.0048	1.90%
Cu 327.393†	74918.9	0.279	mg/L	0.0083	0.279	mg/L	0.0083	2.97%
Fe 239.562†	101131.4	10.6	mg/L	0.20	10.6	mg/L	0.20	1.91%
Mg 279.077†	15874.5	5.71	mg/L	0.089	5.71	mg/L	0.089	1.57%
Mn 257.610†	529206.2	0.633	mg/L	0.0032	0.633	mg/L	0.0032	0.51%
Mo 202.031†	14261.2	0.483	mg/L	0.0069	0.483	mg/L	0.0069	1.43%
Ni 231.604†	16373.3	0.274	mg/L	0.0007	0.274	mg/L	0.0007	0.24%
Pb 220.353†	2381.4	0.238	mg/L	0.0024	0.238	mg/L	0.0024	1.03%
Sb 206.836†	2049.7	0.573	mg/L	0.0185	0.573	mg/L	0.0185	3.24%
Se 196.026†	307.2	0.195	mg/L	0.0080	0.195	mg/L	0.0080	4.10%
Si 251.611†	278361.1	5.88	mg/L	0.167	5.88	mg/L	0.167	2.84%
Sn 189.927†	-110.0	-0.0124	mg/L	0.00044	-0.0124	mg/L	0.00044	3.54%
Ti 334.940†	545645.2	0.490	mg/L	0.0019	0.490	mg/L	0.0019	0.39%
Tl 190.801†	677.8	0.238	mg/L	0.0040	0.238	mg/L	0.0040	1.69%

Approved: November 20, 2012

Kym H. Rhoden

V 290.880†	113238.3	0.493	mg/L	0.0081	0.493	mg/L	0.0081 1.65%
Zn 206.200†	27245.8	0.612	mg/L	0.0185	0.612	mg/L	0.0185 3.02%
K 766.490†	107205.5	35.6	mg/L	0.87	35.6	mg/L	0.87 2.44%
Na 589.592†	4696573.1	266	mg/L	4.2	266	mg/L	4.2 1.59%
Sr 407.771†	1262750.5	0.527	mg/L	0.0126	0.527	mg/L	0.0126 2.39%
Li 670.784†	66279.8	0.495	mg/L	0.0145	0.495	mg/L	0.0145 2.92%

Sequence No.: 82 **Autosampler Location: 119**
Sample ID: L1211051102DL WG414696-02 **Date Collected: 11/19/2012 9:39:30 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1211051102DL WG414696-02

Analyte	Back Pressure	Flow
All	176.0 kPa	0.50 L/min

Mean Data: L1211051102DL WG414696-02

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2340759.5						16337.18	0.70%
YRADIAL	275340.3						4613.68	1.68%
Ga 417.206	1242439.0						23238.44	1.87%
GaRADIAL	76596.3						1123.14	1.47%
Ag 328.068†	-392.7	-0.00102	mg/L	0.000220	-0.00102	mg/L	0.000220	21.63%
Al 396.153†	96414.6	14.6	mg/L	0.09	14.6	mg/L	0.09	0.64%
As 188.979†	1.9	0.00007	mg/L	0.000840	0.00007	mg/L	0.000840	>999.9%
Ba 233.527†	1171.7	0.00588	mg/L	0.000130	0.00588	mg/L	0.000130	2.21%
Be 234.861†	740.8	0.00018	mg/L	0.000057	0.00018	mg/L	0.000057	31.34%
B 249.677†	1229.7	0.0137	mg/L	0.00164	0.0137	mg/L	0.00164	11.96%
Ca 227.546†	382.5	1.06	mg/L	0.019	1.06	mg/L	0.019	1.80%
Cd 228.802†	-0.1	0.00000	mg/L	0.000062	0.00000	mg/L	0.000062	>999.9%
Co 228.616†	-3.3	-0.00067	mg/L	0.000148	-0.00067	mg/L	0.000148	22.14%
Cr 267.716†	369.7	0.00225	mg/L	0.000010	0.00225	mg/L	0.000010	0.46%
Cu 327.393†	1907.7	0.00655	mg/L	0.000344	0.00655	mg/L	0.000344	5.25%
Fe 239.562†	20410.9	2.14	mg/L	0.020	2.14	mg/L	0.020	0.95%
Mg 279.077†	699.0	0.241	mg/L	0.0042	0.241	mg/L	0.0042	1.73%
Mn 257.610†	78040.1	0.0915	mg/L	0.00090	0.0915	mg/L	0.00090	0.98%
Mo 202.031†	23.1	0.00009	mg/L	0.000257	0.00009	mg/L	0.000257	291.52%
Ni 231.604†	331.0	0.00390	mg/L	0.000244	0.00390	mg/L	0.000244	6.25%
Pb 220.353†	-16.6	0.00004	mg/L	0.000530	0.00004	mg/L	0.000530	>999.9%
Sb 206.836†	1.1	0.00044	mg/L	0.000948	0.00044	mg/L	0.000948	215.19%
Se 196.026†	4.4	0.00459	mg/L	0.002694	0.00459	mg/L	0.002694	58.65%
Si 251.611†	36125.4	0.755	mg/L	0.0208	0.755	mg/L	0.0208	2.75%
Sn 189.927†	-41.7	-0.00521	mg/L	0.000751	-0.00521	mg/L	0.000751	14.39%
Ti 334.940†	1016.7	0.00056	mg/L	0.000424	0.00056	mg/L	0.000424	75.57%
Tl 190.801†	-1.2	-0.00163	mg/L	0.001095	-0.00163	mg/L	0.001095	67.27%
V 290.880†	862.6	0.00174	mg/L	0.001636	0.00174	mg/L	0.001636	93.92%
Zn 206.200†	1523.4	0.0323	mg/L	0.00009	0.0323	mg/L	0.00009	0.28%
K 766.490†	8341.3	2.74	mg/L	0.026	2.74	mg/L	0.026	0.94%
Na 589.592†	974672.5	49.5	mg/L	0.76	49.5	mg/L	0.76	1.54%
Sr 407.771†	14226.9	0.00309	mg/L	0.000125	0.00309	mg/L	0.000125	4.04%
Li 670.784†	44.2	-0.00265	mg/L	0.000055	-0.00265	mg/L	0.000055	2.07%

Sequence No.: 83 **Autosampler Location: 6**
Sample ID: CCV **Date Collected: 11/19/2012 9:46:26 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

Approved: November 20, 2012

Kim H. Rhoden

Analyte	Intensity	Conc. Units	Std.Dev.	Conc. Units	Std.Dev.	RSD
Y 371.029	2374335.1				12603.83	0.53%
YRADIAL	284522.3				1932.13	0.68%
Ga 417.206	1200558.9				14547.50	1.21%
GaRADIAL	74871.6				571.95	0.76%
Ag 328.068†	124868.2	0.387 mg/L	0.0080	0.387 mg/L	0.0080	2.06%
QC value within limits for Ag 328.068 Recovery = 96.66%						
Al 396.153†	64910.2	9.74 mg/L	0.048	9.74 mg/L	0.048	0.49%
QC value within limits for Al 396.153 Recovery = 97.37%						
As 188.979†	1054.6	0.377 mg/L	0.0061	0.377 mg/L	0.0061	1.62%
QC value within limits for As 188.979 Recovery = 94.34%						
Ba 233.527†	144921.2	0.984 mg/L	0.0061	0.984 mg/L	0.0061	0.62%
QC value within limits for Ba 233.527 Recovery = 98.42%						
Be 234.861†	53058.4	0.0471 mg/L	0.00077	0.0471 mg/L	0.00077	1.63%
QC value within limits for Be 234.861 Recovery = 94.14%						
B 249.677†	44359.2	0.471 mg/L	0.0087	0.471 mg/L	0.0087	1.86%
QC value within limits for B 249.677 Recovery = 94.21%						
Ca 227.546†	3628.1	9.97 mg/L	0.190	9.97 mg/L	0.190	1.91%
QC value within limits for Ca 227.546 Recovery = 99.72%						
Cd 228.802†	2113.7	0.0458 mg/L	0.00138	0.0458 mg/L	0.00138	3.01%
QC value within limits for Cd 228.802 Recovery = 91.63%						
Co 228.616†	7293.9	0.198 mg/L	0.0022	0.198 mg/L	0.0022	1.14%
QC value within limits for Co 228.616 Recovery = 98.85%						
Cr 267.716†	63047.6	0.486 mg/L	0.0034	0.486 mg/L	0.0034	0.70%
QC value within limits for Cr 267.716 Recovery = 97.25%						
Cu 327.393†	129672.1	0.483 mg/L	0.0085	0.483 mg/L	0.0085	1.77%
QC value within limits for Cu 327.393 Recovery = 96.52%						
Fe 239.562†	37148.1	3.90 mg/L	0.027	3.90 mg/L	0.027	0.69%
QC value within limits for Fe 239.562 Recovery = 97.41%						
Mg 279.077†	27144.1	9.78 mg/L	0.114	9.78 mg/L	0.114	1.17%
QC value within limits for Mg 279.077 Recovery = 97.83%						
Mn 257.610†	418631.5	0.501 mg/L	0.0026	0.501 mg/L	0.0026	0.52%
QC value within limits for Mn 257.610 Recovery = 100.18%						
Mo 202.031†	28598.2	0.968 mg/L	0.0034	0.968 mg/L	0.0034	0.35%
QC value within limits for Mo 202.031 Recovery = 96.76%						
Ni 231.604†	29328.8	0.493 mg/L	0.0043	0.493 mg/L	0.0043	0.88%
QC value within limits for Ni 231.604 Recovery = 98.51%						
Pb 220.353†	5176.9	0.495 mg/L	0.0043	0.495 mg/L	0.0043	0.87%
QC value within limits for Pb 220.353 Recovery = 99.01%						
Sb 206.836†	4065.9	1.14 mg/L	0.023	1.14 mg/L	0.023	2.00%
QC value within limits for Sb 206.836 Recovery = 94.64%						
Se 196.026†	614.5	0.380 mg/L	0.0081	0.380 mg/L	0.0081	2.13%
QC value within limits for Se 196.026 Recovery = 95.04%						
Si 251.611†	229299.0	4.84 mg/L	0.066	4.84 mg/L	0.066	1.37%
QC value within limits for Si 251.611 Recovery = 96.72%						
Sn 189.927†	9309.1	0.976 mg/L	0.0097	0.976 mg/L	0.0097	1.00%
QC value within limits for Sn 189.927 Recovery = 97.58%						
Ti 334.940†	1092932.8	0.980 mg/L	0.0040	0.980 mg/L	0.0040	0.41%
QC value within limits for Ti 334.940 Recovery = 97.99%						
Tl 190.801†	1451.4	0.507 mg/L	0.0009	0.507 mg/L	0.0009	0.17%
QC value within limits for Tl 190.801 Recovery = 101.36%						
V 290.880†	225221.1	0.983 mg/L	0.0020	0.983 mg/L	0.0020	0.20%
QC value within limits for V 290.880 Recovery = 98.27%						
Zn 206.200†	42691.7	0.962 mg/L	0.0091	0.962 mg/L	0.0091	0.95%
QC value within limits for Zn 206.200 Recovery = 96.24%						
K 766.490†	145826.5	48.8 mg/L	0.30	48.8 mg/L	0.30	0.61%
QC value within limits for K 766.490 Recovery = 97.69%						
Na 589.592†	963875.5	48.9 mg/L	0.63	48.9 mg/L	0.63	1.29%
QC value within limits for Na 589.592 Recovery = 97.80%						
Sr 407.771†	2445315.2	1.02 mg/L	0.010	1.02 mg/L	0.010	0.95%
QC value within limits for Sr 407.771 Recovery = 102.32%						
Li 670.784†	130617.9	0.978 mg/L	0.0049	0.978 mg/L	0.0049	0.50%
QC value within limits for Li 670.784 Recovery = 97.82%						

All analyte(s) passed QC.

==========

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

Autosampler Location: 1
Date Collected: 11/19/2012 9:52:27 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Approved: November 20, 2012

Kim H. Rhoden

Nebulizer Parameters: CCB

Analyte	Back Pressure	Flow
All	176.0 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	2462456.6						8559.58	0.35%
YRADIAL	287676.2						5638.38	1.96%
Ga 417.206	1238406.1						1690.12	0.14%
GaRADIAL	77920.2						2117.74	2.72%
Ag 328.068†	2.0	-0.00078	mg/L	0.000371	-0.00078	mg/L	0.000371	47.61%
QC value within limits for Ag 328.068 Recovery = Not calculated								
Al 396.153†	22.5	-0.0123	mg/L	0.00125	-0.0123	mg/L	0.00125	10.11%
QC value within limits for Al 396.153 Recovery = Not calculated								
As 188.979†	4.5	0.00150	mg/L	0.001243	0.00150	mg/L	0.001243	82.78%
QC value within limits for As 188.979 Recovery = Not calculated								
Ba 233.527†	13.2	-0.00187	mg/L	0.000146	-0.00187	mg/L	0.000146	7.83%
QC value within limits for Ba 233.527 Recovery = Not calculated								
Be 234.861†	91.4	0.00006	mg/L	0.000016	0.00006	mg/L	0.000016	26.79%
QC value within limits for Be 234.861 Recovery = Not calculated								
B 249.677†	373.8	0.00552	mg/L	0.000266	0.00552	mg/L	0.000266	4.82%
QC value within limits for B 249.677 Recovery = Not calculated								
Ca 227.546†	25.6	0.0682	mg/L	0.01528	0.0682	mg/L	0.01528	22.39%
QC value within limits for Ca 227.546 Recovery = Not calculated								
Cd 228.802†	-5.3	-0.00012	mg/L	0.000017	-0.00012	mg/L	0.000017	14.33%
QC value within limits for Cd 228.802 Recovery = Not calculated								
Co 228.616†	-6.9	-0.00071	mg/L	0.000130	-0.00071	mg/L	0.000130	18.46%
QC value within limits for Co 228.616 Recovery = Not calculated								
Cr 267.716†	21.7	-0.00051	mg/L	0.000106	-0.00051	mg/L	0.000106	20.63%
QC value within limits for Cr 267.716 Recovery = Not calculated								
Cu 327.393†	88.8	-0.00043	mg/L	0.000259	-0.00043	mg/L	0.000259	59.81%
QC value within limits for Cu 327.393 Recovery = Not calculated								
Fe 239.562†	34.2	-0.00289	mg/L	0.000638	-0.00289	mg/L	0.000638	22.04%
QC value within limits for Fe 239.562 Recovery = Not calculated								
Mg 279.077†	7.5	-0.00691	mg/L	0.003110	-0.00691	mg/L	0.003110	45.01%
QC value within limits for Mg 279.077 Recovery = Not calculated								
Mn 257.610†	636.2	-0.00139	mg/L	0.000022	-0.00139	mg/L	0.000022	1.59%
QC value within limits for Mn 257.610 Recovery = Not calculated								
Mo 202.031†	6.1	-0.00061	mg/L	0.000207	-0.00061	mg/L	0.000207	33.70%
QC value within limits for Mo 202.031 Recovery = Not calculated								
Ni 231.604†	-4.9	-0.00176	mg/L	0.000214	-0.00176	mg/L	0.000214	12.17%
QC value within limits for Ni 231.604 Recovery = Not calculated								
Pb 220.353†	2.8	-0.00056	mg/L	0.000668	-0.00056	mg/L	0.000668	118.84%
QC value within limits for Pb 220.353 Recovery = Not calculated								
Sb 206.836†	2.1	0.00063	mg/L	0.000702	0.00063	mg/L	0.000702	111.05%
QC value within limits for Sb 206.836 Recovery = Not calculated								
Se 196.026†	9.1	0.00646	mg/L	0.000803	0.00646	mg/L	0.000803	12.44%
QC value within limits for Se 196.026 Recovery = Not calculated								
Si 251.611†	1.4	-0.0102	mg/L	0.00039	-0.0102	mg/L	0.00039	3.85%
QC value within limits for Si 251.611 Recovery = Not calculated								
Sn 189.927†	-33.2	-0.00432	mg/L	0.000202	-0.00432	mg/L	0.000202	4.67%
QC value within limits for Sn 189.927 Recovery = Not calculated								
Ti 334.940†	162.8	-0.00034	mg/L	0.000137	-0.00034	mg/L	0.000137	39.75%
QC value within limits for Ti 334.940 Recovery = Not calculated								
Tl 190.801†	-4.6	-0.00309	mg/L	0.001368	-0.00309	mg/L	0.001368	44.26%
QC value within limits for Tl 190.801 Recovery = Not calculated								
V 290.880†	-108.7	-0.00237	mg/L	0.001505	-0.00237	mg/L	0.001505	63.52%
QC value within limits for V 290.880 Recovery = Not calculated								
Zn 206.200†	17.7	-0.00135	mg/L	0.000122	-0.00135	mg/L	0.000122	8.97%
QC value within limits for Zn 206.200 Recovery = Not calculated								
K 766.490†	67.2	0.0390	mg/L	0.01961	0.0390	mg/L	0.01961	50.27%
QC value within limits for K 766.490 Recovery = Not calculated								
Na 589.592†	697.3	0.0341	mg/L	0.00451	0.0341	mg/L	0.00451	13.23%
QC value within limits for Na 589.592 Recovery = Not calculated								
Sr 407.771†	435.5	-0.00268	mg/L	0.000013	-0.00268	mg/L	0.000013	0.50%
QC value within limits for Sr 407.771 Recovery = Not calculated								
Li 670.784†	91.9	-0.00229	mg/L	0.000250	-0.00229	mg/L	0.000250	10.90%
QC value within limits for Li 670.784 Recovery = Not calculated								

All analyte(s) passed QC.

Approved: November 20, 2012

Kim H. Rhoden

Sequence No.: 85 **Autosampler Location: 120**
Sample ID: L1211051104 **Date Collected: 11/19/2012 9:59:20 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1211051104

Analyte	Back Pressure	Flow
All	177.0 kPa	0.50 L/min

Mean Data: L1211051104

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2185625.3						24207.57	1.11%
YRADIAL	276394.6						2024.56	0.73%
Ga 417.206	1200053.9						10220.43	0.85%
GaRADIAL	77199.7						843.54	1.09%
Ag 328.068†	294.1	0.00110	mg/L	0.000237	0.00110	mg/L	0.000237	21.52%
Al 396.153†	838.9	0.111	mg/L	0.0051	0.111	mg/L	0.0051	4.60%
As 188.979†	-17.0	-0.00579	mg/L	0.002338	-0.00579	mg/L	0.002338	40.42%
Ba 233.527†	2530.8	0.0151	mg/L	0.00013	0.0151	mg/L	0.00013	0.86%
Be 234.861†	934.1	0.00032	mg/L	0.000076	0.00032	mg/L	0.000076	23.36%
B 249.677†	21465.4	0.229	mg/L	0.0022	0.229	mg/L	0.0022	0.96%
Ca 227.546†	47915.6	126	mg/L	2.1	126	mg/L	2.1	1.64%
Cd 228.802†	25.2	0.00060	mg/L	0.000252	0.00060	mg/L	0.000252	42.08%
Co 228.616†	30.1	0.00027	mg/L	0.000416	0.00027	mg/L	0.000416	156.43%
Cr 267.716†	6189.3	0.0470	mg/L	0.00047	0.0470	mg/L	0.00047	0.99%
Cu 327.393†	2614.7	0.00920	mg/L	0.000457	0.00920	mg/L	0.000457	4.97%
Fe 239.562†	21740.9	2.28	mg/L	0.021	2.28	mg/L	0.021	0.93%
Mg 279.077†	3232.1	1.15	mg/L	0.033	1.15	mg/L	0.033	2.88%
Mn 257.610†	15562.0	0.0165	mg/L	0.00027	0.0165	mg/L	0.00027	1.62%
Mo 202.031†	408.2	0.0131	mg/L	0.00020	0.0131	mg/L	0.00020	1.53%
Ni 231.604†	539.9	0.00743	mg/L	0.000582	0.00743	mg/L	0.000582	7.83%
Pb 220.353†	23.2	0.00120	mg/L	0.000602	0.00120	mg/L	0.000602	50.37%
Sb 206.836†	-1.9	-0.00076	mg/L	0.001380	-0.00076	mg/L	0.001380	181.98%
Se 196.026†	4.8	0.00417	mg/L	0.004345	0.00417	mg/L	0.004345	104.08%
Si 251.611†	234055.4	4.95	mg/L	0.028	4.95	mg/L	0.028	0.57%
Sn 189.927†	-326.3	-0.0351	mg/L	0.00158	-0.0351	mg/L	0.00158	4.50%
Ti 334.940†	2469.8	0.0206	mg/L	0.00162	0.0206	mg/L	0.00162	7.90%
Tl 190.801†	-40.2	-0.0152	mg/L	0.00529	-0.0152	mg/L	0.00529	34.87%
V 290.880†	1868.2	0.00611	mg/L	0.000154	0.00611	mg/L	0.000154	2.53%
Zn 206.200†	1676.5	0.0361	mg/L	0.00053	0.0361	mg/L	0.00053	1.47%
K 766.490†	74593.8	24.4	mg/L	0.18	24.4	mg/L	0.18	0.73%
Na 589.592†	7485702.6	476	mg/L	7.5	476	mg/L	7.5	1.57%
Sr 407.771†	899828.7	0.372	mg/L	0.0017	0.372	mg/L	0.0017	0.45%
Li 670.784†	1000.2	0.00453	mg/L	0.000579	0.00453	mg/L	0.000579	12.78%

Sequence No.: 86 **Autosampler Location: 121**
Sample ID: L1211051105 **Date Collected: 11/19/2012 10:05:24 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1211051105

Analyte	Back Pressure	Flow
All	176.0 kPa	0.50 L/min

Mean Data: L1211051105

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2400570.6						20804.72	0.87%
YRADIAL	283831.4						4389.44	1.55%
Ga 417.206	1274810.6						9481.32	0.74%
GaRADIAL	79238.7						927.87	1.17%
Ag 328.068†	-57.9	-0.00092	mg/L	0.000442	-0.00092	mg/L	0.000442	47.97%

Approved: November 20, 2012

Kim H. Rhoden

Al 396.153†	123.1	0.00289	mg/L	0.001523	0.00289	mg/L	0.001523 52.71%
As 188.979†	-1.5	-0.00062	mg/L	0.001368	-0.00062	mg/L	0.001368 220.80%
Ba 233.527†	1339.2	0.00715	mg/L	0.000033	0.00715	mg/L	0.000033 0.46%
Be 234.861†	156.8	0.00010	mg/L	0.000015	0.00010	mg/L	0.000015 14.58%
B 249.677†	1480.7	0.0172	mg/L	0.00032	0.0172	mg/L	0.00032 1.85%
Ca 227.546†	1779.5	4.68	mg/L	0.049	4.68	mg/L	0.049 1.05%
Cd 228.802†	27.3	0.00066	mg/L	0.000130	0.00066	mg/L	0.000130 19.77%
Co 228.616†	413.3	0.0108	mg/L	0.00019	0.0108	mg/L	0.00019 1.75%
Cr 267.716†	4237.1	0.0320	mg/L	0.00022	0.0320	mg/L	0.00022 0.69%
Cu 327.393†	4170.7	0.0148	mg/L	0.00033	0.0148	mg/L	0.00033 2.25%
Fe 239.562†	917.8	0.0899	mg/L	0.00010	0.0899	mg/L	0.00010 0.11%
Mg 279.077†	5179.0	1.86	mg/L	0.007	1.86	mg/L	0.007 0.39%
Mn 257.610†	1741.1	-0.00004	mg/L	0.000033	-0.00004	mg/L	0.000033 90.33%
Mo 202.031†	12.3	-0.00040	mg/L	0.000088	-0.00040	mg/L	0.000088 21.89%
Ni 231.604†	494.9	0.00666	mg/L	0.000279	0.00666	mg/L	0.000279 4.20%
Pb 220.353†	12.2	0.00030	mg/L	0.000434	0.00030	mg/L	0.000434 142.45%
Sb 206.836†	2.0	0.00035	mg/L	0.000340	0.00035	mg/L	0.000340 97.85%
Se 196.026†	7.6	0.00555	mg/L	0.001617	0.00555	mg/L	0.001617 29.12%
Si 251.611†	175957.9	3.72	mg/L	0.034	3.72	mg/L	0.034 0.91%
Sn 189.927†	654.3	0.0678	mg/L	0.00096	0.0678	mg/L	0.00096 1.41%
Ti 334.940†	617.0	0.00074	mg/L	0.000220	0.00074	mg/L	0.000220 29.60%
Tl 190.801†	-16.8	-0.00724	mg/L	0.000574	-0.00724	mg/L	0.000574 7.93%
V 290.880†	427.0	-0.00008	mg/L	0.001947	-0.00008	mg/L	0.001947 >999.9%
Zn 206.200†	18706.2	0.419	mg/L	0.0082	0.419	mg/L	0.0082 1.96%
K 766.490†	5169.4	1.72	mg/L	0.020	1.72	mg/L	0.020 1.14%
Na 589.592†	336901.0	16.8	mg/L	0.34	16.8	mg/L	0.34 2.01%
Sr 407.771†	64185.6	0.0240	mg/L	0.00053	0.0240	mg/L	0.00053 2.21%
Li 670.784†	357.3	-0.00030	mg/L	0.000094	-0.00030	mg/L	0.000094 31.54%

Sequence No.: 87 **Autosampler Location: 122**
Sample ID: L1211051107 **Date Collected: 11/19/2012 10:12:21 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1211051107

Analyte	Back Pressure	Flow
All	176.0 kPa	0.50 L/min

Mean Data: L1211051107

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2355986.2						15382.66	0.65%
YRADIAL	285390.7						2253.47	0.79%
Ga 417.206	1247646.7						15053.45	1.21%
GaRADIAL	77973.9						807.62	1.04%
Ag 328.068†	184.7	0.00005	mg/L	0.000401	0.00005	mg/L	0.000401	757.27%
Al 396.153†	148.0	0.00656	mg/L	0.002594	0.00656	mg/L	0.002594	39.57%
As 188.979†	3.8	0.00158	mg/L	0.002613	0.00158	mg/L	0.002613	165.47%
Ba 233.527†	997.5	0.00481	mg/L	0.000220	0.00481	mg/L	0.000220	4.58%
Be 234.861†	426.2	0.00024	mg/L	0.000046	0.00024	mg/L	0.000046	19.35%
B 249.677†	2113.6	0.0227	mg/L	0.00154	0.0227	mg/L	0.00154	6.78%
Ca 227.546†	1705.6	4.52	mg/L	0.080	4.52	mg/L	0.080	1.77%
Cd 228.802†	8.1	0.00052	mg/L	0.000201	0.00052	mg/L	0.000201	38.78%
Co 228.616†	3382.1	0.0918	mg/L	0.00051	0.0918	mg/L	0.00051	0.55%
Cr 267.716†	52001.5	0.401	mg/L	0.0020	0.401	mg/L	0.0020	0.50%
Cu 327.393†	48241.0	0.179	mg/L	0.0022	0.179	mg/L	0.0022	1.21%
Fe 239.562†	5824.0	0.605	mg/L	0.0146	0.605	mg/L	0.0146	2.41%
Mg 279.077†	3094.4	1.10	mg/L	0.032	1.10	mg/L	0.032	2.87%
Mn 257.610†	7895.3	0.00759	mg/L	0.000105	0.00759	mg/L	0.000105	1.38%
Mo 202.031†	81.9	0.00198	mg/L	0.000132	0.00198	mg/L	0.000132	6.64%
Ni 231.604†	3594.9	0.0588	mg/L	0.00059	0.0588	mg/L	0.00059	1.01%
Pb 220.353†	-3.2	-0.00143	mg/L	0.001556	-0.00143	mg/L	0.001556	109.06%
Sb 206.836†	12.1	0.00005	mg/L	0.002083	0.00005	mg/L	0.002083	>999.9%
Se 196.026†	3.6	0.00322	mg/L	0.003934	0.00322	mg/L	0.003934	122.21%
Si 251.611†	195781.3	4.14	mg/L	0.049	4.14	mg/L	0.049	1.19%
Sn 189.927†	4.0	-0.00043	mg/L	0.000538	-0.00043	mg/L	0.000538	126.02%
Ti 334.940†	661.9	0.00065	mg/L	0.000085	0.00065	mg/L	0.000085	13.20%
Tl 190.801†	-3.9	-0.00293	mg/L	0.000483	-0.00293	mg/L	0.000483	16.48%

Approved: November 20, 2012

Kim H. Rhoden

V 290.880†	1061.5	0.00268 mg/L	0.000324	0.00268 mg/L	0.000324	12.07%
Zn 206.200†	174951.7	3.93 mg/L	0.108	3.93 mg/L	0.108	2.73%
K 766.490†	5238.1	1.70 mg/L	0.039	1.70 mg/L	0.039	2.33%
Na 589.592†	1156164.3	58.9 mg/L	0.99	58.9 mg/L	0.99	1.68%
Sr 407.771†	56620.1	0.0208 mg/L	0.00033	0.0208 mg/L	0.00033	1.58%
Li 670.784†	52.4	-0.00259 mg/L	0.000415	-0.00259 mg/L	0.000415	16.04%

Sequence No.: 88 **Autosampler Location: 123**
Sample ID: L1211051801 **Date Collected: 11/19/2012 10:18:19 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1211051801

Analyte	Back Pressure	Flow
All	177.0 kPa	0.50 L/min

Mean Data: L1211051801

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2406032.7						25269.96	1.05%
YRADIAL	293225.5						4157.95	1.42%
Ga 417.206	1249236.2						28479.94	2.28%
GaRADIAL	78044.7						737.88	0.95%
Ag 328.068†	-1048.9	-0.00049	mg/L	0.000045	-0.00049	mg/L	0.000045	9.16%
Al 396.153†	84842.9	12.8	mg/L	0.17	12.8	mg/L	0.17	1.31%
As 188.979†	175.3	0.0644	mg/L	0.00278	0.0644	mg/L	0.00278	4.31%
Ba 233.527†	8112.2	0.0528	mg/L	0.00035	0.0528	mg/L	0.00035	0.67%
Be 234.861†	2561.1	0.00062	mg/L	0.000035	0.00062	mg/L	0.000035	5.62%
B 249.677†	1925.0	0.0186	mg/L	0.00005	0.0186	mg/L	0.00005	0.27%
Ca 227.546†	1755.9	4.80	mg/L	0.188	4.80	mg/L	0.188	3.93%
Cd 228.802†	33.6	0.00044	mg/L	0.000356	0.00044	mg/L	0.000356	81.51%
Co 228.616†	62.5	0.00061	mg/L	0.000283	0.00061	mg/L	0.000283	46.12%
Cr 267.716†	8870.4	0.0676	mg/L	0.00074	0.0676	mg/L	0.00074	1.10%
Cu 327.393†	18599.9	0.0693	mg/L	0.00218	0.0693	mg/L	0.00218	3.15%
Fe 239.562†	72912.1	7.66	mg/L	0.102	7.66	mg/L	0.102	1.34%
Mg 279.077†	3456.0	1.23	mg/L	0.013	1.23	mg/L	0.013	1.06%
Mn 257.610†	181859.5	0.216	mg/L	0.0042	0.216	mg/L	0.0042	1.93%
Mo 202.031†	37.1	0.00087	mg/L	0.000317	0.00087	mg/L	0.000317	36.49%
Ni 231.604†	410.0	0.00523	mg/L	0.000600	0.00523	mg/L	0.000600	11.47%
Pb 220.353†	163.9	0.0163	mg/L	0.00167	0.0163	mg/L	0.00167	10.24%
Sb 206.836†	-1.2	-0.00049	mg/L	0.001619	-0.00049	mg/L	0.001619	328.52%
Se 196.026†	3.9	0.00506	mg/L	0.002536	0.00506	mg/L	0.002536	50.14%
Si 251.611†	556563.6	11.8	mg/L	0.26	11.8	mg/L	0.26	2.22%
Sn 189.927†	-218.1	-0.0237	mg/L	0.00557	-0.0237	mg/L	0.00557	23.45%
Ti 334.940†	186134.8	0.167	mg/L	0.0025	0.167	mg/L	0.0025	1.51%
Tl 190.801†	-7.7	-0.00195	mg/L	0.002843	-0.00195	mg/L	0.002843	145.40%
V 290.880†	6211.7	0.0248	mg/L	0.00016	0.0248	mg/L	0.00016	0.65%
Zn 206.200†	6383.7	0.142	mg/L	0.0035	0.142	mg/L	0.0035	2.50%
K 766.490†	13094.4	4.37	mg/L	0.025	4.37	mg/L	0.025	0.56%
Na 589.592†	20105.4	0.997	mg/L	0.0057	0.997	mg/L	0.0057	0.57%
Sr 407.771†	45571.7	0.0162	mg/L	0.00024	0.0162	mg/L	0.00024	1.49%
Li 670.784†	965.4	0.00427	mg/L	0.000257	0.00427	mg/L	0.000257	6.01%

Sequence No.: 89 **Autosampler Location: 6**
Sample ID: CCV **Date Collected: 11/19/2012 10:24:18 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

Mean Corrected	Calib.	Sample

Approved: November 20, 2012

Analyte	Intensity	Conc. Units	Std.Dev.	Conc. Units	Std.Dev.	RSD
Y 371.029	2351807.9				21540.13	0.92%
YRADIAL	286276.7				3841.33	1.34%
Ga 417.206	1178114.0				26344.05	2.24%
GaRADIAL	75874.5				716.11	0.94%
Ag 328.068†	128267.8	0.397 mg/L	0.0133	0.397 mg/L	0.0133	3.36%
QC value within limits for Ag 328.068 Recovery = 99.28%						
Al 396.153†	65322.0	9.80 mg/L	0.007	9.80 mg/L	0.007	0.07%
QC value within limits for Al 396.153 Recovery = 97.98%						
As 188.979†	1067.2	0.382 mg/L	0.0087	0.382 mg/L	0.0087	2.29%
QC value within limits for As 188.979 Recovery = 95.46%						
Ba 233.527†	147678.6	1.00 mg/L	0.014	1.00 mg/L	0.014	1.43%
QC value within limits for Ba 233.527 Recovery = 100.29%						
Be 234.861†	54577.8	0.0484 mg/L	0.00142	0.0484 mg/L	0.00142	2.93%
QC value within limits for Be 234.861 Recovery = 96.87%						
B 249.677†	45450.4	0.483 mg/L	0.0168	0.483 mg/L	0.0168	3.48%
QC value within limits for B 249.677 Recovery = 96.53%						
Ca 227.546†	3702.4	10.2 mg/L	0.28	10.2 mg/L	0.28	2.76%
QC value within limits for Ca 227.546 Recovery = 101.77%						
Cd 228.802†	2160.7	0.0468 mg/L	0.00187	0.0468 mg/L	0.00187	3.98%
QC value within limits for Cd 228.802 Recovery = 93.69%						
Co 228.616†	7353.7	0.199 mg/L	0.0025	0.199 mg/L	0.0025	1.24%
QC value within limits for Co 228.616 Recovery = 99.67%						
Cr 267.716†	64505.0	0.497 mg/L	0.0045	0.497 mg/L	0.0045	0.90%
QC value within limits for Cr 267.716 Recovery = 99.50%						
Cu 327.393†	133861.6	0.498 mg/L	0.0186	0.498 mg/L	0.0186	3.74%
QC value within limits for Cu 327.393 Recovery = 99.63%						
Fe 239.562†	37291.4	3.91 mg/L	0.034	3.91 mg/L	0.034	0.86%
QC value within limits for Fe 239.562 Recovery = 97.79%						
Mg 279.077†	27175.0	9.79 mg/L	0.111	9.79 mg/L	0.111	1.14%
QC value within limits for Mg 279.077 Recovery = 97.94%						
Mn 257.610†	426572.6	0.510 mg/L	0.0083	0.510 mg/L	0.0083	1.63%
QC value within limits for Mn 257.610 Recovery = 102.09%						
Mo 202.031†	29123.4	0.985 mg/L	0.0090	0.985 mg/L	0.0090	0.91%
QC value within limits for Mo 202.031 Recovery = 98.54%						
Ni 231.604†	29994.2	0.504 mg/L	0.0053	0.504 mg/L	0.0053	1.05%
QC value within limits for Ni 231.604 Recovery = 100.75%						
Pb 220.353†	5225.6	0.500 mg/L	0.0055	0.500 mg/L	0.0055	1.10%
QC value within limits for Pb 220.353 Recovery = 99.94%						
Sb 206.836†	4144.8	1.16 mg/L	0.042	1.16 mg/L	0.042	3.59%
QC value within limits for Sb 206.836 Recovery = 96.48%						
Se 196.026†	629.5	0.389 mg/L	0.0084	0.389 mg/L	0.0084	2.17%
QC value within limits for Se 196.026 Recovery = 97.35%						
Si 251.611†	236225.0	4.98 mg/L	0.110	4.98 mg/L	0.110	2.21%
QC value within limits for Si 251.611 Recovery = 99.65%						
Sn 189.927†	9376.3	0.983 mg/L	0.0103	0.983 mg/L	0.0103	1.05%
QC value within limits for Sn 189.927 Recovery = 98.29%						
Ti 334.940†	1105296.6	0.991 mg/L	0.0059	0.991 mg/L	0.0059	0.60%
QC value within limits for Ti 334.940 Recovery = 99.10%						
Tl 190.801†	1467.4	0.512 mg/L	0.0072	0.512 mg/L	0.0072	1.41%
QC value within limits for Tl 190.801 Recovery = 102.49%						
V 290.880†	230267.0	1.00 mg/L	0.012	1.00 mg/L	0.012	1.20%
QC value within limits for V 290.880 Recovery = 100.48%						
Zn 206.200†	43254.1	0.975 mg/L	0.0136	0.975 mg/L	0.0136	1.40%
QC value within limits for Zn 206.200 Recovery = 97.51%						
K 766.490†	145785.9	48.8 mg/L	0.26	48.8 mg/L	0.26	0.54%
QC value within limits for K 766.490 Recovery = 97.66%						
Na 589.592†	952408.7	48.3 mg/L	0.97	48.3 mg/L	0.97	2.00%
QC value within limits for Na 589.592 Recovery = 96.61%						
Sr 407.771†	2428186.4	1.02 mg/L	0.026	1.02 mg/L	0.026	2.57%
QC value within limits for Sr 407.771 Recovery = 101.60%						
Li 670.784†	131646.8	0.986 mg/L	0.0078	0.986 mg/L	0.0078	0.79%
QC value within limits for Li 670.784 Recovery = 98.59%						

All analyte(s) passed QC.

==========

Sequence No.: 90
Sample ID: CCB
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 1
Date Collected: 11/19/2012 10:30:19 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Approved: November 20, 2012

Kim H. Rhoden

Nebulizer Parameters: CCB

Analyte	Back Pressure	Flow
All	177.0 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	2427060.5						13863.86	0.57%
YRADIAL	287405.9						5328.94	1.85%
Ga 417.206	1223454.9						8125.57	0.66%
GaRADIAL	78041.8						867.97	1.11%
Ag 328.068†	-12.9	-0.00082	mg/L	0.000143	-0.00082	mg/L	0.000143	17.38%
QC value within limits for Ag 328.068 Recovery = Not calculated								
Al 396.153†	29.8	-0.0112	mg/L	0.00087	-0.0112	mg/L	0.00087	7.78%
QC value within limits for Al 396.153 Recovery = Not calculated								
As 188.979†	-4.1	-0.00159	mg/L	0.002267	-0.00159	mg/L	0.002267	142.29%
QC value within limits for As 188.979 Recovery = Not calculated								
Ba 233.527†	16.9	-0.00185	mg/L	0.000099	-0.00185	mg/L	0.000099	5.36%
QC value within limits for Ba 233.527 Recovery = Not calculated								
Be 234.861†	76.5	0.00005	mg/L	0.000020	0.00005	mg/L	0.000020	43.72%
QC value within limits for Be 234.861 Recovery = Not calculated								
B 249.677†	267.4	0.00438	mg/L	0.000222	0.00438	mg/L	0.000222	5.06%
QC value within limits for B 249.677 Recovery = Not calculated								
Ca 227.546†	19.4	0.0519	mg/L	0.03706	0.0519	mg/L	0.03706	71.42%
QC value within limits for Ca 227.546 Recovery = Not calculated								
Cd 228.802†	-3.1	-0.00005	mg/L	0.000098	-0.00005	mg/L	0.000098	177.52%
QC value within limits for Cd 228.802 Recovery = Not calculated								
Co 228.616†	-6.2	-0.00069	mg/L	0.000277	-0.00069	mg/L	0.000277	40.33%
QC value within limits for Co 228.616 Recovery = Not calculated								
Cr 267.716†	21.8	-0.00051	mg/L	0.000056	-0.00051	mg/L	0.000056	10.91%
QC value within limits for Cr 267.716 Recovery = Not calculated								
Cu 327.393†	140.8	-0.00024	mg/L	0.000259	-0.00024	mg/L	0.000259	108.70%
QC value within limits for Cu 327.393 Recovery = Not calculated								
Fe 239.562†	63.5	0.00019	mg/L	0.000913	0.00019	mg/L	0.000913	485.30%
QC value within limits for Fe 239.562 Recovery = Not calculated								
Mg 279.077†	18.4	-0.00297	mg/L	0.002478	-0.00297	mg/L	0.002478	83.33%
QC value within limits for Mg 279.077 Recovery = Not calculated								
Mn 257.610†	529.9	-0.00152	mg/L	0.000011	-0.00152	mg/L	0.000011	0.73%
QC value within limits for Mn 257.610 Recovery = Not calculated								
Mo 202.031†	6.6	-0.00060	mg/L	0.000266	-0.00060	mg/L	0.000266	44.65%
QC value within limits for Mo 202.031 Recovery = Not calculated								
Ni 231.604†	-8.1	-0.00182	mg/L	0.000390	-0.00182	mg/L	0.000390	21.44%
QC value within limits for Ni 231.604 Recovery = Not calculated								
Pb 220.353†	13.7	0.00047	mg/L	0.001471	0.00047	mg/L	0.001471	311.59%
QC value within limits for Pb 220.353 Recovery = Not calculated								
Sb 206.836†	6.9	0.00198	mg/L	0.000370	0.00198	mg/L	0.000370	18.75%
QC value within limits for Sb 206.836 Recovery = Not calculated								
Se 196.026†	9.0	0.00643	mg/L	0.001648	0.00643	mg/L	0.001648	25.63%
QC value within limits for Se 196.026 Recovery = Not calculated								
Si 251.611†	87.7	-0.00841	mg/L	0.000532	-0.00841	mg/L	0.000532	6.33%
QC value within limits for Si 251.611 Recovery = Not calculated								
Sn 189.927†	-27.6	-0.00374	mg/L	0.000442	-0.00374	mg/L	0.000442	11.82%
QC value within limits for Sn 189.927 Recovery = Not calculated								
Ti 334.940†	299.2	-0.00022	mg/L	0.000049	-0.00022	mg/L	0.000049	21.97%
QC value within limits for Ti 334.940 Recovery = Not calculated								
Tl 190.801†	-4.0	-0.00288	mg/L	0.001329	-0.00288	mg/L	0.001329	46.20%
QC value within limits for Tl 190.801 Recovery = Not calculated								
V 290.880†	173.7	-0.00113	mg/L	0.001346	-0.00113	mg/L	0.001346	118.67%
QC value within limits for V 290.880 Recovery = Not calculated								
Zn 206.200†	15.7	-0.00140	mg/L	0.000162	-0.00140	mg/L	0.000162	11.58%
QC value within limits for Zn 206.200 Recovery = Not calculated								
K 766.490†	56.3	0.0354	mg/L	0.01708	0.0354	mg/L	0.01708	48.27%
QC value within limits for K 766.490 Recovery = Not calculated								
Na 589.592†	661.8	0.0323	mg/L	0.00606	0.0323	mg/L	0.00606	18.76%
QC value within limits for Na 589.592 Recovery = Not calculated								
Sr 407.771†	521.5	-0.00264	mg/L	0.000049	-0.00264	mg/L	0.000049	1.87%
QC value within limits for Sr 407.771 Recovery = Not calculated								
Li 670.784†	44.7	-0.00265	mg/L	0.000470	-0.00265	mg/L	0.000470	17.75%
QC value within limits for Li 670.784 Recovery = Not calculated								

All analyte(s) passed QC.

Approved: November 20, 2012

Kim H. Rhoden

2.2.2 Metals ICP-MS Data

2.2.2.1 Summary Data

Login Number: L12110393
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: WG414570 - All acceptance criteria were met.

Matrix Spikes: All acceptance criteria were met.

SAMPLES

Samples: All acceptance criteria were met.

Narrative ID: 56221
Approved By: Sheri Pfalzgraf

Certificate of Analysis

Sample #: L12110393-01 **PrePrep Method:** N/A **Instrument:** ICP-MS2
Client ID: BLDG 4-PIT-SSP1-GW-11082012 **Prep Method:** 3015 **Prep Date:** 11/15/2012 07:35
Matrix: Water **Analytical Method:** 6020 **Cal Date:** 11/18/2012 08:42
Workgroup #: WG414570 **Analyst:** JYH **Run Date:** 11/18/2012 11:37
Collect Date: 11/08/2012 14:11 **Dilution:** 1 **File ID:** NI.111812.113704
Sample Tag: 01 **Units:** mg/L

Analyte	CAS #	Result	Qual	RL	MDL
Antimony, Total	7440-36-0	0.00266		0.00100	0.000500
Arsenic, Total	7440-38-2	0.112		0.00100	0.000500
Lead, Total	7439-92-1		U	0.00100	0.000500
Selenium, Total	7782-49-2	0.00400		0.00100	0.000500
Thallium, Total	7440-28-0		U	0.000200	0.000100

U	Not detected at or above adjusted sample detection limit.

Sample #: L12110393-02 **PrePrep Method:** N/A **Instrument:** ICP-MS2
Client ID: BLDG 4-PIT-SSP1-GW-11082012 **Prep Method:** 3015 **Prep Date:** 11/15/2012 07:35
Matrix: Water **Analytical Method:** 6020 **Cal Date:** 11/18/2012 08:42
Workgroup #: WG414570 **Analyst:** JYH **Run Date:** 11/18/2012 11:40
Collect Date: 11/08/2012 14:11 **Dilution:** 1 **File ID:** NI.111812.114016
Sample Tag: 01 **Units:** mg/L

Analyte	CAS #	Result	Qual	RL	MDL
Antimony, Dissolved	7440-36-0	0.00285		0.00100	0.000500
Arsenic, Dissolved	7440-38-2	0.117		0.00100	0.000500
Lead, Dissolved	7439-92-1		U	0.00100	0.000500
Selenium, Dissolved	7782-49-2	0.00456		0.00100	0.000500
Thallium, Dissolved	7440-28-0		U	0.000200	0.000100

U	Not detected at or above adjusted sample detection limit.

Sample #: L12110393-03 **PrePrep Method:** N/A **Instrument:** ICP-MS2
Client ID: DUP-GW-110812 **Prep Method:** 3015 **Prep Date:** 11/15/2012 07:35
Matrix: Water **Analytical Method:** 6020 **Cal Date:** 11/18/2012 08:42
Workgroup #: WG414570 **Analyst:** JYH **Run Date:** 11/18/2012 11:43
Collect Date: 11/08/2012 00:01 **Dilution:** 1 **File ID:** NI.111812.114330
Sample Tag: 01 **Units:** mg/L

Analyte	CAS #	Result	Qual	RL	MDL
Antimony, Total	7440-36-0	0.00258		0.00100	0.000500

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
Arsenic, Total	7440-38-2	0.110		0.00100	0.000500
Lead, Total	7439-92-1		U	0.00100	0.000500
Selenium, Total	7782-49-2	0.00449		0.00100	0.000500
Thallium, Total	7440-28-0		U	0.000200	0.000100

U	Not detected at or above adjusted sample detection limit.

Sample #: L12110393-04
Client ID: DUP-GW-110812
Matrix: Water
Workgroup #: WG414570
Collect Date: 11/08/2012 00:01
Sample Tag: 01

PrePrep Method: N/A
Prep Method: 3015
Analytical Method: 6020
Analyst: JYH
Dilution: 1
Units: mg/L

Instrument: ICP-MS2
Prep Date: 11/15/2012 07:35
Cal Date: 11/18/2012 08:42
Run Date: 11/18/2012 11:46
File ID: NI.111812.114642

Analyte	CAS #	Result	Qual	RL	MDL
Antimony, Dissolved	7440-36-0	0.00269		0.00100	0.000500
Arsenic, Dissolved	7440-38-2	0.117		0.00100	0.000500
Lead, Dissolved	7439-92-1		U	0.00100	0.000500
Selenium, Dissolved	7782-49-2	0.00505		0.00100	0.000500
Thallium, Dissolved	7440-28-0		U	0.000200	0.000100

U	Not detected at or above adjusted sample detection limit.

2.2.2.2 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: WG414324
Analyst: REK
Spike Analyst: REK
Run Date: 11/15/2012 07:35
Method: 3015
Balance: BAL016
Instrument: MW-2
Instrument Start: 11/15/2012 07:52

SOP: ME407 Revison 13
Spike Solution: STD53323
Spike Witness: BRG
MS WG# 401311 SYRINGE FI: COA16241
Digestion Tubes Lot #: COA16400
HNO3 Lot #: COA16520

	SAMPLE #	Type	Matrix	Initial Amount	Final Volume	Initial Vessel Wt	Final Vessel Wt	Spike Amount	Due Date
1	WG414324-03	BLANK	1	40 mL	100 mL	206.633 g	206.621 g		
2	WG414324-04	LCS	1	40 mL	100 mL	206.766 g	206.753 g	.25 mL	
3	L12110393-01	SAMP	1	40 mL	100 mL	207.424 g	207.403 g		11/27/12
4	L12110393-02	SAMP	1	40 mL	100 mL	205.824 g	205.8 g		11/27/12
5	L12110393-03	SAMP	1	40 mL	100 mL	206.215 g	206.199 g		11/27/12
6	L12110393-04	SAMP	1	40 mL	100 mL	208.329 g	208.3 g		11/27/12
7	L12110411-20	SAMP	1	40 mL	100 mL	206.084 g	206.052 g		11/21/12
8	L12110411-21	SAMP	1	40 mL	100 mL	209.322 g	209.3 g		11/21/12
9	WG414324-01	REF	1	40 mL	100 mL	207.109 g	207.084 g		
10	L12110411-22	SAMP	1	40 mL	100 mL	207.109 g	207.084 g		11/21/12
11	L12110411-23	SAMP	1	40 mL	100 mL	209.571 g	209.542 g		11/21/12
12	L12110411-24	SAMP	1	40 mL	100 mL	206.393 g	206.37 g		11/21/12
13	L12110411-25	SAMP	1	40 mL	100 mL	206.623 g	206.602 g		11/21/12
14	L12110411-26	SAMP	1	40 mL	100 mL	207.691 g	207.654 g		11/21/12
15	L12110411-27	SAMP	1	40 mL	100 mL	212.002 g	211.985 g		11/21/12
16	L12110411-28	SAMP	1	40 mL	100 mL	207.892 g	207.868 g		11/21/12
17	L12110411-29	SAMP	1	40 mL	100 mL	204.074 g	204.058 g		11/21/12
18	L12110419-01	SAMP	2	40 mL	100 mL	205.888 g	205.859 g		11/21/12
19	WG414324-02	REF	2	40 mL	100 mL	207.159 g	207.133 g		
20	L12110419-02	SAMP	2	40 mL	100 mL	207.159 g	207.133 g		11/21/12
21	L12110420-01	SAMP	2	40 mL	100 mL	207.356 g	207.314 g		11/21/12
22	WG414324-05	MS	1	40 mL	100 mL	207.253 g	207.213 g	.25 mL	
23	WG414324-06	MSD	1	40 mL	100 mL	208.421 g	208.404 g	.25 mL	
24	WG414324-07	DUP	1	40 mL	100 mL	205.685 g	205.66 g		

L12110393-01	FILTERED DIGESTATE
L12110393-02	FILTERED DIGESTATE
L12110393-03	FILTERED DIGESTATE
L12110393-04	FILTERED DIGESTATE
L12110411-20	FILTERED DIGESTATE
L12110411-28	FILTERED DIGESTATE
L12110411-29	FILTERED DIGESTATE
L12110420-01	FILTERED DIGESTATE

Analyst: 

Reviewer: 

MW_DIG - Modified 09/30/2009
PDF ID: 2664966
Report generated: 11/15/2012 08:56

Microbac Laboratories Inc.

Instrument Run Log

Instrument: ICP-MS2 Dataset: 111812C.REP
Analyst1: JYH Analyst2: N/A
Method: 6020/6020A/200.8 SOP: ME700A Rev:
Maintenance Log ID: 44016

Calibration Std: STD54940 ICV Std: STD54793 Post Spike: STD53712
ICSA: STD54863 ICSAB: STD54862 Int. Std: RGT17307
CCV: STD54792 LLCCV: STD54861

Workgroups: 414364,414581,414570,414510,414621,414580,414439,414623

Comments: Additional workgroup: 414163

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
1	NI.111812.082955	Blank	Blank		1		11/18/12 08:29
2	NI.111812.083307	WG414625-01	Calibration Point		1		11/18/12 08:33
3	NI.111812.083619	WG414625-02	Calibration Point		1		11/18/12 08:36
4	NI.111812.083931	WG414625-03	Calibration Point		1		11/18/12 08:39
5	NI.111812.084244	WG414625-04	Calibration Point		1		11/18/12 08:42
6	NI.111812.084558	WG414625-05	Initial Calibration Verification		1		11/18/12 08:45
7	NI.111812.084912	WG414625-06	Initial Calib Blank		1		11/18/12 08:49
8	NI.111812.085226	WG414625-07	Low Level Initial Calibration V		1		11/18/12 08:52
9	NI.111812.085538	WG414625-08	Interference Check		1		11/18/12 08:55
10	NI.111812.085850	WG414625-09	Interference Check		1		11/18/12 08:58
11	NI.111812.090205	WG414625-10	CCV		1		11/18/12 09:02
12	NI.111812.090517	WG414625-11	CCB		1		11/18/12 09:05
13	NI.111812.090830	WG414309-02	Method/Prep Blank	40/100	1		11/18/12 09:08
14	NI.111812.091143	WG414309-03	Laboratory Control S	40/100	1		11/18/12 09:11
15	NI.111812.091455	WG414309-01	Reference Sample		1	L12110411-08	11/18/12 09:14
16	NI.111812.091807	WG414309-04	MATRIX SPIKE	40/100	1	L12110411-08	11/18/12 09:18
17	NI.111812.092119	WG414309-05	Matrix Spike Duplica	40/100	1	L12110411-08	11/18/12 09:21
18	NI.111812.092432	L12110411-01	4104-MW1	40/100	1		11/18/12 09:24
19	NI.111812.092744	L12110411-02	4104-MW2	40/100	1		11/18/12 09:27
20	NI.111812.093056	WG414364-01	Post Digestion Spike		1	L12110411-02	11/18/12 09:30
21	NI.111812.093408	WG414364-02	Serial Dilution		5		11/18/12 09:34
22	NI.111812.093723	WG414625-12	CCV		1		11/18/12 09:37
23	NI.111812.094035	WG414625-13	CCB		1		11/18/12 09:40
24	NI.111812.094349	L12110411-03	4104-MW3A	40/100	1		11/18/12 09:43
25	NI.111812.094702	L12110411-04	4104-MW4	40/100	1		11/18/12 09:47
26	NI.111812.095014	L12110411-05	4104-MW6A	40/100	1		11/18/12 09:50
27	NI.111812.095326	L12110411-06	4104-MW7D	40/100	1		11/18/12 09:53
28	NI.111812.095717	L12110411-07	4104-MW8A	40/100	1		11/18/12 09:57
29	NI.111812.100029	L12110411-09	4104-MW9	40/100	1		11/18/12 10:00
30	NI.111812.100341	L12110411-10	4104-MW9DR	40/100	1		11/18/12 10:03
31	NI.111812.100654	L12110411-11	4104-MW10	40/100	1		11/18/12 10:06
32	NI.111812.101006	L12110411-12	4104-MW11	40/100	1		11/18/12 10:10
33	NI.111812.101318	L12110411-13	4104-MW12	40/100	1		11/18/12 10:13
34	NI.111812.101632	WG414625-14	CCV		1		11/18/12 10:16

Page: 1 Approved: November 19, 2012

Maren Berry

Microbac Laboratories Inc.

Instrument Run Log

Instrument: ICP-MS2 Dataset: 111812C.REP
Analyst1: JYH Analyst2: N/A
Method: 6020/6020A/200.8 SOP: ME700A Rev:
Maintenance Log ID: 44016

Calibration Std: STD54940 ICV Std: STD54793 Post Spike: STD53712
ICSA: STD54863 ICSAB: STD54862 Int. Std: RGT17307
CCV: STD54792 LLCCV: STD54861

Workgroups: 414364,414581,414570,414510,414621,414580,414439,414623

Comments: Additional workgroup: 414163

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
35	NI.111812.101944	WG414625-15	CCB		1		11/18/12 10:19
36	NI.111812.102259	L12110411-14	4104-MW14	40/100	1		11/18/12 10:22
37	NI.111812.102611	L12110411-15	4104-MW15	40/100	1		11/18/12 10:26
38	NI.111812.102924	L12110411-16	4104-SW1	40/100	1		11/18/12 10:29
39	NI.111812.103237	L12110411-17	4104-SW2A	40/100	1		11/18/12 10:32
40	NI.111812.103549	L12110411-18	4104-SW3	40/100	1		11/18/12 10:35
41	NI.111812.103901	L12110411-19	4104-SW4	40/100	1		11/18/12 10:39
42	NI.111812.104213	L12110394-01	IDW-GW-110912	40/100	1		11/18/12 10:42
43	NI.111812.104526	L12110394-01	IDW-GW-110912		50		11/18/12 10:45
44	NI.111812.104838	L12110337-18	7291SS01900A	.513/200	100		11/18/12 10:48
45	NI.111812.105151	WG414625-16	CCV		1		11/18/12 10:51
46	NI.111812.105510	WG414625-17	CCB		1		11/18/12 10:55
47	NI.111812.105824	WG414625-18	Low Level Continuing Calibra		1		11/18/12 10:58
48	NI.111812.110144	WG414324-03	Method/Prep Blank	40/100	1		11/18/12 11:01
49	NI.111812.110456	WG414324-04	Laboratory Control S	40/100	1		11/18/12 11:04
50	NI.111812.110809	WG414324-01	Reference Sample		1	L12110411-22	11/18/12 11:08
51	NI.111812.111121	WG414324-05	Matrix Spike	40/100	1	L12110411-22	11/18/12 11:11
52	NI.111812.111433	WG414324-06	Matrix Spike Duplica	40/100	1	L12110411-22	11/18/12 11:14
53	NI.111812.111745	L12110411-20	4104-SW5	40/100	1		11/18/12 11:17
54	NI.111812.112058	L12110411-21	4104-MW13S	40/100	1		11/18/12 11:20
55	NI.111812.112410	WG414570-01	Post Digestion Spike		1	L12110411-21	11/18/12 11:24
56	NI.111812.112723	WG411570-02	Serial Dilution		5	L12100430-01	11/18/12 11:27
57	NI.111812.113038	WG414625-19	CCV		1		11/18/12 11:30
58	NI.111812.113350	WG414625-20	CCB		1		11/18/12 11:33
59	NI.111812.113704	L12110393-01	BLDG 4-PIT-SSP1-GW-1108	40/100	1		11/18/12 11:37
60	NI.111812.114016	L12110393-02	BLDG 4-PIT-SSP1-GW-1108	40/100	1		11/18/12 11:40
61	NI.111812.114330	L12110393-03	DUP-GW-110812	40/100	1		11/18/12 11:43
62	NI.111812.114642	L12110393-04	DUP-GW-110812	40/100	1		11/18/12 11:46
63	NI.111812.114954	L12110411-23	4104-MW19S	40/100	1		11/18/12 11:49
64	NI.111812.115306	L12110411-24	4104-MW19D	40/100	1		11/18/12 11:53
65	NI.111812.115618	L12110411-25	4104-SW6	40/100	1		11/18/12 11:56
66	NI.111812.115930	L12110411-26	4104-SW7	40/100	1		11/18/12 11:59
67	NI.111812.120243	L12110411-27	4104-SW8	40/100	1		11/18/12 12:02
68	NI.111812.120556	L12110411-28	4104-SW9	40/100	1		11/18/12 12:05

Page: 2 Approved: November 19, 2012

Maren Berry

Microbac Laboratories Inc.

Instrument Run Log

Instrument: ICP-MS2 Dataset: 111812C.REP
Analyst1: JYH Analyst2: N/A
Method: 6020/6020A/200.8 SOP: ME700A Rev:
Maintenance Log ID: 44016

Calibration Std: STD54940 ICV Std: STD54793 Post Spike: STD53712
ICSA: STD54863 ICSAB: STD54862 Int. Std: RGT17307
CCV: STD54792 LLCCV: STD54861

Workgroups: 414364,414581,414570,414510,414621,414580,414439,414623

Comments: Additional workgroup: 414163

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
69	NI.111812.120911	WG414625-21	CCV		1		11/18/12 12:09
70	NI.111812.121223	WG414625-22	CCB		1		11/18/12 12:12
71	NI.111812.121538	L12110411-29	4104-LEACHATE	40/100	1		11/18/12 12:15
72	NI.111812.121850	L12110419-01	2110650-01	40/100	5		11/18/12 12:18
73	NI.111812.122202	WG414324-02	Reference Sample		5	L12110419-02	11/18/12 12:22
74	NI.111812.122515	WG414324-07	Duplicate	40/100	5	L12110419-02	11/18/12 12:25
75	NI.111812.122828	L12110420-01	2110655-01	40/100	5		11/18/12 12:28
76	NI.111812.123251	WG414625-23	CCV		1		11/18/12 12:32
77	NI.111812.123604	WG414625-24	CCB		1		11/18/12 12:36
78	NI.111812.124039	WG414625-25	Interference Check		1		11/18/12 12:40
79	NI.111812.124350	WG414625-26	Interference Check		1		11/18/12 12:43
80	NI.111812.124707	WG414625-27	CCV		1		11/18/12 12:47
81	NI.111812.125020	WG414625-28	CCB		1		11/18/12 12:50
82	NI.111812.125539	WG414625-29	Low Level Continuing Calibra		1		11/18/12 12:55
83	NI.111812.130104	WG414031-02	Method/Prep Blank	40/100	1		11/18/12 13:01
84	NI.111812.130416	WG414031-03	Laboratory Control S	40/100	1		11/18/12 13:04
85	NI.111812.130729	WG414031-01	Reference Sample		1	L12110294-02	11/18/12 13:07
86	NI.111812.131041	WG414031-04	Matrix Spike	40/100	1	L12110294-02	11/18/12 13:10
87	NI.111812.131355	WG414031-05	Matrix Spike Duplica	40/100	1	L12110294-02	11/18/12 13:13
88	NI.111812.131707	L12110248-02	SS052PS741-121108	40/100	1		11/18/12 13:17
89	NI.111812.132019	WG414510-03	Post Digestion Spike		1	L12110248-02	11/18/12 13:20
90	NI.111812.132331	WG414510-04	Serial Dilution		5	L12110248-02	11/18/12 13:23
91	NI.111812.132645	WG414625-30	CCV		1		11/18/12 13:26
92	NI.111812.132957	WG414625-31	CCB		1		11/18/12 13:29
93	NI.111812.133311	L12110246-01	LF1MW07-121108	40/100	10		11/18/12 13:33
94	NI.111812.133623	L12110246-02	CLAOW02-121108	40/100	10		11/18/12 13:36
95	NI.111812.133935	L12110246-03	DUP-02-121108	40/100	10		11/18/12 13:39
96	NI.111812.134500	L12110248-03	SS052PS590-121108	40/100	1		11/18/12 13:45
97	NI.111812.134812	L12110248-04	SS050PS635-121108	40/100	1		11/18/12 13:48
98	NI.111812.135124	L12110248-05	SS050PS590-121108	40/100	1		11/18/12 13:51
99	NI.111812.135641	L12110248-05	SS050PS590-121108		50		11/18/12 13:56
100	NI.111812.135956	WG414625-32	CCV		1		11/18/12 13:59
101	NI.111812.140308	WG414625-33	CCB		1		11/18/12 14:03
102	NI.111812.140622	WG414625-34	Low Level Continuing Calibra		1		11/18/12 14:06

Page: 3 Approved: November 19, 2012

Maren Berry

Microbac

Microbac Laboratories Inc.

Instrument Run Log

Instrument: ICP-MS2 Dataset: 111812C.REP
Analyst1: JYH Analyst2: N/A
Method: 6020/6020A/200.8 SOP: ME700A Rev:
Maintenance Log ID: 44016

Calibration Std: STD54940 ICV Std: STD54793 Post Spike: STD53712
ICSA: STD54863 ICSAB: STD54862 Int. Std: RGT17307
CCV: STD54792 LLCCV: STD54861

Workgroups: 414364,414581,414570,414510,414621,414580,414439,414623

Comments: Additional workgroup: 414163

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
103	NI.111812.140937	WG414119-03	Method/Prep Blank	40/100	1		11/18/12 14:09
104	NI.111812.141249	WG414119-04	Laboratory Control S	40/100	1		11/18/12 14:12
105	NI.111812.142704	WG414119-01	Reference Sample		1	L12110230-01	11/18/12 14:27
106	NI.111812.143016	WG414119-05	Duplicate	40/100	1	L12110230-01	11/18/12 14:30
107	NI.111812.143329	WG414119-06	Matrix Spike	40/100	1	L12110230-01	11/18/12 14:33
108	NI.111812.143641	L12110251-03	BEF-VSE-T1-W243-U	40/100	1		11/18/12 14:36
109	NI.111812.143954	WG414621-01	Post Digestion Spike		1	L12110251-03	11/18/12 14:39
110	NI.111812.144306	WG414621-02	Serial Dilution		5	L12110251-03	11/18/12 14:43
111	NI.111812.144619	L12110251-03	BEF-VSE-T1-W243-U		25		11/18/12 14:46
112	NI.111812.144934	WG414625-35	CCV		1		11/18/12 14:49
113	NI.111812.145246	WG414625-36	CCB		1		11/18/12 14:52
114	NI.111812.145602	WG414119-02	Reference Sample		5	L12110251-01	11/18/12 14:56
115	NI.111812.145914	WG414119-07	Matrix Spike	40/100	5	L12110251-01	11/18/12 14:59
116	NI.111812.150227	WG414119-08	Matrix Spike Duplica	40/100	5	L12110251-01	11/18/12 15:02
117	NI.111812.150539	L12110251-02	BEF-SPND-T1-W243-F	40/100	1		11/18/12 15:05
118	NI.111812.150852	L12110251-02	BEF-SPND-T1-W243-F	40/100	5		11/18/12 15:08
119	NI.111812.151204	L12110251-04	BEF-VSE-T1-W243-F	40/100	1		11/18/12 15:12
120	NI.111812.151516	L12110251-05	BEF-CST-T1-W243-U	40/100	1		11/18/12 15:15
121	NI.111812.151828	L12110251-04	BEF-VSE-T1-W243-F		50		11/18/12 15:18
122	NI.111812.152140	L12110251-05	BEF-CST-T1-W243-U		50		11/18/12 15:21
123	NI.111812.152455	WG414625-37	CCV		1		11/18/12 15:24
124	NI.111812.152807	WG414625-38	CCB		1		11/18/12 15:28
125	NI.111812.153121	L12110251-06	BEF-CST-T1-W243-F	40/100	1		11/18/12 15:31
126	NI.111812.153433	L12110251-07	BEF-SPND-T1-W243L-U	40/100	1		11/18/12 15:34
127	NI.111812.153746	L12110251-08	BEF-SPND-T1-W243L-F	40/100	1		11/18/12 15:37
128	NI.111812.154058	L12110251-09	BEF-VSE-T1-W243L-U	40/100	1		11/18/12 15:40
129	NI.111812.154410	L12110251-10	BEF-VSE-T1-W243L-F	40/100	1		11/18/12 15:44
130	NI.111812.154723	L12110251-11	BEF-CST-T1-W243L-U	40/100	1		11/18/12 15:47
131	NI.111812.155035	L12110251-12	BEF-CST-T1-W243L-F	40/100	1		11/18/12 15:50
132	NI.111812.155347	L12110332-18	FT22SQ00100B	40/100	1		11/18/12 15:53
133	NI.111812.155659	L12110332-19	8119SQ00100A	40/100	1		11/18/12 15:56
134	NI.111812.160011	L12110332-20	1358SQ00100A	40/100	1		11/18/12 16:00
135	NI.111812.160325	WG414625-39	CCV		1		11/18/12 16:03
136	NI.111812.160638	WG414625-40	CCB		1		11/18/12 16:06

 Approved: November 19, 2012

Maren Berry

Microbac Laboratories Inc.

Instrument Run Log

Instrument: ICP-MS2 Dataset: 111812C.REP
Analyst1: JYH Analyst2: N/A
Method: 6020/6020A/200.8 SOP: ME700A Rev:
Maintenance Log ID: 44016

Calibration Std: STD54940 ICV Std: STD54793 Post Spike: STD53712
ICSA: STD54863 ICSAB: STD54862 Int. Std: RGT17307
CCV: STD54792 LLCCV: STD54861

Workgroups: 414364,414581,414570,414510,414621,414580,414439,414623

Comments: Additional workgroup: 414163

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
137	NI.111812.160952	WG414625-41	Low Level Continuing Calibra		1		11/18/12 16:09
138	NI.111812.161306	L12110456-13	7417SQ00000E	40/100	1		11/18/12 16:13
139	NI.111812.161618	L12110458-03	SD33T01615A	40/100	1		11/18/12 16:16
140	NI.111812.161931	L12110458-04	SD33T01615A	40/100	1		11/18/12 16:19
141	NI.111812.162243	L12110458-24	7291SQ00000E	40/100	1		11/18/12 16:22
142	NI.111812.162555	L12110447-14	SW3A-279-14	40/100	1		11/18/12 16:25
143	NI.111812.162908	L12110447-17	SW3B-279-14	40/100	1		11/18/12 16:29
144	NI.111812.163221	L12110447-20	SW4A-279-14	40/100	1		11/18/12 16:32
145	NI.111812.163535	L12110447-23	SW5A-279-14	40/100	1		11/18/12 16:35
146	NI.111812.163848	WG414625-42	CCV		1		11/18/12 16:38
147	NI.111812.164200	WG414625-43	CCB		1		11/18/12 16:42
148	NI.111812.164513	WG413848-02	Method/Prep Blank	40/100	1		11/18/12 16:45
149	NI.111812.164825	WG413848-03	Laboratory Control S	40/100	1		11/18/12 16:48
150	NI.111812.165137	WG413848-01	Reference Sample		1	L12110201-01	11/18/12 16:51
151	NI.111812.165451	WG413848-04	Matrix Spike	40/100	1	L12110201-01	11/18/12 16:54
152	NI.111812.165803	WG413848-05	Matrix Spike Duplica	40/100	1	L12110201-01	11/18/12 16:58
153	NI.111812.170115	L12110200-02	KY038PS041-121107	40/100	1		11/18/12 17:01
154	NI.111812.170427	L12110200-03	KY038PS035-121107	40/100	1		11/18/12 17:04
155	NI.111812.170739	WG414163-01	Post Digestion Spike		1	L12110200-03	11/18/12 17:07
156	NI.111812.171052	WG414163-02	Serial Dilution		5	L12110200-03	11/18/12 17:10
157	NI.111812.171405	L12110200-03	KY038PS035-121107		25		11/18/12 17:14
158	NI.111812.171720	WG414625-44	CCV		1		11/18/12 17:17
159	NI.111812.172033	WG414625-45	CCB		1		11/18/12 17:20
160	NI.111812.172347	L12110200-04	KY038PS036-121107	40/100	1		11/18/12 17:23
161	NI.111812.172659	L12110200-06	KY038PS027-121107	40/100	1		11/18/12 17:26
162	NI.111812.173012	WG414625-46	CCV		1		11/18/12 17:30
163	NI.111812.173326	WG414625-47	CCB		1		11/18/12 17:33
164	NI.111812.173639	WG414625-48	Low Level Continuing Calibra		1		11/18/12 17:36
165	NI.111812.173953	WG414134-02	Method/Prep Blank	.5/200	1		11/18/12 17:39
166	NI.111812.174306	WG414134-03	Laboratory Control S	.5/200	1		11/18/12 17:43
167	NI.111812.174618	WG414134-04	Matrix Spike	.527/200	20	L12110332-21	11/18/12 17:46
168	NI.111812.174931	WG414134-05	Matrix Spike Duplica	.537/200	20	L12110332-21	11/18/12 17:49
169	NI.111812.175244	WG414134-01	Reference Sample		20	L12110332-21	11/18/12 17:52
170	NI.111812.175556	L12110332-01	1358SS02302A	.53/200	20		11/18/12 17:55

Page: 5 Approved: November 19, 2012

Maren Berry

Microbac

Microbac Laboratories Inc.

Instrument Run Log

Instrument: ICP-MS2 Dataset: 111812C.REP
Analyst1: JYH Analyst2: N/A
Method: 6020/6020A/200.8 SOP: ME700A Rev:
Maintenance Log ID: 44016

Calibration Std: STD54940 ICV Std: STD54793 Post Spike: STD53712
ICSA: STD54863 ICSAB: STD54862 Int. Std: RGT17307
CCV: STD54792 LLCCV: STD54861

Workgroups: 414364,414581,414570,414510,414621,414580,414439,414623

Comments: Additional workgroup: 414163

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
171	NI.111812.175908	L12110332-02	7291SS00600A	.515/200	20		11/18/12 17:59
172	NI.111812.180220	WG414439-01	Post Digestion Spike		20	L12110332-02	11/18/12 18:02
173	NI.111812.180533	WG414439-02	Serial Dilution		100	L12110332-02	11/18/12 18:05
174	NI.111812.180847	WG414625-49	CCV		1		11/18/12 18:08
175	NI.111812.181200	WG414625-50	CCB		1		11/18/12 18:12
176	NI.111812.181514	L12110332-03	7291SS00600C	.513/200	20		11/18/12 18:15
177	NI.111812.181826	L12110332-04	7291SS00601A	.534/200	20		11/18/12 18:18
178	NI.111812.182140	L12110332-05	7291SS00602A	.52/200	20		11/18/12 18:21
179	NI.111812.182452	L12110332-06	7291SS00700A	.517/200	20		11/18/12 18:24
180	NI.111812.182805	L12110332-07	7291SS00701A	.539/200	20		11/18/12 18:28
181	NI.111812.183117	L12110332-11	7291SS01300A		20		11/18/12 18:31
182	NI.111812.183430	L12110332-12	7291SS01301A	.514/200	20		11/18/12 18:34
183	NI.111812.183742	L12110332-13	7291SS01302A	.532/200	20		11/18/12 18:37
184	NI.111812.184055	L12110332-14	7291SS01401A	.532/200	20		11/18/12 18:40
185	NI.111812.184408	L12110332-15	7291SS01402A	.542/200	20		11/18/12 18:44
186	NI.111812.184723	WG414625-51	CCV		1		11/18/12 18:47
187	NI.111812.185035	WG414625-52	CCB		1		11/18/12 18:50
188	NI.111812.185349	L12110332-16	7291SS02100A	.532/200	20		11/18/12 18:53
189	NI.111812.185702	L12110332-17	7291SS02101A	.505/200	20		11/18/12 18:57
190	NI.111812.190014	L12110337-01	7291SS01202A	.541/200	20		11/18/12 19:00
191	NI.111812.190327	L12110337-02	7291SS01100A	.504/200	20		11/18/12 19:03
192	NI.111812.190639	L12110337-03	7291SS01101A	.516/200	20		11/18/12 19:06
193	NI.111812.190952	L12110337-04	7291SS01102A	.526/200	20		11/18/12 19:09
194	NI.111812.191304	L12110337-05	7291SS01001A	.506/200	20		11/18/12 19:13
195	NI.111812.191618	WG414625-53	CCV		1		11/18/12 19:16
196	NI.111812.191930	WG414625-54	CCB		1		11/18/12 19:19
197	NI.111812.192244	WG414371-02	Method/Prep Blank	.5/200	1		11/18/12 19:22
198	NI.111812.192556	WG414371-03	Laboratory Control S	.5/200	1		11/18/12 19:25
199	NI.111812.192909	L12110338-13	7291SS00402A		20	WG414371-01	11/18/12 19:29
200	NI.111812.193223	L12110338-14	7291SS00402S	.514/200	20	WG414371-04	11/18/12 19:32
201	NI.111812.193536	L12110338-15	7291SS00402D	.508/200	20	WG414371-05	11/18/12 19:35
202	NI.111812.193848	L12110338-08	7291SS00202C	.545/200	20		11/18/12 19:38
203	NI.111812.194201	L12110338-09	7291SS00301A	.537/200	20		11/18/12 19:42
204	NI.111812.194514	WG414623-01	Post Digestion Spike		20	L12110338-09	11/18/12 19:45

Page: 6 Approved: November 19, 2012

Maren Berry

Microbac Laboratories Inc.

Instrument Run Log

Instrument: ICP-MS2 Dataset: 111812C.REP
Analyst1: JYH Analyst2: N/A
Method: 6020/6020A/200.8 SOP: ME700A Rev:
Maintenance Log ID: 44016

Calibration Std: STD54940 ICV Std: STD54793 Post Spike: STD53712
ICSA: STD54863 ICSAB: STD54862 Int. Std: RGT17307
CCV: STD54792 LLCCV: STD54861

Workgroups: 414364,414581,414570,414510,414621,414580,414439,414623

Comments: Additional workgroup: 414163

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
205	NI.111812.194828	WG414623-02	Serial Dilution		100	L12110338-09	11/18/12 19:48
206	NI.111812.195143	WG414625-55	CCV		1		11/18/12 19:51
207	NI.111812.195456	WG414625-56	CCB		1		11/18/12 19:54
208	NI.111812.195811	L12110338-10	7291SS00302A	.542/200	20		11/18/12 19:58
209	NI.111812.200124	L12110338-11	7291SS00302C		20		11/18/12 20:01
210	NI.111812.200436	L12110338-12	7291SS00401A	.52/200	20		11/18/12 20:04
211	NI.111812.200748	L12110338-16	7291SS00500A	.537/200	20		11/18/12 20:07
212	NI.111812.201101	L12110338-17	7291SS00501A	.547/200	20		11/18/12 20:11
213	NI.111812.201413	L12110338-18	7291SS00502A	.525/200	20		11/18/12 20:14
214	NI.111812.201725	L12110338-19	7291SS01200A		20		11/18/12 20:17
215	NI.111812.202038	L12110338-20	7291SS01201A		20		11/18/12 20:20
216	NI.111812.202350	L12110340-01	7291SS03100A	.534/200	20		11/18/12 20:23
217	NI.111812.202702	L12110340-02	7291SS03101A	.534/200	20		11/18/12 20:27
218	NI.111812.203017	WG414625-57	CCV		1		11/18/12 20:30
219	NI.111812.203329	WG414625-58	CCB		1		11/18/12 20:33
220	NI.111812.203644	L12110340-03	7291SS03102A		20		11/18/12 20:36
221	NI.111812.203957	L12110340-04	7291SS03000A		20		11/18/12 20:39
222	NI.111812.204310	L12110340-05	7291SS03001A		20		11/18/12 20:43
223	NI.111812.204622	L12110340-06	7291SS03002A		20		11/18/12 20:46
224	NI.111812.204934	L12110340-07	7291SS03002C		20		11/18/12 20:49
225	NI.111812.205246	L12110340-08	7291SS02901A		20		11/18/12 20:52
226	NI.111812.205558	L12110341-01	7291SS02400A		20		11/18/12 20:55
227	NI.111812.205913	WG414625-59	QC Std 6		1		11/18/12 20:59
228	NI.111812.210226	WG414625-60	QC Std 7		1		11/18/12 21:02
229	NI.111812.210541	WG414625-61	QC Std 8		1		11/18/12 21:05

Page: 7 Approved: November 19, 2012

Maren Berry

Microbac Laboratories Inc.

Data Checklist

Date: 18-NOV-2012
Analyst: JYH
Analyst: NA
Method: 6020/6020A/200.8
Instrument: ICP-MS2
Curve Workgroup: 414625
Runlog ID: 50088
Analytical Workgroups: 414364,414581,414570,414510,414621,414580,414439,414623

Additional Workgroup:	414163
Calibration/Linearity	X
ICV/CCV	X
ICV RSD <= 3% (EPA 200.7 only)	
ICB/CCB	X
ICSA/ICSAB	X
CRI	X
Blank/LCS	X
MS/MSD	X
Post Spike/Serial Dilution	X
Upload Results	X
Data Qualifiers	
Generate PDF Instrument Data	X
Sign/Annotate PDF Data	X
Upload Curve Data	X
Workgroup Forms	X
Case Narrative	394,411,393,419,420,251,332,456
	458,200,201,338,340
Client Forms	X
Level X	
Level 3	200
Level 4	394,411,337.393,246,248,251,332
	456,458,201,338,340
Check for compliance with method and project specific requirements	X
Check the completeness of reported information	X
Check the information for the report narrative	X
Primary Reviewer	JYH
Secondary Reviewer	MMB
Comments	

Primary Reviewer:

Secondary Reviewer:
19-NOV-2012

CHECKLIST1 - Modified 03/05/2008
Generated: NOV-19-2012 13:34:34

Microbac Laboratories Inc.

HOLDING TIMES
EQUIVALENT TO AFCEE FORM 9

Analytical Method: 6020 **AAB#:** WG414570

Login Number: L12110393

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
BLDG 4-PIT-SSP1-GW-11082	01	11/08/12					11/15/2012	6.7	180		11/18/12	9.9	180	
BLDG 4-PIT-SSP1-GW-11082	02	11/08/12					11/15/2012	6.7	180		11/18/12	9.9	180	
DUP-GW-110812	03	11/08/12					11/15/2012	7.3	180		11/18/12	10.5	180	
DUP-GW-110812	04	11/08/12					11/15/2012	7.3	180		11/18/12	10.5	180	

* = SEE PROJECT QAPP REQUIREMENTS

HOLD_TIMES - Modified 03/06/2008
PDF File ID: 2668644
Report generated 11/18/2012 13:14

Microbac Laboratories Inc.

METHOD BLANK SUMMARY

Login Number: L12110393
Work Group: WG414570
Blank File ID: NI.111812.110144
Blank Sample ID: WG414324-03
Prep Date: 11/15/12 07:35
Instrument ID: ICP-MS2
Analyzed Date: 11/18/12 11:01
Method: 6020
Analyst: JYH

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG414324-04	NI.111812.110456	11/18/12 11:04	01
BLDG 4-PIT-SSP1-GW-11082012	L12110393-01	NI.111812.113704	11/18/12 11:37	01
BLDG 4-PIT-SSP1-GW-11082012	L12110393-02	NI.111812.114016	11/18/12 11:40	01
DUP-GW-110812	L12110393-03	NI.111812.114330	11/18/12 11:43	01
DUP-GW-110812	L12110393-04	NI.111812.114642	11/18/12 11:46	01
DUP	WG414324-07	NI.111812.122515	11/18/12 12:25	DL01

Report Name: BLANK_SUMMARY
PDF File ID: 2668645
Report generated 11/18/2012 13:14

Microbac Laboratories Inc.

METHOD BLANK REPORT

Login Number: L12110393 Prep Date: 11/15/12 07:35 Sample ID: WG414324-03
Instrument ID: ICP-MS2 Run Date: 11/18/12 11:01 Prep Method: 3015
File ID: NI.111812.110144 Analyst: JYH Method: 6020
Workgroup (AAB#): WG414570 Matrix: Water Units: mg/L
Contract #: Cal ID: ICP-MS-18-NOV-12

Analytes	MDL	RL	Concentration	Dilution	Qualifier
Antimony, Total	0.000500	0.00100	0.000500	1	U
Arsenic, Total	0.000500	0.00100	0.000500	1	U
Lead, Total	0.000500	0.00100	0.000500	1	U
Selenium, Total	0.000500	0.00100	0.000500	1	U
Thallium, Total	0.000100	0.000200	0.000100	1	U

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

Report Name:BLANK
PDF ID: 2668646
18-NOV-2012 13:14

Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L12110393 **Run Date:** 11/18/2012 **Sample ID:** WG414324-04
Instrument ID: ICP-MS2 **Run Time:** 11:04 **Prep Method:** 3015
File ID: NI.111812.110456 **Analyst:** JYH **Method:** 6020
Workgroup (AAB#): WG414570 **Matrix:** Water **Units:** mg/L
QC Key: WATERLOO **Lot#:** STD53323 **Cal ID:** ICP-MS-18-NOV-12

Analytes	Expected	Found	% Rec	LCS Limits	Q
Antimony, Total	0.0625	0.0573	91.7	80 - 120	
Arsenic, Total	0.0625	0.0560	89.6	80 - 120	
Lead, Total	0.0625	0.0574	91.9	80 - 120	
Selenium, Total	0.0625	0.0547	87.6	80 - 120	
Thallium, Total	0.0625	0.0575	92.0	80 - 120	

LCS - Modified 03/06/2008
PDF File ID: 2668647
Report generated: 11/18/2012 13:14

Microbac Laboratories Inc.

MATRIX SPIKE AND MATRIX SPIKE DUP (MS/MSD)

Loginnum: L12110393 Cal ID: ICP-MS2 - Worknum: WG414570

Instrument ID: ICP-MS2 Contract #: Method: 6020

Parent ID: WG414324-01 File ID: NI.111812.110809 Dil: 1 Matrix: WATER

Sample ID: WG414324-05 MS File ID: NI.111812.111121 Dil: 1 Units: mg/L

Sample ID: WG414324-06 MSD File ID: NI.111812.111433 Dil: 1

Analyte	Parent	MS Spiked	MS Found	MS %Rec	MSD Spiked	MSD Found	MSD %Rec	%RPD	%Rec Limits	RPD Limit	Q
Antimony, Total	ND	0.0625	0.0566	90.6	0.0625	0.0565	90.3	0.337	80 - 120	20	
Arsenic, Total	ND	0.0625	0.0561	89.7	0.0625	0.0562	89.9	0.177	80 - 120	20	
Lead, Total	ND	0.0625	0.0563	90.1	0.0625	0.0569	91.0	0.974	80 - 120	20	
Selenium, Total	ND	0.0625	0.0552	88.4	0.0625	0.0554	88.6	0.241	80 - 120	20	
Thallium, Total	ND	0.0625	0.0561	89.7	0.0625	0.0572	91.5	1.94	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: 2670096

Report generated 11/19/2012 13:55

Microbac Laboratories Inc.
Serial Dilution Report

Login: L12110393 **Worknum:** WG414570
Instrument: ICP-MS2 **Method:** 6020
Serial Dil: WG414570-02 **File ID:** NI.111812.112723 **Dil:** 5 **Units:** ug/L
Sample: L12110411-21 **File ID:** NI.111812.112058 **Dil:** 1

Analyte	Sample	Qual	Serial Dil	Qual	% Diff	Q
Antimony	ND	U	ND	U		
Arsenic	ND	U	ND	U		
Lead	0.325	F	ND	U		
Selenium	0.336	F	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: 2668642
11/18/2012 13:14

Microbac Laboratories Inc.
POST SPIKE REPORT

Sample Login ID: L12110393 **Worknum:** WG414570
Instrument ID: ICP-MS2 **Method:** 6020
Post Spike ID: WG414570-01 **File ID:** NI.111812.112410 **Dil:** 1 **Units:** ug/L
Sample ID: L12110411-21 **File ID:** NI.111812.112058 **Dil:** 1 **Matrix:** Water

Analyte	Post Spike Result	C	Sample Result	C	Spike Added(SA)	% R	Control Limit %R	Q
ANTIMONY	47.1		0	U	50	94.2	75 - 125	
ARSENIC	45.8		0	U	50	91.5	75 - 125	
LEAD	49.4		0.325	F	50	98.2	75 - 125	
SELENIUM	43.9		0.336	F	50	87.2	75 - 125	
THALLIUM	49.3		0	U	50	98.7	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: 2668643
Report generated: 11/18/2012 13:14

Microbac Laboratories Inc.
Initial Calibration Summary

Login:	**L12110393**	Workgroup (AAB#):	**WG414570**
Analytical Method:	**6020**	Instrument ID:	**ICP-MS2**
ICAL Worknum:	**WG414625**	Initial Calibration Date:	**18-NOV-2012 08:42**

	WG414625-01		WG414625-02		WG414625-03		WG414625-04			
	Conc	INT	Conc	INT	Conc	INT	Conc	INT	R	Q
ANTIMONY	0	67.1	.4	403	50	398000	100	749000	.999549	
ARSENIC	0	-196	.4	-130	50	75800	100	143000	.99964	
LEAD	0	1410	.4	3410	50	2060000	100	3880000	.999797	
SELENIUM	0	-1.00	.4	5.80	50	6780	100	12800	.999657	
THALLIUM	0	34.7	.4	686	50	651000	100	1220000	.999765	

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: 2668651
Report generated: 18-NOV-2012 13:14

Microbac Laboratories Inc.
INITIAL CALIBRATION BLANK (ICB)

Login Number: L12110393 Run Date: 11/18/2012 Sample ID: WG414625-06
Instrument ID: ICP-MS2 Run Time: 08:49 Method: 6020
File ID: NI.111812.084912 Analyst: JYH Units: ug/L
Workgroup (AAB#): WG414570 Cal ID: ICP-MS2 - 18-NOV-12
Matrix: WATER

Analytes	MDL	RDL	Concentration	Qualifier
ARSENIC	.2	.4	.2	U
LEAD	.2	.4	.2	U
ANTIMONY	.2	.4	.2	U
SELENIUM	.2	.4	.2	U
THALLIUM	.04	.08	.04	U

ICB - Modified 07/14/2009
PDF File ID: 2668653
Report generated 11/18/2012 13:14

Microbac Laboratories Inc.

CONTINUING CALIBRATION BLANK (CCB)

Login Number: L12110393 Run Date: 11/18/2012 Sample ID: WG414625-11

Instrument ID: ICP-MS2 Run Time: 09:05 Method: 6020

File ID: NI.111812.090517 Analyst: JYH Units: ug/L

Workgroup (AAB#): WG414570 Cal ID: ICP-MS - 18-NOV-12

Matrix: WATER QAPP: WATERLOO

Analytes	MDL	RDL	Concentration	Qualifier
Antimony	0.200	0.400	0.200	U
Arsenic	0.200	0.400	0.200	U
Lead	0.200	0.400	0.200	U
Selenium	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: 2668656
Report generated 11/18/2012 13:14

Microbac Laboratories Inc.

CONTINUING CALIBRATION BLANK (CCB)

Login Number: L12110393 Run Date: 11/18/2012 Sample ID: WG414625-17

Instrument ID: ICP-MS2 Run Time: 10:55 Method: 6020

File ID: NI.111812.105510 Analyst: JYH Units: ug/L

Workgroup (AAB#): WG414570 Cal ID: ICP-MS - 18-NOV-12

Matrix: WATER QAPP: WATERLOO

Analytes	MDL	RDL	Concentration	Qualifier
Antimony	0.200	0.400	0.200	U
Arsenic	0.200	0.400	0.200	U
Lead	0.200	0.400	0.200	U
Selenium	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: 2668656
Report generated 11/18/2012 13:14

Microbac Laboratories Inc.

CONTINUING CALIBRATION BLANK (CCB)

Login Number: L12110393 Run Date: 11/18/2012 Sample ID: WG414625-20

Instrument ID: ICP-MS2 Run Time: 11:33 Method: 6020

File ID: NI.111812.113350 Analyst: JYH Units: ug/L

Workgroup (AAB#): WG414570 Cal ID: ICP-MS - 18-NOV-12

Matrix: WATER QAPP: WATERLOO

Analytes	MDL	RDL	Concentration	Qualifier
Antimony	0.200	0.400	0.200	U
Arsenic	0.200	0.400	0.200	U
Lead	0.200	0.400	0.200	U
Selenium	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: 2668656
Report generated 11/18/2012 13:14

Microbac Laboratories Inc.

CONTINUING CALIBRATION BLANK (CCB)

Login Number: L12110393 Run Date: 11/18/2012 Sample ID: WG414625-22

Instrument ID: ICP-MS2 Run Time: 12:12 Method: 6020

File ID: NI.111812.121223 Analyst: JYH Units: ug/L

Workgroup (AAB#): WG414570 Cal ID: ICP-MS - 18-NOV-12

Matrix: WATER QAPP: WATERLOO

Analytes	MDL	RDL	Concentration	Qualifier
Antimony	0.200	0.400	0.200	U
Arsenic	0.200	0.400	0.200	U
Lead	0.200	0.400	0.200	U
Selenium	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: 2668656
Report generated 11/18/2012 13:14

Microbac Laboratories Inc.

CONTINUING CALIBRATION BLANK (CCB)

Login Number: L12110393 Run Date: 11/18/2012 Sample ID: WG414625-24

Instrument ID: ICP-MS2 Run Time: 12:36 Method: 6020

File ID: NI.111812.123604 Analyst: JYH Units: ug/L

Workgroup (AAB#): WG414570 Cal ID: ICP-MS - 18-NOV-12

Matrix: WATER QAPP: WATERLOO

Analytes	MDL	RDL	Concentration	Qualifier
Antimony	0.200	0.400	0.200	U
Arsenic	0.200	0.400	0.200	U
Lead	0.200	0.400	0.200	U
Selenium	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: 2668656
Report generated 11/18/2012 13:14

Microbac Laboratories Inc.

CONTINUING CALIBRATION BLANK (CCB)

Login Number: L12110393 Run Date: 11/18/2012 Sample ID: WG414625-28

Instrument ID: ICP-MS2 Run Time: 12:50 Method: 6020

File ID: NI.111812.125020 Analyst: JYH Units: ug/L

Workgroup (AAB#): WG414570 Cal ID: ICP-MS - 18-NOV-12

Matrix: WATER QAPP: WATERLOO

Analytes	MDL	RDL	Concentration	Qualifier
Antimony	0.200	0.400	0.200	U
Arsenic	0.200	0.400	0.200	U
Lead	0.200	0.400	0.200	U
Selenium	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: 2668656
Report generated 11/18/2012 13:14

Microbac Laboratories Inc.

INITIAL CALIBRATION VERIFICATION (ICV)
(Alternate Source)

Login Number: L12110393 Run Date: 11/18/2012 Sample ID: WG414625-05
Instrument ID: ICP-MS2 Run Time: 08:45 Method: 6020
File ID: NI.111812.084558 Analyst: JYH Units: ug/L
Workgroup (AAB#): WG414570 Cal ID: ICP-MS - 18-NOV-12
QC Key: WATERLOO

Analyte		Expected	Found	%REC	LIMITS	Q
Antimony		50	51.3	103	90 - 110	
Arsenic		50	50.5	101	90 - 110	
Lead		50	50.4	101	90 - 110	
Selenium		50	50.7	101	90 - 110	
Thallium		50	50.3	101	90 - 110	

* Exceeds LIMITS Limit

ICV - Modified 03/06/2008
PDF File ID: 2668652
Report generated 11/18/2012 13:14

Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12110393 Run Date: 11/18/2012 Sample ID: WG414625-10
Instrument ID: ICP-MS2 Run Time: 09:02 Method: 6020
File ID: NI.111812.090205 Analyst: JYH QC Key: WATERLOO
Workgroup (AAB#): WG414570 Cal ID: ICP-MS - 18-NOV-12
Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Antimony		50.0	50.5	ug/L	101	90 - 110		
Arsenic		50.0	50.0	ug/L	99.9	90 - 110		
Lead		50.0	49.6	ug/L	99.2	90 - 110		
Selenium		50.0	50.2	ug/L	100	90 - 110		
Thallium		50.0	49.8	ug/L	99.6	90 - 110		

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008
PDF File ID: 2668655
Report generated 11/18/2012 13:14

Microbac Laboratories Inc.

CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12110393 Run Date: 11/18/2012 Sample ID: WG414625-16

Instrument ID: ICP-MS2 Run Time: 10:51 Method: 6020

File ID: NI.111812.105151 Analyst: JYH QC Key: WATERLOO

Workgroup (AAB#): WG414570 Cal ID: ICP-MS - 18-NOV-12

Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Antimony		50.0	50.4	ug/L	101	90 - 110		
Arsenic		50.0	50.1	ug/L	100	90 - 110		
Lead		50.0	50.5	ug/L	101	90 - 110		
Selenium		50.0	49.9	ug/L	99.8	90 - 110		
Thallium		50.0	50.7	ug/L	101	90 - 110		

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008

PDF File ID: 2668655

Report generated 11/18/2012 13:14

Microbac Laboratories Inc.

CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12110393 Run Date: 11/18/2012 Sample ID: WG414625-19

Instrument ID: ICP-MS2 Run Time: 11:30 Method: 6020

File ID: NI.111812.113038 Analyst: JYH QC Key: WATERLOO

Workgroup (AAB#): WG414570 Cal ID: ICP-MS - 18-NOV-12

Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Antimony		50.0	49.8	ug/L	99.7	90 - 110		
Arsenic		50.0	49.4	ug/L	98.7	90 - 110		
Lead		50.0	50.1	ug/L	100	90 - 110		
Selenium		50.0	48.3	ug/L	96.7	90 - 110		
Thallium		50.0	50.1	ug/L	100	90 - 110		

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008

PDF File ID: 2668655

Report generated 11/18/2012 13:14

Microbac Laboratories Inc.

CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12110393 Run Date: 11/18/2012 Sample ID: WG414625-21

Instrument ID: ICP-MS2 Run Time: 12:09 Method: 6020

File ID: NI.111812.120911 Analyst: JYH QC Key: WATERLOO

Workgroup (AAB#): WG414570 Cal ID: ICP-MS - 18-NOV-12

Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Antimony		50.0	50.0	ug/L	100	90 - 110		
Arsenic		50.0	49.2	ug/L	98.5	90 - 110		
Lead		50.0	49.8	ug/L	99.6	90 - 110		
Selenium		50.0	48.0	ug/L	96.0	90 - 110		
Thallium		50.0	50.0	ug/L	100	90 - 110		

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008

PDF File ID: 2668655

Report generated 11/18/2012 13:14

Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12110393 Run Date: 11/18/2012 Sample ID: WG414625-23
Instrument ID: ICP-MS2 Run Time: 12:32 Method: 6020
File ID: NI.111812.123251 Analyst: JYH QC Key: WATERLOO
Workgroup (AAB#): WG414570 Cal ID: ICP-MS - 18-NOV-12
Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Antimony		50.0	50.7	ug/L	101	90 - 110		
Arsenic		50.0	49.5	ug/L	99.1	90 - 110		
Lead		50.0	50.2	ug/L	100	90 - 110		
Selenium		50.0	49.0	ug/L	98.1	90 - 110		
Thallium		50.0	50.3	ug/L	101	90 - 110		

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008
PDF File ID: 2668655
Report generated 11/18/2012 13:14

Microbac Laboratories Inc.

CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12110393 Run Date: 11/18/2012 Sample ID: WG414625-27

Instrument ID: ICP-MS2 Run Time: 12:47 Method: 6020

File ID: NI.111812.124707 Analyst: JYH QC Key: WATERLOO

Workgroup (AAB#): WG414570 Cal ID: ICP-MS - 18-NOV-12

Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Antimony		50.0	51.2	ug/L	102	90 - 110		
Arsenic		50.0	50.0	ug/L	100	90 - 110		
Lead		50.0	50.4	ug/L	101	90 - 110		
Selenium		50.0	49.0	ug/L	98.0	90 - 110		
Thallium		50.0	50.7	ug/L	101	90 - 110		

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008

PDF File ID: 2668655

Report generated 11/18/2012 13:14

Microbac Laboratories Inc.
INTERFERENCE CHECK SAMPLES

Login number: L12110393 **Workgroup (AAB#):** WG414570
Instrument ID: ICP-MS2 **Method:** 6020
Sol. A : WG414625-08 **File ID:** NI.111812.085538 **Units:** ug/L
Sol. AB : WG414625-09 **File ID:** NI.111812.085850 **Matrix:** Water

	Sol. A			Sol. AB			
ANALYTE	True	Found	%Recovery	True	Found	%Recovery	Q
Antimony	NS	0.0467	NS	100	97.4	97.4	
Arsenic	NS	0.0337	NS	100	98.7	98.7	
Lead	NS	0.0266	NS	100	99.1	99.1	
Selenium	NS	0.0230	NS	100	97.6	97.6	
Thallium	NS	0.0177	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: 2668654
Report generated 11/18/2012 13:14

Microbac Laboratories Inc.
INTERFERENCE CHECK SAMPLES

Login number: L12110393 **Workgroup (AAB#):** WG414570
Instrument ID: ICP-MS2 **Method:** 6020
Sol. A : WG414625-25 **File ID:** NI.111812.124039 **Units:** ug/L
Sol. AB : WG414625-26 **File ID:** NI.111812.124350 **Matrix:** Water

	Sol. A			Sol. AB			
ANALYTE	True	Found	%Recovery	True	Found	%Recovery	Q
Antimony	NS	0.0413	NS	100	96.4	96.4	
Arsenic	NS	0.0360	NS	100	94.3	94.3	
Lead	NS	0.0238	NS	100	97.4	97.4	
Selenium	NS	0.0194	NS	100	92.2	92.2	
Thallium	NS	0.0106	NS	100	96.2	96.2	

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

ICS - Modified 03/06/2008
PDF File ID: 2668654
Report generated 11/18/2012 13:14

Microbac Laboratories Inc.

INTERNAL STANDARD REPORT

Login: L12110393 **Analytical Method:** 6020
Analytical Workgroup: WG414570 **Matrix:** 1
Instrument: ICP-MS2 **Analyst:** JYH
ICAL Date: 18-NOV-2012 08:33

			BISMUTH	GERMANIUM	INDIUM
Sample	Type	Run Date	% Rec	% Rec	% Rec
L12110393-01	SAMP	18-NOV-2012 11:37	84.56	93.084	93.636
L12110393-02	SAMP	18-NOV-2012 11:40	85.777	95.634	92.991
L12110393-03	SAMP	18-NOV-2012 11:43	85.867	94.607	94.616
L12110393-04	SAMP	18-NOV-2012 11:46	84.033	93.562	92.936
L12110411-21	SAMP	18-NOV-2012 11:20	103.707	99.097	100.861
WG414324-03	BLANK	18-NOV-2012 11:01	102.245	93.354	97.806
WG414324-04	LCS	18-NOV-2012 11:04	102.378	95.693	98.176
WG414570-01	PSPK	18-NOV-2012 11:24	104.903	105.191	105.13
WG414570-02	SERIAL	18-NOV-2012 11:27	104.15	97.617	100.226
WG414625-05	ICV	18-NOV-2012 08:45	98.305	101.015	98.003
WG414625-06	ICB	18-NOV-2012 08:49	98.116	98.612	96.749
WG414625-07	LLICV	18-NOV-2012 08:52	97.24	96.726	96.273
WG414625-08	ICS	18-NOV-2012 08:55	100.383	102.031	99.219
WG414625-09	ICS	18-NOV-2012 08:58	100.582	102.971	101.101
WG414625-10	CCV	18-NOV-2012 09:02	101.289	100.958	99.923
WG414625-11	CCB	18-NOV-2012 09:05	99.627	97.195	97.709
WG414625-16	CCV	18-NOV-2012 10:51	106.183	99.474	102.765
WG414625-17	CCB	18-NOV-2012 10:55	105.083	98.304	101.531
WG414625-18	LLCCV	18-NOV-2012 10:58	103.036	96.215	99.464
WG414625-19	CCV	18-NOV-2012 11:30	100.343	97.428	100.222
WG414625-20	CCB	18-NOV-2012 11:33	100.638	95.531	97.598
WG414625-21	CCV	18-NOV-2012 12:09	100.652	94.782	97.848
WG414625-22	CCB	18-NOV-2012 12:12	97.73	89.833	95.087
WG414625-23	CCV	18-NOV-2012 12:32	98.432	93.74	96.608
WG414625-24	CCB	18-NOV-2012 12:36	95.27	88.861	92.213
WG414625-25	ICS	18-NOV-2012 12:40	96.827	93.213	94.525
WG414625-26	ICS	18-NOV-2012 12:43	95.459	91.552	94.119
WG414625-27	CCV	18-NOV-2012 12:47	97.181	92.035	95.777
WG414625-28	CCB	18-NOV-2012 12:50	94.048	88.695	90.736
WG414625-29	LLCCV	18-NOV-2012 12:55	94.574	89.185	90.997

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: 2668650
Report generated: 11/18/2012 13:14

Microbac Laboratories Inc.
LINEAR RANGE (QUARTERLY)

Login Number: L12110393 **Date:** 09/24/2012
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: 2668648
Report generated: 11/18/2012 13:14

2.2.2.3 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: Sunday, November 18, 2012 06:29:14

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	1333	2024	0.691
Mg	23.985	23.975	4502	2020	0.687
Co	58.933	58.975	11697	2020	0.700
In	114.904	114.925	22865	2024	0.703
U	238.050	238.075	47464	2037	0.704

Relative Std. Dev.

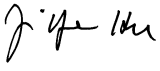
Mass	Meas. Intens. RSD
5.525	2.063
5.575	2.074
5.625	3.381
5.675	3.385
5.725	2.687
5.775	1.939
5.825	1.395
5.875	2.658
5.925	3.738
5.975	1.845
6.025	2.475
6.075	1.515
6.125	3.116
6.175	3.954
6.225	9.875
6.275	34.312
6.325	138.332
6.375	108.653
6.425	69.722
6.475	91.287
6.525	44.599
6.575	25.086
6.625	19.854
6.675	8.477
6.725	9.244
6.775	8.055
6.825	5.126

Report Date/Time: Sunday, November 18, 2012 06:32:25
Page 1

Approved: November 19, 2012

6.875	7.153
6.925	5.226
6.975	4.830
7.025	3.557
7.075	6.581
7.125	8.973
7.175	4.126
7.225	4.652
7.275	20.721
7.325	55.902
7.375	46.481
7.425	162.980
7.475	63.888
7.525	136.931
7.575	104.583
7.625	136.931
7.675	104.583
7.725	69.722
7.775	162.980
7.825	108.653
7.875	91.287
7.925	83.853
7.975	81.441
8.025	141.421
8.075	69.722
8.125	100.000
8.175	81.441
8.225	106.863
8.275	136.931
8.325	69.722
8.375	55.902
8.425	106.066
8.475	104.583
22.525	91.287
22.575	55.902
22.625	78.174
22.675	39.411
22.725	54.772
22.775	38.207
22.825	44.628
22.875	31.923
22.925	45.026
22.975	34.993
23.025	23.385
23.075	15.786
23.125	34.810
23.175	26.504

Approved: November 19, 2012



23.225	32.478
23.275	28.315
23.325	19.628
23.375	38.083
23.425	46.505
23.475	41.782
23.525	6.783
23.575	6.255
23.625	4.946
23.675	2.783
23.725	2.928
23.775	4.230
23.825	3.784
23.875	3.289
23.925	3.016
23.975	2.449
24.025	3.931
24.075	3.293
24.125	3.551
24.175	3.259
24.225	2.234
24.275	6.507
24.325	52.973
24.375	63.888
24.425	79.756
24.475	41.691
24.525	23.176
24.575	7.549
24.625	5.906
24.675	7.684
24.725	5.527
24.775	7.849
24.825	2.696
24.875	5.834
24.925	3.903
24.975	4.438
25.025	2.953
25.075	4.669
25.125	3.817
25.175	6.323
25.225	3.214
25.275	59.266
25.325	39.123
25.375	100.000
25.425	69.722
25.475	74.536
57.525	12.310

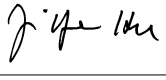
Approved: November 19, 2012

57.575	4.452
57.625	4.536
57.675	2.059
57.725	3.569
57.775	2.518
57.825	1.157
57.875	2.325
57.925	2.880
57.975	3.020
58.025	3.382
58.075	2.931
58.125	3.874
58.175	2.223
58.225	2.817
58.275	5.164
58.325	10.871
58.375	13.925
58.425	43.154
58.475	17.023
58.525	7.273
58.575	3.753
58.625	1.881
58.675	4.131
58.725	2.165
58.775	0.762
58.825	1.499
58.875	3.704
58.925	0.629
58.975	3.838
59.025	3.678
59.075	3.658
59.125	4.744
59.175	3.972
59.225	2.958
59.275	36.367
59.325	29.235
59.375	86.958
59.425	67.711
59.475	29.737
59.525	10.355
59.575	4.428
59.625	3.997
59.675	3.245
59.725	4.802
59.775	6.247
59.825	4.158
59.875	4.866

Approved: November 19, 2012

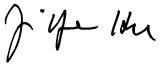
59.925	2.670
59.975	2.946
60.025	6.763
60.075	7.839
60.125	4.539
60.175	6.014
60.225	4.149
60.275	32.323
60.325	69.722
60.375	223.607
60.425	39.123
60.475	81.441
113.525	21.721
113.575	7.105
113.625	5.971
113.675	3.230
113.725	1.881
113.775	2.361
113.825	2.007
113.875	2.202
113.925	1.680
113.975	1.959
114.025	1.263
114.075	2.215
114.125	2.168
114.175	4.036
114.225	8.115
114.275	14.746
114.325	37.378
114.375	10.648
114.425	19.952
114.475	4.048
114.525	2.954
114.575	2.709
114.625	2.600
114.675	2.324
114.725	2.332
114.775	2.707
114.825	2.244
114.875	0.954
114.925	0.811
114.975	1.144
115.025	1.389
115.075	2.066
115.125	1.567
115.175	2.089
115.225	3.114

Approved: November 19, 2012



115.275	7.797
115.325	20.836
115.375	57.051
115.425	65.526
115.475	31.623
115.525	9.821
115.575	3.567
115.625	6.804
115.675	3.984
115.725	7.238
115.775	3.765
115.825	3.061
115.875	5.881
115.925	4.915
115.975	3.315
116.025	4.840
116.075	4.036
116.125	5.341
116.175	3.373
116.225	7.145
116.275	15.689
116.325	47.140
116.375	63.888
116.425	84.984
116.475	52.705
236.525	
236.575	68.698
236.625	82.402
236.675	58.630
236.725	54.565
236.775	47.574
236.825	55.902
236.875	17.669
236.925	48.247
236.975	25.913
237.025	34.468
237.075	42.426
237.125	97.328
237.175	35.972
237.225	63.738
237.275	41.110
237.325	35.315
237.375	49.215
237.425	51.719
237.475	36.944
237.525	13.681
237.575	15.841

Approved: November 19, 2012



237.625	7.355
237.675	4.997
237.725	3.446
237.775	2.863
237.825	1.578
237.875	1.135
237.925	1.921
237.975	1.436
238.025	1.141
238.075	2.155
238.125	1.611
238.175	0.953
238.225	2.075
238.275	1.404
238.325	2.612
238.375	3.061
238.425	4.758
238.475	4.188
238.525	27.384
238.575	23.981
238.625	31.025
238.675	54.565
238.725	56.398
238.775	38.065
238.825	26.146
238.875	28.384
238.925	37.268
238.975	26.503
239.025	35.315
239.075	64.947
239.125	37.268
239.175	42.633
239.225	37.741
239.275	44.628
239.325	23.570
239.375	28.085
239.425	24.495
239.475	33.919

Approved: November 19, 2012

SmartTune Wizard - Summary

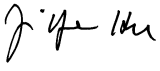
Optimization Summary

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

Start Time: 11/18/2012 7:12:09 AM
End Time: 11/18/2012 7:14:13 AM

Daily Performance Check - [Passed] Optimum value(s): N/A
Obtained Intensity (Be 9.0122): 3912.51
Obtained Intensity (Mg 23.985): 61701.36
Obtained Intensity (In 114.904): 99907.60
Obtained Intensity (U 238.05): 68638.79
Obtained Intensity (Bkgd 220): 0.27
Obtained Formula (CeO 155.9 / Ce 139.905): 0.016 (=1682.96 / 107499.41)
Obtained Formula (Ce++ 69.9527 / Ce 139.905): 0.006 (=628.48 / 107499.41)

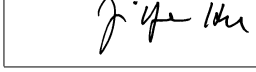
Approved: November 19, 2012



SmartTune Wizard - Details

```
Optimization Details

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

Optimization Status

Start Time: 11/18/2012 7:12:09 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): 3912.51
                Obtained Intensity (Mg 23.985): 61701.36
                Obtained Intensity (In 114.904): 99907.60
                Obtained Intensity (U 238.05): 68638.79
                Obtained Intensity (Bkgd 220): 0.27
                Obtained Formula (CeO 155.9 / Ce 139.905): 0.016 (=1682.96 / 107499.41)
                Obtained Formula (Ce++ 69.9527 / Ce 139.905): 0.006 (=628.48 / 107499.41)
[Passed]  Optimum value(s): N/A

End Time: 11/18/2012 7:14:13 AM
```


Approved: November 19, 2012



Method 6020 - Summary Report

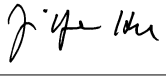
Sample ID: Blank
Sample Date/Time: Sunday, November 18, 2012 08:29:55
Number of Replicates: 3
Autosampler Position: 1
Sample Description:
Method File: C:\NexION Data\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
⌈	**Li**	7	8369.0	6.2				ug/L		Standard
|	**Be**	9	18.3	31.5				ug/L		Standard
|	**Al**	27	215.0	18.6				ug/L		Standard
⌊>	**Sc**	45	53004.3	4.1				ug/L		Standard
⌈	**Ti**	47	25.7	8.1				ug/L		Standard
|	**V**	51	3222.9	2.8				ug/L		Standard
|	**Cr**	52	10378.6	2.5				ug/L		Standard
|	**Cr**	53	191.7	12.1				ug/L		Standard
|	**Mn**	55	1840.4	3.9				ug/L		Standard
|	**Co**	59	115.3	6.4				ug/L		Standard
|	**Ni**	60	75.0	17.6				ug/L		Standard
|	**Cu**	65	154.7	6.3				ug/L		Standard
|	**Zn**	66	237.3	5.2				ug/L		Standard
| >	**Ge**	72	413855.7	5.0				ug/L		Standard
|	**As**	75	-197.1	12.5				ug/L		Standard
|	**Se**	82	-5.4	204.2				ug/L		Standard
⌊	**Se-1**	77	105.3	2.4				ug/L		Standard
⌈ >	**Ga**	71	225.0	35.3				mg/L		Standard
⌊	**Rb**	85	28.3	10.2				ug/L		Standard
⌈	**Y**	89	322845.1	7.8				ug/L		Standard
⌊>	**Rh**	103	91.7	47.7				ug/L		Standard
⌈	**Mo**	98	18.4	16.2				ug/L		Standard
|	**Ag**	107	62.7	14.5				ug/L		Standard
|	**Cd**	111	19.6	23.5				mg/L		Standard
|	**Cd**	114	55.8	11.3				ug/L		Standard
| >	**In**	115	657101.6	4.5				ug/L		Standard
|	**Sn**	118	554.7	7.2				ug/L		Standard
|	**Sb**	123	62.0	10.9				ug/L		Standard
⌊	**Ba**	135	19.3	32.8				ug/L		Standard
⌈	**Ce**	140	24.0	20.8				ug/L		Standard
⌊>	**Tb**	159	910513.6	3.6				ug/L		Standard
⌈	**Ho**	165	7.3	20.8				ug/L		Standard
|	**Tl**	203	13.0	7.7				ug/L		Standard
|	**Tl**	205	0.7	86.6				ug/L		Standard
|	**Pb**	206	342.3	5.1				ug/L		Standard
|	**Pb**	207	284.0	6.1				ug/L		Standard
|	**Pb**	208	1363.0	3.3				ug/L		Standard
|	**U**	238	2.3	65.5				ug/L		Standard
⌊>	**Bi**	209	470591.7	3.6				ug/L		Standard

Sample ID: Blank
Report Date/Time: Sunday, November 18, 2012 08:32:26
Page 1

Approved: November 19, 2012

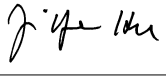


	Na	23	1.7	173.2	mg/L	Standard
	Mg	24	5586.0	4.7	mg/L	Standard
	K	39	5.0	100.0	mg/L	Standard
	Ca	43	45.0	29.4	mg/L	Standard
	Fe	54	350.4	9.4	mg/L	Standard
	Fe	57	101.7	10.2	mg/L	Standard
>	**Sc-1**	45	53004.3	4.1	mg/L	Standard
	Cl	35	2.3	49.5	ug/L	Standard
	Kr	83	157.3	0.8	ug/L	Standard
	Br	81	2.5	0.0	ug/L	Standard
	P	31	91587.9	4.0	ug/L	Standard
	S	34	32555.8	2.3	ug/L	Standard
	Sr	88	61.7	54.0	ug/L	Standard
	C	12	133.3	4.3	mg/L	Standard
	N	14	0.0		mg/L	Standard
	Hg	202	6.7	86.6	mg/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			

Approved: November 19, 2012



⌈	Mo	98
|	Ag	107
|	Cd	111
|	Cd	114
|>	In	115
|	Sn	118
|	Sb	123
⌊	Ba	135
⌈	Ce	140
⌊>	Tb	159
⌈	Ho	165
|	Tl	203
|	Tl	205
|	Pb	206
|	Pb	207
|	Pb	208
|	U	238
⌊>	Bi	209
⌈	Na	23
|	Mg	24
|	K	39
|	Ca	43
|	Fe	54
|	Fe	57
⌊>	Sc-1	45
	Cl	35
	Kr	83
	Br	81
	P	31
	S	34
	Sr	88
	C	12
	N	14
	Hg	202

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: Blank
Report Date/Time: Sunday, November 18, 2012 08:32:26
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

Sample ID: Standard 1
Sample Date/Time: Sunday, November 18, 2012 08:33:07
Number of Replicates: 3
Autosampler Position: 1
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	8329.0	7.8				ug/L	8369	Standard
|	**Be**	9	20.0	25.0				ug/L	18	Standard
|	**Al**	27	271.7	63.2				ug/L	215	Standard
⌊>	**Sc**	45	53062.8	1.0				ug/L	53004	Standard
⌈	**Ti**	47	20.3	5.7				ug/L	26	Standard
|	**V**	51	3083.2	2.8				ug/L	3223	Standard
|	**Cr**	52	9958.9	2.5				ug/L	10379	Standard
|	**Cr**	53	170.8	8.9				ug/L	192	Standard
|	**Mn**	55	2007.5	4.1				ug/L	1840	Standard
|	**Co**	59	125.7	22.5				ug/L	115	Standard
|	**Ni**	60	85.7	18.9				ug/L	75	Standard
|	**Cu**	65	147.7	5.0				ug/L	155	Standard
|	**Zn**	66	242.7	9.8				ug/L	237	Standard
|>	**Ge**	72	409139.1	1.7				ug/L	413856	Standard
|	**As**	75	-195.7	9.1				ug/L	-197	Standard
|	**Se**	82	-1.0	1527.2				ug/L	-5	Standard
⌊	**Se-1**	77	95.7	8.4				ug/L	105	Standard
⌈>	**Ga**	71	190.0	9.5				mg/L	225	Standard
⌊	**Rb**	85	28.3	79.6				ug/L	28	Standard
⌈	**Y**	89	316528.3	2.4				ug/L	322845	Standard
⌊>	**Rh**	103	108.3	22.8				ug/L	92	Standard
⌈	**Mo**	98	67.5	132.6				ug/L	18	Standard
|	**Ag**	107	95.7	62.8				ug/L	63	Standard
|	**Cd**	111	33.3	55.7				mg/L	20	Standard
|	**Cd**	114	97.3	57.8				ug/L	56	Standard
|>	**In**	115	649229.5	2.2				ug/L	657102	Standard
|	**Sn**	118	548.3	6.3				ug/L	555	Standard
|	**Sb**	123	67.1	60.7				ug/L	62	Standard
⌊	**Ba**	135	33.0	33.7				ug/L	19	Standard
⌈	**Ce**	140	37.3	41.5				ug/L	24	Standard
⌊>	**Tb**	159	906036.9	2.1				ug/L	910514	Standard
⌈	**Ho**	165	8.0	50.0				ug/L	7	Standard
|	**Tl**	203	34.7	106.0				ug/L	13	Standard
|	**Tl**	205	1.0	100.0				ug/L	1	Standard
|	**Pb**	206	369.0	11.6				ug/L	342	Standard
|	**Pb**	207	308.3	15.8				ug/L	284	Standard
|	**Pb**	208	1410.0	8.4				ug/L	1363	Standard
|	**U**	238	13.7	166.9				ug/L	2	Standard
⌊>	**Bi**	209	469624.6	1.6				ug/L	470592	Standard

Sample ID: Standard 1
Report Date/Time: Sunday, November 18, 2012 08:35:39
Page 1

Approved: November 19, 2012

	Na	23	6.7	173.2	mg/L	2	Standard
	Mg	24	5747.8	7.8	mg/L	5586	Standard
	K	39	10.0		mg/L	5	Standard
	Ca	43	40.0	21.7	mg/L	45	Standard
	Fe	54	357.1	11.7	mg/L	350	Standard
	Fe	57	95.0	19.0	mg/L	102	Standard
>	**Sc-1**	45	53062.8	1.0	mg/L	53004	Standard
	Cl	35	2.0	50.0	ug/L	2	Standard
	Kr	83	157.0	3.5	ug/L	157	Standard
	Br	81	5.0	50.0	ug/L	3	Standard
	P	31	90186.0	1.8	ug/L	91588	Standard
	S	34	31348.2	1.3	ug/L	32556	Standard
	Sr	88	76.7	16.4	ug/L	62	Standard
	C	12	120.0	7.2	mg/L	133	Standard
	N	14	0.0		mg/L	0	Standard
	Hg	202	1.7	173.2	mg/L	7	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			

Sample ID: Standard 1
Report Date/Time: Sunday, November 18, 2012 08:35:39
Page 2

Approved: November 19, 2012

⌈	Mo	98
|	Ag	107
|	Cd	111
|	Cd	114
|>	In	115
|	Sn	118
|	Sb	123
⌊	Ba	135
⌈	Ce	140
⌊>	Tb	159
⌈	Ho	165
|	Tl	203
|	Tl	205
|	Pb	206
|	Pb	207
|	Pb	208
|	U	238
⌊>	Bi	209
⌈	Na	23
|	Mg	24
|	K	39
|	Ca	43
|	Fe	54
|	Fe	57
⌊>	Sc-1	45
	Cl	35
	Kr	83
	Br	81
	P	31
	S	34
	Sr	88
	C	12
	N	14
	Hg	202

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: Standard 1
Report Date/Time: Sunday, November 18, 2012 08:35:39
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

Sample ID: Standard 2
Sample Date/Time: Sunday, November 18, 2012 08:36:19
Number of Replicates: 3
Autosampler Position: 2
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	8300.6	2.1				ug/L	8369	Standard
|	**Be**	9	121.7	17.1				ug/L	18	Standard
|	**Al**	27	6298.0	6.6				ug/L	215	Standard
⌊>	**Sc**	45	52076.0	0.8				ug/L	53004	Standard
⌈	**Ti**	47	81.7	19.1				ug/L	26	Standard
|	**V**	51	3745.6	2.0				ug/L	3223	Standard
|	**Cr**	52	10551.0	0.9				ug/L	10379	Standard
|	**Cr**	53	219.2	18.2				ug/L	192	Standard
|	**Mn**	55	2397.9	6.2				ug/L	1840	Standard
|	**Co**	59	870.4	17.4				ug/L	115	Standard
|	**Ni**	60	244.3	21.6				ug/L	75	Standard
|	**Cu**	65	296.3	9.2				ug/L	155	Standard
|	**Zn**	66	340.0	10.1				ug/L	237	Standard
|>	**Ge**	72	411496.5	1.2				ug/L	413856	Standard
|	**As**	75	-129.9	14.4				ug/L	-197	Standard
|	**Se**	82	5.8	165.8				ug/L	-5	Standard
⌊	**Se-1**	77	100.3	5.0				ug/L	105	Standard
⌈>	**Ga**	71	201.7	3.8				mg/L	225	Standard
⌊	**Rb**	85	35.0	51.5				ug/L	28	Standard
⌈	**Y**	89	319255.4	1.3				ug/L	322845	Standard
⌊>	**Rh**	103	103.3	12.2				ug/L	92	Standard
⌈	**Mo**	98	476.4	13.5				ug/L	18	Standard
|	**Ag**	107	446.0	8.3				ug/L	63	Standard
|	**Cd**	111	204.1	9.7				mg/L	20	Standard
|	**Cd**	114	522.9	6.9				ug/L	56	Standard
|>	**In**	115	638906.4	1.3				ug/L	657102	Standard
|	**Sn**	118	962.0	6.2				ug/L	555	Standard
|	**Sb**	123	403.1	5.5				ug/L	62	Standard
⌊	**Ba**	135	231.7	11.9				ug/L	19	Standard
⌈	**Ce**	140	30.3	1.9				ug/L	24	Standard
⌊>	**Tb**	159	908996.7	2.2				ug/L	910514	Standard
⌈	**Ho**	165	12.3	52.8				ug/L	7	Standard
|	**Tl**	203	685.7	2.1				ug/L	13	Standard
|	**Tl**	205	19.0	13.9				ug/L	1	Standard
|	**Pb**	206	849.4	2.6				ug/L	342	Standard
|	**Pb**	207	750.0	5.1				ug/L	284	Standard
|	**Pb**	208	3414.5	3.9				ug/L	1363	Standard
|	**U**	238	516.0	7.1				ug/L	2	Standard
⌊>	**Bi**	209	469421.3	1.3				ug/L	470592	Standard

Sample ID: Standard 2
Report Date/Time: Sunday, November 18, 2012 08:38:51
Page 1

Approved: November 19, 2012

	Na	23	0.0		mg/L	2	Standard
	Mg	24	15861.6	4.8	mg/L	5586	Standard
	K	39	3.3	86.6	mg/L	5	Standard
	Ca	43	51.7	22.3	mg/L	45	Standard
	Fe	54	405.2	4.7	mg/L	350	Standard
	Fe	57	83.3	9.2	mg/L	102	Standard
>	**Sc-1**	45	52076.0	0.8	mg/L	53004	Standard
	Cl	35	2.0	50.0	ug/L	2	Standard
	Kr	83	158.6	4.4	ug/L	157	Standard
	Br	81	6.7	57.3	ug/L	3	Standard
	P	31	87642.8	2.4	ug/L	91588	Standard
	S	34	30062.3	1.1	ug/L	32556	Standard
	Sr	88	70.0	12.4	ug/L	62	Standard
	C	12	98.3	35.7	mg/L	133	Standard
	N	14	1.7	173.2	mg/L	0	Standard
	Hg	202	0.0		mg/L	7	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			

Sample ID: Standard 2
Report Date/Time: Sunday, November 18, 2012 08:38:51
Page 2

Approved: November 19, 2012

⌈	Mo	98
|	Ag	107
|	Cd	111
|	Cd	114
|>	In	115
|	Sn	118
|	Sb	123
⌊	Ba	135
⌈	Ce	140
⌊>	Tb	159
⌈	Ho	165
|	Tl	203
|	Tl	205
|	Pb	206
|	Pb	207
|	Pb	208
|	U	238
⌊>	Bi	209
⌈	Na	23
|	Mg	24
|	K	39
|	Ca	43
|	Fe	54
|	Fe	57
⌊>	Sc-1	45
	Cl	35
	Kr	83
	Br	81
	P	31
	S	34
	Sr	88
	C	12
	N	14
	Hg	202

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: Standard 2
Report Date/Time: Sunday, November 18, 2012 08:38:51
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

Sample ID: Standard 3
Sample Date/Time: Sunday, November 18, 2012 08:39:31
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	8293.9	3.9	**50.0000**	59.414	118.8	ug/L	8369	Standard
|	**Be**	9	107191.3	2.1	**50.0000**	0.914	1.8	ug/L	18	Standard
|	**Al**	27	6433378.6	1.1	**50.0000**	1.530	3.1	ug/L	215	Standard
⌊>	**Sc**	45	53390.6	3.4				ug/L	53004	Standard
⌈	**Ti**	47	53863.6	2.8	**100.0000**	0.748	0.7	ug/L	26	Standard
|	**V**	51	619131.4	3.5	**50.0000**	0.970	1.9	ug/L	3223	Standard
|	**Cr**	52	587890.6	2.7	**50.0000**	0.425	0.8	ug/L	10379	Standard
|	**Cr**	53	72942.7	1.4	**50.0000**	0.412	0.8	ug/L	192	Standard
|	**Mn**	55	906870.4	2.8	**50.0000**	0.523	1.0	ug/L	1840	Standard
|	**Co**	59	703013.6	2.1	**50.0000**	0.455	0.9	ug/L	115	Standard
|	**Ni**	60	150612.7	3.2	**50.0000**	0.565	1.1	ug/L	75	Standard
|	**Cu**	65	145756.2	1.6	**50.0000**	0.271	0.5	ug/L	155	Standard
|	**Zn**	66	71832.0	3.0	**50.0000**	0.789	1.6	ug/L	237	Standard
|>	**Ge**	72	421989.4	2.1				ug/L	413856	Standard
|	**As**	75	75787.3	2.3	**50.0000**	0.113	0.2	ug/L	-197	Standard
|	**Se**	82	6779.7	2.7	**50.0000**	0.474	0.9	ug/L	-5	Standard
⌊	**Se-1**	77	5239.6	4.7	**50.0000**	1.571	3.1	ug/L	105	Standard
⌈>	**Ga**	71	238.3	4.4				mg/L	225	Standard
⌊	**Rb**	85	938.4	12.1				ug/L	28	Standard
⌈	**Y**	89	320390.2	2.7				ug/L	322845	Standard
⌊>	**Rh**	103	138.3	23.2				ug/L	92	Standard
⌈	**Mo**	98	453194.7	2.8	**100.0000**	0.582	0.6	ug/L	18	Standard
|	**Ag**	107	400930.0	2.8	**50.0000**	0.349	0.7	ug/L	63	Standard
|	**Cd**	111	174010.0	2.6	**50.0000**	0.141	0.3	mg/L	20	Standard
|	**Cd**	114	457288.7	2.0	**50.0000**	0.425	0.8	ug/L	56	Standard
|>	**In**	115	648510.0	2.3				ug/L	657102	Standard
|	**Sn**	118	503976.2	1.5	**50.0000**	0.532	1.1	ug/L	555	Standard
|	**Sb**	123	398037.3	1.9	**50.0000**	0.500	1.0	ug/L	62	Standard
⌊	**Ba**	135	173901.5	2.0	**50.0000**	0.279	0.6	ug/L	19	Standard
⌈	**Ce**	140	729.4	3.7				ug/L	24	Standard
⌊>	**Tb**	159	928443.5	2.3				ug/L	910514	Standard
⌈	**Ho**	165	448.3	3.5				ug/L	7	Standard
|	**Tl**	203	650603.8	2.1	**50.0000**	0.334	0.7	ug/L	13	Standard
|	**Tl**	205	19746.5	2.8	**50.0000**	0.410	0.8	ug/L	1	Standard
|	**Pb**	206	520714.2	2.3	**50.0000**	0.143	0.3	ug/L	342	Standard
|	**Pb**	207	443568.9	2.6	**50.0000**	0.272	0.5	ug/L	284	Standard
|	**Pb**	208	2055711.2	2.3	**50.0000**	0.171	0.3	ug/L	1363	Standard
|	**U**	238	516230.1	1.8	**50.0000**	0.179	0.4	ug/L	2	Standard
⌊>	**Bi**	209	467622.4	2.1				ug/L	470592	Standard

Sample ID: Standard 3
Report Date/Time: Sunday, November 18, 2012 08:42:03
Page 1

Approved: November 19, 2012

	Na	23	53.3	23.6	**5.0000**	1.184	23.7	mg/L	2	Standard
	Mg	24	10609350.1	2.7	**5.0000**	0.136	2.7	mg/L	5586	Standard
	K	39	380.0	25.1	**5.0000**	1.124	22.5	mg/L	5	Standard
	Ca	43	166.7	15.1	**5.0000**	0.895	17.9	mg/L	45	Standard
	Fe	54	13849.7	2.6	**5.0000**	0.221	4.4	mg/L	350	Standard
	Fe	57	3452.1	5.8	**5.0000**	0.129	2.6	mg/L	102	Standard
>	**Sc-1**	45	53390.6	3.4				mg/L	53004	Standard
	Cl	35	2.3	24.7				ug/L	2	Standard
	Kr	83	143.7	3.2				ug/L	157	Standard
	Br	81	3.3	43.3				ug/L	3	Standard
	P	31	93944.7	2.9				ug/L	91588	Standard
	S	34	36149.7	0.8				ug/L	32556	Standard
	Sr	88	66.7	24.1				ug/L	62	Standard
	C	12	131.7	15.3				mg/L	133	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	0.0					mg/L	7	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			

Sample ID: Standard 3
Report Date/Time: Sunday, November 18, 2012 08:42:03
Page 2

Approved: November 19, 2012

⌈	Mo	98
|	Ag	107
|	Cd	111
|	Cd	114
|>	In	115
|	Sn	118
|	Sb	123
⌊	Ba	135
⌈	Ce	140
⌊>	Tb	159
⌈	Ho	165
|	Tl	203
|	Tl	205
|	Pb	206
|	Pb	207
|	Pb	208
|	U	238
⌊>	Bi	209
⌈	Na	23
|	Mg	24
|	K	39
|	Ca	43
|	Fe	54
|	Fe	57
⌊>	Sc-1	45
	Cl	35
	Kr	83
	Br	81
	P	31
	S	34
	Sr	88
	C	12
	N	14
	Hg	202

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: Standard 3
Report Date/Time: Sunday, November 18, 2012 08:42:03
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

Sample ID: Standard 4
Sample Date/Time: Sunday, November 18, 2012 08:42:44
Number of Replicates: 3
Autosampler Position: 4
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	8790.9	5.2	**-35.2561**	87.834	249.1	ug/L	8369	Standard
|	**Be**	9	210101.2	6.9	**97.7032**	2.489	2.5	ug/L	18	Standard
|	**Al**	27	12180688.8	6.1	**95.9685**	1.854	1.9	ug/L	215	Standard
⌊>	**Sc**	45	54730.5	4.4				ug/L	53004	Standard
⌈	**Ti**	47	101713.1	7.2	**194.7312**	8.957	4.6	ug/L	26	Standard
|	**V**	51	1185232.1	4.8	**98.1851**	1.915	2.0	ug/L	3223	Standard
|	**Cr**	52	1090961.3	5.6	**96.9070**	2.953	3.0	ug/L	10379	Standard
|	**Cr**	53	134882.9	6.8	**96.3564**	4.632	4.8	ug/L	192	Standard
|	**Mn**	55	1722020.4	6.1	**97.6826**	3.501	3.6	ug/L	1840	Standard
|	**Co**	59	1309516.8	5.1	**96.6887**	2.146	2.2	ug/L	115	Standard
|	**Ni**	60	282929.9	5.3	**97.1368**	3.277	3.4	ug/L	75	Standard
|	**Cu**	65	272566.1	6.4	**96.8932**	3.920	4.0	ug/L	155	Standard
|	**Zn**	66	136016.6	6.1	**97.5863**	2.991	3.1	ug/L	237	Standard
| >	**Ge**	72	419859.5	3.4				ug/L	413856	Standard
|	**As**	75	143181.6	5.7	**97.3200**	2.640	2.7	ug/L	-197	Standard
|	**Se**	82	12807.1	5.1	**97.3844**	2.129	2.2	ug/L	-5	Standard
⌊	**Se-1**	77	9780.8	4.8	**97.2494**	1.800	1.9	ug/L	105	Standard
⌈>	**Ga**	71	255.0	20.8				mg/L	225	Standard
⌊	**Rb**	85	6578.1	5.7				ug/L	28	Standard
⌈	**Y**	89	321292.6	4.0				ug/L	322845	Standard
⌊>	**Rh**	103	158.3	10.2				ug/L	92	Standard
⌈	**Mo**	98	871199.0	7.4	**196.0894**	12.466	6.4	ug/L	18	Standard
|	**Ag**	107	761545.4	5.0	**97.4565**	3.919	4.0	ug/L	63	Standard
|	**Cd**	111	328778.6	6.4	**97.1867**	5.238	5.4	mg/L	20	Standard
|	**Cd**	114	866496.0	5.4	**97.3272**	4.256	4.4	ug/L	56	Standard
| >	**In**	115	647985.0	1.2				ug/L	657102	Standard
|	**Sn**	118	957202.3	6.5	**97.4565**	5.401	5.5	ug/L	555	Standard
|	**Sb**	123	749317.4	5.4	**96.9975**	4.304	4.4	ug/L	62	Standard
⌊	**Ba**	135	324116.6	4.8	**96.5103**	3.750	3.9	ug/L	19	Standard
⌈	**Ce**	140	323.0	6.7				ug/L	24	Standard
⌊>	**Tb**	159	914554.2	1.8				ug/L	910514	Standard
⌈	**Ho**	165	861.0	7.9				ug/L	7	Standard
|	**Tl**	203	1224891.1	3.8	**97.8344**	2.493	2.5	ug/L	13	Standard
|	**Tl**	205	37576.3	4.2	**98.3699**	2.905	3.0	ug/L	1	Standard
|	**Pb**	206	983511.4	5.7	**98.0054**	4.517	4.6	ug/L	342	Standard
|	**Pb**	207	834491.2	5.0	**97.8111**	3.606	3.7	ug/L	284	Standard
|	**Pb**	208	3882128.3	6.8	**97.9877**	5.319	5.4	ug/L	1363	Standard
|	**U**	238	946277.4	6.9	**96.4784**	5.224	5.4	ug/L	2	Standard
⌊>	**Bi**	209	459619.1	1.7				ug/L	470592	Standard

Sample ID: Standard 4
Report Date/Time: Sunday, November 18, 2012 08:45:16
Page 1

Approved: November 19, 2012

	Na	23	118.3	28.8	**10.4093**	3.134	30.1	mg/L	2	Standard
	Mg	24	20350493.4	5.5	**9.6652**	0.122	1.3	mg/L	5586	Standard
	K	39	753.4	6.9	**9.8736**	0.319	3.2	mg/L	5	Standard
	Ca	43	306.7	5.0	**10.4102**	0.267	2.6	mg/L	45	Standard
	Fe	54	26593.2	7.3	**9.7342**	0.348	3.6	mg/L	350	Standard
	Fe	57	6336.3	8.2	**9.4986**	0.396	4.2	mg/L	102	Standard
>	**Sc-1**	45	54730.5	4.4				mg/L	53004	Standard
	Cl	35	2.7	57.3				ug/L	2	Standard
	Kr	83	164.3	0.7				ug/L	157	Standard
	Br	81	8.3	62.4				ug/L	3	Standard
	P	31	96518.3	3.0				ug/L	91588	Standard
	S	34	37143.0	1.0				ug/L	32556	Standard
	Sr	88	61.7	9.4				ug/L	62	Standard
	C	12	136.7	11.2				mg/L	133	Standard
	N	14	1.7	173.2				mg/L	0	Standard
	Hg	202	11.7	24.7				mg/L	7	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			

Sample ID: Standard 4
Report Date/Time: Sunday, November 18, 2012 08:45:16
Page 2

Approved: November 19, 2012

⌈	Mo	98
|	Ag	107
|	Cd	111
|	Cd	114
|>	In	115
|	Sn	118
|	Sb	123
⌊	Ba	135
⌈	Ce	140
⌊>	Tb	159
⌈	Ho	165
|	Tl	203
|	Tl	205
|	Pb	206
|	Pb	207
|	Pb	208
|	U	238
⌊>	Bi	209
⌈	Na	23
|	Mg	24
|	K	39
|	Ca	43
|	Fe	54
|	Fe	57
⌊>	Sc-1	45
	Cl	35
	Kr	83
	Br	81
	P	31
	S	34
	Sr	88
	C	12
	N	14
	Hg	202

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: Standard 4
Report Date/Time: Sunday, November 18, 2012 08:45:16
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

Sample ID: QC Std 1
Sample Date/Time: Sunday, November 18, 2012 08:45:58
Number of Replicates: 3
Autosampler Position: 201
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	8552.4	3.9	**4.8986**	95.856	1956.8	ug/L	8369	Standard
|	**Be**	9	107376.7	5.8	**50.8768**	0.776	1.5	ug/L	18	Standard
|	**Al**	27	6241226.4	2.6	**50.1500**	1.481	3.0	ug/L	215	Standard
⌊>	**Sc**	45	53726.9	4.3				ug/L	53004	Standard
⌈	**Ti**	47	52870.8	4.0	**101.7028**	1.275	1.3	ug/L	26	Standard
|	**V**	51	603785.3	1.6	**50.1479**	1.284	2.6	ug/L	3223	Standard
|	**Cr**	52	573498.0	2.1	**50.7731**	0.948	1.9	ug/L	10379	Standard
|	**Cr**	53	71147.7	4.3	**51.0374**	2.053	4.0	ug/L	192	Standard
|	**Mn**	55	892762.6	2.8	**50.8564**	0.676	1.3	ug/L	1840	Standard
|	**Co**	59	676082.9	1.8	**50.1746**	1.301	2.6	ug/L	115	Standard
|	**Ni**	60	145966.9	1.7	**50.3534**	1.284	2.5	ug/L	75	Standard
|	**Cu**	65	143114.5	1.3	**51.1268**	1.352	2.6	ug/L	155	Standard
|	**Zn**	66	70537.9	2.8	**50.7769**	0.841	1.7	ug/L	237	Standard
|>	**Ge**	72	418058.3	3.9				ug/L	413856	Standard
|	**As**	75	73800.3	2.6	**50.4869**	0.817	1.6	ug/L	-197	Standard
|	**Se**	82	6634.1	3.6	**50.6930**	1.072	2.1	ug/L	-5	Standard
⌊	**Se-1**	77	5119.2	1.9	**50.6968**	1.165	2.3	ug/L	105	Standard
⌈>	**Ga**	71	213.3	13.7				mg/L	225	Standard
⌊	**Rb**	85	2078.5	10.5				ug/L	28	Standard
⌈	**Y**	89	313499.7	4.7				ug/L	322845	Standard
⌊>	**Rh**	103	146.7	34.3				ug/L	92	Standard
⌈	**Mo**	98	449107.3	1.2	**101.7937**	1.995	2.0	ug/L	18	Standard
|	**Ag**	107	393415.6	2.1	**50.6784**	0.525	1.0	ug/L	63	Standard
|	**Cd**	111	170543.4	2.0	**50.7509**	0.579	1.1	mg/L	20	Standard
|	**Cd**	114	449418.5	2.5	**50.8101**	0.260	0.5	ug/L	56	Standard
|>	**In**	115	643979.5	3.0				ug/L	657102	Standard
|	**Sn**	118	505125.0	2.5	**51.7529**	0.788	1.5	ug/L	555	Standard
|	**Sb**	123	393649.8	1.9	**51.2994**	0.584	1.1	ug/L	62	Standard
⌊	**Ba**	135	170714.8	1.4	**51.1694**	0.911	1.8	ug/L	19	Standard
⌈	**Ce**	140	453.7	3.2				ug/L	24	Standard
⌊>	**Tb**	159	924098.9	2.5				ug/L	910514	Standard
⌈	**Ho**	165	449.0	4.3				ug/L	7	Standard
|	**Tl**	203	634104.1	1.5	**50.3422**	0.798	1.6	ug/L	13	Standard
|	**Tl**	205	19335.3	1.3	**50.3214**	1.118	2.2	ug/L	1	Standard
|	**Pb**	206	512540.0	1.5	**50.7590**	0.860	1.7	ug/L	342	Standard
|	**Pb**	207	437936.3	1.9	**51.0079**	0.629	1.2	ug/L	284	Standard
|	**Pb**	208	2007028.1	1.8	**50.3523**	0.739	1.5	ug/L	1363	Standard
|	**U**	238	505239.6	2.6	**51.2151**	0.841	1.6	ug/L	2	Standard
⌊>	**Bi**	209	462614.1	3.1				ug/L	470592	Standard

Sample ID: QC Std 1
Report Date/Time: Sunday, November 18, 2012 08:48:30
Page 1

Approved: November 19, 2012

⌈	**Na**	23	65.0	7.7	**5.7940**	0.207	3.6	mg/L	2	Standard
|	**Mg**	24	10381433.3	1.9	**5.0264**	0.124	2.5	mg/L	5586	Standard
|	**K**	39	386.7	20.7	**5.1299**	0.942	18.4	mg/L	5	Standard
|	**Ca**	43	186.7	6.7	**5.6297**	0.840	14.9	mg/L	45	Standard
|	**Fe**	54	13940.7	5.0	**5.1296**	0.078	1.5	mg/L	350	Standard
|	**Fe**	57	3345.4	3.5	**5.0569**	0.117	2.3	mg/L	102	Standard
⌊>	**Sc-1**	45	53726.9	4.3				mg/L	53004	Standard
	Cl	35	3.0	57.7				ug/L	2	Standard
	Kr	83	162.2	0.6				ug/L	157	Standard
	Br	81	3.3	114.6				ug/L	3	Standard
	P	31	97704.4	4.1				ug/L	91588	Standard
	S	34	37771.2	2.3				ug/L	32556	Standard
	Sr	88	66.7	11.5				ug/L	62	Standard
	C	12	93.3	16.4				mg/L	133	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	1.7	173.2				mg/L	7	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈	Li	7			
|	Be	9	101.754		
|	Al	27	100.300		
⌊>	Sc	45			
⌈	Ti	47	101.703		
|	V	51	100.296		
|	Cr	52	101.546		
|	Cr	53			
|	Mn	55	101.713		
|	Co	59	100.349		
|	Ni	60	100.707		
|	Cu	65	102.254		
|	Zn	66	101.554		
|>	Ge	72		101.015	
|	As	75	100.974		
|	Se	82	101.386		
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: QC Std 1
Report Date/Time: Sunday, November 18, 2012 08:48:30
Page 2

Approved: November 19, 2012

	Mo	98	101.794	
	Ag	107	101.357	
	Cd	111	101.502	
	Cd	114		
>	In	115		98.003
	Sn	118	103.506	
	Sb	123	102.599	
	Ba	135	102.339	
	Ce	140		
>	Tb	159		
	Ho	165		
	Tl	203	100.684	
	Tl	205		
	Pb	206	101.518	
	Pb	207	102.016	
	Pb	208	100.705	
	U	238	102.430	
>	Bi	209		98.305
	Na	23	115.879	
	Mg	24	100.528	
	K	39	102.598	
	Ca	43	112.595	
	Fe	54	102.592	
	Fe	57	101.139	
>	Sc-1	45		
	Cl	35		
	Kr	83		
	Br	81		
	P	31		
	S	34		
	Sr	88		
	C	12		
	N	14		
	Hg	202		

QC Out of Limits

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

Sample ID: QC Std 1
Report Date/Time: Sunday, November 18, 2012 08:48:30
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

Sample ID: QC Std 2
Sample Date/Time: Sunday, November 18, 2012 08:49:12
Number of Replicates: 3
Autosampler Position: 102
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	7943.8	5.1	**190.5235**	103.814	54.5	ug/L	8369	Standard
|	**Be**	9	33.3	45.8	**0.0067**	0.007	99.6	ug/L	18	Standard
|	**Al**	27	920.0	100.1	**0.0055**	0.008	140.3	ug/L	215	Standard
⌊>	**Sc**	45	51962.4	4.8				ug/L	53004	Standard
⌈	**Ti**	47	30.3	33.7	**-0.0001**	0.018	20927.1	ug/L	26	Standard
|	**V**	51	3093.9	5.3	**-0.0032**	0.005	173.0	ug/L	3223	Standard
|	**Cr**	52	9763.8	4.2	**-0.0148**	0.015	103.0	ug/L	10379	Standard
|	**Cr**	53	166.7	10.6	**0.0127**	0.009	71.5	ug/L	192	Standard
|	**Mn**	55	1518.7	17.4	**-0.0004**	0.013	3021.8	ug/L	1840	Standard
|	**Co**	59	228.3	60.8	**0.0016**	0.010	607.1	ug/L	115	Standard
|	**Ni**	60	103.7	30.5	**0.0009**	0.010	1069.9	ug/L	75	Standard
|	**Cu**	65	170.0	16.3	**0.0046**	0.008	182.6	ug/L	155	Standard
|	**Zn**	66	244.7	17.2	**-0.0189**	0.025	133.7	ug/L	237	Standard
|>	**Ge**	72	408112.2	3.3				ug/L	413856	Standard
|	**As**	75	-151.0	32.4	**0.0343**	0.035	101.8	ug/L	-197	Standard
|	**Se**	82	15.4	75.2	**0.1263**	0.091	71.8	ug/L	-5	Standard
⌊	**Se-1**	77	88.7	14.3	**-0.0626**	0.124	198.6	ug/L	105	Standard
⌈>	**Ga**	71	221.7	11.4				mg/L	225	Standard
⌊	**Rb**	85	21.7	35.3				ug/L	28	Standard
⌈	**Y**	89	312663.3	6.4				ug/L	322845	Standard
⌊>	**Rh**	103	131.7	29.0				ug/L	92	Standard
⌈	**Mo**	98	139.2	74.4	**0.0230**	0.023	101.7	ug/L	18	Standard
|	**Ag**	107	158.7	83.9	**0.0127**	0.017	135.0	ug/L	63	Standard
|	**Cd**	111	56.8	91.4	**0.0059**	0.015	263.9	mg/L	20	Standard
|	**Cd**	114	166.3	82.5	**0.0094**	0.016	165.1	ug/L	56	Standard
|>	**In**	115	635737.0	2.5				ug/L	657102	Standard
|	**Sn**	118	522.0	33.6	**0.0047**	0.018	375.2	ug/L	555	Standard
|	**Sb**	123	372.5	22.5	**0.0461**	0.010	21.7	ug/L	62	Standard
⌊	**Ba**	135	40.3	80.6	**-0.0078**	0.010	125.5	ug/L	19	Standard
⌈	**Ce**	140	31.3	3.7				ug/L	24	Standard
⌊>	**Tb**	159	888922.7	3.5				ug/L	910514	Standard
⌈	**Ho**	165	10.7	27.1				ug/L	7	Standard
|	**Tl**	203	133.0	120.5	**0.0070**	0.013	184.3	ug/L	13	Standard
|	**Tl**	205	3.3	45.8	**0.0100**	0.004	40.4	ug/L	1	Standard
|	**Pb**	206	399.3	28.4	**0.0068**	0.012	171.7	ug/L	342	Standard
|	**Pb**	207	345.0	34.0	**0.0042**	0.014	330.9	ug/L	284	Standard
|	**Pb**	208	1549.0	28.4	**0.0046**	0.011	249.5	ug/L	1363	Standard
|	**U**	238	58.3	133.3	**0.0044**	0.008	179.9	ug/L	2	Standard
⌊>	**Bi**	209	461724.1	2.8				ug/L	470592	Standard

Sample ID: QC Std 2
Report Date/Time: Sunday, November 18, 2012 08:51:44
Page 1

Approved: November 19, 2012

⌈	**Na**	23	0.0		**0.0050**	0.000	0.0	mg/L	2	Standard
|	**Mg**	24	8285.6	12.7	**0.0012**	0.001	40.9	mg/L	5586	Standard
|	**K**	39	1.7	173.2	**-0.0193**	0.038	197.5	mg/L	5	Standard
|	**Ca**	43	48.3	26.0	**-0.1116**	0.645	577.7	mg/L	45	Standard
|	**Fe**	54	316.5	5.5	**-0.0293**	0.007	22.7	mg/L	350	Standard
|	**Fe**	57	101.7	12.4	**0.0345**	0.016	46.9	mg/L	102	Standard
⌊>	**Sc-1**	45	51962.4	4.8				mg/L	53004	Standard
	Cl	35	2.7	78.1				ug/L	2	Standard
	Kr	83	147.7	8.5				ug/L	157	Standard
	Br	81	5.0	50.0				ug/L	3	Standard
	P	31	93829.1	4.2				ug/L	91588	Standard
	S	34	35404.7	4.0				ug/L	32556	Standard
	Sr	88	51.7	34.0				ug/L	62	Standard
	C	12	118.3	32.8				mg/L	133	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	0.0					mg/L	7	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		98.612	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: QC Std 2
Report Date/Time: Sunday, November 18, 2012 08:51:44
Page 2

Approved: November 19, 2012

⌈	Mo	98		
|	Ag	107		
|	Cd	111		
|	Cd	114		
|>	In	115		96.749
|	Sn	118		
|	Sb	123		
⌊	Ba	135		
⌈	Ce	140		
⌊>	Tb	159		
⌈	Ho	165		
|	Tl	203		
|	Tl	205		
|	Pb	206		
|	Pb	207		
|	Pb	208		
|	U	238		
⌊>	Bi	209		98.116
⌈	Na	23		
|	Mg	24		
|	K	39		
|	Ca	43		
|	Fe	54		
|	Fe	57		
⌊>	Sc-1	45		
	Cl	35		
	Kr	83		
	Br	81		
	P	31		
	S	34		
	Sr	88		
	C	12		
	N	14		
	Hg	202		

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 2	Ca	43	

Sample ID: QC Std 2
Report Date/Time: Sunday, November 18, 2012 08:51:44
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

Sample ID: QC Std 3
Sample Date/Time: Sunday, November 18, 2012 08:52:26
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	8160.5	8.1	**-43.3450**	197.672	456.0	ug/L	8369	Standard
|	**Be**	9	465.0	23.6	**0.2267**	0.070	31.0	ug/L	18	Standard
|	**Al**	27	6154.7	145.2	**0.0533**	0.082	153.5	ug/L	215	Standard
⌊>	**Sc**	45	50701.5	5.7				ug/L	53004	Standard
⌈	**Ti**	47	42.7	66.5	**0.0267**	0.058	217.8	ug/L	26	Standard
|	**V**	51	7630.0	2.9	**0.3976**	0.022	5.6	ug/L	3223	Standard
|	**Cr**	52	18053.1	1.0	**0.7834**	0.033	4.2	ug/L	10379	Standard
|	**Cr**	53	1241.7	8.5	**0.8220**	0.074	9.0	ug/L	192	Standard
|	**Mn**	55	10349.9	5.4	**0.5274**	0.016	3.0	ug/L	1840	Standard
|	**Co**	59	5526.3	7.4	**0.4126**	0.028	6.8	ug/L	115	Standard
|	**Ni**	60	4900.8	4.9	**1.7295**	0.036	2.1	ug/L	75	Standard
|	**Cu**	65	2402.9	5.6	**0.8389**	0.024	2.8	ug/L	155	Standard
|	**Zn**	66	8803.9	5.8	**6.4400**	0.227	3.5	ug/L	237	Standard
|>	**Ge**	72	400306.3	2.9				ug/L	413856	Standard
|	**As**	75	391.0	16.8	**0.4183**	0.046	11.1	ug/L	-197	Standard
|	**Se**	82	42.9	13.6	**0.3465**	0.037	10.6	ug/L	-5	Standard
⌊	**Se-1**	77	143.3	2.8	**0.5316**	0.019	3.6	ug/L	105	Standard
⌈>	**Ga**	71	178.3	17.1				mg/L	225	Standard
⌊	**Rb**	85	13.3	21.7				ug/L	28	Standard
⌈	**Y**	89	304165.0	3.4				ug/L	322845	Standard
⌊>	**Rh**	103	90.0	20.0				ug/L	92	Standard
⌈	**Mo**	98	70.3	38.8	**0.0075**	0.006	81.2	ug/L	18	Standard
|	**Ag**	107	3118.7	2.0	**0.4012**	0.012	2.9	ug/L	63	Standard
|	**Cd**	111	844.3	4.0	**0.2446**	0.006	2.5	mg/L	20	Standard
|	**Cd**	114	2225.5	6.3	**0.2466**	0.013	5.4	ug/L	56	Standard
|>	**In**	115	632610.6	3.3				ug/L	657102	Standard
|	**Sn**	118	559.7	17.0	**0.0091**	0.011	118.7	ug/L	555	Standard
|	**Sb**	123	3217.0	5.1	**0.4239**	0.022	5.2	ug/L	62	Standard
⌊	**Ba**	135	2543.9	5.9	**0.7560**	0.025	3.3	ug/L	19	Standard
⌈	**Ce**	140	20.7	15.6				ug/L	24	Standard
⌊>	**Tb**	159	883394.9	2.7				ug/L	910514	Standard
⌈	**Ho**	165	10.0	43.6				ug/L	7	Standard
|	**Tl**	203	1106.0	6.7	**0.0851**	0.005	6.0	ug/L	13	Standard
|	**Tl**	205	40.0	32.7	**0.1072**	0.038	35.4	ug/L	1	Standard
|	**Pb**	206	2473.2	1.8	**0.2148**	0.005	2.1	ug/L	342	Standard
|	**Pb**	207	2166.5	7.3	**0.2196**	0.026	11.7	ug/L	284	Standard
|	**Pb**	208	10301.1	11.6	**0.2276**	0.038	16.7	ug/L	1363	Standard
|	**U**	238	4327.3	15.1	**0.4434**	0.081	18.3	ug/L	2	Standard
⌊>	**Bi**	209	457602.9	3.2				ug/L	470592	Standard

Sample ID: QC Std 3
Report Date/Time: Sunday, November 18, 2012 08:54:58
Page 1

Approved: November 19, 2012

⌈	**Na**	23	1.7	173.2	**0.1560**	0.262	167.7	mg/L	2	Standard
|	**Mg**	24	15221.0	80.9	**0.0051**	0.007	135.9	mg/L	5586	Standard
|	**K**	39	3.3	86.6	**0.0067**	0.042	622.2	mg/L	5	Standard
|	**Ca**	43	43.3	24.0	**-0.3005**	0.451	149.9	mg/L	45	Standard
|	**Fe**	54	344.6	15.4	**-0.0145**	0.024	167.2	mg/L	350	Standard
|	**Fe**	57	93.3	15.5	**0.0248**	0.019	75.3	mg/L	102	Standard
⌊>	**Sc-1**	45	50701.5	5.7				mg/L	53004	Standard
	Cl	35	3.0	33.3				ug/L	2	Standard
	Kr	83	163.7	0.7				ug/L	157	Standard
	Br	81	5.0	50.0				ug/L	3	Standard
	P	31	88830.6	2.9				ug/L	91588	Standard
	S	34	32758.7	2.4				ug/L	32556	Standard
	Sr	88	56.7	20.4				ug/L	62	Standard
	C	12	116.7	17.8				mg/L	133	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	0.0					mg/L	7	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈	Li	7			
|	Be	9	113.365		
|	Al	27			
⌊>	Sc	45			
⌈	Ti	47			
|	V	51	99.411		
|	Cr	52	97.919		
|	Cr	53			
|	Mn	55	105.482		
|	Co	59	103.146		
|	Ni	60	108.097		
|	Cu	65	104.861		
|	Zn	66	103.040		
|>	Ge	72		96.726	
|	As	75	104.584		
|	Se	82	86.633		
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: QC Std 3
Report Date/Time: Sunday, November 18, 2012 08:54:58
Page 2

Approved: November 19, 2012

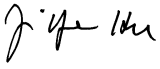
⌈	Mo	98			
|	Ag	107	100.312		
|	Cd	111	101.905		
|	Cd	114			
|>	In	115			96.273
|	Sn	118			
|	Sb	123	105.981		
⌊	Ba	135	100.795		
⌈	Ce	140			
⌊>	Tb	159			
⌈	Ho	165			
|	Tl	203	106.375		
|	Tl	205			
|	Pb	206			
|	Pb	207			
|	Pb	208	113.823		
|	U	238	110.856		
⌊>	Bi	209			97.240
⌈	Na	23			
|	Mg	24			
|	K	39			
|	Ca	43			
|	Fe	54			
|	Fe	57			
⌊>	Sc-1	45			
	Cl	35			
	Kr	83			
	Br	81			
	P	31			
	S	34			
	Sr	88			
	C	12			
	N	14			
	Hg	202			

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: QC Std 3
Report Date/Time: Sunday, November 18, 2012 08:54:58
Page 3

Approved: November 19, 2012



Method 6020 - Summary Report

Sample ID: QC Std 4
Sample Date/Time: Sunday, November 18, 2012 08:55:38
Number of Replicates: 3
Autosampler Position: 203
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	8762.5	4.1	**-110.3024**	124.863	113.2	ug/L	8369	Standard
|	**Be**	9	16.7	45.8	**-0.0016**	0.003	201.7	ug/L	18	Standard
|	**Al**	27	5687041.6	2.4	**45.7343**	2.431	5.3	ug/L	215	Standard
⌊>	**Sc**	45	53710.1	3.6				ug/L	53004	Standard
⌈	**Ti**	47	51029.8	1.3	**97.1877**	1.722	1.8	ug/L	26	Standard
|	**V**	51	2305.4	0.7	**-0.0770**	0.003	4.0	ug/L	3223	Standard
|	**Cr**	52	10839.9	0.8	**0.0511**	0.011	21.1	ug/L	10379	Standard
|	**Cr**	53	1636.8	8.8	**1.0542**	0.094	9.0	ug/L	192	Standard
|	**Mn**	55	2670.6	3.0	**0.0619**	0.005	7.6	ug/L	1840	Standard
|	**Co**	59	351.0	6.2	**0.0103**	0.002	17.9	ug/L	115	Standard
|	**Ni**	60	1064.0	3.6	**0.3280**	0.016	4.8	ug/L	75	Standard
|	**Cu**	65	531.7	5.0	**0.1307**	0.011	8.5	ug/L	155	Standard
|	**Zn**	66	1948.8	8.9	**1.1953**	0.136	11.4	ug/L	237	Standard
|>	**Ge**	72	422260.5	1.0				ug/L	413856	Standard
|	**As**	75	-157.0	38.3	**0.0337**	0.041	122.9	ug/L	-197	Standard
|	**Se**	82	2.5	745.9	**0.0230**	0.138	599.0	ug/L	-5	Standard
⌊	**Se-1**	77	267.7	7.9	**1.6947**	0.208	12.3	ug/L	105	Standard
⌈>	**Ga**	71	391.7	6.0				mg/L	225	Standard
⌊	**Rb**	85	3052.0	2.8				ug/L	28	Standard
⌈	**Y**	89	317218.1	0.7				ug/L	322845	Standard
⌊>	**Rh**	103	83.3	33.0				ug/L	92	Standard
⌈	**Mo**	98	402956.8	2.5	**90.2508**	4.395	4.9	ug/L	18	Standard
|	**Ag**	107	101.7	6.3	**0.0051**	0.001	18.6	ug/L	63	Standard
|	**Cd**	111	200.1	27.2	**0.0477**	0.017	34.8	mg/L	20	Standard
|	**Cd**	114	1433.4	3.8	**0.1507**	0.010	6.6	ug/L	56	Standard
|>	**In**	115	651968.7	2.5				ug/L	657102	Standard
|	**Sn**	118	509.3	10.2	**0.0022**	0.005	239.3	ug/L	555	Standard
|	**Sb**	123	385.5	6.5	**0.0467**	0.004	8.5	ug/L	62	Standard
⌊	**Ba**	135	158.0	12.8	**0.0270**	0.007	26.1	ug/L	19	Standard
⌈	**Ce**	140	1794.1	6.1				ug/L	24	Standard
⌊>	**Tb**	159	928836.3	3.1				ug/L	910514	Standard
⌈	**Ho**	165	16.0	25.0				ug/L	7	Standard
|	**Tl**	203	275.0	16.6	**0.0177**	0.004	20.0	ug/L	13	Standard
|	**Tl**	205	7.3	20.8	**0.0200**	0.004	20.7	ug/L	1	Standard
|	**Pb**	206	622.3	4.1	**0.0275**	0.003	9.9	ug/L	342	Standard
|	**Pb**	207	530.7	13.5	**0.0246**	0.009	37.4	ug/L	284	Standard
|	**Pb**	208	2482.4	6.3	**0.0266**	0.005	18.7	ug/L	1363	Standard
|	**U**	238	38.3	44.9	**0.0023**	0.002	77.0	ug/L	2	Standard
⌊>	**Bi**	209	472395.9	2.1				ug/L	470592	Standard

Sample ID: QC Std 4
Report Date/Time: Sunday, November 18, 2012 08:58:10
Page 1

Approved: November 19, 2012

⌈	**Na**	23	133.3	15.6	**11.8664**	1.522	12.8	mg/L	2	Standard
|	**Mg**	24	23597885.4	1.4	**11.4374**	0.538	4.7	mg/L	5586	Standard
|	**K**	39	336.7	0.9	**4.4808**	0.174	3.9	mg/L	5	Standard
|	**Ca**	43	370.0	12.0	**13.3003**	1.671	12.6	mg/L	45	Standard
|	**Fe**	54	30626.4	7.7	**11.4856**	1.237	10.8	mg/L	350	Standard
|	**Fe**	57	7418.5	0.4	**11.3787**	0.402	3.5	mg/L	102	Standard
⌊>	**Sc-1**	45	53710.1	3.6				mg/L	53004	Standard
	Cl	35	1.3	86.6				ug/L	2	Standard
	Kr	83	171.7	6.9				ug/L	157	Standard
	Br	81	6.7	57.3				ug/L	3	Standard
	P	31	80012.4	0.9				ug/L	91588	Standard
	S	34	32192.5	2.1				ug/L	32556	Standard
	Sr	88	46.7	27.0				ug/L	62	Standard
	C	12	291.7	11.4				mg/L	133	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	3.3	173.2				mg/L	7	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈	Li	7			
|	Be	9			
|	Al	27	0.915		
⌊>	Sc	45			
⌈	Ti	47	97.188		
|	V	51			
|	Cr	52			
|	Cr	53			
|	Mn	55			
|	Co	59			
|	Ni	60			
|	Cu	65			
|	Zn	66			
| >	Ge	72		102.031	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: QC Std 4
Report Date/Time: Sunday, November 18, 2012 08:58:10
Page 2

Approved: November 19, 2012

	Mo	98	90.251	
	Ag	107		
	Cd	111		
	Cd	114		
>	In	115		99.219
	Sn	118		
	Sb	123		
	Ba	135		
	Ce	140		
>	Tb	159		
	Ho	165		
	Tl	203		
	Tl	205		
	Pb	206		
	Pb	207		
	Pb	208		
	U	238		
>	Bi	209		100.383
	Na	23	94.931	
	Mg	24	228.748	
	K	39	89.615	
	Ca	43	88.669	
	Fe	54	91.885	
	Fe	57	91.029	
>	Sc-1	45		
	Cl	35		
	Kr	83		
	Br	81		
	P	31		
	S	34		
	Sr	88		
	C	12		
	N	14		
	Hg	202		

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 4	Al	27	
QC Std 4	Mg	24	

Sample ID: QC Std 4
Report Date/Time: Sunday, November 18, 2012 08:58:10
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

Sample ID: QC Std 5
Sample Date/Time: Sunday, November 18, 2012 08:58:50
Number of Replicates: 3
Autosampler Position: 204
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	8849.3	3.7	**-240.8875**	140.509	58.3	ug/L	8369	Standard
|	**Be**	9	218121.3	4.9	**105.1823**	2.106	2.0	ug/L	18	Standard
|	**Al**	27	5090293.1	5.0	**41.5758**	0.934	2.2	ug/L	215	Standard
⌊>	**Sc**	45	52855.6	6.4				ug/L	53004	Standard
⌈	**Ti**	47	45132.7	6.8	**85.1097**	3.583	4.2	ug/L	26	Standard
|	**V**	51	1141629.0	6.0	**93.1369**	2.375	2.6	ug/L	3223	Standard
|	**Cr**	52	1115129.1	6.0	**97.5788**	2.456	2.5	ug/L	10379	Standard
|	**Cr**	53	138092.2	4.4	**97.2215**	1.302	1.3	ug/L	192	Standard
|	**Mn**	55	1712368.8	5.1	**95.7135**	2.134	2.2	ug/L	1840	Standard
|	**Co**	59	1344913.3	5.1	**97.8345**	1.489	1.5	ug/L	115	Standard
|	**Ni**	60	287566.6	5.5	**97.2443**	1.877	1.9	ug/L	75	Standard
|	**Cu**	65	277601.5	6.6	**97.2044**	2.958	3.0	ug/L	155	Standard
|	**Zn**	66	139614.2	5.5	**98.7109**	2.545	2.6	ug/L	237	Standard
| >	**Ge**	72	426150.3	3.5				ug/L	413856	Standard
|	**As**	75	147430.2	4.9	**98.7453**	1.870	1.9	ug/L	-197	Standard
|	**Se**	82	13017.8	3.9	**97.5544**	1.392	1.4	ug/L	-5	Standard
⌊	**Se-1**	77	10248.5	3.1	**100.4684**	1.298	1.3	ug/L	105	Standard
⌈>	**Ga**	71	428.3	8.4				mg/L	225	Standard
⌊	**Rb**	85	2710.2	7.7				ug/L	28	Standard
⌈	**Y**	89	322608.4	2.8				ug/L	322845	Standard
⌊>	**Rh**	103	175.0	12.5				ug/L	92	Standard
⌈	**Mo**	98	358057.0	3.8	**78.6475**	1.006	1.3	ug/L	18	Standard
|	**Ag**	107	753779.3	4.5	**94.1148**	2.090	2.2	ug/L	63	Standard
|	**Cd**	111	339226.8	4.3	**97.8517**	2.030	2.1	mg/L	20	Standard
|	**Cd**	114	885176.0	3.5	**97.0370**	2.145	2.2	ug/L	56	Standard
| >	**In**	115	664335.5	4.1				ug/L	657102	Standard
|	**Sn**	118	1230.7	4.9	**0.0730**	0.006	8.4	ug/L	555	Standard
|	**Sb**	123	771195.0	3.4	**97.4316**	2.108	2.2	ug/L	62	Standard
⌊	**Ba**	135	331829.8	4.1	**96.4179**	2.378	2.5	ug/L	19	Standard
⌈	**Ce**	140	1647.1	4.5				ug/L	24	Standard
⌊>	**Tb**	159	939828.4	3.2				ug/L	910514	Standard
⌈	**Ho**	165	166.7	6.6				ug/L	7	Standard
|	**Tl**	203	1263180.6	3.9	**97.9668**	1.583	1.6	ug/L	13	Standard
|	**Tl**	205	38548.0	3.2	**98.0007**	1.216	1.2	ug/L	1	Standard
|	**Pb**	206	1008321.2	3.4	**97.5850**	1.557	1.6	ug/L	342	Standard
|	**Pb**	207	862452.1	3.7	**98.1736**	1.729	1.8	ug/L	284	Standard
|	**Pb**	208	4042904.8	3.2	**99.1301**	1.349	1.4	ug/L	1363	Standard
|	**U**	238	993041.6	4.1	**98.3518**	2.489	2.5	ug/L	2	Standard
⌊>	**Bi**	209	473330.2	2.5				ug/L	470592	Standard

Sample ID: QC Std 5
Report Date/Time: Sunday, November 18, 2012 09:01:22
Page 1

Approved: November 19, 2012

⌈	**Na**	23	135.0	22.5	**12.1569**	1.916	15.8	mg/L	2	Standard
|	**Mg**	24	20776650.6	5.5	**10.2285**	0.346	3.4	mg/L	5586	Standard
|	**K**	39	325.0	5.5	**4.3937**	0.145	3.3	mg/L	5	Standard
|	**Ca**	43	325.0	7.1	**11.6450**	0.546	4.7	mg/L	45	Standard
|	**Fe**	54	25948.6	5.5	**9.8479**	0.155	1.6	mg/L	350	Standard
|	**Fe**	57	6448.0	4.5	**10.0364**	0.301	3.0	mg/L	102	Standard
⌊>	**Sc-1**	45	52855.6	6.4				mg/L	53004	Standard
	Cl	35	2.0	50.0				ug/L	2	Standard
	Kr	83	170.0	4.2				ug/L	157	Standard
	Br	81	9.2	41.7				ug/L	3	Standard
	P	31	85670.9	3.9				ug/L	91588	Standard
	S	34	32337.8	3.7				ug/L	32556	Standard
	Sr	88	55.0	32.8				ug/L	62	Standard
	C	12	250.0	9.2				mg/L	133	Standard
	N	14	3.3	173.2				mg/L	0	Standard
	Hg	202	3.3	173.2				mg/L	7	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈	Li	7			
|	Be	9	105.182		
|	Al	27	0.832		
⌊>	Sc	45			
⌈	Ti	47	85.110		
|	V	51	93.137		
|	Cr	52	97.579		
|	Cr	53			
|	Mn	55	95.713		
|	Co	59	97.834		
|	Ni	60	97.244		
|	Cu	65	97.204		
|	Zn	66	98.711		
|>	Ge	72		102.971	
|	As	75	98.745		
|	Se	82	97.554		
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: QC Std 5
Report Date/Time: Sunday, November 18, 2012 09:01:22
Page 2

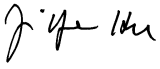
Approved: November 19, 2012

	Mo	98	78.648	
	Ag	107	94.115	
	Cd	111	97.852	
	Cd	114		
>	In	115		101.101
	Sn	118		
	Sb	123	97.432	
	Ba	135	96.418	
	Ce	140		
>	Tb	159		
	Ho	165		
	Tl	203	97.967	
	Tl	205		
	Pb	206	97.585	
	Pb	207	98.174	
	Pb	208	99.130	
	U	238	98.352	
>	Bi	209		100.582
	Na	23	97.256	
	Mg	24	204.570	
	K	39	87.874	
	Ca	43	77.633	
	Fe	54	78.784	
	Fe	57	80.292	
>	Sc-1	45		
	Cl	35		
	Kr	83		
	Br	81		
	P	31		
	S	34		
	Sr	88		
	C	12		
	N	14		
	Hg	202		

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 5	Al	27	
QC Std 5	Mo	98	
QC Std 5	Mg	24	
QC Std 5	Ca	43	
QC Std 5	Fe	54	

Approved: November 19, 2012



Method 6020 - Summary Report

Sample ID: QC Std 6
Sample Date/Time: Sunday, November 18, 2012 09:02:05
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	8869.3	6.1	**-213.2674**	98.846	46.3	ug/L	8369	Standard
|	**Be**	9	106841.9	7.7	**51.1576**	3.230	6.3	ug/L	18	Standard
|	**Al**	27	6394633.3	5.9	**51.8935**	2.921	5.6	ug/L	215	Standard
⌊>	**Sc**	45	53188.3	4.5				ug/L	53004	Standard
⌈	**Ti**	47	49781.6	7.3	**95.7524**	3.876	4.0	ug/L	26	Standard
|	**V**	51	588602.5	7.0	**48.8579**	2.147	4.4	ug/L	3223	Standard
|	**Cr**	52	557394.1	7.2	**49.3040**	2.290	4.6	ug/L	10379	Standard
|	**Cr**	53	67693.5	9.8	**48.5051**	3.165	6.5	ug/L	192	Standard
|	**Mn**	55	870810.7	8.0	**49.5767**	2.227	4.5	ug/L	1840	Standard
|	**Co**	59	662596.1	8.0	**49.1443**	2.689	5.5	ug/L	115	Standard
|	**Ni**	60	143354.9	8.1	**49.4170**	2.597	5.3	ug/L	75	Standard
|	**Cu**	65	139438.5	7.6	**49.7904**	2.778	5.6	ug/L	155	Standard
|	**Zn**	66	68872.4	7.0	**49.5714**	2.376	4.8	ug/L	237	Standard
|>	**Ge**	72	417820.3	4.4				ug/L	413856	Standard
|	**As**	75	73027.6	6.2	**49.9671**	2.160	4.3	ug/L	-197	Standard
|	**Se**	82	6575.2	6.5	**50.2475**	2.037	4.1	ug/L	-5	Standard
⌊	**Se-1**	77	5065.9	7.6	**50.1337**	2.569	5.1	ug/L	105	Standard
⌈>	**Ga**	71	236.7	2.4				mg/L	225	Standard
⌊	**Rb**	85	970.0	6.7				ug/L	28	Standard
⌈	**Y**	89	322558.3	3.5				ug/L	322845	Standard
⌊>	**Rh**	103	141.7	16.7				ug/L	92	Standard
⌈	**Mo**	98	438536.8	6.7	**97.4600**	6.494	6.7	ug/L	18	Standard
|	**Ag**	107	402603.8	5.2	**50.8513**	2.327	4.6	ug/L	63	Standard
|	**Cd**	111	173635.4	6.1	**50.6663**	2.918	5.8	mg/L	20	Standard
|	**Cd**	114	452902.4	6.8	**50.2151**	3.281	6.5	ug/L	56	Standard
|>	**In**	115	656593.9	1.8				ug/L	657102	Standard
|	**Sn**	118	496872.1	7.5	**49.9195**	3.656	7.3	ug/L	555	Standard
|	**Sb**	123	395538.6	6.5	**50.5464**	3.221	6.4	ug/L	62	Standard
⌊	**Ba**	135	170336.8	7.3	**50.0601**	3.563	7.1	ug/L	19	Standard
⌈	**Ce**	140	737.4	7.9				ug/L	24	Standard
⌊>	**Tb**	159	928800.4	1.7				ug/L	910514	Standard
⌈	**Ho**	165	420.0	7.6				ug/L	7	Standard
|	**Tl**	203	646563.2	5.0	**49.8185**	2.845	5.7	ug/L	13	Standard
|	**Tl**	205	19741.9	3.8	**49.8518**	2.039	4.1	ug/L	1	Standard
|	**Pb**	206	518587.1	6.7	**49.8508**	3.750	7.5	ug/L	342	Standard
|	**Pb**	207	444289.2	6.2	**50.2309**	3.464	6.9	ug/L	284	Standard
|	**Pb**	208	2036728.3	6.0	**49.5965**	3.299	6.7	ug/L	1363	Standard
|	**U**	238	519619.0	6.0	**51.1300**	3.408	6.7	ug/L	2	Standard
⌊>	**Bi**	209	476658.5	1.4				ug/L	470592	Standard

Sample ID: QC Std 6
Report Date/Time: Sunday, November 18, 2012 09:04:37
Page 1

Approved: November 19, 2012

	Na	23	71.7	28.2	**6.4473**	1.784	27.7	mg/L	2	Standard
	Mg	24	10350638.0	5.7	**5.0605**	0.247	4.9	mg/L	5586	Standard
	K	39	363.3	2.9	**4.8922**	0.343	7.0	mg/L	5	Standard
	Ca	43	148.3	20.3	**4.0397**	1.053	26.1	mg/L	45	Standard
	Fe	54	13631.7	7.9	**5.0641**	0.306	6.0	mg/L	350	Standard
	Fe	57	3178.7	5.1	**4.8481**	0.206	4.2	mg/L	102	Standard
>	**Sc-1**	45	53188.3	4.5				mg/L	53004	Standard
	Cl	35	2.3	49.5				ug/L	2	Standard
	Kr	83	171.2	5.3				ug/L	157	Standard
	Br	81	8.3	45.8				ug/L	3	Standard
	P	31	90668.2	3.7				ug/L	91588	Standard
	S	34	35881.6	0.9				ug/L	32556	Standard
	Sr	88	61.7	38.3				ug/L	62	Standard
	C	12	165.0	9.1				mg/L	133	Standard
	N	14	1.7	173.2				mg/L	0	Standard
	Hg	202	6.7	43.3				mg/L	7	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
	Li	7			
	Be	9	102.315		
	Al	27	103.787		
>	Sc	45			
	Ti	47	95.752		
	V	51	97.716		
	Cr	52	98.608		
	Cr	53			
	Mn	55	99.153		
	Co	59	98.289		
	Ni	60	98.834		
	Cu	65	99.581		
	Zn	66	99.143		
>	Ge	72		100.958	
	As	75	99.934		
	Se	82	100.495		
	Se-1	77			
>	Ga	71			
	Rb	85			
	Y	89			
>	Rh	103			

Sample ID: QC Std 6
Report Date/Time: Sunday, November 18, 2012 09:04:37
Page 2

Approved: November 19, 2012

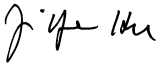
⌈	Mo	98	97.460		
|	Ag	107	101.703		
|	Cd	111	101.333		
|	Cd	114			
|>	In	115			99.923
|	Sn	118	99.839		
|	Sb	123	101.093		
⌊	Ba	135	100.120		
⌈	Ce	140			
⌊>	Tb	159			
⌈	Ho	165			
|	Tl	203	99.637		
|	Tl	205			
|	Pb	206	99.702		
|	Pb	207	100.462		
|	Pb	208	99.193		
|	U	238	102.260		
⌊>	Bi	209			101.289
⌈	Na	23			
|	Mg	24			
|	K	39			
|	Ca	43			
|	Fe	54			
|	Fe	57			
⌊>	Sc-1	45			
	Cl	35			
	Kr	83			
	Br	81			
	P	31			
	S	34			
	Sr	88			
	C	12			
	N	14			
	Hg	202			

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: QC Std 6
Report Date/Time: Sunday, November 18, 2012 09:04:37
Page 3

Approved: November 19, 2012



Method 6020 - Summary Report

Sample ID: QC Std 7
Sample Date/Time: Sunday, November 18, 2012 09:05:17
Number of Replicates: 3
Autosampler Position: 102
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	8027.1	1.3	**-108.7096**	26.394	24.3	ug/L	8369	Standard
|	**Be**	9	45.0	58.8	**0.0138**	0.014	98.4	ug/L	18	Standard
|	**Al**	27	1260.1	71.3	**0.0089**	0.008	87.7	ug/L	215	Standard
⌊>	**Sc**	45	49214.8	1.5				ug/L	53004	Standard
⌈	**Ti**	47	22.3	36.5	**-0.0151**	0.016	103.7	ug/L	26	Standard
|	**V**	51	2929.6	2.6	**-0.0134**	0.000	1.6	ug/L	3223	Standard
|	**Cr**	52	9520.7	2.2	**-0.0243**	0.006	25.2	ug/L	10379	Standard
|	**Cr**	53	261.7	11.2	**0.0854**	0.016	19.3	ug/L	192	Standard
|	**Mn**	55	1442.4	5.7	**-0.0034**	0.003	80.6	ug/L	1840	Standard
|	**Co**	59	165.7	39.7	**-0.0028**	0.005	166.8	ug/L	115	Standard
|	**Ni**	60	81.3	17.8	**-0.0063**	0.006	88.4	ug/L	75	Standard
|	**Cu**	65	184.3	19.6	**0.0108**	0.012	113.0	ug/L	155	Standard
|	**Zn**	66	286.0	16.1	**0.0148**	0.029	198.5	ug/L	237	Standard
|>	**Ge**	72	402246.3	2.7				ug/L	413856	Standard
|	**As**	75	-187.4	2.5	**0.0071**	0.002	26.2	ug/L	-197	Standard
|	**Se**	82	-0.7	1671.8	**0.0004**	0.098	21884.7	ug/L	-5	Standard
⌊	**Se-1**	77	105.0	17.5	**0.1254**	0.216	171.9	ug/L	105	Standard
⌈>	**Ga**	71	190.0	16.0				mg/L	225	Standard
⌊	**Rb**	85	18.3	63.0				ug/L	28	Standard
⌈	**Y**	89	305722.2	5.1				ug/L	322845	Standard
⌊>	**Rh**	103	103.3	7.4				ug/L	92	Standard
⌈	**Mo**	98	438.9	92.6	**0.0897**	0.090	100.6	ug/L	18	Standard
|	**Ag**	107	483.7	82.0	**0.0539**	0.050	92.8	ug/L	63	Standard
|	**Cd**	111	183.1	84.8	**0.0428**	0.045	105.6	mg/L	20	Standard
|	**Cd**	114	474.0	80.3	**0.0436**	0.042	96.9	ug/L	56	Standard
|>	**In**	115	642047.3	2.3				ug/L	657102	Standard
|	**Sn**	118	608.3	38.2	**0.0128**	0.022	174.7	ug/L	555	Standard
|	**Sb**	123	553.8	55.6	**0.0689**	0.039	56.1	ug/L	62	Standard
⌊	**Ba**	135	100.0	83.0	**0.0098**	0.024	249.6	ug/L	19	Standard
⌈	**Ce**	140	30.3	18.2				ug/L	24	Standard
⌊>	**Tb**	159	908551.9	1.6				ug/L	910514	Standard
⌈	**Ho**	165	11.0	78.7				ug/L	7	Standard
|	**Tl**	203	245.3	87.0	**0.0154**	0.016	106.8	ug/L	13	Standard
|	**Tl**	205	3.7	78.7	**0.0106**	0.007	68.2	ug/L	1	Standard
|	**Pb**	206	478.7	30.8	**0.0138**	0.014	101.1	ug/L	342	Standard
|	**Pb**	207	379.0	27.0	**0.0074**	0.011	152.7	ug/L	284	Standard
|	**Pb**	208	1789.4	31.1	**0.0098**	0.013	136.1	ug/L	1363	Standard
|	**U**	238	111.3	80.4	**0.0095**	0.009	92.7	ug/L	2	Standard
⌊>	**Bi**	209	468837.8	1.1				ug/L	470592	Standard

Sample ID: QC Std 7
Report Date/Time: Sunday, November 18, 2012 09:07:49
Page 1

Approved: November 19, 2012

⌈	**Na**	23	0.0		**0.0050**	0.000	0.0	mg/L	2	Standard
|	**Mg**	24	10395.4	22.5	**0.0026**	0.001	47.9	mg/L	5586	Standard
|	**K**	39	3.3	173.2	**0.0075**	0.085	1126.7	mg/L	5	Standard
|	**Ca**	43	40.0	37.5	**-0.4038**	0.660	163.4	mg/L	45	Standard
|	**Fe**	54	332.2	2.3	**-0.0160**	0.002	15.5	mg/L	350	Standard
|	**Fe**	57	98.3	25.6	**0.0386**	0.045	117.0	mg/L	102	Standard
⌊>	**Sc-1**	45	49214.8	1.5				mg/L	53004	Standard
	Cl	35	3.7	68.6				ug/L	2	Standard
	Kr	83	179.8	2.9				ug/L	157	Standard
	Br	81	2.5	0.0				ug/L	3	Standard
	P	31	90226.2	0.9				ug/L	91588	Standard
	S	34	33974.7	1.8				ug/L	32556	Standard
	Sr	88	46.7	37.6				ug/L	62	Standard
	C	12	161.7	9.9				mg/L	133	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	1.7	173.2				mg/L	7	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		97.195	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: QC Std 7
Report Date/Time: Sunday, November 18, 2012 09:07:49
Page 2

Approved: November 19, 2012

	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	97.709
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	99.627
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: QC Std 7
Report Date/Time: Sunday, November 18, 2012 09:07:49
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

Sample ID: PBW 5A WG414309-02
Sample Date/Time: Sunday, November 18, 2012 09:08:30
Number of Replicates: 3
Autosampler Position: 301
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	8924.3	4.5	**-355.0136**	26.048	7.3	ug/L	8369	Standard
	Be	9	30.0	33.3	**0.0053**	0.005	96.9	ug/L	18	Standard
	Al	27	305.0	23.2	**0.0004**	0.001	167.8	ug/L	215	Standard
>	Sc	45	52024.3	4.0				ug/L	53004	Standard
	Ti	47	20.3	17.3	**-0.0205**	0.006	29.6	ug/L	26	Standard
	V	51	3095.7	1.3	**-0.0089**	0.003	36.2	ug/L	3223	Standard
	Cr	52	10054.0	0.5	**-0.0088**	0.013	141.8	ug/L	10379	Standard
	Cr	53	221.7	9.2	**0.0496**	0.012	24.8	ug/L	192	Standard
	Mn	55	1395.1	4.0	**-0.0092**	0.004	47.8	ug/L	1840	Standard
	Co	59	109.3	6.6	**-0.0074**	0.000	5.4	ug/L	115	Standard
	Ni	60	104.0	19.3	**0.0005**	0.008	1522.9	ug/L	75	Standard
	Cu	65	136.7	2.6	**-0.0086**	0.002	23.1	ug/L	155	Standard
	Zn	66	368.3	0.4	**0.0670**	0.005	6.7	ug/L	237	Standard
>	Ge	72	417598.6	1.9				ug/L	413856	Standard
	As	75	-202.7	16.1	**0.0018**	0.021	1145.4	ug/L	-197	Standard
	Se	82	7.1	33.5	**0.0598**	0.019	32.2	ug/L	-5	Standard
	Se-1	77	105.7	4.4	**0.0893**	0.067	74.9	ug/L	105	Standard
>	Ga	71	215.0	14.5				mg/L	225	Standard
	Rb	85	30.0	44.1				ug/L	28	Standard
	Y	89	321298.4	1.9				ug/L	322845	Standard
>	Rh	103	91.7	17.5				ug/L	92	Standard
	Mo	98	33.8	18.1	**-0.0012**	0.001	118.9	ug/L	18	Standard
	Ag	107	76.0	9.2	**0.0016**	0.001	45.7	ug/L	63	Standard
	Cd	111	26.0	23.1	**-0.0036**	0.002	51.3	mg/L	20	Standard
	Cd	114	64.7	16.1	**-0.0025**	0.001	41.8	ug/L	56	Standard
>	In	115	661563.7	1.7				ug/L	657102	Standard
	Sn	118	373.0	9.3	**-0.0122**	0.003	25.2	ug/L	555	Standard
	Sb	123	146.3	7.5	**0.0156**	0.002	10.1	ug/L	62	Standard
	Ba	135	13.3	18.9	**-0.0160**	0.001	5.0	ug/L	19	Standard
	Ce	140	24.0	15.0				ug/L	24	Standard
>	Tb	159	927279.3	1.9				ug/L	910514	Standard
	Ho	165	9.0	40.1				ug/L	7	Standard
	Tl	203	27.0	11.1	**-0.0016**	0.000	16.0	ug/L	13	Standard
	Tl	205	1.3	43.3	**0.0046**	0.001	31.8	ug/L	1	Standard
	Pb	206	352.3	4.3	**0.0006**	0.001	165.6	ug/L	342	Standard
	Pb	207	285.3	2.7	**-0.0042**	0.001	29.7	ug/L	284	Standard
	Pb	208	1353.0	2.1	**-0.0018**	0.000	21.6	ug/L	1363	Standard
	U	238	8.0	82.0	**-0.0007**	0.001	87.2	ug/L	2	Standard
>	Bi	209	481772.3	1.5				ug/L	470592	Standard

Sample ID: PBW 5A WG414309-02
Report Date/Time: Sunday, November 18, 2012 09:11:02

Approved: November 19, 2012

⌈	**Na**	23	3.3	173.2	**0.3132**	0.534	170.4	mg/L	2	Standard
|	**Mg**	24	7210.0	3.6	**0.0007**	0.000	21.6	mg/L	5586	Standard
|	**K**	39	8.3	34.6	**0.0752**	0.043	57.7	mg/L	5	Standard
|	**Ca**	43	56.7	41.7	**0.2215**	0.997	450.1	mg/L	45	Standard
|	**Fe**	54	370.6	9.5	**-0.0079**	0.020	247.1	mg/L	350	Standard
|	**Fe**	57	80.0	10.8	**-0.0001**	0.015	29573.1	mg/L	102	Standard
⌊>	**Sc-1**	45	52024.3	4.0				mg/L	53004	Standard
	Cl	35	3.3	62.4				ug/L	2	Standard
	Kr	83	185.3	1.3				ug/L	157	Standard
	Br	81	6.7	57.3				ug/L	3	Standard
	P	31	91902.9	1.6				ug/L	91588	Standard
	S	34	32757.0	1.6				ug/L	32556	Standard
	Sr	88	51.7	24.4				ug/L	62	Standard
	C	12	135.0	32.9				mg/L	133	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	1.7	173.2				mg/L	7	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		100.904	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: PBW 5A WG414309-02
Report Date/Time: Sunday, November 18, 2012 09:11:02
Page 2

Approved: November 19, 2012

	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	100.679
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	102.376
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: PBW 5A WG414309-02
Report Date/Time: Sunday, November 18, 2012 09:11:02
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

Sample ID: LCSW 5A WG414309-03
Sample Date/Time: Sunday, November 18, 2012 09:11:43
Number of Replicates: 3
Autosampler Position: 302
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	9174.5	6.5	**-375.5764**	10.470	2.8	ug/L	8369	Standard
	Be	9	56938.6	4.7	**27.2570**	1.360	5.0	ug/L	18	Standard
	Al	27	2113.5	5.6	**0.0150**	0.001	6.8	ug/L	215	Standard
>	Sc	45	53273.8	6.6				ug/L	53004	Standard
	Ti	47	41.3	15.6	**0.0171**	0.010	60.4	ug/L	26	Standard
	V	51	308308.9	8.4	**24.5414**	1.173	4.8	ug/L	3223	Standard
	Cr	52	308053.0	9.3	**25.8435**	1.641	6.3	ug/L	10379	Standard
	Cr	53	36839.1	9.0	**25.4191**	1.514	6.0	ug/L	192	Standard
	Mn	55	478458.4	8.6	**26.2385**	1.543	5.9	ug/L	1840	Standard
	Co	59	362646.8	8.4	**25.9305**	1.275	4.9	ug/L	115	Standard
	Ni	60	78080.8	7.7	**25.9494**	1.198	4.6	ug/L	75	Standard
	Cu	65	76781.0	7.1	**26.4180**	1.103	4.2	ug/L	155	Standard
	Zn	66	38680.9	8.0	**26.7583**	1.432	5.4	ug/L	237	Standard
>	Ge	72	433083.2	4.4				ug/L	413856	Standard
	As	75	38079.8	7.6	**25.1943**	1.238	4.9	ug/L	-197	Standard
	Se	82	3403.3	7.6	**25.0856**	1.188	4.7	ug/L	-5	Standard
	Se-1	77	2636.9	5.8	**24.7021**	1.046	4.2	ug/L	105	Standard
>	Ga	71	223.3	8.5				mg/L	225	Standard
	Rb	85	38.3	19.9				ug/L	28	Standard
	Y	89	328205.4	5.6				ug/L	322845	Standard
>	Rh	103	96.7	16.6				ug/L	92	Standard
	Mo	98	86.0	55.1	**0.0100**	0.010	101.1	ug/L	18	Standard
	Ag	107	215947.9	6.0	**26.7951**	0.936	3.5	ug/L	63	Standard
	Cd	111	91536.2	8.5	**26.2246**	1.607	6.1	mg/L	20	Standard
	Cd	114	233669.1	7.9	**25.4400**	1.388	5.5	ug/L	56	Standard
>	In	115	667940.0	2.5				ug/L	657102	Standard
	Sn	118	448.3	8.0	**-0.0051**	0.003	65.4	ug/L	555	Standard
	Sb	123	204894.4	7.9	**25.7128**	1.400	5.4	ug/L	62	Standard
	Ba	135	90158.1	8.5	**26.0089**	1.593	6.1	ug/L	19	Standard
	Ce	140	56.7	16.4				ug/L	24	Standard
>	Tb	159	936173.3	3.1				ug/L	910514	Standard
	Ho	165	16.0	10.8				ug/L	7	Standard
	Tl	203	345124.2	6.0	**26.2965**	0.934	3.6	ug/L	13	Standard
	Tl	205	10449.6	5.8	**26.1009**	0.843	3.2	ug/L	1	Standard
	Pb	206	276525.4	8.5	**26.2569**	1.592	6.1	ug/L	342	Standard
	Pb	207	235244.1	8.0	**26.2734**	1.443	5.5	ug/L	284	Standard
	Pb	208	1088691.8	8.2	**26.1897**	1.522	5.8	ug/L	1363	Standard
	U	238	266051.0	7.5	**25.8814**	1.316	5.1	ug/L	2	Standard
>	Bi	209	481559.2	2.6				ug/L	470592	Standard

Approved: November 19, 2012

⌈	**Na**	23	0.0		**0.0050**	0.000	0.0	mg/L	2	Standard
|	**Mg**	24	13194.1	7.2	**0.0035**	0.000	8.4	mg/L	5586	Standard
|	**K**	39	11.7	137.8	**0.1245**	0.230	184.7	mg/L	5	Standard
|	**Ca**	43	30.0	28.9	**-0.9610**	0.362	37.6	mg/L	45	Standard
|	**Fe**	54	394.8	9.0	**-0.0027**	0.004	132.0	mg/L	350	Standard
|	**Fe**	57	80.0	33.1	**-0.0045**	0.033	736.4	mg/L	102	Standard
⌊>	**Sc-1**	45	53273.8	6.6				mg/L	53004	Standard
	Cl	35	4.3	13.3				ug/L	2	Standard
	Kr	83	174.9	7.1				ug/L	157	Standard
	Br	81	6.7	57.3				ug/L	3	Standard
	P	31	97178.2	2.2				ug/L	91588	Standard
	S	34	32730.3	1.9				ug/L	32556	Standard
	Sr	88	66.7	15.6				ug/L	62	Standard
	C	12	195.0	9.2				mg/L	133	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	8.3	124.9				mg/L	7	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		104.646	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: LCSW 5A WG414309-03
Report Date/Time: Sunday, November 18, 2012 09:14:14
Page 2

Approved: November 19, 2012

⌈	Mo	98		
|	Ag	107		
|	Cd	111		
|	Cd	114		
|>	In	115		101.649
|	Sn	118		
|	Sb	123		
⌊	Ba	135		
⌈	Ce	140		
⌊>	Tb	159		
⌈	Ho	165		
|	Tl	203		
|	Tl	205		
|	Pb	206		
|	Pb	207		
|	Pb	208		
|	U	238		
⌊>	Bi	209		102.331
⌈	Na	23		
|	Mg	24		
|	K	39		
|	Ca	43		
|	Fe	54		
|	Fe	57		
⌊>	Sc-1	45		
	Cl	35		
	Kr	83		
	Br	81		
	P	31		
	S	34		
	Sr	88		
	C	12		
	N	14		
	Hg	202		

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: LCSW 5A WG414309-03
Report Date/Time: Sunday, November 18, 2012 09:14:14
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

Sample ID: L1211041108 WG414309-01
Sample Date/Time: Sunday, November 18, 2012 09:14:55
Number of Replicates: 3
Autosampler Position: 303
Sample Description: 1
Method File: C:\NexION Data\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
	Li	7	36595.8	3.7	**-12845.3788**	734.201	5.7	ug/L	8369	Standard
	Be	9	66.7	49.9	**0.0183**	0.014	76.1	ug/L	18	Standard
	Al	27	5765903.6	6.7	**40.6659**	3.063	7.5	ug/L	215	Standard
>	Sc	45	61193.3	0.9				ug/L	53004	Standard
	Ti	47	4151.2	5.3	**7.5768**	0.329	4.3	ug/L	26	Standard
	V	51	35092.5	2.8	**2.5320**	0.075	3.0	ug/L	3223	Standard
	Cr	52	15151.2	2.8	**0.3891**	0.032	8.3	ug/L	10379	Standard
	Cr	53	1038.4	2.8	**0.6036**	0.020	3.3	ug/L	192	Standard
	Mn	55	854924.5	4.3	**46.5275**	1.569	3.4	ug/L	1840	Standard
	Co	59	10823.5	5.8	**0.7518**	0.034	4.5	ug/L	115	Standard
	Ni	60	2276.8	3.5	**0.7153**	0.015	2.1	ug/L	75	Standard
	Cu	65	7209.4	5.3	**2.4049**	0.097	4.0	ug/L	155	Standard
	Zn	66	8803.2	2.5	**5.8806**	0.145	2.5	ug/L	237	Standard
>	Ge	72	437313.7	1.6				ug/L	413856	Standard
	As	75	-2.1	1166.4	**0.1385**	0.016	11.8	ug/L	-197	Standard
	Se	82	14.1	76.3	**0.1072**	0.076	71.0	ug/L	-5	Standard
	Se-1	77	128.0	5.1	**0.2566**	0.082	31.8	ug/L	105	Standard
>	Ga	71	1336.7	6.1				mg/L	225	Standard
	Rb	85	4627.4	3.2				ug/L	28	Standard
	Y	89	335990.9	2.4				ug/L	322845	Standard
>	Rh	103	141.7	13.4				ug/L	92	Standard
	Mo	98	711.7	8.8	**0.1424**	0.015	10.2	ug/L	18	Standard
	Ag	107	151.3	7.9	**0.0104**	0.002	15.5	ug/L	63	Standard
	Cd	111	55.8	20.7	**0.0043**	0.003	68.1	mg/L	20	Standard
	Cd	114	166.5	12.2	**0.0081**	0.002	26.2	ug/L	56	Standard
>	In	115	687697.1	1.9				ug/L	657102	Standard
	Sn	118	591.3	4.0	**0.0074**	0.003	41.2	ug/L	555	Standard
	Sb	123	245.9	29.1	**0.0271**	0.009	32.3	ug/L	62	Standard
	Ba	135	68704.9	4.3	**19.2764**	1.091	5.7	ug/L	19	Standard
	Ce	140	176719.5	4.3				ug/L	24	Standard
>	Tb	159	967497.1	2.3				ug/L	910514	Standard
	Ho	165	744.0	5.1				ug/L	7	Standard
	Tl	203	298.0	3.0	**0.0185**	0.000	2.6	ug/L	13	Standard
	Tl	205	11.3	36.7	**0.0290**	0.011	36.8	ug/L	1	Standard
	Pb	206	3692.5	4.7	**0.3098**	0.019	6.1	ug/L	342	Standard
	Pb	207	2975.3	5.8	**0.2887**	0.021	7.4	ug/L	284	Standard
	Pb	208	14072.6	4.6	**0.2965**	0.019	6.3	ug/L	1363	Standard
	U	238	1921.8	3.6	**0.1810**	0.009	4.9	ug/L	2	Standard
>	Bi	209	493987.1	1.7				ug/L	470592	Standard

Sample ID: L1211041108 WG414309-01
Report Date/Time: Sunday, November 18, 2012 09:17:27
Page 1

Approved: November 19, 2012

	Na	23	120.0	39.7	**9.4179**	3.810	40.5	mg/L	2	Standard
	Mg	24	15319239.7	3.3	**6.5099**	0.273	4.2	mg/L	5586	Standard
	K	39	75.0	30.6	**0.8437**	0.277	32.8	mg/L	5	Standard
	Ca	43	240.0	16.3	**6.6116**	1.386	21.0	mg/L	45	Standard
	Fe	54	3023.8	4.4	**0.8531**	0.053	6.2	mg/L	350	Standard
	Fe	57	866.7	11.0	**1.0515**	0.139	13.2	mg/L	102	Standard
>	**Sc-1**	45	61193.3	0.9				mg/L	53004	Standard
	Cl	35	1.7	69.3				ug/L	2	Standard
	Kr	83	202.0	5.6				ug/L	157	Standard
	Br	81	2.5	100.0				ug/L	3	Standard
	P	31	165452.6	0.6				ug/L	91588	Standard
	S	34	27858.1	4.3				ug/L	32556	Standard
	Sr	88	253.3	25.7				ug/L	62	Standard
	C	12	153.3	21.2				mg/L	133	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	26.7	65.8				mg/L	7	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		105.668	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			
	Y	89			
>	Rh	103			

Sample ID: L1211041108 WG414309-01
Report Date/Time: Sunday, November 18, 2012 09:17:27
Page 2

Approved: November 19, 2012

⌈	Mo	98		
|	Ag	107		
|	Cd	111		
|	Cd	114		
|>	In	115		104.656
|	Sn	118		
|	Sb	123		
⌊	Ba	135		
⌈	Ce	140		
⌊>	Tb	159		
⌈	Ho	165		
|	Tl	203		
|	Tl	205		
|	Pb	206		
|	Pb	207		
|	Pb	208		
|	U	238		
⌊>	Bi	209		104.971
⌈	Na	23		
|	Mg	24		
|	K	39		
|	Ca	43		
|	Fe	54		
|	Fe	57		
⌊>	Sc-1	45		
	Cl	35		
	Kr	83		
	Br	81		
	P	31		
	S	34		
	Sr	88		
	C	12		
	N	14		
	Hg	202		

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: L1211041108 WG414309-01
Report Date/Time: Sunday, November 18, 2012 09:17:27
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

Sample ID: L1211041108S WG414309-04
Sample Date/Time: Sunday, November 18, 2012 09:18:07
Number of Replicates: 3
Autosampler Position: 304
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	34512.6	4.2	**-12728.7566**	489.199	3.8	ug/L	8369	Standard
	Be	9	55260.8	5.8	**24.2350**	1.514	6.2	ug/L	18	Standard
	Al	27	5760620.2	8.5	**42.7456**	2.600	6.1	ug/L	215	Standard
>	Sc	45	58156.7	6.8				ug/L	53004	Standard
	Ti	47	3519.1	16.0	**6.5829**	0.929	14.1	ug/L	26	Standard
	V	51	326073.7	6.5	**26.4519**	1.373	5.2	ug/L	3223	Standard
	Cr	52	290864.2	6.9	**24.8210**	1.590	6.4	ug/L	10379	Standard
	Cr	53	34977.2	8.0	**24.5773**	1.821	7.4	ug/L	192	Standard
	Mn	55	1248137.4	7.2	**69.8490**	4.636	6.6	ug/L	1840	Standard
	Co	59	347135.2	7.1	**25.2751**	1.489	5.9	ug/L	115	Standard
	Ni	60	73130.4	7.8	**24.7400**	1.677	6.8	ug/L	75	Standard
	Cu	65	78448.6	7.1	**27.4765**	1.626	5.9	ug/L	155	Standard
	Zn	66	42218.8	5.2	**29.7555**	1.146	3.9	ug/L	237	Standard
>	Ge	72	425614.1	2.8				ug/L	413856	Standard
	As	75	36434.0	5.8	**24.5461**	1.266	5.2	ug/L	-197	Standard
	Se	82	3221.5	6.7	**24.1740**	1.380	5.7	ug/L	-5	Standard
	Se-1	77	2577.9	2.9	**24.5675**	0.177	0.7	ug/L	105	Standard
>	Ga	71	1066.7	5.2				mg/L	225	Standard
	Rb	85	2346.8	3.2				ug/L	28	Standard
	Y	89	328189.3	3.6				ug/L	322845	Standard
>	Rh	103	153.3	27.7				ug/L	92	Standard
	Mo	98	721.8	1.7	**0.1495**	0.008	5.2	ug/L	18	Standard
	Ag	107	205804.7	4.8	**25.6093**	1.013	4.0	ug/L	63	Standard
	Cd	111	87362.3	6.4	**25.1106**	1.466	5.8	mg/L	20	Standard
	Cd	114	225418.9	6.4	**24.6227**	1.523	6.2	ug/L	56	Standard
>	In	115	666570.3	3.7				ug/L	657102	Standard
	Sn	118	595.3	4.5	**0.0096**	0.001	6.3	ug/L	555	Standard
	Sb	123	195605.6	7.0	**24.6280**	1.672	6.8	ug/L	62	Standard
	Ba	135	150485.7	6.0	**43.5769**	2.581	5.9	ug/L	19	Standard
	Ce	140	154053.3	6.8				ug/L	24	Standard
>	Tb	159	951187.6	2.0				ug/L	910514	Standard
	Ho	165	432.3	14.0				ug/L	7	Standard
	Tl	203	327944.9	5.1	**25.0272**	1.392	5.6	ug/L	13	Standard
	Tl	205	10166.1	3.4	**25.4286**	0.883	3.5	ug/L	1	Standard
	Pb	206	261300.3	6.8	**24.8581**	1.739	7.0	ug/L	342	Standard
	Pb	207	220604.8	6.3	**24.6863**	1.695	6.9	ug/L	284	Standard
	Pb	208	1026110.5	6.1	**24.7311**	1.613	6.5	ug/L	1363	Standard
	U	238	253752.9	9.1	**24.7308**	2.307	9.3	ug/L	2	Standard
>	Bi	209	481254.6	2.4				ug/L	470592	Standard

Sample ID: L1211041108S WG414309-04
Report Date/Time: Sunday, November 18, 2012 09:20:39
Page 1

Approved: November 19, 2012

⌈	**Na**	23	105.0	20.8	**8.7281**	2.258	25.9	mg/L	2	Standard
|	**Mg**	24	15622732.0	4.4	**7.0014**	0.496	7.1	mg/L	5586	Standard
|	**K**	39	68.3	11.2	**0.8043**	0.052	6.5	mg/L	5	Standard
|	**Ca**	43	235.0	9.8	**6.9452**	1.396	20.1	mg/L	45	Standard
|	**Fe**	54	2709.7	3.7	**0.7977**	0.064	8.0	mg/L	350	Standard
|	**Fe**	57	806.7	5.3	**1.0272**	0.024	2.3	mg/L	102	Standard
⌊>	**Sc-1**	45	58156.7	6.8				mg/L	53004	Standard
	Cl	35	2.7	86.6				ug/L	2	Standard
	Kr	83	198.9	2.5				ug/L	157	Standard
	Br	81	4.2	34.6				ug/L	3	Standard
	P	31	161279.5	6.4				ug/L	91588	Standard
	S	34	23500.7	4.5				ug/L	32556	Standard
	Sr	88	233.3	6.5				ug/L	62	Standard
	C	12	168.3	13.4				mg/L	133	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	11.7	99.0				mg/L	7	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		102.841	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: L1211041108S WG414309-04
Report Date/Time: Sunday, November 18, 2012 09:20:39
Page 2

Approved: November 19, 2012

	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	101.441
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	102.266
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: L1211041108S WG414309-04
Report Date/Time: Sunday, November 18, 2012 09:20:39
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

Sample ID: L1211041108SD WG414309-05
Sample Date/Time: Sunday, November 18, 2012 09:21:19
Number of Replicates: 3
Autosampler Position: 305
Sample Description: 1
Method File: C:\NexION Data\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
	Li	7	33191.4	6.7	**-12183.2349**	1108.086	9.1	ug/L	8369	Standard
	Be	9	55285.8	4.2	**24.4123**	1.079	4.4	ug/L	18	Standard
	Al	27	5521384.7	5.6	**41.3003**	2.214	5.4	ug/L	215	Standard
>	Sc	45	57683.0	2.8				ug/L	53004	Standard
	Ti	47	3185.7	7.1	**5.8673**	0.416	7.1	ug/L	26	Standard
	V	51	320548.7	6.1	**25.5916**	1.615	6.3	ug/L	3223	Standard
	Cr	52	288622.4	5.3	**24.2227**	1.438	5.9	ug/L	10379	Standard
	Cr	53	34936.3	8.5	**24.1623**	2.127	8.8	ug/L	192	Standard
	Mn	55	1208340.0	5.1	**66.5539**	3.549	5.3	ug/L	1840	Standard
	Co	59	347720.9	5.0	**24.9236**	1.273	5.1	ug/L	115	Standard
	Ni	60	72625.7	5.5	**24.1879**	1.395	5.8	ug/L	75	Standard
	Cu	65	76593.1	5.1	**26.4096**	1.478	5.6	ug/L	155	Standard
	Zn	66	41059.7	5.0	**28.4787**	1.537	5.4	ug/L	237	Standard
>	Ge	72	432477.1	1.0				ug/L	413856	Standard
	As	75	36073.6	4.6	**23.9217**	1.117	4.7	ug/L	-197	Standard
	Se	82	3231.3	4.3	**23.8701**	1.146	4.8	ug/L	-5	Standard
	Se-1	77	2561.9	4.7	**24.0080**	1.222	5.1	ug/L	105	Standard
>	Ga	71	885.0	5.6				mg/L	225	Standard
	Rb	85	1968.5	5.4				ug/L	28	Standard
	Y	89	330949.3	1.7				ug/L	322845	Standard
>	Rh	103	151.7	19.3				ug/L	92	Standard
	Mo	98	689.2	10.2	**0.1393**	0.015	10.4	ug/L	18	Standard
	Ag	107	204768.9	4.0	**24.9922**	0.949	3.8	ug/L	63	Standard
	Cd	111	86648.5	6.1	**24.4279**	1.434	5.9	mg/L	20	Standard
	Cd	114	223217.1	6.3	**23.9121**	1.480	6.2	ug/L	56	Standard
>	In	115	679411.3	0.9				ug/L	657102	Standard
	Sn	118	634.3	1.8	**0.0123**	0.001	10.5	ug/L	555	Standard
	Sb	123	191700.5	5.9	**23.6711**	1.363	5.8	ug/L	62	Standard
	Ba	135	147640.0	5.7	**41.9244**	2.287	5.5	ug/L	19	Standard
	Ce	140	149266.8	6.7				ug/L	24	Standard
>	Tb	159	965281.2	0.6				ug/L	910514	Standard
	Ho	165	436.0	9.0				ug/L	7	Standard
	Tl	203	325503.5	3.1	**24.2692**	0.640	2.6	ug/L	13	Standard
	Tl	205	10183.4	3.2	**24.8882**	0.580	2.3	ug/L	1	Standard
	Pb	206	259377.1	5.6	**24.1046**	1.183	4.9	ug/L	342	Standard
	Pb	207	222961.9	4.8	**24.3711**	1.003	4.1	ug/L	284	Standard
	Pb	208	1028373.9	5.3	**24.2117**	1.136	4.7	ug/L	1363	Standard
	U	238	253356.9	7.1	**24.1201**	1.581	6.6	ug/L	2	Standard
>	Bi	209	492369.4	1.0				ug/L	470592	Standard

Sample ID: L1211041108SD WG414309-05
Report Date/Time: Sunday, November 18, 2012 09:23:51
Page 1

Approved: November 19, 2012

⌈	**Na**	23	100.0	13.2	**8.3063**	1.054	12.7	mg/L	2	Standard
|	**Mg**	24	15014901.1	4.9	**6.7694**	0.342	5.1	mg/L	5586	Standard
|	**K**	39	73.3	7.9	**0.8765**	0.094	10.8	mg/L	5	Standard
|	**Ca**	43	241.7	4.3	**7.2235**	0.403	5.6	mg/L	45	Standard
|	**Fe**	54	2564.8	4.3	**0.7521**	0.036	4.8	mg/L	350	Standard
|	**Fe**	57	683.3	5.1	**0.8588**	0.069	8.0	mg/L	102	Standard
⌊>	**Sc-1**	45	57683.0	2.8				mg/L	53004	Standard
	Cl	35	1.0	173.2				ug/L	2	Standard
	Kr	83	166.4	8.7				ug/L	157	Standard
	Br	81	6.7	78.1				ug/L	3	Standard
	P	31	159316.9	2.5				ug/L	91588	Standard
	S	34	22903.1	2.1				ug/L	32556	Standard
	Sr	88	273.3	18.5				ug/L	62	Standard
	C	12	160.0	17.4				mg/L	133	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	10.0	100.0				mg/L	7	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		104.499	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: L1211041108SD WG414309-05
Report Date/Time: Sunday, November 18, 2012 09:23:51
Page 2

Approved: November 19, 2012

	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	103.395
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	104.628
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: L1211041108SD WG414309-05
Report Date/Time: Sunday, November 18, 2012 09:23:51
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

Sample ID: L1211041101
Sample Date/Time: Sunday, November 18, 2012 09:24:32
Number of Replicates: 3
Autosampler Position: 306
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	31591.3	3.9	**-7790.1421**	462.489	5.9	ug/L	8369	Standard
	Be	9	2403.5	9.8	**0.8140**	0.060	7.3	ug/L	18	Standard
	Al	27	6036902.2	4.9	**35.0621**	1.243	3.5	ug/L	215	Standard
>	**Sc**	45	74261.6	2.5				ug/L	53004	Standard
	Ti	47	177575.9	7.3	**320.4870**	22.246	6.9	ug/L	26	Standard
	V	51	294922.2	6.6	**22.8127**	1.387	6.1	ug/L	3223	Standard
	Cr	52	124668.7	5.3	**9.6180**	0.510	5.3	ug/L	10379	Standard
	Cr	53	14583.7	3.3	**9.7200**	0.284	2.9	ug/L	192	Standard
	Mn	55	4376471.3	6.5	**234.0706**	14.172	6.1	ug/L	1840	Standard
	Co	59	88441.4	6.5	**6.1388**	0.381	6.2	ug/L	115	Standard
	Ni	60	29445.0	6.2	**9.4918**	0.544	5.7	ug/L	75	Standard
	Cu	65	83959.3	4.4	**28.0879**	1.114	4.0	ug/L	155	Standard
	Zn	66	91747.5	5.6	**61.9656**	3.159	5.1	ug/L	237	Standard
>	**Ge**	72	445668.5	0.9				ug/L	413856	Standard
	As	75	-42.9	159.5	**0.1127**	0.043	38.6	ug/L	-197	Standard
	Se	82	85.7	9.8	**0.6199**	0.065	10.4	ug/L	-5	Standard
	Se-1	77	240.7	9.9	**1.2978**	0.205	15.8	ug/L	105	Standard
>	**Ga**	71	14907.4	6.8				mg/L	225	Standard
	Rb	85	94283.0	5.6				ug/L	28	Standard
	Y	89	772772.9	5.4				ug/L	322845	Standard
>	**Rh**	103	125.0	14.4				ug/L	92	Standard
	Mo	98	534.0	11.4	**0.1035**	0.011	10.7	ug/L	18	Standard
	Ag	107	546.3	7.2	**0.0574**	0.004	7.2	ug/L	63	Standard
	Cd	111	217.4	12.4	**0.0488**	0.007	14.1	mg/L	20	Standard
	Cd	114	553.0	14.8	**0.0484**	0.008	16.8	ug/L	56	Standard
>	**In**	115	693557.7	1.6				ug/L	657102	Standard
	Sn	118	2585.9	8.6	**0.1967**	0.018	9.2	ug/L	555	Standard
	Sb	123	191.7	21.7	**0.0202**	0.005	23.5	ug/L	62	Standard
	Ba	135	688909.6	5.2	**191.6473**	6.950	3.6	ug/L	19	Standard
	Ce	140	2061088.3	8.5				ug/L	24	Standard
>	**Tb**	159	1020036.0	1.0				ug/L	910514	Standard
	Ho	165	44578.7	7.2				ug/L	7	Standard
	Tl	203	724.4	4.7	**0.0499**	0.002	4.3	ug/L	13	Standard
	Tl	205	20.3	10.2	**0.0506**	0.005	10.0	ug/L	1	Standard
	Pb	206	16264.1	6.7	**1.4687**	0.095	6.5	ug/L	342	Standard
	Pb	207	12974.6	6.4	**1.3729**	0.082	6.0	ug/L	284	Standard
	Pb	208	63016.7	5.9	**1.4396**	0.079	5.5	ug/L	1363	Standard
	U	238	2929.3	4.1	**0.2752**	0.011	4.0	ug/L	2	Standard
>	**Bi**	209	496299.7	0.8				ug/L	470592	Standard

Sample ID: L1211041101
Report Date/Time: Sunday, November 18, 2012 09:27:04
Page 1

Approved: November 19, 2012

⌈	**Na**	23	23.3	12.4	**1.5098**	0.182	12.1	mg/L	2	Standard
|	**Mg**	24	5836263.5	4.5	**2.0406**	0.050	2.5	mg/L	5586	Standard
|	**K**	39	123.3	23.8	**1.1608**	0.310	26.7	mg/L	5	Standard
|	**Ca**	43	120.0	26.0	**1.4297**	1.031	72.1	mg/L	45	Standard
|	**Fe**	54	22134.1	8.1	**5.9133**	0.417	7.1	mg/L	350	Standard
|	**Fe**	57	5349.3	6.1	**5.8652**	0.262	4.5	mg/L	102	Standard
⌊>	**Sc-1**	45	74261.6	2.5				mg/L	53004	Standard
	Cl	35	2.7	78.1				ug/L	2	Standard
	Kr	83	228.2	2.6				ug/L	157	Standard
	Br	81	1.7	86.6				ug/L	3	Standard
	P	31	159843.8	3.9				ug/L	91588	Standard
	S	34	19926.4	4.5				ug/L	32556	Standard
	Sr	88	190.0	9.5				ug/L	62	Standard
	C	12	233.3	18.5				mg/L	133	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	2443.5	3.9				mg/L	7	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		107.687	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: L1211041101
Report Date/Time: Sunday, November 18, 2012 09:27:04
Page 2

Approved: November 19, 2012

⌈	Mo	98	
|	Ag	107	
|	Cd	111	
|	Cd	114	
|>	In	115	105.548
|	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	105.463
⌈	Na	23	
|	Mg	24	
|	K	39	
|	Ca	43	
|	Fe	54	
|	Fe	57	
⌊>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Ti 47 Upper, S, EEE	Ti	47	
Mn 55 Upper, S, EEE	Mn	55	
Ba 135 Upper, S, EEE	Ba	135	

Approved: November 19, 2012

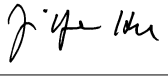
Method 6020 - Summary Report

Sample ID: L1211041102
Sample Date/Time: Sunday, November 18, 2012 09:27:44
Number of Replicates: 3
Autosampler Position: 307
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	12325.0	4.8	**-1450.6910**	164.311	11.3	ug/L	8369	Standard
	Be	9	18.3	41.7	**-0.0015**	0.003	227.7	ug/L	18	Standard
	Al	27	500653.4	8.1	**3.6583**	0.232	6.3	ug/L	215	Standard
>	**Sc**	45	58964.5	2.2				ug/L	53004	Standard
	Ti	47	611.0	11.5	**1.0645**	0.107	10.1	ug/L	26	Standard
	V	51	16788.0	7.8	**1.0724**	0.083	7.7	ug/L	3223	Standard
	Cr	52	11944.4	3.4	**0.1141**	0.022	19.5	ug/L	10379	Standard
	Cr	53	554.2	9.5	**0.2710**	0.029	10.8	ug/L	192	Standard
	Mn	55	19401.1	5.2	**0.9700**	0.035	3.6	ug/L	1840	Standard
	Co	59	447.0	11.4	**0.0162**	0.003	18.6	ug/L	115	Standard
	Ni	60	1945.1	8.9	**0.6062**	0.045	7.4	ug/L	75	Standard
	Cu	65	3589.1	5.2	**1.1697**	0.040	3.4	ug/L	155	Standard
	Zn	66	5520.0	6.5	**3.6151**	0.174	4.8	ug/L	237	Standard
>	**Ge**	72	436791.0	2.1				ug/L	413856	Standard
	As	75	-174.2	25.4	**0.0264**	0.027	103.6	ug/L	-197	Standard
	Se	82	-1.7	758.8	**-0.0065**	0.093	1434.9	ug/L	-5	Standard
	Se-1	77	112.7	10.0	**0.1095**	0.109	99.5	ug/L	105	Standard
>	**Ga**	71	233.3	17.5				mg/L	225	Standard
	Rb	85	2385.2	7.6				ug/L	28	Standard
	Y	89	318316.9	2.4				ug/L	322845	Standard
>	**Rh**	103	125.0	31.7				ug/L	92	Standard
	Mo	98	212.5	6.8	**0.0371**	0.002	6.3	ug/L	18	Standard
	Ag	107	85.7	6.6	**0.0026**	0.001	33.5	ug/L	63	Standard
	Cd	111	58.7	10.2	**0.0055**	0.002	36.4	mg/L	20	Standard
	Cd	114	168.6	8.1	**0.0086**	0.002	20.3	ug/L	56	Standard
>	**In**	115	676545.9	1.8				ug/L	657102	Standard
	Sn	118	3306.4	5.6	**0.2732**	0.012	4.5	ug/L	555	Standard
	Sb	123	99.3	10.9	**0.0094**	0.001	13.6	ug/L	62	Standard
	Ba	135	22365.5	5.2	**6.3589**	0.219	3.4	ug/L	19	Standard
	Ce	140	688.0	7.9				ug/L	24	Standard
>	**Tb**	159	961446.1	1.8				ug/L	910514	Standard
	Ho	165	18.7	46.8				ug/L	7	Standard
	Tl	203	197.3	8.0	**0.0110**	0.001	9.5	ug/L	13	Standard
	Tl	205	6.7	75.5	**0.0173**	0.012	69.0	ug/L	1	Standard
	Pb	206	916.4	4.3	**0.0517**	0.003	5.9	ug/L	342	Standard
	Pb	207	806.7	4.4	**0.0515**	0.004	7.3	ug/L	284	Standard
	Pb	208	3608.2	4.1	**0.0500**	0.003	5.5	ug/L	1363	Standard
	U	238	10.7	43.3	**-0.0005**	0.000	88.3	ug/L	2	Standard
>	**Bi**	209	496289.4	1.4				ug/L	470592	Standard

Approved: November 19, 2012



	Na	23	33.3	34.6	**2.6998**	0.891	33.0	mg/L	2	Standard
	Mg	24	11511923.8	5.1	**5.0741**	0.202	4.0	mg/L	5586	Standard
	K	39	25.0	0.0	**0.2643**	0.007	2.5	mg/L	5	Standard
	Ca	43	91.7	40.2	**1.2865**	1.430	111.2	mg/L	45	Standard
	Fe	54	407.4	3.2	**-0.0127**	0.007	58.0	mg/L	350	Standard
	Fe	57	105.0	33.3	**0.0195**	0.047	240.0	mg/L	102	Standard
>	**Sc-1**	45	58964.5	2.2				mg/L	53004	Standard
	Cl	35	2.7	78.1				ug/L	2	Standard
	Kr	83	164.6	5.9				ug/L	157	Standard
	Br	81	3.3	43.3				ug/L	3	Standard
	P	31	185135.9	3.4				ug/L	91588	Standard
	S	34	18002.4	1.3				ug/L	32556	Standard
	Sr	88	188.3	22.6				ug/L	62	Standard
	C	12	160.0	10.8				mg/L	133	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	78.3	40.5				mg/L	7	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		105.542	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			
	Y	89			
>	Rh	103			

Sample ID: L1211041102
Report Date/Time: Sunday, November 18, 2012 09:30:16
Page 2

Approved: November 19, 2012

	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	102.959
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	105.461
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: L1211041102
Report Date/Time: Sunday, November 18, 2012 09:30:16
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

Sample ID: L1211041102PS WG414364-01
Sample Date/Time: Sunday, November 18, 2012 09:30:56
Number of Replicates: 3
Autosampler Position: 308
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	13472.7	3.7	**-1604.8080**	122.669	7.6	ug/L	8369	Standard
	Be	9	121652.4	5.4	**49.3018**	3.223	6.5	ug/L	18	Standard
	Al	27	510044.0	7.0	**3.5041**	0.351	10.0	ug/L	215	Standard
>	Sc	45	62929.0	5.1				ug/L	53004	Standard
	Ti	47	650.7	6.8	**1.0764**	0.112	10.4	ug/L	26	Standard
	V	51	655396.4	7.0	**49.3483**	5.033	10.2	ug/L	3223	Standard
	Cr	52	620993.4	7.2	**49.8436**	5.301	10.6	ug/L	10379	Standard
	Cr	53	76864.2	6.9	**49.9893**	4.873	9.7	ug/L	192	Standard
	Mn	55	983045.2	6.2	**50.7787**	4.738	9.3	ug/L	1840	Standard
	Co	59	738443.3	5.0	**49.6508**	3.801	7.7	ug/L	115	Standard
	Ni	60	159776.7	5.5	**49.9587**	4.387	8.8	ug/L	75	Standard
	Cu	65	159587.2	5.2	**51.6750**	4.459	8.6	ug/L	155	Standard
	Zn	66	76071.5	5.2	**49.6385**	4.172	8.4	ug/L	237	Standard
>	Ge	72	462005.2	4.5				ug/L	413856	Standard
	As	75	75747.3	4.3	**46.9733**	3.469	7.4	ug/L	-197	Standard
	Se	82	6570.2	5.0	**45.5161**	3.698	8.1	ug/L	-5	Standard
	Se-1	77	5072.9	5.9	**45.4533**	4.407	9.7	ug/L	105	Standard
>	Ga	71	381.7	14.5				mg/L	225	Standard
	Rb	85	2550.2	3.1				ug/L	28	Standard
	Y	89	349089.0	2.6				ug/L	322845	Standard
>	Rh	103	140.0	16.4				ug/L	92	Standard
	Mo	98	272.7	7.2	**0.0466**	0.006	12.6	ug/L	18	Standard
	Ag	107	434377.4	4.2	**50.0456**	3.687	7.4	ug/L	63	Standard
	Cd	111	182006.5	5.5	**48.4549**	4.192	8.7	mg/L	20	Standard
	Cd	114	464524.3	4.9	**46.9820**	3.767	8.0	ug/L	56	Standard
>	In	115	721095.9	3.6				ug/L	657102	Standard
	Sn	118	3509.7	4.8	**0.2726**	0.026	9.4	ug/L	555	Standard
	Sb	123	409489.8	5.0	**47.7397**	3.956	8.3	ug/L	62	Standard
	Ba	135	204734.5	4.1	**54.8828**	4.076	7.4	ug/L	19	Standard
	Ce	140	728.4	6.6				ug/L	24	Standard
>	Tb	159	1013037.7	5.6				ug/L	910514	Standard
	Ho	165	99.7	14.6				ug/L	7	Standard
	Tl	203	692048.6	3.6	**49.7088**	3.923	7.9	ug/L	13	Standard
	Tl	205	21915.2	3.4	**51.5975**	4.027	7.8	ug/L	1	Standard
	Pb	206	557694.9	5.0	**49.9798**	4.481	9.0	ug/L	342	Standard
	Pb	207	472576.3	4.4	**49.8132**	4.295	8.6	ug/L	284	Standard
	Pb	208	2187345.3	5.1	**49.6665**	4.535	9.1	ug/L	1363	Standard
	U	238	554869.9	6.2	**50.9279**	5.206	10.2	ug/L	2	Standard
>	Bi	209	512416.0	4.8				ug/L	470592	Standard

Sample ID: L1211041102PS WG414364-01
Report Date/Time: Sunday, November 18, 2012 09:33:28
Page 1

Approved: November 19, 2012

⌈	**Na**	23	33.3	17.3	**2.5614**	0.583	22.8	mg/L	2	Standard
|	**Mg**	24	11661267.4	4.9	**4.8250**	0.329	6.8	mg/L	5586	Standard
|	**K**	39	13.3	21.7	**0.1124**	0.038	34.1	mg/L	5	Standard
|	**Ca**	43	103.3	24.8	**1.4811**	0.928	62.7	mg/L	45	Standard
|	**Fe**	54	518.9	16.5	**0.0145**	0.026	181.9	mg/L	350	Standard
|	**Fe**	57	141.7	32.0	**0.0597**	0.060	100.4	mg/L	102	Standard
⌊>	**Sc-1**	45	62929.0	5.1				mg/L	53004	Standard
	Cl	35	1.0	100.0				ug/L	2	Standard
	Kr	83	410.5	20.2				ug/L	157	Standard
	Br	81	2.5	100.0				ug/L	3	Standard
	P	31	215984.5	3.2				ug/L	91588	Standard
	S	34	16884.4	4.1				ug/L	32556	Standard
	Sr	88	171.7	9.4				ug/L	62	Standard
	C	12	180.0	25.5				mg/L	133	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	38.3	37.7				mg/L	7	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		111.634	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: L1211041102PS WG414364-01
Report Date/Time: Sunday, November 18, 2012 09:33:28
Page 2

Approved: November 19, 2012

⌈	Mo	98		
|	Ag	107		
|	Cd	111		
|	Cd	114		
| >	In	115		109.739
|	Sn	118		
|	Sb	123		
⌊	Ba	135		
⌈	Ce	140		
⌊ >	Tb	159		
⌈	Ho	165		
|	Tl	203		
|	Tl	205		
|	Pb	206		
|	Pb	207		
|	Pb	208		
|	U	238		
⌊ >	Bi	209		108.888
⌈	Na	23		
|	Mg	24		
|	K	39		
|	Ca	43		
|	Fe	54		
|	Fe	57		
⌊ >	Sc-1	45		
	Cl	35		
	Kr	83		
	Br	81		
	P	31		
	S	34		
	Sr	88		
	C	12		
	N	14		
	Hg	202		

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: L1211041102PS WG414364-01
Report Date/Time: Sunday, November 18, 2012 09:33:28
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

Sample ID: L1211041102SDL WG411364-02
Sample Date/Time: Sunday, November 18, 2012 09:34:08
Number of Replicates: 3
Autosampler Position: 309
Sample Description: 5
Method File: C:\NexION Data\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
	Li	7	9466.3	6.7	**-629.3751**	313.260	49.8	ug/L	8369	Standard
	Be	9	171.7	145.5	**0.0737**	0.121	163.9	ug/L	18	Standard
	Al	27	96309.1	5.8	**0.7918**	0.038	4.8	ug/L	215	Standard
>	Sc	45	52315.2	1.2				ug/L	53004	Standard
	Ti	47	122.3	17.7	**0.1764**	0.036	20.2	ug/L	26	Standard
	V	51	6243.3	22.7	**0.2542**	0.104	41.1	ug/L	3223	Standard
	Cr	52	10808.9	13.4	**0.0610**	0.105	172.2	ug/L	10379	Standard
	Cr	53	384.2	38.7	**0.1659**	0.099	59.6	ug/L	192	Standard
	Mn	55	7099.7	23.6	**0.3171**	0.089	28.0	ug/L	1840	Standard
	Co	59	1136.1	110.0	**0.0678**	0.090	132.6	ug/L	115	Standard
	Ni	60	766.7	39.7	**0.2287**	0.098	42.7	ug/L	75	Standard
	Cu	65	1062.7	26.8	**0.3227**	0.092	28.5	ug/L	155	Standard
	Zn	66	3167.7	6.4	**2.0987**	0.095	4.5	ug/L	237	Standard
>	Ge	72	416053.0	2.6				ug/L	413856	Standard
	As	75	-101.3	137.1	**0.0692**	0.095	137.7	ug/L	-197	Standard
	Se	82	6.3	361.3	**0.0524**	0.174	331.3	ug/L	-5	Standard
	Se-1	77	102.3	10.4	**0.0574**	0.084	145.8	ug/L	105	Standard
>	Ga	71	193.3	10.5				mg/L	225	Standard
	Rb	85	496.7	1.5				ug/L	28	Standard
	Y	89	310800.7	1.3				ug/L	322845	Standard
>	Rh	103	93.3	34.4				ug/L	92	Standard
	Mo	98	117.1	11.0	**0.0172**	0.003	15.4	ug/L	18	Standard
	Ag	107	400.3	129.3	**0.0419**	0.064	152.3	ug/L	63	Standard
	Cd	111	223.2	144.2	**0.0527**	0.092	173.9	mg/L	20	Standard
	Cd	114	580.5	143.3	**0.0536**	0.090	167.9	ug/L	56	Standard
>	In	115	659688.7	2.3				ug/L	657102	Standard
	Sn	118	987.4	5.5	**0.0494**	0.003	6.6	ug/L	555	Standard
	Sb	123	669.4	110.9	**0.0813**	0.092	113.6	ug/L	62	Standard
	Ba	135	4678.1	11.4	**1.3472**	0.128	9.5	ug/L	19	Standard
	Ce	140	210.3	3.1				ug/L	24	Standard
>	Tb	159	935935.1	2.6				ug/L	910514	Standard
	Ho	165	9.3	34.4				ug/L	7	Standard
	Tl	203	549.4	134.0	**0.0377**	0.055	145.8	ug/L	13	Standard
	Tl	205	21.7	103.2	**0.0547**	0.055	100.1	ug/L	1	Standard
	Pb	206	1147.7	83.0	**0.0753**	0.088	117.0	ug/L	342	Standard
	Pb	207	943.7	80.3	**0.0686**	0.082	120.0	ug/L	284	Standard
	Pb	208	4371.7	81.1	**0.0700**	0.083	118.6	ug/L	1363	Standard
	U	238	575.4	164.7	**0.0535**	0.090	169.0	ug/L	2	Standard
>	Bi	209	481868.3	2.2				ug/L	470592	Standard

Approved: November 19, 2012

	Na	23	11.7	24.7	**1.0723**	0.259	24.1	mg/L	2	Standard
	Mg	24	2279125.5	8.1	**1.1297**	0.082	7.3	mg/L	5586	Standard
	K	39	6.7	114.6	**0.0504**	0.105	207.1	mg/L	5	Standard
	Ca	43	45.0	40.1	**-0.2893**	0.777	268.5	mg/L	45	Standard
	Fe	54	408.9	14.8	**0.0056**	0.023	403.2	mg/L	350	Standard
	Fe	57	106.7	7.2	**0.0416**	0.014	34.2	mg/L	102	Standard
>	**Sc-1**	45	52315.2	1.2				mg/L	53004	Standard
	Cl	35	1.7	34.6				ug/L	2	Standard
	Kr	83	192.7	15.8				ug/L	157	Standard
	Br	81	6.7	21.7				ug/L	3	Standard
	P	31	103770.0	1.7				ug/L	91588	Standard
	S	34	16313.8	1.6				ug/L	32556	Standard
	Sr	88	66.7	24.1				ug/L	62	Standard
	C	12	153.3	19.1				mg/L	133	Standard
	N	14	1.7	173.2				mg/L	0	Standard
	Hg	202	20.0	66.1				mg/L	7	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		100.531	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			
	Y	89			
>	Rh	103			

Sample ID: L1211041102SDL WG411364-02
Report Date/Time: Sunday, November 18, 2012 09:36:40
Page 2

Approved: November 19, 2012

	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	100.394
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	102.396
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: L1211041102SDL WG411364-02
Report Date/Time: Sunday, November 18, 2012 09:36:40
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

Sample ID: QC Std 6
Sample Date/Time: Sunday, November 18, 2012 09:37:23
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	8900.9	1.7	**-234.7477**	162.473	69.2	ug/L	8369	Standard
|	**Be**	9	112668.0	4.8	**53.9560**	2.610	4.8	ug/L	18	Standard
|	**Al**	27	6534917.3	8.0	**53.0297**	4.639	8.7	ug/L	215	Standard
⌊>	**Sc**	45	53203.3	3.5				ug/L	53004	Standard
⌈	**Ti**	47	50524.7	6.8	**96.4912**	3.411	3.5	ug/L	26	Standard
|	**V**	51	600716.3	6.8	**49.5160**	2.226	4.5	ug/L	3223	Standard
|	**Cr**	52	563659.5	6.8	**49.5048**	1.935	3.9	ug/L	10379	Standard
|	**Cr**	53	68388.0	8.4	**48.6637**	2.498	5.1	ug/L	192	Standard
|	**Mn**	55	865061.7	6.7	**48.9089**	1.670	3.4	ug/L	1840	Standard
|	**Co**	59	676014.6	6.4	**49.7841**	1.480	3.0	ug/L	115	Standard
|	**Ni**	60	145791.6	7.4	**49.8933**	1.956	3.9	ug/L	75	Standard
|	**Cu**	65	142411.5	6.7	**50.4788**	1.723	3.4	ug/L	155	Standard
|	**Zn**	66	69274.0	5.6	**49.5023**	1.098	2.2	ug/L	237	Standard
| >	**Ge**	72	420747.3	3.6				ug/L	413856	Standard
|	**As**	75	73315.3	5.5	**49.7974**	1.108	2.2	ug/L	-197	Standard
|	**Se**	82	6513.8	5.5	**49.4224**	0.982	2.0	ug/L	-5	Standard
⌊	**Se-1**	77	5051.5	4.0	**49.6536**	0.245	0.5	ug/L	105	Standard
⌈>	**Ga**	71	210.0	15.6				mg/L	225	Standard
⌊	**Rb**	85	970.0	23.8				ug/L	28	Standard
⌈	**Y**	89	314378.3	4.2				ug/L	322845	Standard
⌊>	**Rh**	103	151.7	8.3				ug/L	92	Standard
⌈	**Mo**	98	440850.1	7.1	**96.5169**	4.344	4.5	ug/L	18	Standard
|	**Ag**	107	411658.2	3.9	**51.2595**	0.593	1.2	ug/L	63	Standard
|	**Cd**	111	176051.2	6.6	**50.6172**	2.004	4.0	mg/L	20	Standard
|	**Cd**	114	458681.2	7.0	**50.1058**	2.208	4.4	ug/L	56	Standard
| >	**In**	115	665928.8	2.8				ug/L	657102	Standard
|	**Sn**	118	503275.1	7.6	**49.8109**	2.551	5.1	ug/L	555	Standard
|	**Sb**	123	396629.0	6.7	**49.9376**	2.020	4.0	ug/L	62	Standard
⌊	**Ba**	135	170988.0	5.5	**49.5189**	1.379	2.8	ug/L	19	Standard
⌈	**Ce**	140	723.7	4.8				ug/L	24	Standard
⌊>	**Tb**	159	941199.7	2.3				ug/L	910514	Standard
⌈	**Ho**	165	478.0	9.0				ug/L	7	Standard
|	**Tl**	203	653615.2	4.2	**50.4236**	0.967	1.9	ug/L	13	Standard
|	**Tl**	205	20732.5	4.7	**52.4222**	1.272	2.4	ug/L	1	Standard
|	**Pb**	206	525229.2	6.1	**50.5252**	1.763	3.5	ug/L	342	Standard
|	**Pb**	207	446041.6	6.9	**50.4609**	2.158	4.3	ug/L	284	Standard
|	**Pb**	208	2053856.6	6.2	**50.0528**	1.759	3.5	ug/L	1363	Standard
|	**U**	238	526023.6	7.6	**51.7907**	2.696	5.2	ug/L	2	Standard
⌊>	**Bi**	209	475835.9	3.0				ug/L	470592	Standard

Sample ID: QC Std 6
Report Date/Time: Sunday, November 18, 2012 09:39:55
Page 1

Approved: November 19, 2012

⌈	**Na**	23	51.7	40.3	**4.7002**	2.042	43.4	mg/L	2	Standard
|	**Mg**	24	10876295.4	5.5	**5.3169**	0.308	5.8	mg/L	5586	Standard
|	**K**	39	396.7	13.1	**5.3238**	0.553	10.4	mg/L	5	Standard
|	**Ca**	43	170.0	7.8	**4.9712**	0.310	6.2	mg/L	45	Standard
|	**Fe**	54	13875.6	7.6	**5.1580**	0.370	7.2	mg/L	350	Standard
|	**Fe**	57	3365.4	4.0	**5.1416**	0.286	5.6	mg/L	102	Standard
⌊>	**Sc-1**	45	53203.3	3.5				mg/L	53004	Standard
	Cl	35	1.3	114.6				ug/L	2	Standard
	Kr	83	157.3	5.6				ug/L	157	Standard
	Br	81	4.2	34.6				ug/L	3	Standard
	P	31	85240.1	2.9				ug/L	91588	Standard
	S	34	26252.4	17.8				ug/L	32556	Standard
	Sr	88	61.7	23.4				ug/L	62	Standard
	C	12	165.0	18.4				mg/L	133	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	13.3	78.1				mg/L	7	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈	Li	7			
|	Be	9	107.912		
|	Al	27	106.059		
⌊>	Sc	45			
⌈	Ti	47	96.491		
|	V	51	99.032		
|	Cr	52	99.010		
|	Cr	53			
|	Mn	55	97.818		
|	Co	59	99.568		
|	Ni	60	99.787		
|	Cu	65	100.958		
|	Zn	66	99.005		
|>	Ge	72		101.665	
|	As	75	99.595		
|	Se	82	98.845		
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: QC Std 6
Report Date/Time: Sunday, November 18, 2012 09:39:55
Page 2

Approved: November 19, 2012

	Mo	98	96.517	
	Ag	107	102.519	
	Cd	111	101.234	
	Cd	114		
>	In	115		101.343
	Sn	118	99.622	
	Sb	123	99.875	
	Ba	135	99.038	
	Ce	140		
>	Tb	159		
	Ho	165		
	Tl	203	100.847	
	Tl	205		
	Pb	206	101.050	
	Pb	207	100.922	
	Pb	208	100.106	
	U	238	103.581	
>	Bi	209		101.114
	Na	23		
	Mg	24		
	K	39		
	Ca	43		
	Fe	54		
	Fe	57		
>	Sc-1	45		
	Cl	35		
	Kr	83		
	Br	81		
	P	31		
	S	34		
	Sr	88		
	C	12		
	N	14		
	Hg	202		

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: QC Std 6
Report Date/Time: Sunday, November 18, 2012 09:39:55
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

Sample ID: QC Std 7
Sample Date/Time: Sunday, November 18, 2012 09:40:35
Number of Replicates: 3
Autosampler Position: 102
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	8757.5	5.0	**-274.1492**	86.354	31.5	ug/L	8369	Standard
|	**Be**	9	35.0	57.1	**0.0080**	0.010	131.4	ug/L	18	Standard
|	**Al**	27	870.0	82.4	**0.0052**	0.006	121.5	ug/L	215	Standard
⌊>	**Sc**	45	51878.7	3.6				ug/L	53004	Standard
⌈	**Ti**	47	27.3	22.4	**-0.0066**	0.013	201.7	ug/L	26	Standard
|	**V**	51	3176.8	3.6	**-0.0008**	0.020	2376.0	ug/L	3223	Standard
|	**Cr**	52	10173.7	0.4	**0.0054**	0.036	652.3	ug/L	10379	Standard
|	**Cr**	53	223.3	5.2	**0.0517**	0.014	27.4	ug/L	192	Standard
|	**Mn**	55	1549.7	8.6	**-0.0001**	0.007	5495.7	ug/L	1840	Standard
|	**Co**	59	150.7	40.1	**-0.0042**	0.005	115.3	ug/L	115	Standard
|	**Ni**	60	89.3	11.4	**-0.0045**	0.005	104.1	ug/L	75	Standard
|	**Cu**	65	155.0	6.5	**-0.0018**	0.005	266.8	ug/L	155	Standard
|	**Zn**	66	263.7	17.7	**-0.0087**	0.028	323.8	ug/L	237	Standard
|>	**Ge**	72	416358.7	3.9				ug/L	413856	Standard
|	**As**	75	-202.8	9.7	**0.0013**	0.008	660.3	ug/L	-197	Standard
|	**Se**	82	0.7	623.2	**0.0101**	0.033	326.8	ug/L	-5	Standard
⌊	**Se-1**	77	107.3	7.1	**0.1078**	0.042	38.8	ug/L	105	Standard
⌈>	**Ga**	71	211.7	13.0				mg/L	225	Standard
⌊	**Rb**	85	20.0	75.0				ug/L	28	Standard
⌈	**Y**	89	312503.9	1.9				ug/L	322845	Standard
⌊>	**Rh**	103	95.0	9.1				ug/L	92	Standard
⌈	**Mo**	98	96.2	65.7	**0.0123**	0.013	105.4	ug/L	18	Standard
|	**Ag**	107	123.7	47.2	**0.0076**	0.007	88.1	ug/L	63	Standard
|	**Cd**	111	37.6	76.9	**-0.0004**	0.008	1925.6	mg/L	20	Standard
|	**Cd**	114	110.0	62.9	**0.0024**	0.007	290.4	ug/L	56	Standard
|>	**In**	115	656816.4	3.9				ug/L	657102	Standard
|	**Sn**	118	485.3	10.7	**-0.0007**	0.003	486.3	ug/L	555	Standard
|	**Sb**	123	314.8	50.1	**0.0368**	0.018	49.8	ug/L	62	Standard
⌊	**Ba**	135	41.7	83.8	**-0.0079**	0.010	121.8	ug/L	19	Standard
⌈	**Ce**	140	56.7	85.0				ug/L	24	Standard
⌊>	**Tb**	159	919211.5	3.6				ug/L	910514	Standard
⌈	**Ho**	165	12.7	24.1				ug/L	7	Standard
|	**Tl**	203	53.0	76.8	**0.0004**	0.003	763.6	ug/L	13	Standard
|	**Tl**	205	3.7	103.3	**0.0107**	0.010	93.0	ug/L	1	Standard
|	**Pb**	206	335.7	5.8	**-0.0007**	0.002	278.0	ug/L	342	Standard
|	**Pb**	207	308.3	12.1	**-0.0013**	0.003	246.7	ug/L	284	Standard
|	**Pb**	208	1402.4	8.6	**-0.0003**	0.002	703.5	ug/L	1363	Standard
|	**U**	238	53.3	109.7	**0.0038**	0.006	156.9	ug/L	2	Standard
⌊>	**Bi**	209	476677.6	3.1				ug/L	470592	Standard

Sample ID: QC Std 7
Report Date/Time: Sunday, November 18, 2012 09:43:07
Page 1

Approved: November 19, 2012

⌈	**Na**	23	3.3	173.2	**0.3028**	0.516	170.3	mg/L	2	Standard
|	**Mg**	24	9294.6	18.7	**0.0018**	0.001	55.8	mg/L	5586	Standard
|	**K**	39	5.0	0.0	**0.0282**	0.003	9.0	mg/L	5	Standard
|	**Ca**	43	41.7	42.1	**-0.4257**	0.721	169.4	mg/L	45	Standard
|	**Fe**	54	352.1	10.7	**-0.0154**	0.013	81.2	mg/L	350	Standard
|	**Fe**	57	91.7	30.0	**0.0184**	0.042	228.6	mg/L	102	Standard
⌊>	**Sc-1**	45	51878.7	3.6				mg/L	53004	Standard
	Cl	35	3.3	17.3				ug/L	2	Standard
	Kr	83	156.1	4.2				ug/L	157	Standard
	Br	81	5.0	0.0				ug/L	3	Standard
	P	31	89005.8	3.1				ug/L	91588	Standard
	S	34	27484.9	4.0				ug/L	32556	Standard
	Sr	88	55.0	9.1				ug/L	62	Standard
	C	12	163.3	18.7				mg/L	133	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	10.0	100.0				mg/L	7	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		100.605	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: QC Std 7
Report Date/Time: Sunday, November 18, 2012 09:43:07
Page 2

Approved: November 19, 2012

	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	99.957
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	101.293
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: QC Std 7
Report Date/Time: Sunday, November 18, 2012 09:43:07
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

Sample ID: L1211041103
Sample Date/Time: Sunday, November 18, 2012 09:43:49
Number of Replicates: 3
Autosampler Position: 310
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	51827.0	5.6	**-18690.4747**	1343.030	7.2	ug/L	8369	Standard
|	**Be**	9	140.0	31.7	**0.0448**	0.014	30.2	ug/L	18	Standard
|	**Al**	27	8123223.0	7.5	**53.8497**	1.245	2.3	ug/L	215	Standard
⌊>	**Sc**	45	65078.3	7.3				ug/L	53004	Standard
⌈	**Ti**	47	10385.6	12.9	**18.3096**	1.696	9.3	ug/L	26	Standard
|	**V**	51	58952.8	8.7	**4.2583**	0.236	5.6	ug/L	3223	Standard
|	**Cr**	52	23968.3	4.1	**1.0732**	0.033	3.1	ug/L	10379	Standard
|	**Cr**	53	2111.0	2.8	**1.2887**	0.060	4.6	ug/L	192	Standard
|	**Mn**	55	818456.9	8.1	**42.8704**	1.857	4.3	ug/L	1840	Standard
|	**Co**	59	6960.6	6.4	**0.4598**	0.012	2.7	ug/L	115	Standard
|	**Ni**	60	13847.0	7.3	**4.3610**	0.165	3.8	ug/L	75	Standard
|	**Cu**	65	3712.5	7.0	**1.1637**	0.046	4.0	ug/L	155	Standard
|	**Zn**	66	84860.2	6.0	**56.2403**	1.325	2.4	ug/L	237	Standard
|>	**Ge**	72	453866.6	3.9				ug/L	413856	Standard
|	**As**	75	128.6	38.2	**0.2204**	0.030	13.5	ug/L	-197	Standard
|	**Se**	82	76.6	17.1	**0.5453**	0.098	18.0	ug/L	-5	Standard
⌊	**Se-1**	77	135.3	4.9	**0.2799**	0.072	25.8	ug/L	105	Standard
⌈>	**Ga**	71	3060.3	12.0				mg/L	225	Standard
⌊	**Rb**	85	16298.8	3.7				ug/L	28	Standard
⌈	**Y**	89	359586.1	4.6				ug/L	322845	Standard
⌊>	**Rh**	103	125.0	28.0				ug/L	92	Standard
⌈	**Mo**	98	715.0	9.6	**0.1397**	0.009	6.6	ug/L	18	Standard
|	**Ag**	107	179.3	9.1	**0.0133**	0.001	10.7	ug/L	63	Standard
|	**Cd**	111	194.8	4.6	**0.0420**	0.003	6.0	mg/L	20	Standard
|	**Cd**	114	504.4	6.4	**0.0427**	0.002	4.8	ug/L	56	Standard
|>	**In**	115	702184.9	3.3				ug/L	657102	Standard
|	**Sn**	118	2668.9	5.8	**0.2015**	0.008	4.0	ug/L	555	Standard
|	**Sb**	123	212.1	14.9	**0.0224**	0.003	14.9	ug/L	62	Standard
⌊	**Ba**	135	118424.8	6.2	**32.5283**	1.508	4.6	ug/L	19	Standard
⌈	**Ce**	140	438213.6	6.3				ug/L	24	Standard
⌊>	**Tb**	159	991130.0	1.7				ug/L	910514	Standard
⌈	**Ho**	165	2082.8	4.8				ug/L	7	Standard
|	**Tl**	203	401.3	8.8	**0.0256**	0.002	8.6	ug/L	13	Standard
|	**Tl**	205	14.0	7.1	**0.0348**	0.002	5.7	ug/L	1	Standard
|	**Pb**	206	4735.7	6.0	**0.3985**	0.024	6.1	ug/L	342	Standard
|	**Pb**	207	3715.1	3.4	**0.3620**	0.007	1.9	ug/L	284	Standard
|	**Pb**	208	18039.9	5.0	**0.3819**	0.017	4.5	ug/L	1363	Standard
|	**U**	238	1973.8	8.8	**0.1824**	0.014	7.8	ug/L	2	Standard
⌊>	**Bi**	209	502989.8	1.7				ug/L	470592	Standard

Sample ID: L1211041103
Report Date/Time: Sunday, November 18, 2012 09:46:21
Page 1

Approved: November 19, 2012

	Na	23	75.0	35.3	**5.6254**	2.229	39.6	mg/L	2	Standard
	Mg	24	22482111.2	5.1	**8.9921**	0.223	2.5	mg/L	5586	Standard
	K	39	81.7	3.5	**0.8648**	0.035	4.1	mg/L	5	Standard
	Ca	43	248.3	16.3	**6.3804**	1.331	20.9	mg/L	45	Standard
	Fe	54	2397.6	14.0	**0.5948**	0.064	10.8	mg/L	350	Standard
	Fe	57	653.3	16.2	**0.7044**	0.086	12.1	mg/L	102	Standard
>	**Sc-1**	45	65078.3	7.3				mg/L	53004	Standard
	Cl	35	2.0	86.6				ug/L	2	Standard
	Kr	83	158.2	1.7				ug/L	157	Standard
	Br	81	8.3	34.6				ug/L	3	Standard
	P	31	201382.8	4.4				ug/L	91588	Standard
	S	34	21327.5	0.8				ug/L	32556	Standard
	Sr	88	283.3	8.3				ug/L	62	Standard
	C	12	435.0	8.0				mg/L	133	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	21.7	53.3				mg/L	7	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		109.668	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			
	Y	89			
>	Rh	103			

Approved: November 19, 2012

⌈	Mo	98		
|	Ag	107		
|	Cd	111		
|	Cd	114		
|>	In	115		106.861
|	Sn	118		
|	Sb	123		
⌊	Ba	135		
⌈	Ce	140		
⌊>	Tb	159		
⌈	Ho	165		
|	Tl	203		
|	Tl	205		
|	Pb	206		
|	Pb	207		
|	Pb	208		
|	U	238		
⌊>	Bi	209		106.885
⌈	Na	23		
|	Mg	24		
|	K	39		
|	Ca	43		
|	Fe	54		
|	Fe	57		
⌊>	Sc-1	45		
	Cl	35		
	Kr	83		
	Br	81		
	P	31		
	S	34		
	Sr	88		
	C	12		
	N	14		
	Hg	202		

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: L1211041103
Report Date/Time: Sunday, November 18, 2012 09:46:21
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

Sample ID: L1211041104
Sample Date/Time: Sunday, November 18, 2012 09:47:02
Number of Replicates: 3
Autosampler Position: 311
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	10807.2	6.5	**-888.0707**	265.188	29.9	ug/L	8369	Standard
|	**Be**	9	88.3	16.3	**0.0300**	0.006	20.6	ug/L	18	Standard
|	**Al**	27	733083.5	5.3	**5.5508**	0.198	3.6	ug/L	215	Standard
⌊>	**Sc**	45	56931.8	1.9				ug/L	53004	Standard
⌈	**Ti**	47	2753.9	4.5	**5.1887**	0.329	6.3	ug/L	26	Standard
|	**V**	51	22731.2	4.2	**1.6105**	0.111	6.9	ug/L	3223	Standard
|	**Cr**	52	14048.5	3.3	**0.3370**	0.057	17.1	ug/L	10379	Standard
|	**Cr**	53	929.2	10.7	**0.5514**	0.076	13.8	ug/L	192	Standard
|	**Mn**	55	167418.8	5.1	**9.3671**	0.614	6.6	ug/L	1840	Standard
|	**Co**	59	3877.5	5.7	**0.2693**	0.021	7.6	ug/L	115	Standard
|	**Ni**	60	2444.5	4.1	**0.7994**	0.046	5.8	ug/L	75	Standard
|	**Cu**	65	1893.8	9.2	**0.6130**	0.072	11.8	ug/L	155	Standard
|	**Zn**	66	53744.6	4.0	**38.2419**	2.179	5.7	ug/L	237	Standard
| >	**Ge**	72	422539.2	1.9				ug/L	413856	Standard
|	**As**	75	664.3	5.3	**0.5882**	0.023	3.9	ug/L	-197	Standard
|	**Se**	82	10.4	74.9	**0.0841**	0.059	70.3	ug/L	-5	Standard
⌊	**Se-1**	77	112.7	5.8	**0.1465**	0.078	53.0	ug/L	105	Standard
⌈>	**Ga**	71	390.0	9.7				mg/L	225	Standard
⌊	**Rb**	85	4835.8	2.2				ug/L	28	Standard
⌈	**Y**	89	311194.4	2.3				ug/L	322845	Standard
⌊>	**Rh**	103	113.3	22.6				ug/L	92	Standard
⌈	**Mo**	98	867.1	8.0	**0.1811**	0.019	10.3	ug/L	18	Standard
|	**Ag**	107	100.7	3.5	**0.0046**	0.001	12.7	ug/L	63	Standard
|	**Cd**	111	45.0	13.3	**0.0017**	0.002	111.1	mg/L	20	Standard
|	**Cd**	114	127.0	6.0	**0.0043**	0.001	25.7	ug/L	56	Standard
| >	**In**	115	667493.2	2.2				ug/L	657102	Standard
|	**Sn**	118	1191.7	2.1	**0.0685**	0.003	4.8	ug/L	555	Standard
|	**Sb**	123	1201.5	7.1	**0.1483**	0.014	9.2	ug/L	62	Standard
⌊	**Ba**	135	67620.8	4.4	**19.5473**	1.109	5.7	ug/L	19	Standard
⌈	**Ce**	140	7789.7	6.0				ug/L	24	Standard
⌊>	**Tb**	159	940468.2	0.9				ug/L	910514	Standard
⌈	**Ho**	165	105.0	10.1				ug/L	7	Standard
|	**Tl**	203	291.7	2.1	**0.0184**	0.000	2.3	ug/L	13	Standard
|	**Tl**	205	9.0	19.2	**0.0236**	0.004	18.1	ug/L	1	Standard
|	**Pb**	206	5194.2	7.7	**0.4566**	0.040	8.8	ug/L	342	Standard
|	**Pb**	207	4328.3	3.8	**0.4436**	0.021	4.7	ug/L	284	Standard
|	**Pb**	208	20191.3	5.1	**0.4476**	0.027	6.1	ug/L	1363	Standard
|	**U**	238	57.0	4.6	**0.0040**	0.000	6.5	ug/L	2	Standard
⌊>	**Bi**	209	486461.1	0.6				ug/L	470592	Standard

Sample ID: L1211041104
Report Date/Time: Sunday, November 18, 2012 09:49:34
Page 1

Approved: November 19, 2012

	Na	23	26.7	47.2	**2.2451**	1.035	46.1	mg/L	2	Standard
	Mg	24	6919176.9	4.2	**3.1572**	0.073	2.3	mg/L	5586	Standard
	K	39	16.7	34.6	**0.1701**	0.074	43.8	mg/L	5	Standard
	Ca	43	98.3	28.0	**1.6807**	1.178	70.1	mg/L	45	Standard
	Fe	54	856.2	4.7	**0.1527**	0.010	6.5	mg/L	350	Standard
	Fe	57	226.7	22.3	**0.2029**	0.071	35.2	mg/L	102	Standard
>	**Sc-1**	45	56931.8	1.9				mg/L	53004	Standard
	Cl	35	2.3	24.7				ug/L	2	Standard
	Kr	83	160.1	2.6				ug/L	157	Standard
	Br	81	6.7	78.1				ug/L	3	Standard
	P	31	145545.1	2.2				ug/L	91588	Standard
	S	34	19257.2	3.5				ug/L	32556	Standard
	Sr	88	183.3	30.7				ug/L	62	Standard
	C	12	153.3	10.0				mg/L	133	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	11.7	65.5				mg/L	7	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		102.098	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			
	Y	89			
>	Rh	103			

Sample ID: L1211041104
Report Date/Time: Sunday, November 18, 2012 09:49:34
Page 2

Approved: November 19, 2012

⌈	Mo	98		
|	Ag	107		
|	Cd	111		
|	Cd	114		
|>	In	115		101.581
|	Sn	118		
|	Sb	123		
⌊	Ba	135		
⌈	Ce	140		
⌊>	Tb	159		
⌈	Ho	165		
|	Tl	203		
|	Tl	205		
|	Pb	206		
|	Pb	207		
|	Pb	208		
|	U	238		
⌊>	Bi	209		103.372
⌈	Na	23		
|	Mg	24		
|	K	39		
|	Ca	43		
|	Fe	54		
|	Fe	57		
⌊>	Sc-1	45		
	Cl	35		
	Kr	83		
	Br	81		
	P	31		
	S	34		
	Sr	88		
	C	12		
	N	14		
	Hg	202		

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: L1211041104
Report Date/Time: Sunday, November 18, 2012 09:49:34
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

Sample ID: L1211041105
Sample Date/Time: Sunday, November 18, 2012 09:50:14
Number of Replicates: 3
Autosampler Position: 312
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	21665.5	6.0	**-6933.7627**	736.955	10.6	ug/L	8369	Standard
|	**Be**	9	68.3	78.9	**0.0225**	0.025	112.9	ug/L	18	Standard
|	**Al**	27	8617217.1	5.8	**67.9840**	4.083	6.0	ug/L	215	Standard
⌊>	**Sc**	45	54688.5	0.5				ug/L	53004	Standard
⌈	**Ti**	47	5827.1	5.7	**11.1911**	0.369	3.3	ug/L	26	Standard
|	**V**	51	9920.2	5.1	**0.5630**	0.022	3.9	ug/L	3223	Standard
|	**Cr**	52	14583.4	2.3	**0.4030**	0.016	3.9	ug/L	10379	Standard
|	**Cr**	53	1325.9	4.0	**0.8467**	0.037	4.4	ug/L	192	Standard
|	**Mn**	55	2978659.5	5.4	**170.3876**	5.467	3.2	ug/L	1840	Standard
|	**Co**	59	34011.9	6.7	**2.5152**	0.104	4.1	ug/L	115	Standard
|	**Ni**	60	4093.9	3.9	**1.3818**	0.028	2.0	ug/L	75	Standard
|	**Cu**	65	2681.6	7.7	**0.9036**	0.053	5.8	ug/L	155	Standard
|	**Zn**	66	8365.3	7.7	**5.8604**	0.305	5.2	ug/L	237	Standard
|>	**Ge**	72	416550.7	2.9				ug/L	413856	Standard
|	**As**	75	194.9	14.5	**0.2737**	0.022	8.2	ug/L	-197	Standard
|	**Se**	82	109.5	13.1	**0.8475**	0.136	16.0	ug/L	-5	Standard
⌊	**Se-1**	77	129.3	8.5	**0.3309**	0.106	32.0	ug/L	105	Standard
⌈>	**Ga**	71	771.7	10.9				mg/L	225	Standard
⌊	**Rb**	85	11696.2	3.9				ug/L	28	Standard
⌈	**Y**	89	320081.7	2.2				ug/L	322845	Standard
⌊>	**Rh**	103	190.0	7.0				ug/L	92	Standard
⌈	**Mo**	98	337.9	5.8	**0.0661**	0.003	4.9	ug/L	18	Standard
|	**Ag**	107	178.3	7.0	**0.0145**	0.001	8.7	ug/L	63	Standard
|	**Cd**	111	290.6	11.5	**0.0732**	0.008	11.6	mg/L	20	Standard
|	**Cd**	114	694.2	7.7	**0.0671**	0.005	7.6	ug/L	56	Standard
|>	**In**	115	659120.3	1.6				ug/L	657102	Standard
|	**Sn**	118	812.4	3.5	**0.0320**	0.002	5.6	ug/L	555	Standard
|	**Sb**	123	162.9	3.3	**0.0178**	0.001	2.9	ug/L	62	Standard
⌊	**Ba**	135	360940.3	4.8	**105.6573**	3.757	3.6	ug/L	19	Standard
⌈	**Ce**	140	82815.3	6.5				ug/L	24	Standard
⌊>	**Tb**	159	937172.7	1.8				ug/L	910514	Standard
⌈	**Ho**	165	901.4	7.4				ug/L	7	Standard
|	**Tl**	203	482.3	4.3	**0.0344**	0.001	3.9	ug/L	13	Standard
|	**Tl**	205	19.0	45.9	**0.0504**	0.022	44.6	ug/L	1	Standard
|	**Pb**	206	3119.0	5.1	**0.2742**	0.013	4.7	ug/L	342	Standard
|	**Pb**	207	2510.5	2.8	**0.2547**	0.005	2.0	ug/L	284	Standard
|	**Pb**	208	11958.2	4.3	**0.2639**	0.010	3.8	ug/L	1363	Standard
|	**U**	238	828.4	4.3	**0.0819**	0.003	3.3	ug/L	2	Standard
⌊>	**Bi**	209	465304.6	1.1				ug/L	470592	Standard

Sample ID: L1211041105
Report Date/Time: Sunday, November 18, 2012 09:52:46
Page 1

Approved: November 19, 2012

⌈	**Na**	23	156.7	22.6	**13.7188**	3.066	22.4	mg/L	2	Standard
|	**Mg**	24	18926809.2	4.6	**8.9995**	0.434	4.8	mg/L	5586	Standard
|	**K**	39	38.3	49.4	**0.4634**	0.247	53.4	mg/L	5	Standard
|	**Ca**	43	396.7	12.7	**14.1405**	2.162	15.3	mg/L	45	Standard
|	**Fe**	54	2160.4	7.3	**0.6512**	0.063	9.7	mg/L	350	Standard
|	**Fe**	57	690.0	17.1	**0.9224**	0.183	19.8	mg/L	102	Standard
⌊>	**Sc-1**	45	54688.5	0.5				mg/L	53004	Standard
	Cl	35	5.0	0.0				ug/L	2	Standard
	Kr	83	151.9	4.6				ug/L	157	Standard
	Br	81	4.2	34.6				ug/L	3	Standard
	P	31	151654.8	3.1				ug/L	91588	Standard
	S	34	24370.5	6.2				ug/L	32556	Standard
	Sr	88	701.7	24.0				ug/L	62	Standard
	C	12	223.3	13.7				mg/L	133	Standard
	N	14	1.7	173.2				mg/L	0	Standard
	Hg	202	101.7	7.5				mg/L	7	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		100.651	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: L1211041105
Report Date/Time: Sunday, November 18, 2012 09:52:46
Page 2

Approved: November 19, 2012

⌈	Mo	98	
|	Ag	107	
|	Cd	111	
|	Cd	114	
|>	In	115	100.307
|	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	98.876
⌈	Na	23	
|	Mg	24	
|	K	39	
|	Ca	43	
|	Fe	54	
|	Fe	57	
⌊>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	

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: November 19, 2012

Method 6020 - Summary Report

Sample ID: L1211041106
Sample Date/Time: Sunday, November 18, 2012 09:53:26
Number of Replicates: 3
Autosampler Position: 313
Sample Description: 1
Method File: C:\NexION Data\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
⌈	**Li**	7	34507.6	1.2	**-13407.9006**	802.589	6.0	ug/L	8369	Standard
|	**Be**	9	28.3	20.4	**0.0035**	0.003	88.1	ug/L	18	Standard
|	**Al**	27	5654374.7	4.6	**43.6029**	1.616	3.7	ug/L	215	Standard
⌊>	**Sc**	45	55949.8	3.2				ug/L	53004	Standard
⌈	**Ti**	47	1002.7	6.9	**1.8594**	0.123	6.6	ug/L	26	Standard
|	**V**	51	14276.3	2.2	**0.9172**	0.019	2.1	ug/L	3223	Standard
|	**Cr**	52	11192.8	0.7	**0.0872**	0.015	17.0	ug/L	10379	Standard
|	**Cr**	53	560.0	5.4	**0.2903**	0.018	6.3	ug/L	192	Standard
|	**Mn**	55	548777.1	4.3	**31.0429**	1.147	3.7	ug/L	1840	Standard
|	**Co**	59	1487.4	4.2	**0.0942**	0.004	3.9	ug/L	115	Standard
|	**Ni**	60	1794.4	5.1	**0.5800**	0.026	4.5	ug/L	75	Standard
|	**Cu**	65	1054.4	2.0	**0.3173**	0.007	2.3	ug/L	155	Standard
|	**Zn**	66	8512.7	3.4	**5.9164**	0.171	2.9	ug/L	237	Standard
|>	**Ge**	72	420345.3	0.9				ug/L	413856	Standard
|	**As**	75	-57.2	13.6	**0.1012**	0.005	4.9	ug/L	-197	Standard
|	**Se**	82	21.7	10.4	**0.1704**	0.017	9.8	ug/L	-5	Standard
⌊	**Se-1**	77	116.7	14.4	**0.1926**	0.176	91.2	ug/L	105	Standard
⌈>	**Ga**	71	393.3	12.1				mg/L	225	Standard
⌊	**Rb**	85	1755.1	3.6				ug/L	28	Standard
⌈	**Y**	89	310977.6	1.4				ug/L	322845	Standard
⌊>	**Rh**	103	121.7	20.7				ug/L	92	Standard
⌈	**Mo**	98	1462.4	4.6	**0.3142**	0.015	4.8	ug/L	18	Standard
|	**Ag**	107	62.0	8.1	**-0.0001**	0.001	512.6	ug/L	63	Standard
|	**Cd**	111	62.6	15.8	**0.0069**	0.003	39.6	mg/L	20	Standard
|	**Cd**	114	170.4	3.1	**0.0092**	0.001	7.5	ug/L	56	Standard
|>	**In**	115	660838.3	1.0				ug/L	657102	Standard
|	**Sn**	118	643.7	4.3	**0.0149**	0.002	16.6	ug/L	555	Standard
|	**Sb**	123	88.1	10.4	**0.0083**	0.001	14.5	ug/L	62	Standard
⌊	**Ba**	135	51506.8	4.3	**15.0243**	0.587	3.9	ug/L	19	Standard
⌈	**Ce**	140	62517.9	4.1				ug/L	24	Standard
⌊>	**Tb**	159	942849.9	1.6				ug/L	910514	Standard
⌈	**Ho**	165	217.7	2.3				ug/L	7	Standard
|	**Tl**	203	234.7	4.9	**0.0143**	0.001	4.4	ug/L	13	Standard
|	**Tl**	205	7.0	24.7	**0.0189**	0.005	24.4	ug/L	1	Standard
|	**Pb**	206	867.4	4.3	**0.0499**	0.004	7.3	ug/L	342	Standard
|	**Pb**	207	712.0	2.4	**0.0439**	0.002	3.5	ug/L	284	Standard
|	**Pb**	208	3336.8	1.6	**0.0463**	0.002	3.8	ug/L	1363	Standard
|	**U**	238	1656.8	3.2	**0.1603**	0.007	4.1	ug/L	2	Standard
⌊>	**Bi**	209	480039.2	1.4				ug/L	470592	Standard

Sample ID: L1211041106
Report Date/Time: Sunday, November 18, 2012 09:55:59
Page 1

Approved: November 19, 2012

	Na	23	90.0	28.9	**7.6677**	2.024	26.4	mg/L	2	Standard
	Mg	24	13710009.0	3.5	**6.3741**	0.273	4.3	mg/L	5586	Standard
	K	39	73.3	3.9	**0.9043**	0.055	6.1	mg/L	5	Standard
	Ca	43	291.7	4.9	**9.5471**	0.885	9.3	mg/L	45	Standard
	Fe	54	553.4	6.3	**0.0478**	0.007	14.2	mg/L	350	Standard
	Fe	57	236.7	5.3	**0.2238**	0.009	4.1	mg/L	102	Standard
>	**Sc-1**	45	55949.8	3.2				mg/L	53004	Standard
	Cl	35	4.0	86.6				ug/L	2	Standard
	Kr	83	139.6	8.8				ug/L	157	Standard
	Br	81	6.7	78.1				ug/L	3	Standard
	P	31	156562.6	2.7				ug/L	91588	Standard
	S	34	26672.6	1.5				ug/L	32556	Standard
	Sr	88	261.7	14.1				ug/L	62	Standard
	C	12	161.7	22.4				mg/L	133	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	11.7	24.7				mg/L	7	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		101.568	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			
	Y	89			
>	Rh	103			

Sample ID: L1211041106
Report Date/Time: Sunday, November 18, 2012 09:55:59
Page 2

Approved: November 19, 2012

	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	100.569
	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	102.008
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: L1211041106
Report Date/Time: Sunday, November 18, 2012 09:55:59
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

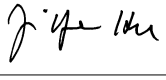
Sample ID: L1211041107
Sample Date/Time: Sunday, November 18, 2012 09:57:17
Number of Replicates: 3
Autosampler Position: 314
Sample Description: 1
Method File: C:\NexION Data\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
⌈	**Li**	7	21022.9	3.0	**-5919.8305**	250.120	4.2	ug/L	8369	Standard
|	**Be**	9	145.0	28.2	**0.0545**	0.020	36.0	ug/L	18	Standard
|	**Al**	27	4995612.0	3.3	**37.0592**	0.399	1.1	ug/L	215	Standard
⌊>	**Sc**	45	58169.9	4.3				ug/L	53004	Standard
⌈	**Ti**	47	20301.6	4.5	**38.0572**	1.796	4.7	ug/L	26	Standard
|	**V**	51	43949.8	3.0	**3.3104**	0.136	4.1	ug/L	3223	Standard
|	**Cr**	52	31314.7	2.3	**1.8365**	0.092	5.0	ug/L	10379	Standard
|	**Cr**	53	3482.9	6.6	**2.3306**	0.140	6.0	ug/L	192	Standard
|	**Mn**	55	17983579.6	4.2	**1000.2365**	25.323	2.5	ug/L	1840	Standard
|	**Co**	59	37874.0	3.2	**2.7253**	0.087	3.2	ug/L	115	Standard
|	**Ni**	60	8181.2	3.2	**2.7178**	0.098	3.6	ug/L	75	Standard
|	**Cu**	65	18202.9	2.2	**6.2877**	0.087	1.4	ug/L	155	Standard
|	**Zn**	66	67805.5	2.9	**47.5762**	1.036	2.2	ug/L	237	Standard
| >	**Ge**	72	428663.5	2.2				ug/L	413856	Standard
|	**As**	75	415.3	4.8	**0.4164**	0.018	4.4	ug/L	-197	Standard
|	**Se**	82	119.9	2.8	**0.8985**	0.033	3.7	ug/L	-5	Standard
⌊	**Se-1**	77	197.7	7.5	**0.9661**	0.139	14.4	ug/L	105	Standard
⌈>	**Ga**	71	4845.8	1.6				mg/L	225	Standard
⌊	**Rb**	85	13566.1	2.4				ug/L	28	Standard
⌈	**Y**	89	365627.6	1.0				ug/L	322845	Standard
⌊>	**Rh**	103	163.3	17.7				ug/L	92	Standard
⌈	**Mo**	98	1472.4	4.9	**0.3126**	0.014	4.5	ug/L	18	Standard
|	**Ag**	107	272.0	6.3	**0.0259**	0.002	7.0	ug/L	63	Standard
|	**Cd**	111	142.6	5.4	**0.0297**	0.002	6.0	mg/L	20	Standard
|	**Cd**	114	370.3	5.8	**0.0308**	0.003	8.7	ug/L	56	Standard
| >	**In**	115	668598.9	1.7				ug/L	657102	Standard
|	**Sn**	118	3258.0	4.8	**0.2725**	0.018	6.5	ug/L	555	Standard
|	**Sb**	123	695.8	3.8	**0.0844**	0.003	3.1	ug/L	62	Standard
⌊	**Ba**	135	160745.5	4.2	**46.3990**	2.110	4.5	ug/L	19	Standard
⌈	**Ce**	140	2399606.3	5.5				ug/L	24	Standard
⌊>	**Tb**	159	957412.8	0.9				ug/L	910514	Standard
⌈	**Ho**	165	4819.4	5.8				ug/L	7	Standard
|	**Tl**	203	469.3	3.9	**0.0324**	0.002	5.1	ug/L	13	Standard
|	**Tl**	205	16.0	39.0	**0.0417**	0.016	39.3	ug/L	1	Standard
|	**Pb**	206	5701.4	4.1	**0.5132**	0.022	4.3	ug/L	342	Standard
|	**Pb**	207	4513.0	4.9	**0.4724**	0.025	5.3	ug/L	284	Standard
|	**Pb**	208	21991.0	3.4	**0.4992**	0.020	4.0	ug/L	1363	Standard
|	**U**	238	3379.7	8.1	**0.3297**	0.027	8.2	ug/L	2	Standard
⌊>	**Bi**	209	478497.5	1.4				ug/L	470592	Standard

Sample ID: L1211041107
Report Date/Time: Sunday, November 18, 2012 09:59:49
Page 1

Approved: November 19, 2012



	Na	23	101.7	31.2	**8.3772**	2.617	31.2	mg/L	2	Standard
	Mg	24	34494734.9	2.5	**15.4287**	0.278	1.8	mg/L	5586	Standard
	K	39	158.3	10.2	**1.9214**	0.195	10.2	mg/L	5	Standard
	Ca	43	223.3	7.2	**6.4587**	0.974	15.1	mg/L	45	Standard
	Fe	54	11755.5	6.0	**3.9639**	0.240	6.1	mg/L	350	Standard
	Fe	57	2885.3	2.6	**4.0064**	0.227	5.7	mg/L	102	Standard
>	**Sc-1**	45	58169.9	4.3				mg/L	53004	Standard
	Cl	35	3.0	88.2				ug/L	2	Standard
	Kr	83	151.9	4.1				ug/L	157	Standard
	Br	81	10.8	13.3				ug/L	3	Standard
	P	31	146752.4	1.6				ug/L	91588	Standard
	S	34	26027.4	3.5				ug/L	32556	Standard
	Sr	88	401.7	7.1				ug/L	62	Standard
	C	12	303.3	19.8				mg/L	133	Standard
	N	14	1.7	173.2				mg/L	0	Standard
	Hg	202	20.0	50.0				mg/L	7	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		103.578	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			
	Y	89			
>	Rh	103			

Sample ID: L1211041107
Report Date/Time: Sunday, November 18, 2012 09:59:49
Page 2

Approved: November 19, 2012

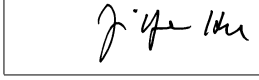
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	101.750
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	101.680
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Mn 55 Upper, S, EEE	Mn	55	

Sample ID: L1211041107
Report Date/Time: Sunday, November 18, 2012 09:59:49
Page 3

Approved: November 19, 2012



Method 6020 - Summary Report

Sample ID: L1211041109
Sample Date/Time: Sunday, November 18, 2012 10:00:29
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	16932.8	6.6	**-4486.9222**	506.151	11.3	ug/L	8369	Standard
|	**Be**	9	86.7	8.8	**0.0313**	0.003	8.7	ug/L	18	Standard
|	**Al**	27	4465771.5	7.9	**35.5689**	2.456	6.9	ug/L	215	Standard
⌊>	**Sc**	45	54146.6	2.1				ug/L	53004	Standard
⌈	**Ti**	47	35135.5	7.5	**69.5497**	3.025	4.3	ug/L	26	Standard
|	**V**	51	51774.2	7.4	**4.1793**	0.174	4.2	ug/L	3223	Standard
|	**Cr**	52	28095.1	5.2	**1.6911**	0.069	4.1	ug/L	10379	Standard
|	**Cr**	53	4495.7	4.3	**3.2179**	0.047	1.5	ug/L	192	Standard
|	**Mn**	55	7041909.3	6.9	**413.4402**	13.987	3.4	ug/L	1840	Standard
|	**Co**	59	31799.1	7.9	**2.4132**	0.131	5.4	ug/L	115	Standard
|	**Ni**	60	4908.1	8.4	**1.7072**	0.096	5.6	ug/L	75	Standard
|	**Cu**	65	5385.0	8.5	**1.9229**	0.096	5.0	ug/L	155	Standard
|	**Zn**	66	8171.9	8.3	**5.8768**	0.327	5.6	ug/L	237	Standard
| >	**Ge**	72	405825.6	3.8				ug/L	413856	Standard
|	**As**	75	675.3	15.1	**0.6132**	0.055	9.0	ug/L	-197	Standard
|	**Se**	82	294.3	10.4	**2.3174**	0.160	6.9	ug/L	-5	Standard
⌊	**Se-1**	77	194.0	3.6	**1.0398**	0.117	11.3	ug/L	105	Standard
⌈>	**Ga**	71	3247.0	11.0				mg/L	225	Standard
⌊	**Rb**	85	14742.2	6.5				ug/L	28	Standard
⌈	**Y**	89	321509.5	3.4				ug/L	322845	Standard
⌊>	**Rh**	103	170.0	29.0				ug/L	92	Standard
⌈	**Mo**	98	187.2	6.4	**0.0334**	0.002	7.1	ug/L	18	Standard
|	**Ag**	107	106.7	7.6	**0.0057**	0.001	12.5	ug/L	63	Standard
|	**Cd**	111	60.8	12.9	**0.0068**	0.002	33.4	mg/L	20	Standard
|	**Cd**	114	156.9	3.0	**0.0080**	0.000	3.0	ug/L	56	Standard
| >	**In**	115	648756.0	2.3				ug/L	657102	Standard
|	**Sn**	118	1459.1	6.3	**0.0990**	0.007	6.6	ug/L	555	Standard
|	**Sb**	123	165.8	5.1	**0.0185**	0.001	7.6	ug/L	62	Standard
⌊	**Ba**	135	117979.3	5.1	**35.0793**	1.450	4.1	ug/L	19	Standard
⌈	**Ce**	140	149020.5	6.8				ug/L	24	Standard
⌊>	**Tb**	159	929369.9	2.3				ug/L	910514	Standard
⌈	**Ho**	165	1443.1	6.1				ug/L	7	Standard
|	**Tl**	203	637.3	3.0	**0.0466**	0.001	2.4	ug/L	13	Standard
|	**Tl**	205	20.3	17.3	**0.0538**	0.009	16.7	ug/L	1	Standard
|	**Pb**	206	4259.9	6.8	**0.3859**	0.027	7.0	ug/L	342	Standard
|	**Pb**	207	3504.4	2.9	**0.3692**	0.013	3.4	ug/L	284	Standard
|	**Pb**	208	16473.5	5.1	**0.3759**	0.020	5.2	ug/L	1363	Standard
|	**U**	238	439.3	9.8	**0.0427**	0.004	9.2	ug/L	2	Standard
⌊>	**Bi**	209	466093.6	1.1				ug/L	470592	Standard

Sample ID: L1211041109
Report Date/Time: Sunday, November 18, 2012 10:03:01
Page 1

Approved: November 19, 2012

	Na	23	171.7	36.9	**15.1154**	5.259	34.8	mg/L	2	Standard
	Mg	24	23433366.5	5.4	**11.2527**	0.532	4.7	mg/L	5586	Standard
	K	39	30.0	33.3	**0.3572**	0.131	36.6	mg/L	5	Standard
	Ca	43	328.3	11.0	**11.4728**	1.784	15.5	mg/L	45	Standard
	Fe	54	4505.0	10.7	**1.5405**	0.173	11.2	mg/L	350	Standard
	Fe	57	1220.0	12.3	**1.7462**	0.211	12.1	mg/L	102	Standard
>	**Sc-1**	45	54146.6	2.1				mg/L	53004	Standard
	Cl	35	3.7	31.5				ug/L	2	Standard
	Kr	83	145.1	1.1				ug/L	157	Standard
	Br	81	10.8	74.2				ug/L	3	Standard
	P	31	171993.9	5.0				ug/L	91588	Standard
	S	34	24155.1	2.5				ug/L	32556	Standard
	Sr	88	776.7	8.1				ug/L	62	Standard
	C	12	180.0	28.2				mg/L	133	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	160.0	20.5				mg/L	7	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		98.060	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			
	Y	89			
>	Rh	103			

Sample ID: L1211041109
Report Date/Time: Sunday, November 18, 2012 10:03:01
Page 2

Approved: November 19, 2012

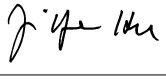
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	98.730
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	99.044
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Mn 55 Upper, S, EEE	Mn	55	

Sample ID: L1211041109
Report Date/Time: Sunday, November 18, 2012 10:03:01
Page 3

Approved: November 19, 2012



Method 6020 - Summary Report

Sample ID: L1211041110
Sample Date/Time: Sunday, November 18, 2012 10:03:41
Number of Replicates: 3
Autosampler Position: 316
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	34611.2	2.3	**-12590.9234**	93.115	0.7	ug/L	8369	Standard
|	**Be**	9	60.0	22.0	**0.0165**	0.006	33.7	ug/L	18	Standard
|	**Al**	27	3061201.8	3.9	**22.4858**	0.523	2.3	ug/L	215	Standard
⌊>	**Sc**	45	58715.2	1.8				ug/L	53004	Standard
⌈	**Ti**	47	6505.7	3.4	**11.8224**	0.673	5.7	ug/L	26	Standard
|	**V**	51	42352.5	2.6	**3.0856**	0.160	5.2	ug/L	3223	Standard
|	**Cr**	52	15842.3	2.0	**0.4374**	0.004	0.9	ug/L	10379	Standard
|	**Cr**	53	1161.7	11.0	**0.6831**	0.102	14.9	ug/L	192	Standard
|	**Mn**	55	1050601.3	1.7	**56.7692**	2.279	4.0	ug/L	1840	Standard
|	**Co**	59	10077.7	2.2	**0.6938**	0.031	4.5	ug/L	115	Standard
|	**Ni**	60	2674.2	4.7	**0.8401**	0.060	7.1	ug/L	75	Standard
|	**Cu**	65	2072.5	2.8	**0.6452**	0.035	5.4	ug/L	155	Standard
|	**Zn**	66	65885.0	2.3	**44.9565**	1.959	4.4	ug/L	237	Standard
|>	**Ge**	72	440946.8	2.3				ug/L	413856	Standard
|	**As**	75	23.6	120.4	**0.1550**	0.018	11.6	ug/L	-197	Standard
|	**Se**	82	44.7	13.0	**0.3289**	0.038	11.4	ug/L	-5	Standard
⌊	**Se-1**	77	136.7	7.0	**0.3276**	0.062	19.1	ug/L	105	Standard
⌈>	**Ga**	71	2076.8	5.3				mg/L	225	Standard
⌊	**Rb**	85	9097.7	2.7				ug/L	28	Standard
⌈	**Y**	89	338392.0	3.6				ug/L	322845	Standard
⌊>	**Rh**	103	156.7	19.5				ug/L	92	Standard
⌈	**Mo**	98	170.5	4.0	**0.0271**	0.002	8.0	ug/L	18	Standard
|	**Ag**	107	179.7	4.5	**0.0135**	0.000	2.7	ug/L	63	Standard
|	**Cd**	111	44.5	21.8	**0.0010**	0.002	231.4	mg/L	20	Standard
|	**Cd**	114	114.4	20.5	**0.0024**	0.002	99.3	ug/L	56	Standard
|>	**In**	115	695061.2	2.8				ug/L	657102	Standard
|	**Sn**	118	2073.5	2.3	**0.1477**	0.008	5.2	ug/L	555	Standard
|	**Sb**	123	112.7	11.8	**0.0107**	0.002	17.3	ug/L	62	Standard
⌊	**Ba**	135	141875.9	3.1	**39.4253**	2.308	5.9	ug/L	19	Standard
⌈	**Ce**	140	431805.2	4.2				ug/L	24	Standard
⌊>	**Tb**	159	988192.3	2.1				ug/L	910514	Standard
⌈	**Ho**	165	1456.4	5.7				ug/L	7	Standard
|	**Tl**	203	301.3	7.5	**0.0185**	0.002	11.3	ug/L	13	Standard
|	**Tl**	205	14.0	7.1	**0.0349**	0.002	4.9	ug/L	1	Standard
|	**Pb**	206	2872.3	3.0	**0.2301**	0.016	6.8	ug/L	342	Standard
|	**Pb**	207	2351.5	1.0	**0.2171**	0.008	3.7	ug/L	284	Standard
|	**Pb**	208	11066.9	1.5	**0.2223**	0.012	5.4	ug/L	1363	Standard
|	**U**	238	1487.4	0.7	**0.1378**	0.005	3.6	ug/L	2	Standard
⌊>	**Bi**	209	501045.0	3.3				ug/L	470592	Standard

Sample ID: L1211041110
Report Date/Time: Sunday, November 18, 2012 10:06:13
Page 1

Approved: November 19, 2012

⌈	**Na**	23	96.7	21.5	**7.8907**	1.707	21.6	mg/L	2	Standard
|	**Mg**	24	13228056.0	5.5	**5.8548**	0.242	4.1	mg/L	5586	Standard
|	**K**	39	58.3	35.7	**0.6722**	0.245	36.5	mg/L	5	Standard
|	**Ca**	43	161.7	13.9	**3.9723**	0.756	19.0	mg/L	45	Standard
|	**Fe**	54	3028.4	7.5	**0.8969**	0.078	8.7	mg/L	350	Standard
|	**Fe**	57	763.4	5.9	**0.9535**	0.045	4.7	mg/L	102	Standard
⌊>	**Sc-1**	45	58715.2	1.8				mg/L	53004	Standard
	Cl	35	3.3	17.3				ug/L	2	Standard
	Kr	83	141.2	2.6				ug/L	157	Standard
	Br	81	1.7	86.6				ug/L	3	Standard
	P	31	172833.5	0.7				ug/L	91588	Standard
	S	34	21003.7	3.0				ug/L	32556	Standard
	Sr	88	395.0	27.8				ug/L	62	Standard
	C	12	310.0	7.4				mg/L	133	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	91.7	17.5				mg/L	7	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		106.546	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: L1211041110
Report Date/Time: Sunday, November 18, 2012 10:06:13
Page 2

Approved: November 19, 2012

	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	105.777
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	106.471
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: L1211041110
Report Date/Time: Sunday, November 18, 2012 10:06:13
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

Sample ID: L1211041111
Sample Date/Time: Sunday, November 18, 2012 10:06:54
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	26545.0	6.4	**-8552.3271**	875.847	10.2	ug/L	8369	Standard
|	**Be**	9	60.0	22.0	**0.0164**	0.005	30.2	ug/L	18	Standard
|	**Al**	27	2389487.6	3.3	**17.5355**	0.777	4.4	ug/L	215	Standard
⌊>	**Sc**	45	58822.4	3.5				ug/L	53004	Standard
⌈	**Ti**	47	44116.8	2.5	**82.0198**	1.395	1.7	ug/L	26	Standard
|	**V**	51	62270.1	2.0	**4.7554**	0.047	1.0	ug/L	3223	Standard
|	**Cr**	52	14542.7	4.3	**0.3503**	0.034	9.8	ug/L	10379	Standard
|	**Cr**	53	980.9	13.6	**0.5706**	0.080	14.1	ug/L	192	Standard
|	**Mn**	55	1263745.2	4.4	**69.5784**	1.851	2.7	ug/L	1840	Standard
|	**Co**	59	19555.6	4.0	**1.3866**	0.032	2.3	ug/L	115	Standard
|	**Ni**	60	6829.5	1.9	**2.2421**	0.023	1.0	ug/L	75	Standard
|	**Cu**	65	2791.3	5.4	**0.9065**	0.041	4.5	ug/L	155	Standard
|	**Zn**	66	10395.6	1.7	**7.0606**	0.082	1.2	ug/L	237	Standard
|>	**Ge**	72	432483.8	1.8				ug/L	413856	Standard
|	**As**	75	-111.1	20.3	**0.0666**	0.016	23.6	ug/L	-197	Standard
|	**Se**	82	14.6	36.1	**0.1127**	0.037	32.8	ug/L	-5	Standard
⌊	**Se-1**	77	111.0	7.0	**0.1041**	0.079	76.2	ug/L	105	Standard
⌈>	**Ga**	71	3238.7	1.7				mg/L	225	Standard
⌊	**Rb**	85	19195.5	4.7				ug/L	28	Standard
⌈	**Y**	89	329925.9	1.9				ug/L	322845	Standard
⌊>	**Rh**	103	138.3	7.5				ug/L	92	Standard
⌈	**Mo**	98	208.8	4.4	**0.0362**	0.002	4.5	ug/L	18	Standard
|	**Ag**	107	116.0	5.7	**0.0063**	0.001	15.5	ug/L	63	Standard
|	**Cd**	111	76.4	7.9	**0.0104**	0.002	17.7	mg/L	20	Standard
|	**Cd**	114	196.3	4.8	**0.0115**	0.001	6.2	ug/L	56	Standard
|>	**In**	115	678462.1	1.6				ug/L	657102	Standard
|	**Sn**	118	770.4	0.9	**0.0256**	0.001	2.8	ug/L	555	Standard
|	**Sb**	123	107.8	12.3	**0.0104**	0.001	13.7	ug/L	62	Standard
⌊	**Ba**	135	120535.3	3.5	**34.2703**	0.863	2.5	ug/L	19	Standard
⌈	**Ce**	140	77650.6	2.8				ug/L	24	Standard
⌊>	**Tb**	159	969690.3	2.1				ug/L	910514	Standard
⌈	**Ho**	165	771.0	4.1				ug/L	7	Standard
|	**Tl**	203	338.0	2.6	**0.0215**	0.001	4.6	ug/L	13	Standard
|	**Tl**	205	9.3	22.3	**0.0241**	0.005	21.7	ug/L	1	Standard
|	**Pb**	206	1111.0	5.5	**0.0702**	0.005	6.8	ug/L	342	Standard
|	**Pb**	207	856.0	3.8	**0.0574**	0.002	4.2	ug/L	284	Standard
|	**Pb**	208	4097.9	3.6	**0.0620**	0.003	4.3	ug/L	1363	Standard
|	**U**	238	206.7	5.6	**0.0181**	0.001	4.7	ug/L	2	Standard
⌊>	**Bi**	209	493398.1	1.3				ug/L	470592	Standard

Sample ID: L1211041111
Report Date/Time: Sunday, November 18, 2012 10:09:25
Page 1

Approved: November 19, 2012

⌈	**Na**	23	56.7	22.2	**4.6322**	1.083	23.4	mg/L	2	Standard
|	**Mg**	24	17293008.2	1.6	**7.6490**	0.261	3.4	mg/L	5586	Standard
|	**K**	39	56.7	28.4	**0.6493**	0.172	26.4	mg/L	5	Standard
|	**Ca**	43	165.0	16.0	**4.0804**	0.794	19.5	mg/L	45	Standard
|	**Fe**	54	4171.8	5.2	**1.2908**	0.056	4.3	mg/L	350	Standard
|	**Fe**	57	1060.0	10.8	**1.3724**	0.161	11.8	mg/L	102	Standard
⌊>	**Sc-1**	45	58822.4	3.5				mg/L	53004	Standard
	Cl	35	1.3	86.6				ug/L	2	Standard
	Kr	83	144.0	3.5				ug/L	157	Standard
	Br	81	11.7	49.5				ug/L	3	Standard
	P	31	189580.5	3.6				ug/L	91588	Standard
	S	34	18848.4	4.7				ug/L	32556	Standard
	Sr	88	268.3	6.5				ug/L	62	Standard
	C	12	180.0	14.7				mg/L	133	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	31.7	18.2				mg/L	7	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		104.501	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: L1211041111
Report Date/Time: Sunday, November 18, 2012 10:09:25
Page 2

Approved: November 19, 2012

	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	103.251
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	104.846
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: L1211041111
Report Date/Time: Sunday, November 18, 2012 10:09:25
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

Sample ID: L1211041112
Sample Date/Time: Sunday, November 18, 2012 10:10:06
Number of Replicates: 3
Autosampler Position: 318
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	29426.9	3.4	**-10490.4783**	503.665	4.8	ug/L	8369	Standard
	Be	9	95.0	13.9	**0.0331**	0.006	17.0	ug/L	18	Standard
	Al	27	1596297.0	5.4	**12.1129**	0.628	5.2	ug/L	215	Standard
>	**Sc**	45	56843.1	1.1				ug/L	53004	Standard
	Ti	47	33086.2	6.2	**62.7252**	4.025	6.4	ug/L	26	Standard
	V	51	33311.2	4.6	**2.4727**	0.124	5.0	ug/L	3223	Standard
	Cr	52	13226.8	2.5	**0.2590**	0.030	11.8	ug/L	10379	Standard
	Cr	53	745.9	9.6	**0.4186**	0.050	12.0	ug/L	192	Standard
	Mn	55	855446.3	2.8	**48.0202**	1.309	2.7	ug/L	1840	Standard
	Co	59	9087.4	6.6	**0.6492**	0.045	6.9	ug/L	115	Standard
	Ni	60	3187.7	4.5	**1.0487**	0.052	4.9	ug/L	75	Standard
	Cu	65	2395.2	4.2	**0.7864**	0.036	4.5	ug/L	155	Standard
	Zn	66	12812.8	5.0	**8.9266**	0.474	5.3	ug/L	237	Standard
>	**Ge**	72	424075.0	0.7				ug/L	413856	Standard
	As	75	70.1	74.6	**0.1870**	0.035	18.7	ug/L	-197	Standard
	Se	82	10.1	105.6	**0.0814**	0.080	98.4	ug/L	-5	Standard
	Se-1	77	105.3	11.3	**0.0683**	0.112	163.2	ug/L	105	Standard
>	**Ga**	71	2898.6	6.0				mg/L	225	Standard
	Rb	85	16709.2	1.8				ug/L	28	Standard
	Y	89	332230.2	1.6				ug/L	322845	Standard
>	**Rh**	103	126.7	14.9				ug/L	92	Standard
	Mo	98	259.9	5.3	**0.0473**	0.003	7.0	ug/L	18	Standard
	Ag	107	102.7	16.1	**0.0047**	0.002	43.4	ug/L	63	Standard
	Cd	111	71.0	6.6	**0.0089**	0.001	16.3	mg/L	20	Standard
	Cd	114	200.0	8.2	**0.0119**	0.002	14.4	ug/L	56	Standard
>	**In**	115	677047.9	0.6				ug/L	657102	Standard
	Sn	118	1378.7	4.7	**0.0851**	0.007	8.4	ug/L	555	Standard
	Sb	123	183.5	16.3	**0.0198**	0.004	19.0	ug/L	62	Standard
	Ba	135	107669.5	5.1	**30.6851**	1.741	5.7	ug/L	19	Standard
	Ce	140	177822.4	5.8				ug/L	24	Standard
>	**Tb**	159	966337.1	1.1				ug/L	910514	Standard
	Ho	165	1179.4	6.6				ug/L	7	Standard
	Tl	203	255.7	1.0	**0.0153**	0.000	2.2	ug/L	13	Standard
	Tl	205	7.3	34.3	**0.0191**	0.006	32.8	ug/L	1	Standard
	Pb	206	5426.3	2.2	**0.4691**	0.009	2.0	ug/L	342	Standard
	Pb	207	4281.6	5.7	**0.4299**	0.026	6.0	ug/L	284	Standard
	Pb	208	20649.2	4.0	**0.4496**	0.019	4.3	ug/L	1363	Standard
	U	238	1363.7	7.8	**0.1276**	0.010	7.7	ug/L	2	Standard
>	**Bi**	209	495325.5	1.1				ug/L	470592	Standard

Sample ID: L1211041112
Report Date/Time: Sunday, November 18, 2012 10:12:38
Page 1

Approved: November 19, 2012

⌈	**Na**	23	18.3	41.7	**1.5542**	0.656	42.2	mg/L	2	Standard
|	**Mg**	24	12465746.5	5.7	**5.7010**	0.321	5.6	mg/L	5586	Standard
|	**K**	39	80.0	33.1	**0.9745**	0.342	35.1	mg/L	5	Standard
|	**Ca**	43	93.3	12.4	**1.4724**	0.444	30.2	mg/L	45	Standard
|	**Fe**	54	3510.1	9.0	**1.1035**	0.105	9.5	mg/L	350	Standard
|	**Fe**	57	876.7	3.9	**1.1559**	0.059	5.1	mg/L	102	Standard
⌊>	**Sc-1**	45	56843.1	1.1				mg/L	53004	Standard
	Cl	35	1.0	173.2				ug/L	2	Standard
	Kr	83	145.0	7.8				ug/L	157	Standard
	Br	81	6.7	86.6				ug/L	3	Standard
	P	31	185347.1	2.2				ug/L	91588	Standard
	S	34	18059.9	1.7				ug/L	32556	Standard
	Sr	88	216.7	16.2				ug/L	62	Standard
	C	12	196.7	1.5				mg/L	133	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	213.3	7.2				mg/L	7	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		102.469	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: L1211041112
Report Date/Time: Sunday, November 18, 2012 10:12:38
Page 2

Approved: November 19, 2012

⌈	Mo	98		
|	Ag	107		
|	Cd	111		
|	Cd	114		
|>	In	115		103.036
|	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		105.256
⌈	Na	23		
|	Mg	24		
|	K	39		
|	Ca	43		
|	Fe	54		
|	Fe	57		
⌊>	Sc-1	45		
	Cl	35		
	Kr	83		
	Br	81		
	P	31		
	S	34		
	Sr	88		
	C	12		
	N	14		
	Hg	202		

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: L1211041112
Report Date/Time: Sunday, November 18, 2012 10:12:38
Page 3

Approved: November 19, 2012

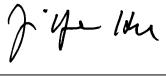
Method 6020 - Summary Report

Sample ID: L1211041113
Sample Date/Time: Sunday, November 18, 2012 10:13:18
Number of Replicates: 3
Autosampler Position: 319
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	22531.8	3.9	**-7270.5516**	314.521	4.3	ug/L	8369	Standard
	Be	9	15.0	0.0	**-0.0025**	0.000	3.6	ug/L	18	Standard
	Al	27	5528382.5	5.4	**43.1581**	1.985	4.6	ug/L	215	Standard
>	Sc	45	55250.6	1.3				ug/L	53004	Standard
	Ti	47	6362.3	8.3	**11.8950**	0.921	7.7	ug/L	26	Standard
	V	51	23879.2	6.5	**1.6776**	0.109	6.5	ug/L	3223	Standard
	Cr	52	15400.8	4.7	**0.4388**	0.053	12.1	ug/L	10379	Standard
	Cr	53	1127.5	8.2	**0.6812**	0.061	9.0	ug/L	192	Standard
	Mn	55	317975.3	6.0	**17.6208**	0.959	5.4	ug/L	1840	Standard
	Co	59	4658.1	5.0	**0.3219**	0.015	4.6	ug/L	115	Standard
	Ni	60	10890.6	6.1	**3.6330**	0.212	5.8	ug/L	75	Standard
	Cu	65	1493.1	8.6	**0.4632**	0.039	8.3	ug/L	155	Standard
	Zn	66	5833.8	6.1	**3.9150**	0.222	5.7	ug/L	237	Standard
>	Ge	72	428165.8	1.9				ug/L	413856	Standard
	As	75	-84.8	52.4	**0.0834**	0.030	36.0	ug/L	-197	Standard
	Se	82	23.2	40.0	**0.1777**	0.068	38.5	ug/L	-5	Standard
	Se-1	77	112.7	6.9	**0.1316**	0.084	63.8	ug/L	105	Standard
>	Ga	71	698.3	7.3				mg/L	225	Standard
	Rb	85	6839.9	3.5				ug/L	28	Standard
	Y	89	314889.3	2.0				ug/L	322845	Standard
>	Rh	103	105.0	28.6				ug/L	92	Standard
	Mo	98	657.8	5.9	**0.1344**	0.004	3.2	ug/L	18	Standard
	Ag	107	124.0	62.3	**0.0073**	0.009	123.6	ug/L	63	Standard
	Cd	111	39.9	24.6	**0.0002**	0.002	1487.3	mg/L	20	Standard
	Cd	114	107.0	49.8	**0.0019**	0.005	276.6	ug/L	56	Standard
>	In	115	670551.3	2.9				ug/L	657102	Standard
	Sn	118	1029.7	2.5	**0.0520**	0.002	3.5	ug/L	555	Standard
	Sb	123	79.5	51.6	**0.0069**	0.005	69.1	ug/L	62	Standard
	Ba	135	188841.0	5.2	**54.3297**	1.913	3.5	ug/L	19	Standard
	Ce	140	22112.5	7.8				ug/L	24	Standard
>	Tb	159	953975.3	1.9				ug/L	910514	Standard
	Ho	165	99.7	12.0				ug/L	7	Standard
	Tl	203	329.0	12.2	**0.0210**	0.003	14.5	ug/L	13	Standard
	Tl	205	10.0	43.6	**0.0258**	0.011	41.1	ug/L	1	Standard
	Pb	206	882.7	6.5	**0.0497**	0.005	9.8	ug/L	342	Standard
	Pb	207	735.4	4.7	**0.0448**	0.003	7.2	ug/L	284	Standard
	Pb	208	3441.2	5.5	**0.0471**	0.004	8.0	ug/L	1363	Standard
	U	238	176.7	16.6	**0.0154**	0.003	18.4	ug/L	2	Standard
>	Bi	209	489695.9	1.1				ug/L	470592	Standard

Approved: November 19, 2012



⌈	**Na**	23	40.0	37.5	**3.4636**	1.258	36.3	mg/L	2	Standard
|	**Mg**	24	13967946.6	4.5	**6.5717**	0.247	3.8	mg/L	5586	Standard
|	**K**	39	76.7	49.4	**0.9621**	0.505	52.5	mg/L	5	Standard
|	**Ca**	43	166.7	1.7	**4.5760**	0.174	3.8	mg/L	45	Standard
|	**Fe**	54	1006.3	11.6	**0.2176**	0.046	21.0	mg/L	350	Standard
|	**Fe**	57	345.0	20.4	**0.3910**	0.101	25.9	mg/L	102	Standard
⌊>	**Sc-1**	45	55250.6	1.3				mg/L	53004	Standard
	Cl	35	2.3	107.9				ug/L	2	Standard
	Kr	83	142.4	8.8				ug/L	157	Standard
	Br	81	5.0	50.0				ug/L	3	Standard
	P	31	183591.5	4.9				ug/L	91588	Standard
	S	34	16916.9	2.6				ug/L	32556	Standard
	Sr	88	276.7	17.4				ug/L	62	Standard
	C	12	135.0	41.2				mg/L	133	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	6.7	173.2				mg/L	7	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		103.458	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: L1211041113
Report Date/Time: Sunday, November 18, 2012 10:15:50
Page 2

Approved: November 19, 2012

	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	102.047
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	104.060
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: L1211041113
Report Date/Time: Sunday, November 18, 2012 10:15:50
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

Sample ID: QC Std 6
Sample Date/Time: Sunday, November 18, 2012 10:16:32
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	8732.5	4.2	**-655.9914**	254.188	38.7	ug/L	8369	Standard
|	**Be**	9	112154.0	4.1	**59.4559**	2.429	4.1	ug/L	18	Standard
|	**Al**	27	6414037.1	3.7	**57.5874**	1.769	3.1	ug/L	215	Standard
⌊>	**Sc**	45	48044.4	1.1				ug/L	53004	Standard
⌈	**Ti**	47	47620.5	3.9	**95.5798**	3.377	3.5	ug/L	26	Standard
|	**V**	51	563332.5	1.3	**48.7897**	0.812	1.7	ug/L	3223	Standard
|	**Cr**	52	539517.1	3.4	**49.8075**	1.863	3.7	ug/L	10379	Standard
|	**Cr**	53	65957.6	3.8	**49.3506**	1.828	3.7	ug/L	192	Standard
|	**Mn**	55	837677.2	3.7	**49.7863**	2.086	4.2	ug/L	1840	Standard
|	**Co**	59	650277.4	3.1	**50.3324**	1.647	3.3	ug/L	115	Standard
|	**Ni**	60	136369.5	3.6	**49.0528**	1.424	2.9	ug/L	75	Standard
|	**Cu**	65	135055.1	3.6	**50.3159**	1.897	3.8	ug/L	155	Standard
|	**Zn**	66	67387.3	3.8	**50.5944**	1.467	2.9	ug/L	237	Standard
| >	**Ge**	72	400680.1	2.4				ug/L	413856	Standard
|	**As**	75	70632.9	4.2	**50.4058**	2.058	4.1	ug/L	-197	Standard
|	**Se**	82	6177.7	5.2	**49.2459**	2.352	4.8	ug/L	-5	Standard
⌊	**Se-1**	77	4723.7	5.3	**48.7485**	2.434	5.0	ug/L	105	Standard
⌈>	**Ga**	71	216.7	11.4				mg/L	225	Standard
⌊	**Rb**	85	896.7	3.4				ug/L	28	Standard
⌈	**Y**	89	303661.3	1.0				ug/L	322845	Standard
⌊>	**Rh**	103	131.7	29.5				ug/L	92	Standard
⌈	**Mo**	98	418979.2	3.7	**95.7306**	3.453	3.6	ug/L	18	Standard
|	**Ag**	107	397752.1	3.6	**51.6576**	1.643	3.2	ug/L	63	Standard
|	**Cd**	111	170750.0	4.7	**51.2288**	2.298	4.5	mg/L	20	Standard
|	**Cd**	114	441885.6	3.8	**50.3804**	2.019	4.0	ug/L	56	Standard
| >	**In**	115	638598.7	1.3				ug/L	657102	Standard
|	**Sn**	118	489943.9	5.3	**50.6094**	2.552	5.0	ug/L	555	Standard
|	**Sb**	123	391835.8	3.9	**51.4825**	1.917	3.7	ug/L	62	Standard
⌊	**Ba**	135	167787.4	3.7	**50.7011**	1.850	3.6	ug/L	19	Standard
⌈	**Ce**	140	722.0	14.3				ug/L	24	Standard
⌊>	**Tb**	159	918078.5	1.6				ug/L	910514	Standard
⌈	**Ho**	165	438.7	9.8				ug/L	7	Standard
|	**Tl**	203	640473.1	3.0	**50.0816**	1.197	2.4	ug/L	13	Standard
|	**Tl**	205	21005.2	3.5	**53.8372**	1.528	2.8	ug/L	1	Standard
|	**Pb**	206	513715.7	5.0	**50.1028**	2.153	4.3	ug/L	342	Standard
|	**Pb**	207	440343.2	4.3	**50.5135**	1.749	3.5	ug/L	284	Standard
|	**Pb**	208	2018554.3	4.9	**49.8736**	1.994	4.0	ug/L	1363	Standard
|	**U**	238	526593.7	5.4	**52.5750**	2.400	4.6	ug/L	2	Standard
⌊>	**Bi**	209	469509.2	1.3				ug/L	470592	Standard

Sample ID: QC Std 6
Report Date/Time: Sunday, November 18, 2012 10:19:04
Page 1

Approved: November 19, 2012

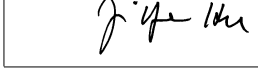
	Na	23	51.7	34.0	**5.1435**	1.695	33.0	mg/L	2	Standard
	Mg	24	10785257.8	4.0	**5.8350**	0.187	3.2	mg/L	5586	Standard
	K	39	336.7	15.9	**5.0045**	0.757	15.1	mg/L	5	Standard
	Ca	43	146.7	13.8	**4.6523**	0.906	19.5	mg/L	45	Standard
	Fe	54	13376.2	4.5	**5.5168**	0.273	4.9	mg/L	350	Standard
	Fe	57	3303.7	8.4	**5.5932**	0.430	7.7	mg/L	102	Standard
>	**Sc-1**	45	48044.4	1.1				mg/L	53004	Standard
	Cl	35	5.0	60.0				ug/L	2	Standard
	Kr	83	129.1	3.1				ug/L	157	Standard
	Br	81	5.0	0.0				ug/L	3	Standard
	P	31	82367.6	2.9				ug/L	91588	Standard
	S	34	25549.3	14.9				ug/L	32556	Standard
	Sr	88	45.0	29.4				ug/L	62	Standard
	C	12	173.3	27.4				mg/L	133	Standard
	N	14	1.7	173.2				mg/L	0	Standard
	Hg	202	5.0	0.0				mg/L	7	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
	Li	7			
	Be	9	118.912		
	Al	27	115.175		
>	Sc	45			
	Ti	47	95.580		
	V	51	97.579		
	Cr	52	99.615		
	Cr	53			
	Mn	55	99.573		
	Co	59	100.665		
	Ni	60	98.106		
	Cu	65	100.632		
	Zn	66	101.189		
>	Ge	72		96.816	
	As	75	100.812		
	Se	82	98.492		
	Se-1	77			
>	Ga	71			
	Rb	85			
	Y	89			
>	Rh	103			

Sample ID: QC Std 6
Report Date/Time: Sunday, November 18, 2012 10:19:04
Page 2

Approved: November 19, 2012



	Mo	98	95.731	
	Ag	107	103.315	
	Cd	111	102.458	
	Cd	114		
>	In	115		97.184
	Sn	118	101.219	
	Sb	123	102.965	
	Ba	135	101.402	
	Ce	140		
>	Tb	159		
	Ho	165		
	Tl	203	100.163	
	Tl	205		
	Pb	206	100.206	
	Pb	207	101.027	
	Pb	208	99.747	
	U	238	105.150	
>	Bi	209		99.770
	Na	23		
	Mg	24		
	K	39		
	Ca	43		
	Fe	54		
	Fe	57		
>	Sc-1	45		
	Cl	35		
	Kr	83		
	Br	81		
	P	31		
	S	34		
	Sr	88		
	C	12		
	N	14		
	Hg	202		

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 6	Be	9	
QC Std 6	Al	27	

Sample ID: QC Std 6
Report Date/Time: Sunday, November 18, 2012 10:19:04
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

Sample ID: QC Std 7
Sample Date/Time: Sunday, November 18, 2012 10:19:44
Number of Replicates: 3
Autosampler Position: 102
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	9084.4	3.6	**-557.0214**	75.637	13.6	ug/L	8369	Standard
|	**Be**	9	28.3	10.2	**0.0047**	0.001	18.5	ug/L	18	Standard
|	**Al**	27	921.7	86.3	**0.0055**	0.006	116.5	ug/L	215	Standard
⌊>	**Sc**	45	50928.9	4.3				ug/L	53004	Standard
⌈	**Ti**	47	21.3	21.1	**-0.0180**	0.008	42.4	ug/L	26	Standard
|	**V**	51	2991.0	2.3	**-0.0139**	0.008	60.2	ug/L	3223	Standard
|	**Cr**	52	9803.5	2.7	**-0.0184**	0.032	175.3	ug/L	10379	Standard
|	**Cr**	53	225.8	2.8	**0.0553**	0.012	22.0	ug/L	192	Standard
|	**Mn**	55	1698.1	7.8	**0.0096**	0.009	92.3	ug/L	1840	Standard
|	**Co**	59	175.7	38.2	**-0.0023**	0.005	211.9	ug/L	115	Standard
|	**Ni**	60	90.3	11.4	**-0.0039**	0.003	76.3	ug/L	75	Standard
|	**Cu**	65	154.7	16.0	**-0.0015**	0.008	533.6	ug/L	155	Standard
|	**Zn**	66	230.0	8.5	**-0.0308**	0.013	41.4	ug/L	237	Standard
|>	**Ge**	72	411819.3	4.6				ug/L	413856	Standard
|	**As**	75	-165.7	14.2	**0.0255**	0.011	43.5	ug/L	-197	Standard
|	**Se**	82	3.5	197.1	**0.0319**	0.054	169.9	ug/L	-5	Standard
⌊	**Se-1**	77	101.3	12.3	**0.0643**	0.172	267.1	ug/L	105	Standard
⌈>	**Ga**	71	213.3	12.0				mg/L	225	Standard
⌊	**Rb**	85	18.3	56.8				ug/L	28	Standard
⌈	**Y**	89	310396.1	3.3				ug/L	322845	Standard
⌊>	**Rh**	103	106.7	7.2				ug/L	92	Standard
⌈	**Mo**	98	64.1	31.8	**0.0058**	0.005	89.4	ug/L	18	Standard
|	**Ag**	107	96.3	27.1	**0.0045**	0.004	87.6	ug/L	63	Standard
|	**Cd**	111	52.9	54.9	**0.0042**	0.008	186.5	mg/L	20	Standard
|	**Cd**	114	154.7	76.8	**0.0073**	0.012	165.4	ug/L	56	Standard
|>	**In**	115	653119.0	6.2				ug/L	657102	Standard
|	**Sn**	118	532.7	36.5	**0.0040**	0.017	418.2	ug/L	555	Standard
|	**Sb**	123	396.6	65.1	**0.0472**	0.030	63.6	ug/L	62	Standard
⌊	**Ba**	135	58.7	84.9	**-0.0030**	0.014	452.0	ug/L	19	Standard
⌈	**Ce**	140	36.0	28.2				ug/L	24	Standard
⌊>	**Tb**	159	931294.0	5.2				ug/L	910514	Standard
⌈	**Ho**	165	12.0	0.0				ug/L	7	Standard
|	**Tl**	203	129.0	114.9	**0.0060**	0.011	180.8	ug/L	13	Standard
|	**Tl**	205	3.7	128.9	**0.0103**	0.011	110.2	ug/L	1	Standard
|	**Pb**	206	406.7	31.9	**0.0055**	0.011	200.9	ug/L	342	Standard
|	**Pb**	207	318.3	34.5	**-0.0007**	0.011	1476.3	ug/L	284	Standard
|	**Pb**	208	1540.7	28.1	**0.0025**	0.009	372.6	ug/L	1363	Standard
|	**U**	238	52.3	146.7	**0.0034**	0.007	210.3	ug/L	2	Standard
⌊>	**Bi**	209	482480.6	4.3				ug/L	470592	Standard

Sample ID: QC Std 7
Report Date/Time: Sunday, November 18, 2012 10:22:17
Page 1

Approved: November 19, 2012

	Na	23	0.0		**0.0050**	0.000	0.0	mg/L	2	Standard
	Mg	24	9171.2	18.5	**0.0018**	0.001	43.5	mg/L	5586	Standard
	K	39	3.3	86.6	**0.0066**	0.042	629.4	mg/L	5	Standard
	Ca	43	41.7	61.6	**-0.4044**	1.091	269.9	mg/L	45	Standard
	Fe	54	389.1	11.5	**0.0021**	0.016	761.4	mg/L	350	Standard
	Fe	57	113.3	15.5	**0.0579**	0.036	61.7	mg/L	102	Standard
>	**Sc-1**	45	50928.9	4.3				mg/L	53004	Standard
	Cl	35	2.0	50.0				ug/L	2	Standard
	Kr	83	130.1	0.1				ug/L	157	Standard
	Br	81	2.5	100.0				ug/L	3	Standard
	P	31	87559.1	3.1				ug/L	91588	Standard
	S	34	27313.8	3.1				ug/L	32556	Standard
	Sr	88	51.7	29.6				ug/L	62	Standard
	C	12	150.0	11.5				mg/L	133	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	5.0	0.0				mg/L	7	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		99.508	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			
	Y	89			
>	Rh	103			

Sample ID: QC Std 7
Report Date/Time: Sunday, November 18, 2012 10:22:17
Page 2

Approved: November 19, 2012

	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	99.394
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	102.526
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: QC Std 7
Report Date/Time: Sunday, November 18, 2012 10:22:17
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

Sample ID: L1211041114
Sample Date/Time: Sunday, November 18, 2012 10:22:59
Number of Replicates: 3
Autosampler Position: 320
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	37184.0	5.2	**-15161.0876**	1168.235	7.7	ug/L	8369	Standard
	Be	9	31.7	48.2	**0.0053**	0.007	140.7	ug/L	18	Standard
	Al	27	3612066.9	7.3	**28.3701**	2.030	7.2	ug/L	215	Standard
>	**Sc**	45	54968.0	5.2				ug/L	53004	Standard
	Ti	47	1175.7	16.4	**2.1878**	0.327	14.9	ug/L	26	Standard
	V	51	11278.0	4.7	**0.6689**	0.043	6.5	ug/L	3223	Standard
	Cr	52	10972.6	2.0	**0.0678**	0.016	24.3	ug/L	10379	Standard
	Cr	53	627.5	9.3	**0.3383**	0.030	8.8	ug/L	192	Standard
	Mn	55	26248.4	6.0	**1.4007**	0.083	5.9	ug/L	1840	Standard
	Co	59	539.3	11.4	**0.0242**	0.003	14.4	ug/L	115	Standard
	Ni	60	1478.1	5.0	**0.4721**	0.033	6.9	ug/L	75	Standard
	Cu	65	673.3	2.9	**0.1820**	0.010	5.4	ug/L	155	Standard
	Zn	66	3853.2	6.9	**2.5712**	0.212	8.2	ug/L	237	Standard
>	**Ge**	72	420332.0	3.7				ug/L	413856	Standard
	As	75	-16.4	113.6	**0.1291**	0.012	9.4	ug/L	-197	Standard
	Se	82	39.1	9.7	**0.3032**	0.037	12.3	ug/L	-5	Standard
	Se-1	77	115.0	8.0	**0.1780**	0.127	71.1	ug/L	105	Standard
>	**Ga**	71	358.3	11.9				mg/L	225	Standard
	Rb	85	3728.8	9.1				ug/L	28	Standard
	Y	89	310305.4	0.6				ug/L	322845	Standard
>	**Rh**	103	100.0	10.0				ug/L	92	Standard
	Mo	98	325.0	14.5	**0.0626**	0.008	13.6	ug/L	18	Standard
	Ag	107	67.3	12.0	**0.0005**	0.001	156.5	ug/L	63	Standard
	Cd	111	41.3	14.9	**0.0008**	0.002	267.8	mg/L	20	Standard
	Cd	114	102.8	15.3	**0.0017**	0.002	108.4	ug/L	56	Standard
>	**In**	115	663757.9	2.6				ug/L	657102	Standard
	Sn	118	627.7	8.3	**0.0131**	0.006	42.2	ug/L	555	Standard
	Sb	123	144.5	22.6	**0.0153**	0.004	23.9	ug/L	62	Standard
	Ba	135	62434.3	5.5	**18.1344**	0.813	4.5	ug/L	19	Standard
	Ce	140	12396.8	8.1				ug/L	24	Standard
>	**Tb**	159	951713.4	2.1				ug/L	910514	Standard
	Ho	165	98.0	1.0				ug/L	7	Standard
	Tl	203	416.0	1.9	**0.0279**	0.001	4.9	ug/L	13	Standard
	Tl	205	14.0	42.9	**0.0360**	0.015	41.8	ug/L	1	Standard
	Pb	206	517.0	4.5	**0.0159**	0.001	6.7	ug/L	342	Standard
	Pb	207	450.0	4.7	**0.0139**	0.002	17.7	ug/L	284	Standard
	Pb	208	1991.7	5.6	**0.0132**	0.002	15.6	ug/L	1363	Standard
	U	238	102.7	14.2	**0.0084**	0.001	14.0	ug/L	2	Standard
>	**Bi**	209	485199.3	2.7				ug/L	470592	Standard

Sample ID: L1211041114
Report Date/Time: Sunday, November 18, 2012 10:25:31
Page 1

Approved: November 19, 2012

	Na	23	46.7	16.4	**4.0888**	0.771	18.9	mg/L	2	Standard
	Mg	24	21473697.5	5.6	**10.1688**	0.621	6.1	mg/L	5586	Standard
	K	39	76.7	7.5	**0.9637**	0.050	5.2	mg/L	5	Standard
	Ca	43	96.7	3.0	**1.7443**	0.247	14.2	mg/L	45	Standard
	Fe	54	444.0	9.0	**0.0115**	0.020	174.8	mg/L	350	Standard
	Fe	57	120.0	11.0	**0.0532**	0.013	24.4	mg/L	102	Standard
>	**Sc-1**	45	54968.0	5.2				mg/L	53004	Standard
	Cl	35	2.3	99.0				ug/L	2	Standard
	Kr	83	136.8	3.3				ug/L	157	Standard
	Br	81	5.8	65.5				ug/L	3	Standard
	P	31	163748.0	4.7				ug/L	91588	Standard
	S	34	18494.6	4.7				ug/L	32556	Standard
	Sr	88	213.3	12.9				ug/L	62	Standard
	C	12	175.0	2.9				mg/L	133	Standard
	N	14	1.7	173.2				mg/L	0	Standard
	Hg	202	25.0	34.6				mg/L	7	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		101.565	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			
	Y	89			
>	Rh	103			

Approved: November 19, 2012

⌈	Mo	98		
|	Ag	107		
|	Cd	111		
|	Cd	114		
|>	In	115		101.013
|	Sn	118		
|	Sb	123		
⌊	Ba	135		
⌈	Ce	140		
⌊>	Tb	159		
⌈	Ho	165		
|	Tl	203		
|	Tl	205		
|	Pb	206		
|	Pb	207		
|	Pb	208		
|	U	238		
⌊>	Bi	209		103.104
⌈	Na	23		
|	Mg	24		
|	K	39		
|	Ca	43		
|	Fe	54		
|	Fe	57		
⌊>	Sc-1	45		
	Cl	35		
	Kr	83		
	Br	81		
	P	31		
	S	34		
	Sr	88		
	C	12		
	N	14		
	Hg	202		

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: L1211041114
Report Date/Time: Sunday, November 18, 2012 10:25:31
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

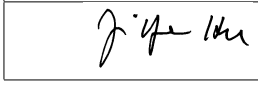
Sample ID: L1211041115
Sample Date/Time: Sunday, November 18, 2012 10:26:11
Number of Replicates: 3
Autosampler Position: 321
Sample Description: 1
Method File: C:\NexION Data\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
	Li	7	55903.0	3.8	**-25604.6458**	892.757	3.5	ug/L	8369	Standard
	Be	9	10.0	50.0	**-0.0047**	0.002	50.4	ug/L	18	Standard
	Al	27	8095777.2	5.3	**64.5965**	3.093	4.8	ug/L	215	Standard
>	**Sc**	45	54059.6	0.9				ug/L	53004	Standard
	Ti	47	1292.1	16.3	**2.4767**	0.387	15.6	ug/L	26	Standard
	V	51	5000.9	4.7	**0.1585**	0.017	10.4	ug/L	3223	Standard
	Cr	52	11042.4	3.3	**0.0999**	0.022	22.2	ug/L	10379	Standard
	Cr	53	2831.9	7.2	**1.9672**	0.125	6.4	ug/L	192	Standard
	Mn	55	1494668.3	5.5	**86.9487**	3.758	4.3	ug/L	1840	Standard
	Co	59	1004.7	7.2	**0.0606**	0.005	7.7	ug/L	115	Standard
	Ni	60	2174.2	7.1	**0.7300**	0.047	6.4	ug/L	75	Standard
	Cu	65	935.0	5.7	**0.2836**	0.016	5.6	ug/L	155	Standard
	Zn	66	3597.8	6.3	**2.4535**	0.137	5.6	ug/L	237	Standard
>	**Ge**	72	409414.6	1.2				ug/L	413856	Standard
	As	75	-52.8	78.5	**0.1030**	0.029	28.2	ug/L	-197	Standard
	Se	82	35.6	35.0	**0.2825**	0.095	33.8	ug/L	-5	Standard
	Se-1	77	217.7	6.2	**1.2637**	0.136	10.8	ug/L	105	Standard
>	**Ga**	71	486.7	11.0				mg/L	225	Standard
	Rb	85	8023.8	3.1				ug/L	28	Standard
	Y	89	312819.9	1.1				ug/L	322845	Standard
>	**Rh**	103	123.3	6.2				ug/L	92	Standard
	Mo	98	787.2	2.8	**0.1654**	0.004	2.1	ug/L	18	Standard
	Ag	107	59.0	5.9	**-0.0005**	0.000	81.2	ug/L	63	Standard
	Cd	111	33.4	41.9	**-0.0015**	0.004	265.8	mg/L	20	Standard
	Cd	114	100.1	40.6	**0.0014**	0.004	302.0	ug/L	56	Standard
>	**In**	115	659613.3	0.9				ug/L	657102	Standard
	Sn	118	780.0	8.8	**0.0287**	0.006	21.7	ug/L	555	Standard
	Sb	123	89.7	43.7	**0.0085**	0.005	57.7	ug/L	62	Standard
	Ba	135	32601.8	6.4	**9.5183**	0.550	5.8	ug/L	19	Standard
	Ce	140	6408.0	5.5				ug/L	24	Standard
>	**Tb**	159	946060.1	1.3				ug/L	910514	Standard
	Ho	165	39.7	11.6				ug/L	7	Standard
	Tl	203	523.7	11.0	**0.0367**	0.004	11.4	ug/L	13	Standard
	Tl	205	16.0	6.3	**0.0417**	0.003	6.9	ug/L	1	Standard
	Pb	206	705.0	8.7	**0.0349**	0.005	15.7	ug/L	342	Standard
	Pb	207	597.7	2.1	**0.0315**	0.002	6.2	ug/L	284	Standard
	Pb	208	2810.8	5.0	**0.0341**	0.003	8.6	ug/L	1363	Standard
	U	238	860.7	9.3	**0.0832**	0.007	8.9	ug/L	2	Standard
>	**Bi**	209	476333.3	0.9				ug/L	470592	Standard

Sample ID: L1211041115
Report Date/Time: Sunday, November 18, 2012 10:28:43
Page 1

Approved: November 19, 2012



	Na	23	261.7	12.7	**23.2038**	3.144	13.6	mg/L	2	Standard
	Mg	24	16715728.8	6.0	**8.0388**	0.460	5.7	mg/L	5586	Standard
	K	39	91.7	30.0	**1.1822**	0.375	31.8	mg/L	5	Standard
	Ca	43	546.7	10.3	**20.5754**	2.220	10.8	mg/L	45	Standard
	Fe	54	480.0	15.6	**0.0272**	0.027	99.4	mg/L	350	Standard
	Fe	57	325.0	12.6	**0.3721**	0.062	16.6	mg/L	102	Standard
>	**Sc-1**	45	54059.6	0.9				mg/L	53004	Standard
	Cl	35	3.7	78.7				ug/L	2	Standard
	Kr	83	135.0	3.6				ug/L	157	Standard
	Br	81	6.7	21.7				ug/L	3	Standard
	P	31	168866.5	3.3				ug/L	91588	Standard
	S	34	27308.0	5.2				ug/L	32556	Standard
	Sr	88	268.3	7.5				ug/L	62	Standard
	C	12	205.0	14.8				mg/L	133	Standard
	N	14	1.7	173.2				mg/L	0	Standard
	Hg	202	18.3	31.5				mg/L	7	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		98.927	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			
	Y	89			
>	Rh	103			

Sample ID: L1211041115
Report Date/Time: Sunday, November 18, 2012 10:28:43
Page 2

Approved: November 19, 2012

	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	100.382
	Sn	118	
	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	
	C	12	
	N	14	
	Hg	202	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: L1211041115
Report Date/Time: Sunday, November 18, 2012 10:28:43
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

Sample ID: L1211041116
Sample Date/Time: Sunday, November 18, 2012 10:29:24
Number of Replicates: 3
Autosampler Position: 322
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	9926.6	1.1	**-1009.6384**	303.308	30.0	ug/L	8369	Standard
|	**Be**	9	20.0	50.0	**0.0003**	0.004	1426.9	ug/L	18	Standard
|	**Al**	27	2403062.5	6.3	**20.2053**	0.509	2.5	ug/L	215	Standard
⌊>	**Sc**	45	51295.2	5.3				ug/L	53004	Standard
⌈	**Ti**	47	676.7	5.9	**1.2691**	0.057	4.5	ug/L	26	Standard
|	**V**	51	6043.4	5.8	**0.2468**	0.017	7.0	ug/L	3223	Standard
|	**Cr**	52	11309.6	3.0	**0.1239**	0.009	7.6	ug/L	10379	Standard
|	**Cr**	53	957.5	10.1	**0.5916**	0.054	9.2	ug/L	192	Standard
|	**Mn**	55	3718658.0	6.8	**216.2875**	10.691	4.9	ug/L	1840	Standard
|	**Co**	59	9480.0	5.8	**0.7021**	0.033	4.7	ug/L	115	Standard
|	**Ni**	60	1585.4	6.7	**0.5224**	0.026	5.0	ug/L	75	Standard
|	**Cu**	65	1339.4	4.6	**0.4309**	0.015	3.5	ug/L	155	Standard
|	**Zn**	66	5195.2	6.6	**3.6285**	0.169	4.7	ug/L	237	Standard
|>	**Ge**	72	409652.9	2.5				ug/L	413856	Standard
|	**As**	75	78.4	38.1	**0.1943**	0.020	10.3	ug/L	-197	Standard
|	**Se**	82	17.8	33.1	**0.1439**	0.047	32.4	ug/L	-5	Standard
⌊	**Se-1**	77	130.3	5.7	**0.3629**	0.060	16.6	ug/L	105	Standard
⌈>	**Ga**	71	291.7	15.4				mg/L	225	Standard
⌊	**Rb**	85	9262.8	0.4				ug/L	28	Standard
⌈	**Y**	89	309261.2	1.0				ug/L	322845	Standard
⌊>	**Rh**	103	130.0	19.2				ug/L	92	Standard
⌈	**Mo**	98	185.4	11.1	**0.0322**	0.005	14.6	ug/L	18	Standard
|	**Ag**	107	52.3	4.4	**-0.0013**	0.000	10.1	ug/L	63	Standard
|	**Cd**	111	37.8	17.4	**-0.0003**	0.002	649.9	mg/L	20	Standard
|	**Cd**	114	103.6	12.7	**0.0018**	0.001	78.2	ug/L	56	Standard
|>	**In**	115	661250.6	2.4				ug/L	657102	Standard
|	**Sn**	118	921.4	1.6	**0.0426**	0.001	2.6	ug/L	555	Standard
|	**Sb**	123	146.0	4.3	**0.0156**	0.001	4.7	ug/L	62	Standard
⌊	**Ba**	135	66842.1	5.5	**19.4892**	0.863	4.4	ug/L	19	Standard
⌈	**Ce**	140	16537.4	7.5				ug/L	24	Standard
⌊>	**Tb**	159	945856.9	2.1				ug/L	910514	Standard
⌈	**Ho**	165	283.7	13.9				ug/L	7	Standard
|	**Tl**	203	348.3	12.5	**0.0229**	0.003	14.0	ug/L	13	Standard
|	**Tl**	205	16.0	16.5	**0.0413**	0.006	14.5	ug/L	1	Standard
|	**Pb**	206	1335.7	3.5	**0.0943**	0.002	2.3	ug/L	342	Standard
|	**Pb**	207	1143.7	3.9	**0.0921**	0.003	2.9	ug/L	284	Standard
|	**Pb**	208	5238.7	5.2	**0.0920**	0.004	4.8	ug/L	1363	Standard
|	**U**	238	47.7	15.9	**0.0031**	0.001	21.9	ug/L	2	Standard
⌊>	**Bi**	209	480929.7	1.8				ug/L	470592	Standard

Sample ID: L1211041116
Report Date/Time: Sunday, November 18, 2012 10:31:57
Page 1

Approved: November 19, 2012

⌈	**Na**	23	55.0	59.6	**5.0986**	2.854	56.0	mg/L	2	Standard
|	**Mg**	24	9067375.7	4.7	**4.5958**	0.028	0.6	mg/L	5586	Standard
|	**K**	39	63.3	25.4	**0.8423**	0.185	22.0	mg/L	5	Standard
|	**Ca**	43	145.0	9.1	**4.1661**	0.785	18.8	mg/L	45	Standard
|	**Fe**	54	3576.2	7.3	**1.2653**	0.032	2.5	mg/L	350	Standard
|	**Fe**	57	921.7	8.4	**1.3671**	0.091	6.7	mg/L	102	Standard
⌊>	**Sc-1**	45	51295.2	5.3				mg/L	53004	Standard
	Cl	35	4.0	50.0				ug/L	2	Standard
	Kr	83	135.7	4.5				ug/L	157	Standard
	Br	81	10.0	25.0				ug/L	3	Standard
	P	31	122638.8	3.1				ug/L	91588	Standard
	S	34	26302.8	2.3				ug/L	32556	Standard
	Sr	88	190.0	11.5				ug/L	62	Standard
	C	12	161.7	9.4				mg/L	133	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	8.3	34.6				mg/L	7	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		98.984	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: L1211041116
Report Date/Time: Sunday, November 18, 2012 10:31:57
Page 2

Approved: November 19, 2012

	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	100.631
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	102.197
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Mn 55 Upper, S, EEE	Mn	55	

Sample ID: L1211041116
Report Date/Time: Sunday, November 18, 2012 10:31:57
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

Sample ID: L1211041117
Sample Date/Time: Sunday, November 18, 2012 10:32:37
Number of Replicates: 3
Autosampler Position: 323
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	14692.1	3.0	**-3409.1875**	127.212	3.7	ug/L	8369	Standard
	Be	9	21.7	53.3	**0.0009**	0.006	610.7	ug/L	18	Standard
	Al	27	7926488.8	5.7	**64.1850**	2.798	4.4	ug/L	215	Standard
>	Sc	45	53256.8	1.5				ug/L	53004	Standard
	Ti	47	732.0	8.5	**1.3551**	0.103	7.6	ug/L	26	Standard
	V	51	6138.1	3.5	**0.2470**	0.012	4.7	ug/L	3223	Standard
	Cr	52	10874.9	3.3	**0.0684**	0.007	11.0	ug/L	10379	Standard
	Cr	53	1202.5	13.4	**0.7562**	0.083	11.0	ug/L	192	Standard
	Mn	55	701378.6	5.4	**40.0882**	1.212	3.0	ug/L	1840	Standard
	Co	59	2010.8	3.5	**0.1344**	0.005	4.0	ug/L	115	Standard
	Ni	60	2951.6	4.5	**0.9872**	0.027	2.7	ug/L	75	Standard
	Cu	65	2035.5	8.4	**0.6729**	0.051	7.6	ug/L	155	Standard
	Zn	66	4018.2	6.0	**2.7158**	0.132	4.9	ug/L	237	Standard
>	Ge	72	416229.5	3.6				ug/L	413856	Standard
	As	75	210.7	12.0	**0.2848**	0.022	7.8	ug/L	-197	Standard
	Se	82	111.2	2.7	**0.8589**	0.043	5.0	ug/L	-5	Standard
	Se-1	77	163.3	8.5	**0.6807**	0.191	28.1	ug/L	105	Standard
>	Ga	71	331.7	9.2				mg/L	225	Standard
	Rb	85	12992.2	4.3				ug/L	28	Standard
	Y	89	305456.5	4.0				ug/L	322845	Standard
>	Rh	103	160.0	16.2				ug/L	92	Standard
	Mo	98	449.9	1.5	**0.0908**	0.003	2.9	ug/L	18	Standard
	Ag	107	117.3	9.8	**0.0069**	0.001	18.5	ug/L	63	Standard
	Cd	111	37.1	12.5	**-0.0004**	0.001	279.2	mg/L	20	Standard
	Cd	114	105.7	11.9	**0.0021**	0.001	55.6	ug/L	56	Standard
>	In	115	660000.4	2.2				ug/L	657102	Standard
	Sn	118	1118.7	5.7	**0.0625**	0.005	7.2	ug/L	555	Standard
	Sb	123	331.7	3.7	**0.0392**	0.001	3.3	ug/L	62	Standard
	Ba	135	116652.8	5.3	**34.0838**	1.141	3.3	ug/L	19	Standard
	Ce	140	6587.1	6.4				ug/L	24	Standard
>	Tb	159	942817.6	1.7				ug/L	910514	Standard
	Ho	165	99.3	7.6				ug/L	7	Standard
	Tl	203	554.7	3.6	**0.0394**	0.002	4.9	ug/L	13	Standard
	Tl	205	18.3	19.2	**0.0479**	0.009	19.1	ug/L	1	Standard
	Pb	206	767.7	5.4	**0.0414**	0.004	9.2	ug/L	342	Standard
	Pb	207	606.3	7.5	**0.0329**	0.006	16.8	ug/L	284	Standard
	Pb	208	2872.8	3.0	**0.0360**	0.002	5.6	ug/L	1363	Standard
	U	238	2721.2	4.9	**0.2679**	0.012	4.5	ug/L	2	Standard
>	Bi	209	473512.0	1.0				ug/L	470592	Standard

Sample ID: L1211041117
Report Date/Time: Sunday, November 18, 2012 10:35:09
Page 1

Approved: November 19, 2012

	Na	23	171.7	3.4	**15.4499**	0.729	4.7	mg/L	2	Standard
	Mg	24	18065185.9	5.9	**8.8160**	0.396	4.5	mg/L	5586	Standard
	K	39	130.0	21.4	**1.7146**	0.350	20.4	mg/L	5	Standard
	Ca	43	405.0	8.9	**14.9143**	1.292	8.7	mg/L	45	Standard
	Fe	54	715.7	9.5	**0.1200**	0.022	18.3	mg/L	350	Standard
	Fe	57	348.3	19.5	**0.4172**	0.112	27.0	mg/L	102	Standard
>	**Sc-1**	45	53256.8	1.5				mg/L	53004	Standard
	Cl	35	3.7	78.7				ug/L	2	Standard
	Kr	83	131.4	2.1				ug/L	157	Standard
	Br	81	10.0	66.1				ug/L	3	Standard
	P	31	150870.2	2.4				ug/L	91588	Standard
	S	34	29550.5	3.2				ug/L	32556	Standard
	Sr	88	575.0	10.6				ug/L	62	Standard
	C	12	196.7	9.6				mg/L	133	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	10.0	100.0				mg/L	7	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		100.574	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			
	Y	89			
>	Rh	103			

Approved: November 19, 2012

	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	100.441
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	100.621
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: L1211041117
Report Date/Time: Sunday, November 18, 2012 10:35:09
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

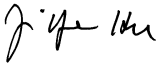
Sample ID: L1211041118
Sample Date/Time: Sunday, November 18, 2012 10:35:49
Number of Replicates: 3
Autosampler Position: 324
Sample Description: 1
Method File: C:\NexION Data\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
⌈	**Li**	7	22638.6	4.5	**-5832.1646**	397.345	6.8	ug/L	8369	Standard
|	**Be**	9	203.3	14.8	**0.0725**	0.011	15.7	ug/L	18	Standard
|	**Al**	27	10025652.0	4.8	**68.5134**	2.909	4.2	ug/L	215	Standard
⌊>	**Sc**	45	63122.9	1.4				ug/L	53004	Standard
⌈	**Ti**	47	40602.8	5.6	**75.7520**	2.120	2.8	ug/L	26	Standard
|	**V**	51	117132.5	5.2	**9.2152**	0.213	2.3	ug/L	3223	Standard
|	**Cr**	52	58020.4	4.9	**4.1557**	0.109	2.6	ug/L	10379	Standard
|	**Cr**	53	7496.9	5.0	**5.1184**	0.194	3.8	ug/L	192	Standard
|	**Mn**	55	122695336.9	5.7	**6789.5980**	171.596	2.5	ug/L	1840	Standard
|	**Co**	59	227921.6	5.8	**16.3870**	0.421	2.6	ug/L	115	Standard
|	**Ni**	60	23725.9	6.5	**7.9050**	0.345	4.4	ug/L	75	Standard
|	**Cu**	65	50407.5	5.1	**17.4248**	0.583	3.3	ug/L	155	Standard
|	**Zn**	66	115021.9	4.8	**80.4300**	1.844	2.3	ug/L	237	Standard
| >	**Ge**	72	430752.3	3.3				ug/L	413856	Standard
|	**As**	75	1426.8	1.9	**1.0850**	0.035	3.2	ug/L	-197	Standard
|	**Se**	82	127.2	8.7	**0.9506**	0.105	11.0	ug/L	-5	Standard
⌊	**Se-1**	77	216.3	6.6	**1.1401**	0.135	11.9	ug/L	105	Standard
⌈>	**Ga**	71	6436.4	10.4				mg/L	225	Standard
⌊	**Rb**	85	34440.8	4.8				ug/L	28	Standard
⌈	**Y**	89	365611.6	4.7				ug/L	322845	Standard
⌊>	**Rh**	103	210.0	25.2				ug/L	92	Standard
⌈	**Mo**	98	2551.9	6.5	**0.5361**	0.037	7.0	ug/L	18	Standard
|	**Ag**	107	4157.6	3.6	**0.4966**	0.018	3.6	ug/L	63	Standard
|	**Cd**	111	687.3	4.0	**0.1815**	0.007	4.0	mg/L	20	Standard
|	**Cd**	114	1936.4	5.1	**0.1966**	0.009	4.7	ug/L	56	Standard
| >	**In**	115	683715.7	2.1				ug/L	657102	Standard
|	**Sn**	118	60093.2	5.3	**5.7555**	0.321	5.6	ug/L	555	Standard
|	**Sb**	123	5472.8	3.7	**0.6688**	0.026	3.9	ug/L	62	Standard
⌊	**Ba**	135	601323.0	3.7	**169.7737**	6.096	3.6	ug/L	19	Standard
⌈	**Ce**	140	338940.5	5.0				ug/L	24	Standard
⌊>	**Tb**	159	971481.9	0.9				ug/L	910514	Standard
⌈	**Ho**	165	4805.4	5.4				ug/L	7	Standard
|	**Tl**	203	742.0	17.4	**0.0397**	0.008	20.3	ug/L	13	Standard
|	**Tl**	205	27.7	16.3	**0.0541**	0.008	15.5	ug/L	1	Standard
|	**Pb**	206	40726.1	4.1	**2.9293**	0.088	3.0	ug/L	342	Standard
|	**Pb**	207	33400.8	4.2	**2.8216**	0.089	3.2	ug/L	284	Standard
|	**Pb**	208	156781.6	4.0	**2.8548**	0.085	3.0	ug/L	1363	Standard
|	**U**	238	5937.8	3.8	**0.4404**	0.012	2.8	ug/L	2	Standard
⌊>	**Bi**	209	629928.9	1.2				ug/L	470592	Standard

Sample ID: L1211041118
Report Date/Time: Sunday, November 18, 2012 10:38:21
Page 1

Approved: November 19, 2012



⌈	**Na**	23	236.7	7.4	**17.9519**	1.080	6.0	mg/L	2	Standard
|	**Mg**	24	19267909.9	4.1	**7.9364**	0.305	3.8	mg/L	5586	Standard
|	**K**	39	173.3	21.7	**1.9405**	0.443	22.8	mg/L	5	Standard
|	**Ca**	43	506.7	10.4	**15.8887**	2.020	12.7	mg/L	45	Standard
|	**Fe**	54	23812.8	8.6	**7.5285**	0.647	8.6	mg/L	350	Standard
|	**Fe**	57	5947.8	4.3	**7.7134**	0.245	3.2	mg/L	102	Standard
⌊>	**Sc-1**	45	63122.9	1.4				mg/L	53004	Standard
	Cl	35	2.7	57.3				ug/L	2	Standard
	Kr	83	145.8	3.8				ug/L	157	Standard
	Br	81	5.0	100.0				ug/L	3	Standard
	P	31	186896.1	4.2				ug/L	91588	Standard
	S	34	30431.4	5.5				ug/L	32556	Standard
	Sr	88	853.4	18.8				ug/L	62	Standard
	C	12	426.7	10.6				mg/L	133	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	175.0	17.4				mg/L	7	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		104.083	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: L1211041118
Report Date/Time: Sunday, November 18, 2012 10:38:21
Page 2

Approved: November 19, 2012

⌈	Mo	98	
|	Ag	107	
|	Cd	111	
|	Cd	114	
|>	In	115	104.050
|	Sn	118	
|	Sb	123	
⌊	Ba	135	
⌈	Ce	140	
⌊>	Tb	159	
⌈	Ho	165	
|	Tl	203	
|	Tl	205	
|	Pb	206	
|	Pb	207	
|	Pb	208	
|	U	238	
⌊>	Bi	209	133.859
⌈	Na	23	
|	Mg	24	
|	K	39	
|	Ca	43	
|	Fe	54	
|	Fe	57	
⌊>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	

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	
Bi 209 Int Std for sample	Bi	209	Rerun sample

Sample ID: L1211041118
Report Date/Time: Sunday, November 18, 2012 10:38:21
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

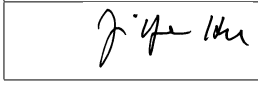
Sample ID: L1211041119
Sample Date/Time: Sunday, November 18, 2012 10:39:01
Number of Replicates: 3
Autosampler Position: 325
Sample Description: 1
Method File: C:\NexION Data\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
⌈	**Li**	7	10061.7	9.1	**-1109.2503**	357.547	32.2	ug/L	8369	Standard
|	**Be**	9	36.7	28.4	**0.0089**	0.005	59.3	ug/L	18	Standard
|	**Al**	27	3291849.8	7.3	**27.8528**	1.181	4.2	ug/L	215	Standard
⌊>	**Sc**	45	50940.5	3.1				ug/L	53004	Standard
⌈	**Ti**	47	1235.7	12.5	**2.3435**	0.204	8.7	ug/L	26	Standard
|	**V**	51	13517.8	7.1	**0.8742**	0.049	5.6	ug/L	3223	Standard
|	**Cr**	52	12207.3	4.8	**0.1978**	0.010	4.9	ug/L	10379	Standard
|	**Cr**	53	735.0	15.6	**0.4234**	0.059	13.9	ug/L	192	Standard
|	**Mn**	55	1345702.6	7.1	**77.5999**	2.722	3.5	ug/L	1840	Standard
|	**Co**	59	5598.4	7.1	**0.4048**	0.017	4.2	ug/L	115	Standard
|	**Ni**	60	2274.2	9.9	**0.7579**	0.049	6.5	ug/L	75	Standard
|	**Cu**	65	3198.7	7.8	**1.0990**	0.039	3.5	ug/L	155	Standard
|	**Zn**	66	5913.5	8.9	**4.1219**	0.228	5.5	ug/L	237	Standard
| >	**Ge**	72	412837.9	4.5				ug/L	413856	Standard
|	**As**	75	216.9	11.6	**0.2904**	0.024	8.2	ug/L	-197	Standard
|	**Se**	82	50.0	18.3	**0.3937**	0.085	21.6	ug/L	-5	Standard
⌊	**Se-1**	77	114.3	16.7	**0.1853**	0.148	79.8	ug/L	105	Standard
⌈>	**Ga**	71	451.7	25.7				mg/L	225	Standard
⌊	**Rb**	85	5004.2	7.3				ug/L	28	Standard
⌈	**Y**	89	312731.8	3.3				ug/L	322845	Standard
⌊>	**Rh**	103	118.3	14.8				ug/L	92	Standard
⌈	**Mo**	98	959.7	11.5	**0.1997**	0.017	8.5	ug/L	18	Standard
|	**Ag**	107	130.3	9.7	**0.0082**	0.001	12.6	ug/L	63	Standard
|	**Cd**	111	57.5	18.9	**0.0052**	0.003	52.3	mg/L	20	Standard
|	**Cd**	114	166.4	10.9	**0.0085**	0.002	23.5	ug/L	56	Standard
| >	**In**	115	670816.9	3.4				ug/L	657102	Standard
|	**Sn**	118	965.4	7.5	**0.0457**	0.008	17.0	ug/L	555	Standard
|	**Sb**	123	808.1	13.3	**0.0980**	0.010	10.6	ug/L	62	Standard
⌊	**Ba**	135	50355.4	6.4	**14.4631**	0.561	3.9	ug/L	19	Standard
⌈	**Ce**	140	10627.1	6.1				ug/L	24	Standard
⌊>	**Tb**	159	951371.2	3.3				ug/L	910514	Standard
⌈	**Ho**	165	198.0	10.1				ug/L	7	Standard
|	**Tl**	203	368.3	3.1	**0.0242**	0.001	2.6	ug/L	13	Standard
|	**Tl**	205	11.3	22.2	**0.0293**	0.006	20.1	ug/L	1	Standard
|	**Pb**	206	1486.4	8.7	**0.1070**	0.011	10.2	ug/L	342	Standard
|	**Pb**	207	1185.0	9.6	**0.0951**	0.010	10.8	ug/L	284	Standard
|	**Pb**	208	5555.7	6.5	**0.0981**	0.006	6.6	ug/L	1363	Standard
|	**U**	238	159.3	15.5	**0.0138**	0.002	15.8	ug/L	2	Standard
⌊>	**Bi**	209	486454.6	1.8				ug/L	470592	Standard

Sample ID: L1211041119
Report Date/Time: Sunday, November 18, 2012 10:41:33
Page 1

Approved: November 19, 2012



⌈	**Na**	23	63.3	19.9	**5.9684**	1.215	20.4	mg/L	2	Standard
|	**Mg**	24	9185278.6	6.0	**4.6847**	0.160	3.4	mg/L	5586	Standard
|	**K**	39	275.0	3.6	**3.8525**	0.193	5.0	mg/L	5	Standard
|	**Ca**	43	173.3	14.2	**5.4283**	0.876	16.1	mg/L	45	Standard
|	**Fe**	54	1290.4	10.2	**0.3616**	0.037	10.3	mg/L	350	Standard
|	**Fe**	57	363.3	3.2	**0.4661**	0.033	7.2	mg/L	102	Standard
⌊>	**Sc-1**	45	50940.5	3.1				mg/L	53004	Standard
	Cl	35	3.0	33.3				ug/L	2	Standard
	Kr	83	139.2	5.0				ug/L	157	Standard
	Br	81	4.2	91.7				ug/L	3	Standard
	P	31	104868.3	5.9				ug/L	91588	Standard
	S	34	29969.6	1.7				ug/L	32556	Standard
	Sr	88	201.7	20.0				ug/L	62	Standard
	C	12	213.3	15.6				mg/L	133	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	8.3	34.6				mg/L	7	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		99.754	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: L1211041119
Report Date/Time: Sunday, November 18, 2012 10:41:33
Page 2

Approved: November 19, 2012

	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	102.087
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	103.371
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: L1211041119
Report Date/Time: Sunday, November 18, 2012 10:41:33
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

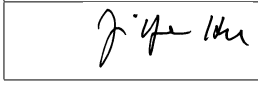
Sample ID: L1211039401
Sample Date/Time: Sunday, November 18, 2012 10:42:13
Number of Replicates: 3
Autosampler Position: 326
Sample Description: 1
Method File: C:\NexION Data\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
	Li	7	687251.3	3.0	**-409949.4085**	22900.536	5.6	ug/L	8369	Standard
	Be	9	33.3	62.5	**0.0083**	0.011	136.3	ug/L	18	Standard
	Al	27	62183720.5	2.4	**552.7105**	25.883	4.7	ug/L	215	Standard
>	Sc	45	48584.5	3.6				ug/L	53004	Standard
	Ti	47	1585.8	8.8	**3.1967**	0.244	7.6	ug/L	26	Standard
	V	51	9528.7	63.3	**0.5789**	0.532	91.9	ug/L	3223	Standard
	Cr	52	781882.2	6.6	**74.2657**	4.581	6.2	ug/L	10379	Standard
	Cr	53	100136.7	7.0	**76.7006**	5.150	6.7	ug/L	192	Standard
	Mn	55	568448.0	6.1	**34.5243**	1.912	5.5	ug/L	1840	Standard
	Co	59	15699.5	4.1	**1.2278**	0.043	3.5	ug/L	115	Standard
	Ni	60	112165.0	5.1	**41.2680**	1.851	4.5	ug/L	75	Standard
	Cu	65	4103.9	5.4	**1.5082**	0.079	5.2	ug/L	155	Standard
	Zn	66	30935.3	4.9	**23.6581**	1.106	4.7	ug/L	237	Standard
>	Ge	72	391602.6	1.3				ug/L	413856	Standard
	As	75	54743.2	4.4	**39.9923**	1.597	4.0	ug/L	-197	Standard
	Se	82	200.0	1.9	**1.6367**	0.051	3.1	ug/L	-5	Standard
	Se-1	77	625.3	4.6	**5.7557**	0.269	4.7	ug/L	105	Standard
>	Ga	71	965.0	8.9				mg/L	225	Standard
	Rb	85	631111.6	1.7				ug/L	28	Standard
	Y	89	320939.8	2.4				ug/L	322845	Standard
>	Rh	103	885.0	7.3				ug/L	92	Standard
	Mo	98	17724.9	5.4	**4.1737**	0.235	5.6	ug/L	18	Standard
	Ag	107	173.3	8.7	**0.0154**	0.002	13.5	ug/L	63	Standard
	Cd	111	448.1	9.3	**0.1277**	0.013	10.4	mg/L	20	Standard
	Cd	114	1145.5	3.8	**0.1253**	0.005	4.2	ug/L	56	Standard
>	In	115	618458.5	0.2				ug/L	657102	Standard
	Sn	118	2367.2	2.3	**0.2034**	0.006	3.1	ug/L	555	Standard
	Sb	123	7686.5	4.9	**1.0400**	0.053	5.1	ug/L	62	Standard
	Ba	135	981854.8	5.4	**306.4627**	17.249	5.6	ug/L	19	Standard
	Ce	140	11536.4	6.1				ug/L	24	Standard
>	Tb	159	863894.0	0.7				ug/L	910514	Standard
	Ho	165	3095.7	5.4				ug/L	7	Standard
	Tl	203	233.7	27.8	**0.0176**	0.006	35.4	ug/L	13	Standard
	Tl	205	2.7	78.1	**0.0093**	0.006	68.3	ug/L	1	Standard
	Pb	206	2432.9	5.3	**0.2430**	0.018	7.6	ug/L	342	Standard
	Pb	207	1957.5	3.3	**0.2250**	0.012	5.5	ug/L	284	Standard
	Pb	208	9243.4	4.4	**0.2311**	0.015	6.6	ug/L	1363	Standard
	U	238	472.3	3.4	**0.0533**	0.002	4.0	ug/L	2	Standard
>	Bi	209	404331.9	1.7				ug/L	470592	Standard

Sample ID: L1211039401
Report Date/Time: Sunday, November 18, 2012 10:44:45
Page 1

Approved: November 19, 2012



⌈	**Na**	23	875.0	14.0	**86.1305**	9.972	11.6	mg/L	2	Standard
|	**Mg**	24	S	S	**S**	S	S	mg/L	5586	Standard
|	**K**	39	1833.4	6.7	**27.1444**	1.065	3.9	mg/L	5	Standard
|	**Ca**	43	1605.1	14.3	**72.1238**	7.947	11.0	mg/L	45	Standard
|	**Fe**	54	519.6	6.8	**0.0643**	0.014	22.0	mg/L	350	Standard
|	**Fe**	57	901.7	8.9	**1.4167**	0.128	9.0	mg/L	102	Standard
⌊>	**Sc-1**	45	48584.5	3.6				mg/L	53004	Standard
	Cl	35	6.7	37.7				ug/L	2	Standard
	Kr	83	148.1	4.7				ug/L	157	Standard
	Br	81	3.3	114.6				ug/L	3	Standard
	P	31	130059.5	2.9				ug/L	91588	Standard
	S	34	28475.9	3.3				ug/L	32556	Standard
	Sr	88	6989.9	5.8				ug/L	62	Standard
	C	12	3058.6	6.6				mg/L	133	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	231.7	10.0				mg/L	7	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		94.623	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: L1211039401
Report Date/Time: Sunday, November 18, 2012 10:44:45
Page 2

Approved: November 19, 2012

	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	94.119
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	85.920
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Ba 135 Upper, S, EEE	Ba	135	

Sample ID: L1211039401
Report Date/Time: Sunday, November 18, 2012 10:44:45
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

Sample ID: L1211039401
Sample Date/Time: Sunday, November 18, 2012 10:45:26
Number of Replicates: 3
Autosampler Position: 327
Sample Description: 50
Method File: C:\NexION Data\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
	Li	7	25272.8	8.5	**-10658.0276**	842.139	7.9	ug/L	8369	Standard
	Be	9	18.3	31.5	**0.0003**	0.003	1150.9	ug/L	18	Standard
	Al	27	1246987.5	10.7	**11.1300**	0.741	6.7	ug/L	215	Standard
>	**Sc**	45	48251.8	4.9				ug/L	53004	Standard
	Ti	47	56.7	14.4	**0.0503**	0.011	21.4	ug/L	26	Standard
	V	51	3671.6	8.9	**0.0416**	0.013	32.4	ug/L	3223	Standard
	Cr	52	28198.3	7.7	**1.6487**	0.097	5.9	ug/L	10379	Standard
	Cr	53	2586.9	9.1	**1.7659**	0.086	4.9	ug/L	192	Standard
	Mn	55	13367.3	7.9	**0.6809**	0.031	4.5	ug/L	1840	Standard
	Co	59	433.0	2.8	**0.0169**	0.001	3.1	ug/L	115	Standard
	Ni	60	2858.9	7.1	**0.9603**	0.032	3.3	ug/L	75	Standard
	Cu	65	301.3	10.6	**0.0513**	0.012	22.7	ug/L	155	Standard
	Zn	66	3626.1	6.5	**2.4462**	0.084	3.4	ug/L	237	Standard
>	**Ge**	72	413765.3	4.4				ug/L	413856	Standard
	As	75	905.6	5.0	**0.7641**	0.022	2.8	ug/L	-197	Standard
	Se	82	7.9	90.8	**0.0676**	0.057	83.9	ug/L	-5	Standard
	Se-1	77	127.0	12.7	**0.3171**	0.173	54.4	ug/L	105	Standard
>	**Ga**	71	213.3	23.5				mg/L	225	Standard
	Rb	85	12952.2	6.7				ug/L	28	Standard
	Y	89	310159.5	5.9				ug/L	322845	Standard
>	**Rh**	103	95.0	19.0				ug/L	92	Standard
	Mo	98	397.2	10.3	**0.0768**	0.006	8.2	ug/L	18	Standard
	Ag	107	51.0	8.5	**-0.0016**	0.000	25.9	ug/L	63	Standard
	Cd	111	22.5	11.6	**-0.0048**	0.001	14.8	mg/L	20	Standard
	Cd	114	78.2	13.1	**-0.0012**	0.001	72.3	ug/L	56	Standard
>	**In**	115	676989.8	3.1				ug/L	657102	Standard
	Sn	118	427.3	5.8	**-0.0077**	0.003	38.5	ug/L	555	Standard
	Sb	123	184.8	8.6	**0.0200**	0.001	7.0	ug/L	62	Standard
	Ba	135	21209.9	7.4	**6.0229**	0.281	4.7	ug/L	19	Standard
	Ce	140	280.7	9.4				ug/L	24	Standard
>	**Tb**	159	970501.9	3.3				ug/L	910514	Standard
	Ho	165	73.3	4.8				ug/L	7	Standard
	Tl	203	91.3	10.2	**0.0030**	0.001	27.1	ug/L	13	Standard
	Tl	205	2.7	21.7	**0.0076**	0.001	17.4	ug/L	1	Standard
	Pb	206	434.0	2.6	**0.0062**	0.001	23.6	ug/L	342	Standard
	Pb	207	357.0	5.2	**0.0017**	0.001	59.1	ug/L	284	Standard
	Pb	208	1691.0	3.5	**0.0041**	0.001	17.2	ug/L	1363	Standard
	U	238	14.0	21.4	**-0.0002**	0.000	104.4	ug/L	2	Standard
>	**Bi**	209	509155.7	2.6				ug/L	470592	Standard

Approved: November 19, 2012

⌈	**Na**	23	21.7	35.3	**2.1348**	0.644	30.2	mg/L	2	Standard
|	**Mg**	24	8176119.0	5.7	**4.4048**	0.154	3.5	mg/L	5586	Standard
|	**K**	39	55.0	45.5	**0.7788**	0.377	48.4	mg/L	5	Standard
|	**Ca**	43	70.0	32.7	**1.0611**	1.174	110.7	mg/L	45	Standard
|	**Fe**	54	367.1	4.8	**0.0015**	0.004	273.0	mg/L	350	Standard
|	**Fe**	57	98.3	19.3	**0.0419**	0.035	84.3	mg/L	102	Standard
⌊>	**Sc-1**	45	48251.8	4.9				mg/L	53004	Standard
	Cl	35	2.3	65.5				ug/L	2	Standard
	Kr	83	132.3	4.6				ug/L	157	Standard
	Br	81	5.0	132.3				ug/L	3	Standard
	P	31	90761.3	3.9				ug/L	91588	Standard
	S	34	29255.7	0.9				ug/L	32556	Standard
	Sr	88	146.7	15.7				ug/L	62	Standard
	C	12	345.0	17.6				mg/L	133	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	6.7	43.3				mg/L	7	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		99.978	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: L1211039401
Report Date/Time: Sunday, November 18, 2012 10:47:58
Page 2

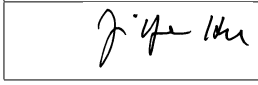
Approved: November 19, 2012

	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	103.027
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	108.195
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Approved: November 19, 2012



Method 6020 - Summary Report

Sample ID: L1211033718
Sample Date/Time: Sunday, November 18, 2012 10:48:38
Number of Replicates: 3
Autosampler Position: 328
Sample Description: 100
Method File: C:\NexION Data\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
⌈	**Li**	7	12538.5	4.2	**-2877.9488**	232.709	8.1	ug/L	8369	Standard
|	**Be**	9	26.7	96.2	**0.0045**	0.013	296.7	ug/L	18	Standard
|	**Al**	27	117729.2	2.6	**1.0420**	0.029	2.8	ug/L	215	Standard
⌊>	**Sc**	45	48646.3	1.4				ug/L	53004	Standard
⌈	**Ti**	47	108.0	17.3	**0.1524**	0.036	23.4	ug/L	26	Standard
|	**V**	51	5580.4	3.6	**0.2078**	0.021	10.0	ug/L	3223	Standard
|	**Cr**	52	17528.5	2.7	**0.6961**	0.061	8.8	ug/L	10379	Standard
|	**Cr**	53	1094.2	7.7	**0.6936**	0.077	11.1	ug/L	192	Standard
|	**Mn**	55	48779.4	1.9	**2.7515**	0.093	3.4	ug/L	1840	Standard
|	**Co**	59	1187.7	0.6	**0.0744**	0.002	3.1	ug/L	115	Standard
|	**Ni**	60	837.4	2.7	**0.2593**	0.006	2.2	ug/L	75	Standard
|	**Cu**	65	594.7	2.5	**0.1595**	0.010	6.4	ug/L	155	Standard
|	**Zn**	66	4180.6	3.7	**2.8839**	0.156	5.4	ug/L	237	Standard
|>	**Ge**	72	409745.4	2.5				ug/L	413856	Standard
|	**As**	75	-149.4	11.3	**0.0359**	0.013	36.2	ug/L	-197	Standard
|	**Se**	82	-4.7	45.9	**-0.0311**	0.017	53.6	ug/L	-5	Standard
⌊	**Se-1**	77	94.7	10.8	**-0.0037**	0.111	2986.0	ug/L	105	Standard
⌈>	**Ga**	71	498.3	17.3				mg/L	225	Standard
⌊	**Rb**	85	2266.8	3.8				ug/L	28	Standard
⌈	**Y**	89	308821.1	1.8				ug/L	322845	Standard
⌊>	**Rh**	103	128.3	11.9				ug/L	92	Standard
⌈	**Mo**	98	58.2	12.3	**0.0041**	0.002	40.7	ug/L	18	Standard
|	**Ag**	107	57.3	11.3	**-0.0007**	0.001	99.3	ug/L	63	Standard
|	**Cd**	111	37.6	21.5	**-0.0004**	0.002	660.9	mg/L	20	Standard
|	**Cd**	114	111.6	9.4	**0.0026**	0.001	38.4	ug/L	56	Standard
|>	**In**	115	665758.6	1.3				ug/L	657102	Standard
|	**Sn**	118	450.7	2.4	**-0.0047**	0.002	33.5	ug/L	555	Standard
|	**Sb**	123	34.8	4.8	**0.0015**	0.000	13.5	ug/L	62	Standard
⌊	**Ba**	135	3497.4	1.2	**0.9942**	0.012	1.2	ug/L	19	Standard
⌈	**Ce**	140	18592.1	5.1				ug/L	24	Standard
⌊>	**Tb**	159	956144.4	1.6				ug/L	910514	Standard
⌈	**Ho**	165	293.3	5.6				ug/L	7	Standard
|	**Tl**	203	49.3	8.2	**-0.0001**	0.000	442.5	ug/L	13	Standard
|	**Tl**	205	1.0	100.0	**0.0037**	0.002	64.2	ug/L	1	Standard
|	**Pb**	206	424555.6	3.2	**38.4660**	1.572	4.1	ug/L	342	Standard
|	**Pb**	207	340245.9	2.3	**36.2597**	1.395	3.8	ug/L	284	Standard
|	**Pb**	208	1608296.3	2.9	**36.9163**	1.479	4.0	ug/L	1363	Standard
|	**U**	238	71.7	3.5	**0.0051**	0.000	5.4	ug/L	2	Standard
⌊>	**Bi**	209	505556.1	1.8				ug/L	470592	Standard

Sample ID: L1211033718
Report Date/Time: Sunday, November 18, 2012 10:51:10
Page 1

Approved: November 19, 2012

⌈	**Na**	23	1.7	173.2	**0.1681**	0.283	168.1	mg/L	2	Standard
|	**Mg**	24	29344.6	25.1	**0.0127**	0.004	29.5	mg/L	5586	Standard
|	**K**	39	5.0	100.0	**0.0333**	0.075	226.1	mg/L	5	Standard
|	**Ca**	43	33.3	22.9	**-0.6846**	0.353	51.6	mg/L	45	Standard
|	**Fe**	54	792.4	10.8	**0.1780**	0.032	18.2	mg/L	350	Standard
|	**Fe**	57	171.7	17.1	**0.1660**	0.054	32.8	mg/L	102	Standard
⌊>	**Sc-1**	45	48646.3	1.4				mg/L	53004	Standard
	Cl	35	4.3	35.3				ug/L	2	Standard
	Kr	83	135.4	3.8				ug/L	157	Standard
	Br	81	4.2	91.7				ug/L	3	Standard
	P	31	91237.3	2.3				ug/L	91588	Standard
	S	34	30772.1	1.8				ug/L	32556	Standard
	Sr	88	63.3	16.4				ug/L	62	Standard
	C	12	196.7	21.9				mg/L	133	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	1.7	173.2				mg/L	7	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		99.007	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: L1211033718
Report Date/Time: Sunday, November 18, 2012 10:51:10
Page 2

Approved: November 19, 2012

	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	101.317
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	107.430
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: L1211033718
Report Date/Time: Sunday, November 18, 2012 10:51:10
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

Sample ID: QC Std 6
Sample Date/Time: Sunday, November 18, 2012 10:51:51
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	9196.1	7.0	**-886.1440**	366.649	41.4	ug/L	8369	Standard
|	**Be**	9	117264.5	5.1	**61.5951**	2.789	4.5	ug/L	18	Standard
|	**Al**	27	7140128.6	5.9	**63.5255**	3.376	5.3	ug/L	215	Standard
⌊>	**Sc**	45	48479.1	0.7				ug/L	53004	Standard
⌈	**Ti**	47	47717.1	4.9	**93.1890**	4.077	4.4	ug/L	26	Standard
|	**V**	51	576899.0	3.1	**48.6139**	1.278	2.6	ug/L	3223	Standard
|	**Cr**	52	543848.5	3.8	**48.8309**	1.615	3.3	ug/L	10379	Standard
|	**Cr**	53	68130.5	4.1	**49.5998**	1.771	3.6	ug/L	192	Standard
|	**Mn**	55	851327.0	2.8	**49.2255**	1.101	2.2	ug/L	1840	Standard
|	**Co**	59	666302.3	4.4	**50.1771**	1.936	3.9	ug/L	115	Standard
|	**Ni**	60	142143.0	4.0	**49.7562**	1.722	3.5	ug/L	75	Standard
|	**Cu**	65	140031.6	3.2	**50.7605**	1.350	2.7	ug/L	155	Standard
|	**Zn**	66	69446.6	4.1	**50.7419**	1.819	3.6	ug/L	237	Standard
|>	**Ge**	72	411677.6	0.6				ug/L	413856	Standard
|	**As**	75	72210.7	2.9	**50.1431**	1.188	2.4	ug/L	-197	Standard
|	**Se**	82	6433.9	3.1	**49.9097**	1.277	2.6	ug/L	-5	Standard
⌊	**Se-1**	77	4963.5	3.0	**49.8684**	1.220	2.4	ug/L	105	Standard
⌈>	**Ga**	71	261.7	9.8				mg/L	225	Standard
⌊	**Rb**	85	966.7	8.8				ug/L	28	Standard
⌈	**Y**	89	313386.4	1.1				ug/L	322845	Standard
⌊>	**Rh**	103	111.7	44.9				ug/L	92	Standard
⌈	**Mo**	98	437213.1	3.6	**94.5325**	5.047	5.3	ug/L	18	Standard
|	**Ag**	107	433846.1	1.7	**53.3118**	1.914	3.6	ug/L	63	Standard
|	**Cd**	111	181677.8	3.3	**51.5824**	2.651	5.1	mg/L	20	Standard
|	**Cd**	114	465047.9	3.1	**50.1649**	2.380	4.7	ug/L	56	Standard
|>	**In**	115	675267.5	2.0				ug/L	657102	Standard
|	**Sn**	118	517507.0	4.6	**50.5964**	3.256	6.4	ug/L	555	Standard
|	**Sb**	123	405393.7	3.0	**50.4015**	2.445	4.9	ug/L	62	Standard
⌊	**Ba**	135	173572.1	3.6	**49.6319**	2.704	5.4	ug/L	19	Standard
⌈	**Ce**	140	703.7	7.7				ug/L	24	Standard
⌊>	**Tb**	159	965513.9	1.5				ug/L	910514	Standard
⌈	**Ho**	165	457.7	5.7				ug/L	7	Standard
|	**Tl**	203	690486.1	2.8	**50.7331**	1.291	2.5	ug/L	13	Standard
|	**Tl**	205	22275.7	2.5	**53.6484**	1.230	2.3	ug/L	1	Standard
|	**Pb**	206	553195.0	3.7	**50.7011**	1.788	3.5	ug/L	342	Standard
|	**Pb**	207	471231.7	4.5	**50.7982**	2.196	4.3	ug/L	284	Standard
|	**Pb**	208	2176028.4	3.9	**50.5255**	1.834	3.6	ug/L	1363	Standard
|	**U**	238	569153.6	4.7	**53.4004**	2.411	4.5	ug/L	2	Standard
⌊>	**Bi**	209	499687.4	0.3				ug/L	470592	Standard

Sample ID: QC Std 6
Report Date/Time: Sunday, November 18, 2012 10:54:23
Page 1

Approved: November 19, 2012

⌈	**Na**	23	55.0	24.1	**5.4383**	1.307	24.0	mg/L	2	Standard
|	**Mg**	24	11385027.6	4.2	**6.1043**	0.219	3.6	mg/L	5586	Standard
|	**K**	39	311.7	31.5	**4.5934**	1.464	31.9	mg/L	5	Standard
|	**Ca**	43	121.7	6.3	**3.4302**	0.326	9.5	mg/L	45	Standard
|	**Fe**	54	13979.6	3.3	**5.7184**	0.179	3.1	mg/L	350	Standard
|	**Fe**	57	3400.4	5.1	**5.7094**	0.266	4.7	mg/L	102	Standard
⌊>	**Sc-1**	45	48479.1	0.7				mg/L	53004	Standard
	Cl	35	2.7	78.1				ug/L	2	Standard
	Kr	83	133.1	1.9				ug/L	157	Standard
	Br	81	3.3	43.3				ug/L	3	Standard
	P	31	93283.9	2.9				ug/L	91588	Standard
	S	34	33668.2	1.7				ug/L	32556	Standard
	Sr	88	55.0	27.3				ug/L	62	Standard
	C	12	173.3	16.4				mg/L	133	Standard
	N	14	1.7	173.2				mg/L	0	Standard
	Hg	202	3.3	173.2				mg/L	7	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈	Li	7			
|	Be	9	123.190		
|	Al	27	127.051		
⌊>	Sc	45			
⌈	Ti	47	93.189		
|	V	51	97.228		
|	Cr	52	97.662		
|	Cr	53			
|	Mn	55	98.451		
|	Co	59	100.354		
|	Ni	60	99.512		
|	Cu	65	101.521		
|	Zn	66	101.484		
|>	Ge	72		99.474	
|	As	75	100.286		
|	Se	82	99.819		
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: QC Std 6
Report Date/Time: Sunday, November 18, 2012 10:54:23
Page 2

Approved: November 19, 2012

	Mo	98	94.533	
	Ag	107	106.624	
	Cd	111	103.165	
	Cd	114		
>	In	115		102.765
	Sn	118	101.193	
	Sb	123	100.803	
	Ba	135	99.264	
	Ce	140		
>	Tb	159		
	Ho	165		
	Tl	203	101.466	
	Tl	205		
	Pb	206	101.402	
	Pb	207	101.596	
	Pb	208	101.051	
	U	238	106.801	
>	Bi	209		106.183
	Na	23		
	Mg	24		
	K	39		
	Ca	43		
	Fe	54		
	Fe	57		
>	Sc-1	45		
	Cl	35		
	Kr	83		
	Br	81		
	P	31		
	S	34		
	Sr	88		
	C	12		
	N	14		
	Hg	202		

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 6	Be	9	
QC Std 6	Al	27	

Sample ID: QC Std 6
Report Date/Time: Sunday, November 18, 2012 10:54:23
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

Sample ID: QC Std 7
Sample Date/Time: Sunday, November 18, 2012 10:55:10
Number of Replicates: 3
Autosampler Position: 102
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	8909.3	3.8	**-774.3385**	32.501	4.2	ug/L	8369	Standard
|	**Be**	9	13.3	78.1	**-0.0025**	0.005	215.4	ug/L	18	Standard
|	**Al**	27	828.4	48.6	**0.0053**	0.004	67.8	ug/L	215	Standard
⌊>	**Sc**	45	47934.1	3.2				ug/L	53004	Standard
⌈	**Ti**	47	22.0	20.8	**-0.0160**	0.010	62.1	ug/L	26	Standard
|	**V**	51	2843.0	0.7	**-0.0235**	0.009	38.2	ug/L	3223	Standard
|	**Cr**	52	9471.6	1.9	**-0.0385**	0.024	61.8	ug/L	10379	Standard
|	**Cr**	53	250.0	1.7	**0.0749**	0.006	8.0	ug/L	192	Standard
|	**Mn**	55	1640.1	3.5	**0.0072**	0.002	32.4	ug/L	1840	Standard
|	**Co**	59	92.3	11.4	**-0.0085**	0.001	10.7	ug/L	115	Standard
|	**Ni**	60	69.7	4.4	**-0.0108**	0.001	5.6	ug/L	75	Standard
|	**Cu**	65	157.0	4.6	**0.0001**	0.001	707.1	ug/L	155	Standard
|	**Zn**	66	241.0	5.8	**-0.0205**	0.011	53.5	ug/L	237	Standard
|>	**Ge**	72	406836.0	3.3				ug/L	413856	Standard
|	**As**	75	-198.0	15.5	**0.0010**	0.024	2471.3	ug/L	-197	Standard
|	**Se**	82	-4.1	169.0	**-0.0270**	0.055	204.8	ug/L	-5	Standard
⌊	**Se-1**	77	102.3	1.5	**0.0832**	0.049	58.6	ug/L	105	Standard
⌈>	**Ga**	71	218.3	23.8				mg/L	225	Standard
⌊	**Rb**	85	33.3	17.3				ug/L	28	Standard
⌈	**Y**	89	302660.0	3.2				ug/L	322845	Standard
⌊>	**Rh**	103	108.3	21.8				ug/L	92	Standard
⌈	**Mo**	98	37.7	29.5	**-0.0005**	0.002	446.1	ug/L	18	Standard
|	**Ag**	107	74.0	29.1	**0.0013**	0.003	194.6	ug/L	63	Standard
|	**Cd**	111	30.0	64.4	**-0.0027**	0.005	198.9	mg/L	20	Standard
|	**Cd**	114	99.4	74.0	**0.0011**	0.008	668.5	ug/L	56	Standard
|>	**In**	115	667162.6	3.3				ug/L	657102	Standard
|	**Sn**	118	495.3	17.4	**-0.0005**	0.007	1443.3	ug/L	555	Standard
|	**Sb**	123	299.8	56.4	**0.0345**	0.020	58.1	ug/L	62	Standard
⌊	**Ba**	135	46.7	92.4	**-0.0066**	0.012	179.8	ug/L	19	Standard
⌈	**Ce**	140	28.0	16.4				ug/L	24	Standard
⌊>	**Tb**	159	942316.8	3.8				ug/L	910514	Standard
⌈	**Ho**	165	11.0	32.8				ug/L	7	Standard
|	**Tl**	203	69.3	104.6	**0.0014**	0.005	368.4	ug/L	13	Standard
|	**Tl**	205	2.0	100.0	**0.0061**	0.005	77.2	ug/L	1	Standard
|	**Pb**	206	402.0	22.6	**0.0042**	0.007	169.4	ug/L	342	Standard
|	**Pb**	207	319.7	16.9	**-0.0014**	0.005	335.2	ug/L	284	Standard
|	**Pb**	208	1568.7	16.7	**0.0023**	0.005	208.0	ug/L	1363	Standard
|	**U**	238	41.3	79.5	**0.0023**	0.003	128.2	ug/L	2	Standard
⌊>	**Bi**	209	494511.9	3.6				ug/L	470592	Standard

Sample ID: QC Std 7
Report Date/Time: Sunday, November 18, 2012 10:57:42
Page 1

Approved: November 19, 2012

⌈	**Na**	23	0.0		**0.0050**	0.000	0.0	mg/L	2	Standard
|	**Mg**	24	12016.5	11.7	**0.0036**	0.001	18.9	mg/L	5586	Standard
|	**K**	39	5.0	100.0	**0.0332**	0.073	220.0	mg/L	5	Standard
|	**Ca**	43	31.7	39.7	**-0.7314**	0.635	86.8	mg/L	45	Standard
|	**Fe**	54	378.7	14.0	**0.0072**	0.019	261.1	mg/L	350	Standard
|	**Fe**	57	86.7	14.5	**0.0221**	0.019	87.0	mg/L	102	Standard
⌊>	**Sc-1**	45	47934.1	3.2				mg/L	53004	Standard
	Cl	35	3.0	33.3				ug/L	2	Standard
	Kr	83	134.9	1.1				ug/L	157	Standard
	Br	81	5.0	50.0				ug/L	3	Standard
	P	31	93180.3	4.8				ug/L	91588	Standard
	S	34	34026.5	2.3				ug/L	32556	Standard
	Sr	88	60.0	28.9				ug/L	62	Standard
	C	12	161.7	10.9				mg/L	133	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	1.7	173.2				mg/L	7	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		98.304	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: QC Std 7
Report Date/Time: Sunday, November 18, 2012 10:57:42
Page 2

Approved: November 19, 2012

	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	101.531
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	105.083
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: QC Std 7
Report Date/Time: Sunday, November 18, 2012 10:57:42
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

Sample ID: QC Std 8
Sample Date/Time: Sunday, November 18, 2012 10:58:24
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	8967.7	2.1	**-859.9987**	100.582	11.7	ug/L	8369	Standard
|	**Be**	9	428.3	7.0	**0.2200**	0.009	4.0	ug/L	18	Standard
|	**Al**	27	5365.7	150.1	**0.0449**	0.070	156.0	ug/L	215	Standard
⌊>	**Sc**	45	47524.5	3.6				ug/L	53004	Standard
⌈	**Ti**	47	23.0	56.5	**-0.0133**	0.026	192.2	ug/L	26	Standard
|	**V**	51	6888.5	3.1	**0.3359**	0.016	4.8	ug/L	3223	Standard
|	**Cr**	52	17023.6	2.8	**0.6942**	0.030	4.4	ug/L	10379	Standard
|	**Cr**	53	1198.4	5.9	**0.7942**	0.051	6.4	ug/L	192	Standard
|	**Mn**	55	11633.1	32.1	**0.6063**	0.215	35.4	ug/L	1840	Standard
|	**Co**	59	5007.5	5.9	**0.3744**	0.020	5.3	ug/L	115	Standard
|	**Ni**	60	4648.7	5.4	**1.6478**	0.074	4.5	ug/L	75	Standard
|	**Cu**	65	2352.5	4.6	**0.8251**	0.036	4.4	ug/L	155	Standard
|	**Zn**	66	8623.1	5.0	**6.3397**	0.277	4.4	ug/L	237	Standard
|>	**Ge**	72	398190.2	1.1				ug/L	413856	Standard
|	**As**	75	377.3	8.6	**0.4100**	0.021	5.1	ug/L	-197	Standard
|	**Se**	82	48.2	14.5	**0.3918**	0.052	13.4	ug/L	-5	Standard
⌊	**Se-1**	77	129.7	5.8	**0.3945**	0.074	18.6	ug/L	105	Standard
⌈>	**Ga**	71	211.7	5.9				mg/L	225	Standard
⌊	**Rb**	85	28.3	66.8				ug/L	28	Standard
⌈	**Y**	89	298744.7	2.9				ug/L	322845	Standard
⌊>	**Rh**	103	83.3	3.5				ug/L	92	Standard
⌈	**Mo**	98	29.1	62.3	**-0.0022**	0.004	177.6	ug/L	18	Standard
|	**Ag**	107	3256.7	3.0	**0.4054**	0.008	1.9	ug/L	63	Standard
|	**Cd**	111	806.3	4.6	**0.2252**	0.009	4.0	mg/L	20	Standard
|	**Cd**	114	2102.4	5.3	**0.2246**	0.010	4.3	ug/L	56	Standard
|>	**In**	115	653579.5	1.2				ug/L	657102	Standard
|	**Sn**	118	401.3	3.6	**-0.0088**	0.002	19.4	ug/L	555	Standard
|	**Sb**	123	3116.8	7.0	**0.3970**	0.023	5.8	ug/L	62	Standard
⌊	**Ba**	135	2415.9	6.8	**0.6933**	0.040	5.8	ug/L	19	Standard
⌈	**Ce**	140	28.7	22.4				ug/L	24	Standard
⌊>	**Tb**	159	925552.7	1.3				ug/L	910514	Standard
⌈	**Ho**	165	9.0	58.8				ug/L	7	Standard
|	**Tl**	203	1075.0	9.7	**0.0777**	0.007	8.7	ug/L	13	Standard
|	**Tl**	205	37.7	19.9	**0.0946**	0.017	18.4	ug/L	1	Standard
|	**Pb**	206	2452.2	3.7	**0.1988**	0.008	3.9	ug/L	342	Standard
|	**Pb**	207	2056.8	6.5	**0.1924**	0.011	5.9	ug/L	284	Standard
|	**Pb**	208	9594.2	5.9	**0.1952**	0.011	5.6	ug/L	1363	Standard
|	**U**	238	4231.3	6.4	**0.4074**	0.019	4.6	ug/L	2	Standard
⌊>	**Bi**	209	484880.9	1.9				ug/L	470592	Standard

Sample ID: QC Std 8
Report Date/Time: Sunday, November 18, 2012 11:00:57
Page 1

Approved: November 19, 2012

⌈	**Na**	23	1.7	173.2	**0.1770**	0.298	168.3	mg/L	2	Standard
|	**Mg**	24	3647.5	118.5	**-0.0010**	0.002	229.8	mg/L	5586	Standard
|	**K**	39	1.7	173.2	**-0.0155**	0.045	290.1	mg/L	5	Standard
|	**Ca**	43	56.7	56.7	**0.4965**	1.590	320.1	mg/L	45	Standard
|	**Fe**	54	311.0	10.5	**-0.0204**	0.009	44.3	mg/L	350	Standard
|	**Fe**	57	53.3	21.7	**-0.0342**	0.023	67.5	mg/L	102	Standard
⌊>	**Sc-1**	45	47524.5	3.6				mg/L	53004	Standard
	Cl	35	3.3	17.3				ug/L	2	Standard
	Kr	83	134.0	2.0				ug/L	157	Standard
	Br	81	5.8	49.5				ug/L	3	Standard
	P	31	113249.2	0.8				ug/L	91588	Standard
	S	34	32253.5	0.1				ug/L	32556	Standard
	Sr	88	68.3	23.5				ug/L	62	Standard
	C	12	193.3	12.8				mg/L	133	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	0.0					mg/L	7	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈	Li	7			
|	Be	9	109.980		
|	Al	27			
⌊>	Sc	45			
⌈	Ti	47			
|	V	51	83.987		
|	Cr	52	86.777		
|	Cr	53			
|	Mn	55	121.251		
|	Co	59	93.603		
|	Ni	60	102.987		
|	Cu	65	103.140		
|	Zn	66	101.435		
\>	Ge	72		96.215	
|	As	75	102.493		
|	Se	82	97.955		
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: QC Std 8
Report Date/Time: Sunday, November 18, 2012 11:00:57
Page 2

Approved: November 19, 2012

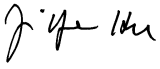
⌈	Mo	98			
|	Ag	107	101.349		
|	Cd	111	93.832		
|	Cd	114			
|>	In	115		99.464	
|	Sn	118			
|	Sb	123	99.258		
⌊	Ba	135	92.435		
⌈	Ce	140			
⌊>	Tb	159			
⌈	Ho	165			
|	Tl	203	97.134		
|	Tl	205			
|	Pb	206			
|	Pb	207			
|	Pb	208	97.613		
|	U	238	101.851		
⌊>	Bi	209		103.036	
⌈	Na	23			
|	Mg	24			
|	K	39			
|	Ca	43			
|	Fe	54			
|	Fe	57			
⌊>	Sc-1	45			
	Cl	35			
	Kr	83			
	Br	81			
	P	31			
	S	34			
	Sr	88			
	C	12			
	N	14			
	Hg	202			

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: QC Std 8
Report Date/Time: Sunday, November 18, 2012 11:00:57
Page 3

Approved: November 19, 2012



Method 6020 - Summary Report

Sample ID: PBW 35 WG414324-03
Sample Date/Time: Sunday, November 18, 2012 11:01:44
Number of Replicates: 3
Autosampler Position: 205
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	8735.9	7.2	**-946.4494**	233.229	24.6	ug/L	8369	Standard
	Be	9	6.7	114.6	**-0.0058**	0.004	69.6	ug/L	18	Standard
	Al	27	360.0	13.2	**0.0012**	0.000	32.2	ug/L	215	Standard
>	Sc	45	45536.7	4.0				ug/L	53004	Standard
	Ti	47	20.3	27.1	**-0.0171**	0.012	71.4	ug/L	26	Standard
	V	51	2786.8	2.3	**-0.0157**	0.007	41.4	ug/L	3223	Standard
	Cr	52	8887.9	2.1	**-0.0487**	0.024	48.8	ug/L	10379	Standard
	Cr	53	206.7	18.4	**0.0503**	0.023	44.9	ug/L	192	Standard
	Mn	55	1539.1	2.6	**0.0061**	0.002	26.9	ug/L	1840	Standard
	Co	59	61.3	29.2	**-0.0106**	0.001	11.4	ug/L	115	Standard
	Ni	60	302.3	5.3	**0.0773**	0.001	1.8	ug/L	75	Standard
	Cu	65	273.0	4.0	**0.0482**	0.006	12.3	ug/L	155	Standard
	Zn	66	2126.8	7.4	**1.4624**	0.080	5.5	ug/L	237	Standard
>	Ge	72	386352.7	4.3				ug/L	413856	Standard
	As	75	-199.1	16.9	**-0.0074**	0.028	380.3	ug/L	-197	Standard
	Se	82	-10.1	69.1	**-0.0791**	0.061	76.7	ug/L	-5	Standard
	Se-1	77	92.0	12.2	**0.0234**	0.078	334.5	ug/L	105	Standard
>	Ga	71	216.7	28.9				mg/L	225	Standard
	Rb	85	36.7	20.8				ug/L	28	Standard
	Y	89	292992.4	4.2				ug/L	322845	Standard
>	Rh	103	93.3	45.6				ug/L	92	Standard
	Mo	98	17.9	5.6	**-0.0046**	0.000	3.6	ug/L	18	Standard
	Ag	107	60.3	18.3	**-0.0001**	0.001	1047.2	ug/L	63	Standard
	Cd	111	17.3	44.9	**-0.0061**	0.002	35.2	mg/L	20	Standard
	Cd	114	56.7	26.3	**-0.0032**	0.002	50.3	ug/L	56	Standard
>	In	115	642684.5	3.0				ug/L	657102	Standard
	Sn	118	322.7	2.0	**-0.0162**	0.001	8.2	ug/L	555	Standard
	Sb	123	53.5	34.6	**0.0040**	0.002	54.3	ug/L	62	Standard
	Ba	135	21.7	22.8	**-0.0134**	0.001	10.6	ug/L	19	Standard
	Ce	140	32.7	40.0				ug/L	24	Standard
>	Tb	159	910959.2	3.7				ug/L	910514	Standard
	Ho	165	8.7	17.6				ug/L	7	Standard
	Tl	203	27.0	12.8	**-0.0016**	0.000	18.2	ug/L	13	Standard
	Tl	205	0.7	173.2	**0.0030**	0.003	98.1	ug/L	1	Standard
	Pb	206	327.3	8.7	**-0.0017**	0.003	181.3	ug/L	342	Standard
	Pb	207	259.3	11.7	**-0.0071**	0.003	38.3	ug/L	284	Standard
	Pb	208	1283.4	3.8	**-0.0035**	0.001	20.0	ug/L	1363	Standard
	U	238	1.3	114.6	**-0.0014**	0.000	10.4	ug/L	2	Standard
>	Bi	209	481154.7	2.3				ug/L	470592	Standard

Sample ID: PBW 35 WG414324-03
Report Date/Time: Sunday, November 18, 2012 11:04:16

Approved: November 19, 2012

⌈	**Na**	23	0.0		**0.0050**	0.000	0.0	mg/L	2	Standard
|	**Mg**	24	1176.7	8.1	**-0.0022**	0.000	1.7	mg/L	5586	Standard
|	**K**	39	5.0	0.0	**0.0379**	0.003	8.3	mg/L	5	Standard
|	**Ca**	43	40.0	43.3	**-0.2556**	0.842	329.4	mg/L	45	Standard
|	**Fe**	54	340.2	1.6	**-0.0012**	0.005	435.8	mg/L	350	Standard
|	**Fe**	57	100.0	27.8	**0.0535**	0.043	80.8	mg/L	102	Standard
⌊>	**Sc-1**	45	45536.7	4.0				mg/L	53004	Standard
	Cl	35	3.3	45.8				ug/L	2	Standard
	Kr	83	136.1	4.9				ug/L	157	Standard
	Br	81	2.5	100.0				ug/L	3	Standard
	P	31	109397.8	2.0				ug/L	91588	Standard
	S	34	31152.8	2.2				ug/L	32556	Standard
	Sr	88	53.3	47.2				ug/L	62	Standard
	C	12	143.3	12.3				mg/L	133	Standard
	N	14	1.7	173.2				mg/L	0	Standard
	Hg	202	3.3	86.6				mg/L	7	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		93.354	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: PBW 35 WG414324-03
Report Date/Time: Sunday, November 18, 2012 11:04:16
Page 2

Approved: November 19, 2012

	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	97.806
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	102.245
	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	
	C	12	
	N	14	
	Hg	202	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: PBW 35 WG414324-03
Report Date/Time: Sunday, November 18, 2012 11:04:16
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

Sample ID: LCSW 35 WG414324-04
Sample Date/Time: Sunday, November 18, 2012 11:04:56
Number of Replicates: 3
Autosampler Position: 206
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	8912.6	3.0	**-945.1092**	188.836	20.0	ug/L	8369	Standard
	Be	9	48086.4	6.8	**26.2916**	0.237	0.9	ug/L	18	Standard
	Al	27	5017.6	33.7	**0.0449**	0.018	40.9	ug/L	215	Standard
>	**Sc**	45	46563.3	6.3				ug/L	53004	Standard
	Ti	47	26.3	22.3	**-0.0060**	0.012	205.5	ug/L	26	Standard
	V	51	246866.3	6.2	**21.4733**	1.036	4.8	ug/L	3223	Standard
	Cr	52	245923.8	8.0	**22.4566**	1.422	6.3	ug/L	10379	Standard
	Cr	53	29441.2	7.3	**22.2137**	1.248	5.6	ug/L	192	Standard
	Mn	55	379055.3	7.7	**22.7243**	1.285	5.7	ug/L	1840	Standard
	Co	59	289767.9	6.9	**22.6674**	1.119	4.9	ug/L	115	Standard
	Ni	60	62162.8	5.2	**22.5996**	0.845	3.7	ug/L	75	Standard
	Cu	65	62513.9	5.2	**23.5294**	1.084	4.6	ug/L	155	Standard
	Zn	66	31383.2	6.6	**23.7284**	1.265	5.3	ug/L	237	Standard
>	**Ge**	72	396029.9	3.0				ug/L	413856	Standard
	As	75	30931.3	6.4	**22.4019**	1.126	5.0	ug/L	-197	Standard
	Se	82	2714.2	5.0	**21.8886**	0.723	3.3	ug/L	-5	Standard
	Se-1	77	2111.8	3.5	**21.5200**	0.851	4.0	ug/L	105	Standard
>	**Ga**	71	215.0	6.2				mg/L	225	Standard
	Rb	85	111.7	96.1				ug/L	28	Standard
	Y	89	298244.6	2.5				ug/L	322845	Standard
>	**Rh**	103	106.7	15.1				ug/L	92	Standard
	Mo	98	86.7	120.0	**0.0110**	0.024	215.1	ug/L	18	Standard
	Ag	107	187775.4	4.2	**24.1334**	0.540	2.2	ug/L	63	Standard
	Cd	111	78791.1	4.1	**23.3954**	0.746	3.2	mg/L	20	Standard
	Cd	114	200638.0	6.2	**22.6348**	1.205	5.3	ug/L	56	Standard
>	**In**	115	645118.0	2.8				ug/L	657102	Standard
	Sn	118	479.3	11.9	**-0.0003**	0.006	2027.3	ug/L	555	Standard
	Sb	123	176220.3	5.3	**22.9164**	0.980	4.3	ug/L	62	Standard
	Ba	135	76642.1	5.8	**22.9142**	1.184	5.2	ug/L	19	Standard
	Ce	140	75.0	13.9				ug/L	24	Standard
>	**Tb**	159	915122.9	3.4				ug/L	910514	Standard
	Ho	165	9.0	19.2				ug/L	7	Standard
	Tl	203	301795.2	4.4	**22.9908**	0.560	2.4	ug/L	13	Standard
	Tl	205	9762.5	4.7	**24.3786**	0.591	2.4	ug/L	1	Standard
	Pb	206	240638.4	5.6	**22.8496**	0.894	3.9	ug/L	342	Standard
	Pb	207	205442.4	5.7	**22.9411**	0.848	3.7	ug/L	284	Standard
	Pb	208	954755.5	5.4	**22.9660**	0.810	3.5	ug/L	1363	Standard
	U	238	235378.0	6.1	**22.8968**	1.048	4.6	ug/L	2	Standard
>	**Bi**	209	481783.3	2.3				ug/L	470592	Standard

Sample ID: LCSW 35 WG414324-04
Report Date/Time: Sunday, November 18, 2012 11:07:28
Page 1

Approved: November 19, 2012

⌈	**Na**	23	0.0		**0.0050**	0.000	0.0	mg/L	2	Standard
|	**Mg**	24	5139.2	8.3	**-0.0000**	0.000	720.2	mg/L	5586	Standard
|	**K**	39	5.0	173.2	**0.0310**	0.125	403.9	mg/L	5	Standard
|	**Ca**	43	46.7	6.2	**0.0404**	0.265	654.8	mg/L	45	Standard
|	**Fe**	54	325.3	1.8	**-0.0109**	0.008	69.2	mg/L	350	Standard
|	**Fe**	57	78.3	13.3	**0.0129**	0.027	208.4	mg/L	102	Standard
⌊>	**Sc-1**	45	46563.3	6.3				mg/L	53004	Standard
	Cl	35	3.0	57.7				ug/L	2	Standard
	Kr	83	142.4	2.1				ug/L	157	Standard
	Br	81	7.5	33.3				ug/L	3	Standard
	P	31	109641.1	1.2				ug/L	91588	Standard
	S	34	29892.0	2.0				ug/L	32556	Standard
	Sr	88	51.7	5.6				ug/L	62	Standard
	C	12	145.0	6.0				mg/L	133	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	5.0	0.0				mg/L	7	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		95.693	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: LCSW 35 WG414324-04
Report Date/Time: Sunday, November 18, 2012 11:07:28
Page 2

Approved: November 19, 2012

	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	98.176
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	102.378
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: LCSW 35 WG414324-04
Report Date/Time: Sunday, November 18, 2012 11:07:28
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

Sample ID: L1211041122 WG414324-01
Sample Date/Time: Sunday, November 18, 2012 11:08:09
Number of Replicates: 3
Autosampler Position: 207
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	13732.9	7.6	**-2979.7360**	507.667	17.0	ug/L	8369	Standard
	Be	9	35.0	42.9	**0.0074**	0.007	94.8	ug/L	18	Standard
	Al	27	1574419.2	6.8	**12.9182**	0.798	6.2	ug/L	215	Standard
>	Sc	45	52559.3	1.2				ug/L	53004	Standard
	Ti	47	2272.5	41.7	**4.3124**	1.840	42.7	ug/L	26	Standard
	V	51	12927.6	6.2	**0.8097**	0.052	6.4	ug/L	3223	Standard
	Cr	52	16723.9	6.1	**0.5888**	0.069	11.7	ug/L	10379	Standard
	Cr	53	920.0	8.4	**0.5507**	0.055	10.0	ug/L	192	Standard
	Mn	55	116246.3	5.9	**6.5339**	0.313	4.8	ug/L	1840	Standard
	Co	59	1446.1	9.3	**0.0916**	0.009	9.3	ug/L	115	Standard
	Ni	60	1529.1	8.3	**0.4912**	0.036	7.4	ug/L	75	Standard
	Cu	65	804.0	6.4	**0.2294**	0.015	6.6	ug/L	155	Standard
	Zn	66	4302.3	3.8	**2.9054**	0.097	3.3	ug/L	237	Standard
>	Ge	72	418459.1	1.6				ug/L	413856	Standard
	As	75	-120.7	32.3	**0.0580**	0.025	43.3	ug/L	-197	Standard
	Se	82	11.7	60.3	**0.0953**	0.055	57.8	ug/L	-5	Standard
	Se-1	77	116.7	7.8	**0.1965**	0.075	38.0	ug/L	105	Standard
>	Ga	71	401.7	10.6				mg/L	225	Standard
	Rb	85	1776.8	1.6				ug/L	28	Standard
	Y	89	318124.2	3.4				ug/L	322845	Standard
>	Rh	103	156.7	8.0				ug/L	92	Standard
	Mo	98	136.7	12.0	**0.0205**	0.003	15.1	ug/L	18	Standard
	Ag	107	78.7	33.2	**0.0017**	0.003	188.5	ug/L	63	Standard
	Cd	111	84.2	17.0	**0.0124**	0.004	31.7	mg/L	20	Standard
	Cd	114	219.4	4.5	**0.0138**	0.001	5.7	ug/L	56	Standard
>	In	115	682258.8	1.4				ug/L	657102	Standard
	Sn	118	1114.7	5.6	**0.0585**	0.005	8.5	ug/L	555	Standard
	Sb	123	204.2	33.2	**0.0222**	0.008	37.4	ug/L	62	Standard
	Ba	135	20312.6	5.9	**5.7255**	0.284	5.0	ug/L	19	Standard
	Ce	140	7976.4	7.2				ug/L	24	Standard
>	Tb	159	959379.8	1.5				ug/L	910514	Standard
	Ho	165	147.3	1.4				ug/L	7	Standard
	Tl	203	210.3	8.5	**0.0118**	0.001	11.1	ug/L	13	Standard
	Tl	205	6.3	24.1	**0.0166**	0.004	21.9	ug/L	1	Standard
	Pb	206	642.3	7.4	**0.0261**	0.005	17.4	ug/L	342	Standard
	Pb	207	505.7	10.2	**0.0185**	0.006	30.7	ug/L	284	Standard
	Pb	208	2427.4	5.7	**0.0220**	0.003	15.5	ug/L	1363	Standard
	U	238	91.7	23.2	**0.0071**	0.002	28.5	ug/L	2	Standard
>	Bi	209	499136.1	0.5				ug/L	470592	Standard

Sample ID: L1211041122 WG414324-01
Report Date/Time: Sunday, November 18, 2012 11:10:40
Page 1

Approved: November 19, 2012

⌈	**Na**	23	0.0		**0.0050**	0.000	0.0	mg/L	2	Standard
|	**Mg**	24	405364.9	1.3	**0.1977**	0.001	0.5	mg/L	5586	Standard
|	**K**	39	6.7	114.6	**0.0492**	0.103	209.7	mg/L	5	Standard
|	**Ca**	43	180.0	15.5	**5.4867**	1.097	20.0	mg/L	45	Standard
|	**Fe**	54	691.6	3.0	**0.1144**	0.005	4.1	mg/L	350	Standard
|	**Fe**	57	250.0	17.1	**0.2679**	0.069	25.9	mg/L	102	Standard
⌊>	**Sc-1**	45	52559.3	1.2				mg/L	53004	Standard
	Cl	35	2.3	89.2				ug/L	2	Standard
	Kr	83	141.7	3.7				ug/L	157	Standard
	Br	81	6.7	57.3				ug/L	3	Standard
	P	31	208877.9	3.7				ug/L	91588	Standard
	S	34	25016.5	1.9				ug/L	32556	Standard
	Sr	88	438.3	12.0				ug/L	62	Standard
	C	12	1401.7	3.9				mg/L	133	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	41.7	73.3				mg/L	7	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		101.112	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: L1211041122 WG414324-01
Report Date/Time: Sunday, November 18, 2012 11:10:40
Page 2

Approved: November 19, 2012

	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	103.829
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	106.066
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: L1211041122 WG414324-01
Report Date/Time: Sunday, November 18, 2012 11:10:40
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

Sample ID: L1211041122S WG414324-05
Sample Date/Time: Sunday, November 18, 2012 11:11:21
Number of Replicates: 3
Autosampler Position: 208
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	13849.7	6.0	**-3272.2290**	248.094	7.6	ug/L	8369	Standard
	Be	9	49368.9	6.7	**24.5969**	0.238	1.0	ug/L	18	Standard
	Al	27	1513789.4	5.7	**12.7954**	0.748	5.8	ug/L	215	Standard
>	**Sc**	45	51099.6	6.3				ug/L	53004	Standard
	Ti	47	1605.1	12.5	**3.0949**	0.279	9.0	ug/L	26	Standard
	V	51	257016.7	5.4	**21.6763**	0.732	3.4	ug/L	3223	Standard
	Cr	52	253355.8	5.2	**22.4330**	0.463	2.1	ug/L	10379	Standard
	Cr	53	30550.1	7.6	**22.3359**	0.983	4.4	ug/L	192	Standard
	Mn	55	477170.1	6.3	**27.7534**	0.923	3.3	ug/L	1840	Standard
	Co	59	293393.8	6.9	**22.2429**	0.755	3.4	ug/L	115	Standard
	Ni	60	63428.5	6.6	**22.3459**	0.888	4.0	ug/L	75	Standard
	Cu	65	63634.7	6.7	**23.1990**	0.663	2.9	ug/L	155	Standard
	Zn	66	34440.2	5.5	**25.2538**	0.716	2.8	ug/L	237	Standard
>	**Ge**	72	408550.7	4.0				ug/L	413856	Standard
	As	75	31952.2	5.8	**22.4270**	0.449	2.0	ug/L	-197	Standard
	Se	82	2825.1	4.1	**22.0876**	0.191	0.9	ug/L	-5	Standard
	Se-1	77	2260.5	9.6	**22.3246**	1.323	5.9	ug/L	105	Standard
>	**Ga**	71	398.3	29.8				mg/L	225	Standard
	Rb	85	1666.8	6.6				ug/L	28	Standard
	Y	89	312250.3	1.7				ug/L	322845	Standard
>	**Rh**	103	165.0	21.2				ug/L	92	Standard
	Mo	98	138.8	5.5	**0.0218**	0.001	5.4	ug/L	18	Standard
	Ag	107	188066.6	3.5	**23.4465**	0.029	0.1	ug/L	63	Standard
	Cd	111	78349.9	5.3	**22.5593**	0.774	3.4	mg/L	20	Standard
	Cd	114	202704.4	5.8	**22.1722**	0.718	3.2	ug/L	56	Standard
>	**In**	115	665124.5	3.4				ug/L	657102	Standard
	Sn	118	827.4	6.7	**0.0327**	0.003	8.1	ug/L	555	Standard
	Sb	123	179686.1	5.7	**22.6579**	0.797	3.5	ug/L	62	Standard
	Ba	135	96519.6	5.1	**27.9878**	0.898	3.2	ug/L	19	Standard
	Ce	140	7965.4	6.0				ug/L	24	Standard
>	**Tb**	159	952633.1	2.7				ug/L	910514	Standard
	Ho	165	152.7	6.7				ug/L	7	Standard
	Tl	203	299417.1	4.5	**22.4347**	0.716	3.2	ug/L	13	Standard
	Tl	205	9737.5	3.4	**23.9257**	0.785	3.3	ug/L	1	Standard
	Pb	206	240185.7	5.9	**22.4336**	1.135	5.1	ug/L	342	Standard
	Pb	207	205589.3	5.3	**22.5853**	1.021	4.5	ug/L	284	Standard
	Pb	208	952332.6	5.2	**22.5351**	0.988	4.4	ug/L	1363	Standard
	U	238	236584.6	7.0	**22.6395**	1.440	6.4	ug/L	2	Standard
>	**Bi**	209	489894.1	2.4				ug/L	470592	Standard

Sample ID: L1211041122S WG414324-05
Report Date/Time: Sunday, November 18, 2012 11:13:53
Page 1

Approved: November 19, 2012

⌈	**Na**	23	0.0		**0.0050**	0.000	0.0	mg/L	2	Standard
|	**Mg**	24	401021.3	2.4	**0.2016**	0.009	4.6	mg/L	5586	Standard
|	**K**	39	15.0	57.7	**0.1744**	0.135	77.5	mg/L	5	Standard
|	**Ca**	43	200.0	16.4	**6.6572**	1.789	26.9	mg/L	45	Standard
|	**Fe**	54	653.3	9.3	**0.1082**	0.036	33.1	mg/L	350	Standard
|	**Fe**	57	198.3	24.7	**0.1926**	0.059	30.4	mg/L	102	Standard
⌊>	**Sc-1**	45	51099.6	6.3				mg/L	53004	Standard
	Cl	35	1.7	34.6				ug/L	2	Standard
	Kr	83	142.9	2.9				ug/L	157	Standard
	Br	81	4.2	91.7				ug/L	3	Standard
	P	31	208408.7	3.3				ug/L	91588	Standard
	S	34	23192.7	3.2				ug/L	32556	Standard
	Sr	88	436.7	4.0				ug/L	62	Standard
	C	12	1576.7	8.4				mg/L	133	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	40.0	12.5				mg/L	7	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		98.718	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: L1211041122S WG414324-05
Report Date/Time: Sunday, November 18, 2012 11:13:53
Page 2

Approved: November 19, 2012

⌈	Mo	98		
|	Ag	107		
|	Cd	111		
|	Cd	114		
|>	In	115		101.221
|	Sn	118		
|	Sb	123		
⌊	Ba	135		
⌈	Ce	140		
⌊>	Tb	159		
⌈	Ho	165		
|	Tl	203		
|	Tl	205		
|	Pb	206		
|	Pb	207		
|	Pb	208		
|	U	238		
⌊>	Bi	209		104.102
⌈	Na	23		
|	Mg	24		
|	K	39		
|	Ca	43		
|	Fe	54		
|	Fe	57		
⌊>	Sc-1	45		
	Cl	35		
	Kr	83		
	Br	81		
	P	31		
	S	34		
	Sr	88		
	C	12		
	N	14		
	Hg	202		

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: L1211041122S WG414324-05
Report Date/Time: Sunday, November 18, 2012 11:13:53
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

Sample ID: L1211041122SD WG414324-06
Sample Date/Time: Sunday, November 18, 2012 11:14:33
Number of Replicates: 3
Autosampler Position: 209
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	13973.1	4.3	**-3654.2617**	127.516	3.5	ug/L	8369	Standard
	Be	9	49713.2	4.5	**25.7721**	1.487	5.8	ug/L	18	Standard
	Al	27	1568708.7	6.5	**13.7718**	0.920	6.7	ug/L	215	Standard
>	**Sc**	45	49151.3	2.8				ug/L	53004	Standard
	Ti	47	2116.8	6.7	**4.1610**	0.207	5.0	ug/L	26	Standard
	V	51	256045.1	4.0	**21.8777**	0.734	3.4	ug/L	3223	Standard
	Cr	52	246921.2	4.8	**22.1351**	0.806	3.6	ug/L	10379	Standard
	Cr	53	29821.1	7.6	**22.0943**	1.487	6.7	ug/L	192	Standard
	Mn	55	483618.7	5.3	**28.4997**	1.129	4.0	ug/L	1840	Standard
	Co	59	293189.4	6.3	**22.5203**	1.045	4.6	ug/L	115	Standard
	Ni	60	62675.4	6.2	**22.3673**	1.048	4.7	ug/L	75	Standard
	Cu	65	62188.0	5.9	**22.9693**	0.933	4.1	ug/L	155	Standard
	Zn	66	33326.0	5.3	**24.7520**	1.123	4.5	ug/L	237	Standard
>	**Ge**	72	403368.5	2.6				ug/L	413856	Standard
	As	75	31591.4	4.2	**22.4668**	0.659	2.9	ug/L	-197	Standard
	Se	82	2797.0	5.1	**22.1408**	0.607	2.7	ug/L	-5	Standard
	Se-1	77	2266.5	4.7	**22.7151**	0.676	3.0	ug/L	105	Standard
>	**Ga**	71	676.7	23.2				mg/L	225	Standard
	Rb	85	2271.8	6.7				ug/L	28	Standard
	Y	89	305131.6	4.9				ug/L	322845	Standard
>	**Rh**	103	158.3	4.8				ug/L	92	Standard
	Mo	98	130.4	12.5	**0.0202**	0.003	15.6	ug/L	18	Standard
	Ag	107	183930.8	4.9	**23.2092**	0.774	3.3	ug/L	63	Standard
	Cd	111	77906.4	5.8	**22.7061**	0.968	4.3	mg/L	20	Standard
	Cd	114	199453.0	5.0	**22.0899**	0.757	3.4	ug/L	56	Standard
>	**In**	115	656925.1	1.7				ug/L	657102	Standard
	Sn	118	792.7	5.0	**0.0303**	0.003	9.6	ug/L	555	Standard
	Sb	123	176890.6	5.4	**22.5816**	0.845	3.7	ug/L	62	Standard
	Ba	135	97333.7	6.0	**28.5675**	1.269	4.4	ug/L	19	Standard
	Ce	140	12394.7	6.0				ug/L	24	Standard
>	**Tb**	159	942957.1	2.6				ug/L	910514	Standard
	Ho	165	200.3	7.7				ug/L	7	Standard
	Tl	203	297167.6	2.3	**22.8748**	0.199	0.9	ug/L	13	Standard
	Tl	205	9670.1	4.6	**24.3957**	0.732	3.0	ug/L	1	Standard
	Pb	206	238136.1	5.2	**22.8430**	0.841	3.7	ug/L	342	Standard
	Pb	207	202312.7	4.7	**22.8259**	0.758	3.3	ug/L	284	Standard
	Pb	208	936323.8	4.3	**22.7556**	0.647	2.8	ug/L	1363	Standard
	U	238	233837.6	6.9	**22.9760**	1.245	5.4	ug/L	2	Standard
>	**Bi**	209	476927.2	2.1				ug/L	470592	Standard

Approved: November 19, 2012

	Na	23	3.3	86.6	**0.3343**	0.285	85.3	mg/L	2	Standard
	Mg	24	403218.3	2.3	**0.2105**	0.006	2.8	mg/L	5586	Standard
	K	39	18.3	56.8	**0.2258**	0.145	64.4	mg/L	5	Standard
	Ca	43	188.3	17.1	**6.4205**	1.501	23.4	mg/L	45	Standard
	Fe	54	972.8	9.1	**0.2504**	0.047	18.9	mg/L	350	Standard
	Fe	57	295.0	15.1	**0.3714**	0.074	20.0	mg/L	102	Standard
>	**Sc-1**	45	49151.3	2.8				mg/L	53004	Standard
	Cl	35	3.0	33.3				ug/L	2	Standard
	Kr	83	134.1	1.8				ug/L	157	Standard
	Br	81	5.0	0.0				ug/L	3	Standard
	P	31	204052.5	3.3				ug/L	91588	Standard
	S	34	21893.3	2.8				ug/L	32556	Standard
	Sr	88	428.3	2.7				ug/L	62	Standard
	C	12	681.7	6.6				mg/L	133	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	23.3	24.7				mg/L	7	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		97.466	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			
	Y	89			
>	Rh	103			

Sample ID: L1211041122SD WG414324-06
Report Date/Time: Sunday, November 18, 2012 11:17:05
Page 2

Approved: November 19, 2012

	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	99.973
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	101.346
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: L1211041122SD WG414324-06
Report Date/Time: Sunday, November 18, 2012 11:17:05
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

Sample ID: L1211041120
Sample Date/Time: Sunday, November 18, 2012 11:17:45
Number of Replicates: 3
Autosampler Position: 210
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	27299.6	4.9	**-9117.7955**	59.178	0.6	ug/L	8369	Standard
|	**Be**	9	158.3	30.7	**0.0606**	0.023	37.8	ug/L	18	Standard
|	**Al**	27	4184471.0	6.2	**31.1234**	0.830	2.7	ug/L	215	Standard
⌊>	**Sc**	45	57977.5	4.5				ug/L	53004	Standard
⌈	**Ti**	47	28386.6	6.3	**54.4895**	2.020	3.7	ug/L	26	Standard
|	**V**	51	256798.6	6.2	**21.1266**	0.726	3.4	ug/L	3223	Standard
|	**Cr**	52	34685.1	5.1	**2.2045**	0.071	3.2	ug/L	10379	Standard
|	**Cr**	53	3228.7	7.5	**2.2060**	0.113	5.1	ug/L	192	Standard
|	**Mn**	55	3074766.9	5.8	**175.0471**	5.329	3.0	ug/L	1840	Standard
|	**Co**	59	31089.9	4.1	**2.2882**	0.031	1.4	ug/L	115	Standard
|	**Ni**	60	6276.0	5.2	**2.1266**	0.059	2.8	ug/L	75	Standard
|	**Cu**	65	8438.0	6.6	**2.9533**	0.121	4.1	ug/L	155	Standard
|	**Zn**	66	21840.8	5.3	**15.5568**	0.445	2.9	ug/L	237	Standard
|>	**Ge**	72	418468.0	2.8				ug/L	413856	Standard
|	**As**	75	270.0	25.4	**0.3244**	0.049	15.0	ug/L	-197	Standard
|	**Se**	82	31.5	28.4	**0.2472**	0.075	30.3	ug/L	-5	Standard
⌊	**Se-1**	77	126.0	9.0	**0.2936**	0.147	50.0	ug/L	105	Standard
⌈>	**Ga**	71	3083.6	6.9				mg/L	225	Standard
⌊	**Rb**	85	25853.7	3.1				ug/L	28	Standard
⌈	**Y**	89	345453.5	2.3				ug/L	322845	Standard
⌊>	**Rh**	103	116.7	13.8				ug/L	92	Standard
⌈	**Mo**	98	316.4	7.4	**0.0595**	0.004	6.5	ug/L	18	Standard
|	**Ag**	107	161.3	8.8	**0.0119**	0.002	17.2	ug/L	63	Standard
|	**Cd**	111	66.6	13.1	**0.0077**	0.003	33.3	mg/L	20	Standard
|	**Cd**	114	188.0	11.7	**0.0107**	0.003	25.4	ug/L	56	Standard
|>	**In**	115	676902.3	2.0				ug/L	657102	Standard
|	**Sn**	118	1130.0	5.6	**0.0608**	0.004	6.6	ug/L	555	Standard
|	**Sb**	123	286.8	9.3	**0.0326**	0.003	7.9	ug/L	62	Standard
⌊	**Ba**	135	253511.4	4.8	**72.2614**	2.691	3.7	ug/L	19	Standard
⌈	**Ce**	140	264472.8	5.5				ug/L	24	Standard
⌊>	**Tb**	159	960644.9	2.2				ug/L	910514	Standard
⌈	**Ho**	165	3034.0	6.9				ug/L	7	Standard
|	**Tl**	203	300.7	4.3	**0.0185**	0.001	5.5	ug/L	13	Standard
|	**Tl**	205	12.0	25.0	**0.0303**	0.007	24.1	ug/L	1	Standard
|	**Pb**	206	20450.5	5.9	**1.8486**	0.090	4.9	ug/L	342	Standard
|	**Pb**	207	16631.5	4.9	**1.7641**	0.074	4.2	ug/L	284	Standard
|	**Pb**	208	78415.4	5.2	**1.7935**	0.078	4.3	ug/L	1363	Standard
|	**U**	238	683.0	10.6	**0.0628**	0.007	10.6	ug/L	2	Standard
⌊>	**Bi**	209	497960.3	1.5				ug/L	470592	Standard

Sample ID: L1211041120
Report Date/Time: Sunday, November 18, 2012 11:20:17
Page 1

Approved: November 19, 2012

⌈	**Na**	23	1.7	173.2	**0.1368**	0.228	166.9	mg/L	2	Standard
|	**Mg**	24	354331.0	1.6	**0.1562**	0.005	2.9	mg/L	5586	Standard
|	**K**	39	81.7	33.7	**0.9834**	0.372	37.8	mg/L	5	Standard
|	**Ca**	43	163.3	32.7	**4.1332**	2.087	50.5	mg/L	45	Standard
|	**Fe**	54	15835.8	7.4	**5.4093**	0.350	6.5	mg/L	350	Standard
|	**Fe**	57	3710.5	10.7	**5.1936**	0.436	8.4	mg/L	102	Standard
⌊>	**Sc-1**	45	57977.5	4.5				mg/L	53004	Standard
	Cl	35	2.7	43.3				ug/L	2	Standard
	Kr	83	139.3	8.7				ug/L	157	Standard
	Br	81	5.8	49.5				ug/L	3	Standard
	P	31	269507.2	3.0				ug/L	91588	Standard
	S	34	19772.1	4.6				ug/L	32556	Standard
	Sr	88	270.0	11.3				ug/L	62	Standard
	C	12	825.0	8.2				mg/L	133	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	23.3	65.5				mg/L	7	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		101.114	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: L1211041120
Report Date/Time: Sunday, November 18, 2012 11:20:17
Page 2

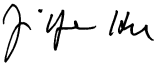
Approved: November 19, 2012

⌈	Mo	98		
|	Ag	107		
|	Cd	111		
|	Cd	114		
|>	In	115		103.013
|	Sn	118		
|	Sb	123		
⌊	Ba	135		
⌈	Ce	140		
⌊>	Tb	159		
⌈	Ho	165		
|	Tl	203		
|	Tl	205		
|	Pb	206		
|	Pb	207		
|	Pb	208		
|	U	238		
⌊>	Bi	209		105.816
⌈	Na	23		
|	Mg	24		
|	K	39		
|	Ca	43		
|	Fe	54		
|	Fe	57		
⌊>	Sc-1	45		
	Cl	35		
	Kr	83		
	Br	81		
	P	31		
	S	34		
	Sr	88		
	C	12		
	N	14		
	Hg	202		

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Mn 55 Upper, S, EEE	Mn	55	

Approved: November 19, 2012



Method 6020 - Summary Report

Sample ID: L1211041121
Sample Date/Time: Sunday, November 18, 2012 11:20:58
Number of Replicates: 3
Autosampler Position: 211
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	18629.8	5.6	**-5273.6195**	194.792	3.7	ug/L	8369	Standard
|	**Be**	9	155.0	11.6	**0.0628**	0.011	17.6	ug/L	18	Standard
|	**Al**	27	1381470.3	3.4	**10.8664**	0.166	1.5	ug/L	215	Standard
⌊>	**Sc**	45	54850.9	4.0				ug/L	53004	Standard
⌈	**Ti**	47	31931.3	5.4	**62.5718**	2.594	4.1	ug/L	26	Standard
|	**V**	51	41755.2	4.4	**3.2834**	0.100	3.0	ug/L	3223	Standard
|	**Cr**	52	18567.0	3.5	**0.7892**	0.043	5.5	ug/L	10379	Standard
|	**Cr**	53	1565.1	4.2	**1.0363**	0.025	2.4	ug/L	192	Standard
|	**Mn**	55	527672.9	4.6	**30.5894**	0.996	3.3	ug/L	1840	Standard
|	**Co**	59	9232.8	5.0	**0.6826**	0.027	4.0	ug/L	115	Standard
|	**Ni**	60	2902.6	3.0	**0.9852**	0.017	1.7	ug/L	75	Standard
|	**Cu**	65	4792.1	3.2	**1.6882**	0.034	2.0	ug/L	155	Standard
|	**Zn**	66	9023.4	5.8	**6.4428**	0.278	4.3	ug/L	237	Standard
|>	**Ge**	72	410120.6	2.0				ug/L	413856	Standard
|	**As**	75	-20.7	231.8	**0.1258**	0.033	26.6	ug/L	-197	Standard
|	**Se**	82	42.3	40.0	**0.3364**	0.137	40.8	ug/L	-5	Standard
⌊	**Se-1**	77	124.3	12.0	**0.3019**	0.176	58.1	ug/L	105	Standard
⌈>	**Ga**	71	3737.1	10.1				mg/L	225	Standard
⌊	**Rb**	85	11694.5	2.3				ug/L	28	Standard
⌈	**Y**	89	313185.7	3.1				ug/L	322845	Standard
⌊>	**Rh**	103	131.7	15.3				ug/L	92	Standard
⌈	**Mo**	98	139.4	9.4	**0.0220**	0.003	13.1	ug/L	18	Standard
|	**Ag**	107	110.0	22.1	**0.0059**	0.003	54.8	ug/L	63	Standard
|	**Cd**	111	38.8	20.4	**0.0001**	0.002	3849.4	mg/L	20	Standard
|	**Cd**	114	103.9	10.5	**0.0019**	0.001	72.3	ug/L	56	Standard
|>	**In**	115	662761.5	1.3				ug/L	657102	Standard
|	**Sn**	118	1593.1	6.4	**0.1093**	0.009	8.7	ug/L	555	Standard
|	**Sb**	123	101.7	26.1	**0.0100**	0.004	35.3	ug/L	62	Standard
⌊	**Ba**	135	43163.2	5.3	**12.5533**	0.691	5.5	ug/L	19	Standard
⌈	**Ce**	140	110025.5	5.6				ug/L	24	Standard
⌊>	**Tb**	159	951330.1	0.3				ug/L	910514	Standard
⌈	**Ho**	165	1370.4	4.9				ug/L	7	Standard
|	**Tl**	203	304.7	6.2	**0.0193**	0.001	7.0	ug/L	13	Standard
|	**Tl**	205	12.3	16.9	**0.0317**	0.005	16.0	ug/L	1	Standard
|	**Pb**	206	4514.7	3.0	**0.3911**	0.015	3.7	ug/L	342	Standard
|	**Pb**	207	2984.0	1.0	**0.2935**	0.004	1.4	ug/L	284	Standard
|	**Pb**	208	15084.5	2.4	**0.3245**	0.010	3.1	ug/L	1363	Standard
|	**U**	238	1261.4	4.2	**0.1197**	0.006	4.7	ug/L	2	Standard
⌊>	**Bi**	209	488038.5	0.4				ug/L	470592	Standard

Sample ID: L1211041121
Report Date/Time: Sunday, November 18, 2012 11:23:30
Page 1

Approved: November 19, 2012

⌈	**Na**	23	1.7	173.2	**0.1458**	0.244	167.3	mg/L	2	Standard
|	**Mg**	24	342981.0	1.7	**0.1599**	0.006	3.8	mg/L	5586	Standard
|	**K**	39	16.7	45.8	**0.1781**	0.099	55.8	mg/L	5	Standard
|	**Ca**	43	105.0	26.5	**2.0896**	1.122	53.7	mg/L	45	Standard
|	**Fe**	54	4773.3	6.9	**1.6173**	0.054	3.3	mg/L	350	Standard
|	**Fe**	57	1166.7	4.8	**1.6441**	0.105	6.4	mg/L	102	Standard
⌊>	**Sc-1**	45	54850.9	4.0				mg/L	53004	Standard
	Cl	35	3.7	41.7				ug/L	2	Standard
	Kr	83	134.4	5.4				ug/L	157	Standard
	Br	81	1.7	86.6				ug/L	3	Standard
	P	31	239815.1	2.0				ug/L	91588	Standard
	S	34	17370.8	4.3				ug/L	32556	Standard
	Sr	88	281.7	15.3				ug/L	62	Standard
	C	12	460.0	9.7				mg/L	133	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	11.7	24.7				mg/L	7	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		99.097	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: L1211041121
Report Date/Time: Sunday, November 18, 2012 11:23:30
Page 2

Approved: November 19, 2012

	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	100.861
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	103.707
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: L1211041121
Report Date/Time: Sunday, November 18, 2012 11:23:30
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

Sample ID: L1211041121PS WG414570-01
Sample Date/Time: Sunday, November 18, 2012 11:24:10
Number of Replicates: 3
Autosampler Position: 212
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	21433.5	6.6	**-5856.0628**	556.773	9.5	ug/L	8369	Standard
	Be	9	115010.4	4.2	**49.1309**	1.681	3.4	ug/L	18	Standard
	Al	27	1520157.9	7.3	**10.9950**	0.675	6.1	ug/L	215	Standard
>	Sc	45	59617.1	2.5				ug/L	53004	Standard
	Ti	47	35475.3	7.6	**65.4743**	3.939	6.0	ug/L	26	Standard
	V	51	620273.0	6.5	**49.4260**	2.758	5.6	ug/L	3223	Standard
	Cr	52	574010.0	7.4	**48.7308**	3.258	6.7	ug/L	10379	Standard
	Cr	53	70566.1	6.7	**48.5637**	2.518	5.2	ug/L	192	Standard
	Mn	55	1457425.7	7.0	**79.7427**	5.156	6.5	ug/L	1840	Standard
	Co	59	689787.3	8.0	**49.1124**	3.476	7.1	ug/L	115	Standard
	Ni	60	147400.9	5.3	**48.7956**	2.342	4.8	ug/L	75	Standard
	Cu	65	148573.1	5.0	**50.9398**	2.498	4.9	ug/L	155	Standard
	Zn	66	75267.9	5.9	**52.0159**	2.818	5.4	ug/L	237	Standard
>	Ge	72	435339.3	2.1				ug/L	413856	Standard
	As	75	69666.5	4.8	**45.7632**	1.966	4.3	ug/L	-197	Standard
	Se	82	5989.7	3.9	**43.9426**	1.432	3.3	ug/L	-5	Standard
	Se-1	77	4627.7	5.0	**43.8507**	1.872	4.3	ug/L	105	Standard
>	Ga	71	4303.9	3.0				mg/L	225	Standard
	Rb	85	12668.6	6.3				ug/L	28	Standard
	Y	89	339348.0	3.6				ug/L	322845	Standard
>	Rh	103	156.7	17.6				ug/L	92	Standard
	Mo	98	180.3	22.0	**0.0294**	0.009	29.8	ug/L	18	Standard
	Ag	107	428422.6	4.4	**51.4453**	2.248	4.4	ug/L	63	Standard
	Cd	111	170999.5	6.3	**47.4188**	2.612	5.5	mg/L	20	Standard
	Cd	114	436536.8	5.7	**45.9983**	2.291	5.0	ug/L	56	Standard
>	In	115	690811.0	2.3				ug/L	657102	Standard
	Sn	118	1853.4	9.0	**0.1277**	0.015	11.4	ug/L	555	Standard
	Sb	123	387639.6	5.5	**47.0741**	2.165	4.6	ug/L	62	Standard
	Ba	135	216285.6	5.9	**60.4052**	2.904	4.8	ug/L	19	Standard
	Ce	140	117447.0	5.5				ug/L	24	Standard
>	Tb	159	984028.8	2.1				ug/L	910514	Standard
	Ho	165	1529.7	7.7				ug/L	7	Standard
	Tl	203	663516.7	4.2	**49.3491**	2.001	4.1	ug/L	13	Standard
	Tl	205	21799.4	3.7	**53.1481**	2.068	3.9	ug/L	1	Standard
	Pb	206	537984.5	5.7	**49.9145**	2.892	5.8	ug/L	342	Standard
	Pb	207	454030.5	5.5	**49.5484**	2.806	5.7	ug/L	284	Standard
	Pb	208	2102899.3	5.6	**49.4300**	2.854	5.8	ug/L	1363	Standard
	U	238	532129.1	6.3	**50.5386**	3.098	6.1	ug/L	2	Standard
>	Bi	209	493664.0	1.2				ug/L	470592	Standard

Sample ID: L1211041121PS WG414570-01
Report Date/Time: Sunday, November 18, 2012 11:26:43
Page 1

Approved: November 19, 2012

⌈	**Na**	23	3.3	173.2	**0.2780**	0.473	170.1	mg/L	2	Standard
|	**Mg**	24	356864.7	1.9	**0.1528**	0.004	2.7	mg/L	5586	Standard
|	**K**	39	18.3	56.8	**0.1784**	0.119	66.8	mg/L	5	Standard
|	**Ca**	43	136.7	42.9	**2.9266**	2.164	73.9	mg/L	45	Standard
|	**Fe**	54	5179.3	6.8	**1.6150**	0.095	5.9	mg/L	350	Standard
|	**Fe**	57	1383.4	1.5	**1.8040**	0.047	2.6	mg/L	102	Standard
⌊>	**Sc-1**	45	59617.1	2.5				mg/L	53004	Standard
	Cl	35	1.3	86.6				ug/L	2	Standard
	Kr	83	151.1	3.2				ug/L	157	Standard
	Br	81	4.2	34.6				ug/L	3	Standard
	P	31	295312.8	5.2				ug/L	91588	Standard
	S	34	16065.2	5.1				ug/L	32556	Standard
	Sr	88	326.7	26.2				ug/L	62	Standard
	C	12	496.7	15.1				mg/L	133	Standard
	N	14	3.3	173.2				mg/L	0	Standard
	Hg	202	5.0	0.0				mg/L	7	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		105.191	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: L1211041121PS WG414570-01
Report Date/Time: Sunday, November 18, 2012 11:26:43
Page 2

Approved: November 19, 2012

⌈	Mo	98		
|	Ag	107		
|	Cd	111		
|	Cd	114		
|>	In	115		105.130
|	Sn	118		
|	Sb	123		
⌊	Ba	135		
⌈	Ce	140		
⌊>	Tb	159		
⌈	Ho	165		
|	Tl	203		
|	Tl	205		
|	Pb	206		
|	Pb	207		
|	Pb	208		
|	U	238		
⌊>	Bi	209		104.903
⌈	Na	23		
|	Mg	24		
|	K	39		
|	Ca	43		
|	Fe	54		
|	Fe	57		
⌊>	Sc-1	45		
	Cl	35		
	Kr	83		
	Br	81		
	P	31		
	S	34		
	Sr	88		
	C	12		
	N	14		
	Hg	202		

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: L1211041121PS WG414570-01
Report Date/Time: Sunday, November 18, 2012 11:26:43
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

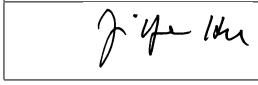
Sample ID: L1211041121SDL WG411570-02
Sample Date/Time: Sunday, November 18, 2012 11:27:23
Number of Replicates: 3
Autosampler Position: 213
Sample Description: 5
Method File: C:\NexION Data\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
⌈	**Li**	7	11050.7	1.8	**-1894.0750**	234.903	12.4	ug/L	8369	Standard
|	**Be**	9	41.7	30.2	**0.0119**	0.005	45.2	ug/L	18	Standard
|	**Al**	27	277248.7	3.2	**2.4230**	0.098	4.0	ug/L	215	Standard
⌊>	**Sc**	45	49373.8	5.2				ug/L	53004	Standard
⌈	**Ti**	47	6313.0	6.6	**12.5082**	0.644	5.1	ug/L	26	Standard
|	**V**	51	10394.6	2.8	**0.6300**	0.014	2.2	ug/L	3223	Standard
|	**Cr**	52	10901.9	1.5	**0.1007**	0.012	12.4	ug/L	10379	Standard
|	**Cr**	53	506.7	5.8	**0.2668**	0.015	5.7	ug/L	192	Standard
|	**Mn**	55	106615.0	6.1	**6.2027**	0.303	4.9	ug/L	1840	Standard
|	**Co**	59	2055.5	9.6	**0.1424**	0.016	11.4	ug/L	115	Standard
|	**Ni**	60	964.0	6.8	**0.3086**	0.023	7.3	ug/L	75	Standard
|	**Cu**	65	1247.7	4.8	**0.4038**	0.014	3.5	ug/L	155	Standard
|	**Zn**	66	4515.3	4.5	**3.1756**	0.116	3.7	ug/L	237	Standard
|>	**Ge**	72	403992.6	1.9				ug/L	413856	Standard
|	**As**	75	-153.8	26.7	**0.0317**	0.027	85.8	ug/L	-197	Standard
|	**Se**	82	2.0	319.8	**0.0215**	0.051	235.7	ug/L	-5	Standard
⌊	**Se-1**	77	96.3	5.3	**0.0278**	0.070	251.7	ug/L	105	Standard
⌈>	**Ga**	71	831.7	5.4				mg/L	225	Standard
⌊	**Rb**	85	2231.8	2.6				ug/L	28	Standard
⌈	**Y**	89	304438.9	6.1				ug/L	322845	Standard
⌊>	**Rh**	103	125.0	28.0				ug/L	92	Standard
⌈	**Mo**	98	72.1	24.1	**0.0072**	0.003	47.9	ug/L	18	Standard
|	**Ag**	107	87.7	11.3	**0.0032**	0.001	42.5	ug/L	63	Standard
|	**Cd**	111	31.6	26.3	**-0.0020**	0.002	122.1	mg/L	20	Standard
|	**Cd**	114	99.0	15.1	**0.0014**	0.002	136.7	ug/L	56	Standard
|>	**In**	115	658588.4	2.6				ug/L	657102	Standard
|	**Sn**	118	821.4	8.2	**0.0329**	0.005	14.8	ug/L	555	Standard
|	**Sb**	123	319.3	17.3	**0.0377**	0.007	17.9	ug/L	62	Standard
⌊	**Ba**	135	8642.8	4.6	**2.5127**	0.065	2.6	ug/L	19	Standard
⌈	**Ce**	140	21810.0	4.7				ug/L	24	Standard
⌊>	**Tb**	159	945069.2	1.9				ug/L	910514	Standard
⌈	**Ho**	165	274.0	10.1				ug/L	7	Standard
|	**Tl**	203	371.7	57.1	**0.0240**	0.016	64.8	ug/L	13	Standard
|	**Tl**	205	6.0	50.0	**0.0159**	0.007	44.1	ug/L	1	Standard
|	**Pb**	206	1521.4	11.5	**0.1091**	0.013	11.9	ug/L	342	Standard
|	**Pb**	207	1159.7	9.2	**0.0913**	0.009	10.3	ug/L	284	Standard
|	**Pb**	208	5406.7	9.7	**0.0935**	0.009	10.1	ug/L	1363	Standard
|	**U**	238	371.7	33.5	**0.0339**	0.011	33.3	ug/L	2	Standard
⌊>	**Bi**	209	490122.0	2.4				ug/L	470592	Standard

Sample ID: L1211041121SDL WG411570-02
Report Date/Time: Sunday, November 18, 2012 11:29:56
Page 1

Approved: November 19, 2012



⌈	**Na**	23	0.0		**0.0050**	0.000	0.0	mg/L	2	Standard
|	**Mg**	24	163159.7	4.0	**0.0831**	0.001	1.7	mg/L	5586	Standard
|	**K**	39	10.0	50.0	**0.1036**	0.068	65.4	mg/L	5	Standard
|	**Ca**	43	55.0	15.7	**0.2749**	0.279	101.4	mg/L	45	Standard
|	**Fe**	54	1195.3	15.4	**0.3395**	0.071	21.0	mg/L	350	Standard
|	**Fe**	57	313.3	15.3	**0.3992**	0.065	16.3	mg/L	102	Standard
⌊>	**Sc-1**	45	49373.8	5.2				mg/L	53004	Standard
	Cl	35	2.0	132.3				ug/L	2	Standard
	Kr	83	137.2	4.7				ug/L	157	Standard
	Br	81	4.2	34.6				ug/L	3	Standard
	P	31	128352.3	1.7				ug/L	91588	Standard
	S	34	16025.1	3.2				ug/L	32556	Standard
	Sr	88	86.7	8.8				ug/L	62	Standard
	C	12	206.7	24.8				mg/L	133	Standard
	N	14	5.0	0.0				mg/L	0	Standard
	Hg	202	3.3	86.6				mg/L	7	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		97.617	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: L1211041121SDL WG411570-02
Report Date/Time: Sunday, November 18, 2012 11:29:56
Page 2

Approved: November 19, 2012

⌈	Mo	98		
|	Ag	107		
|	Cd	111		
|	Cd	114		
| >	In	115		100.226
|	Sn	118		
|	Sb	123		
⌊	Ba	135		
⌈	Ce	140		
⌊ >	Tb	159		
⌈	Ho	165		
|	Tl	203		
|	Tl	205		
|	Pb	206		
|	Pb	207		
|	Pb	208		
|	U	238		
⌊ >	Bi	209		104.150
⌈	Na	23		
|	Mg	24		
|	K	39		
|	Ca	43		
|	Fe	54		
|	Fe	57		
⌊ >	Sc-1	45		
	Cl	35		
	Kr	83		
	Br	81		
	P	31		
	S	34		
	Sr	88		
	C	12		
	N	14		
	Hg	202		

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: L1211041121SDL WG411570-02
Report Date/Time: Sunday, November 18, 2012 11:29:56
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

Sample ID: QC Std 6
Sample Date/Time: Sunday, November 18, 2012 11:30:38
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	9094.4	4.6	**-879.4186**	230.991	26.3	ug/L	8369	Standard
|	**Be**	9	110502.7	6.8	**58.6206**	3.753	6.4	ug/L	18	Standard
|	**Al**	27	6623863.0	7.7	**59.5332**	4.646	7.8	ug/L	215	Standard
⌊>	**Sc**	45	48007.6	1.8				ug/L	53004	Standard
⌈	**Ti**	47	47035.4	6.5	**93.7615**	4.129	4.4	ug/L	26	Standard
|	**V**	51	555717.7	6.9	**47.7854**	2.160	4.5	ug/L	3223	Standard
|	**Cr**	52	530146.4	6.8	**48.5809**	2.441	5.0	ug/L	10379	Standard
|	**Cr**	53	64581.9	6.7	**47.9863**	2.243	4.7	ug/L	192	Standard
|	**Mn**	55	822425.1	7.6	**48.5179**	2.375	4.9	ug/L	1840	Standard
|	**Co**	59	643478.7	6.2	**49.4651**	2.129	4.3	ug/L	115	Standard
|	**Ni**	60	136178.2	6.9	**48.6539**	2.464	5.1	ug/L	75	Standard
|	**Cu**	65	135196.7	6.9	**50.0152**	2.364	4.7	ug/L	155	Standard
|	**Zn**	66	66055.3	5.6	**49.2598**	1.551	3.1	ug/L	237	Standard
|>	**Ge**	72	403211.0	3.3				ug/L	413856	Standard
|	**As**	75	69612.6	5.2	**49.3521**	1.710	3.5	ug/L	-197	Standard
|	**Se**	82	6106.0	5.3	**48.3464**	1.147	2.4	ug/L	-5	Standard
⌊	**Se-1**	77	4706.4	6.5	**48.2240**	1.880	3.9	ug/L	105	Standard
⌈>	**Ga**	71	231.7	20.1				mg/L	225	Standard
⌊	**Rb**	85	893.4	4.2				ug/L	28	Standard
⌈	**Y**	89	299722.9	1.9				ug/L	322845	Standard
⌊>	**Rh**	103	125.0	17.4				ug/L	92	Standard
⌈	**Mo**	98	415542.6	6.6	**92.0498**	5.602	6.1	ug/L	18	Standard
|	**Ag**	107	412325.5	6.0	**51.9122**	2.520	4.9	ug/L	63	Standard
|	**Cd**	111	172200.9	5.9	**50.0945**	2.771	5.5	mg/L	20	Standard
|	**Cd**	114	443717.5	5.9	**49.0438**	2.634	5.4	ug/L	56	Standard
|>	**In**	115	658559.0	1.5				ug/L	657102	Standard
|	**Sn**	118	496472.9	5.7	**49.7242**	2.607	5.2	ug/L	555	Standard
|	**Sb**	123	391174.7	5.5	**49.8356**	2.627	5.3	ug/L	62	Standard
⌊	**Ba**	135	168901.0	5.4	**49.4840**	2.472	5.0	ug/L	19	Standard
⌈	**Ce**	140	702.3	2.4				ug/L	24	Standard
⌊>	**Tb**	159	923732.3	2.1				ug/L	910514	Standard
⌈	**Ho**	165	421.3	13.2				ug/L	7	Standard
|	**Tl**	203	643945.9	4.1	**50.0650**	1.713	3.4	ug/L	13	Standard
|	**Tl**	205	21193.2	5.0	**54.0074**	2.338	4.3	ug/L	1	Standard
|	**Pb**	206	522178.8	6.3	**50.6390**	2.895	5.7	ug/L	342	Standard
|	**Pb**	207	443493.2	6.5	**50.5797**	2.816	5.6	ug/L	284	Standard
|	**Pb**	208	2041103.0	6.4	**50.1416**	2.772	5.5	ug/L	1363	Standard
|	**U**	238	524000.6	7.2	**52.0154**	3.317	6.4	ug/L	2	Standard
⌊>	**Bi**	209	472204.0	1.7				ug/L	470592	Standard

Sample ID: QC Std 6
Report Date/Time: Sunday, November 18, 2012 11:33:10
Page 1

Approved: November 19, 2012

⌈	**Na**	23	3.3	86.6	**0.3385**	0.289	85.4	mg/L	2	Standard
|	**Mg**	24	308810.0	2.7	**0.1644**	0.005	3.1	mg/L	5586	Standard
|	**K**	39	346.7	11.0	**5.1589**	0.505	9.8	mg/L	5	Standard
|	**Ca**	43	151.7	11.6	**4.9077**	0.953	19.4	mg/L	45	Standard
|	**Fe**	54	14198.2	4.7	**5.8705**	0.307	5.2	mg/L	350	Standard
|	**Fe**	57	3265.4	11.0	**5.5362**	0.650	11.7	mg/L	102	Standard
⌊>	**Sc-1**	45	48007.6	1.8				mg/L	53004	Standard
	Cl	35	2.7	78.1				ug/L	2	Standard
	Kr	83	143.2	1.1				ug/L	157	Standard
	Br	81	3.3	114.6				ug/L	3	Standard
	P	31	104515.1	0.7				ug/L	91588	Standard
	S	34	24332.3	14.9				ug/L	32556	Standard
	Sr	88	46.7	22.3				ug/L	62	Standard
	C	12	166.7	42.1				mg/L	133	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	5.0	0.0				mg/L	7	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈	Li	7			
|	Be	9	117.241		
|	Al	27	119.066		
⌊>	Sc	45			
⌈	Ti	47	93.762		
|	V	51	95.571		
|	Cr	52	97.162		
|	Cr	53			
|	Mn	55	97.036		
|	Co	59	98.930		
|	Ni	60	97.308		
|	Cu	65	100.030		
|	Zn	66	98.520		
|>	Ge	72		97.428	
|	As	75	98.704		
|	Se	82	96.693		
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: QC Std 6
Report Date/Time: Sunday, November 18, 2012 11:33:10
Page 2

Approved: November 19, 2012

	Mo	98	92.050	
	Ag	107	103.824	
	Cd	111	100.189	
	Cd	114		
>	In	115		100.222
	Sn	118	99.448	
	Sb	123	99.671	
	Ba	135	98.968	
	Ce	140		
>	Tb	159		
	Ho	165		
	Tl	203	100.130	
	Tl	205		
	Pb	206	101.278	
	Pb	207	101.159	
	Pb	208	100.283	
	U	238	104.031	
>	Bi	209		100.343
	Na	23		
	Mg	24		
	K	39		
	Ca	43		
	Fe	54		
	Fe	57		
>	Sc-1	45		
	Cl	35		
	Kr	83		
	Br	81		
	P	31		
	S	34		
	Sr	88		
	C	12		
	N	14		
	Hg	202		

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 6	Be	9	
QC Std 6	Al	27	

Sample ID: QC Std 6
Report Date/Time: Sunday, November 18, 2012 11:33:10
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

Sample ID: QC Std 7
Sample Date/Time: Sunday, November 18, 2012 11:33:50
Number of Replicates: 3
Autosampler Position: 102
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	8732.5	12.3	**-785.7816**	217.618	27.7	ug/L	8369	Standard
|	**Be**	9	16.7	45.8	**-0.0001**	0.005	3979.4	ug/L	18	Standard
|	**Al**	27	556.7	96.2	**0.0030**	0.005	166.5	ug/L	215	Standard
⌊>	**Sc**	45	46787.5	8.3				ug/L	53004	Standard
⌈	**Ti**	47	23.3	30.1	**-0.0113**	0.017	151.5	ug/L	26	Standard
|	**V**	51	2866.7	1.5	**-0.0139**	0.015	105.3	ug/L	3223	Standard
|	**Cr**	52	9186.1	3.3	**-0.0390**	0.035	88.5	ug/L	10379	Standard
|	**Cr**	53	216.7	2.7	**0.0553**	0.010	17.5	ug/L	192	Standard
|	**Mn**	55	1592.1	2.7	**0.0073**	0.005	61.5	ug/L	1840	Standard
|	**Co**	59	115.7	6.4	**-0.0064**	0.001	14.7	ug/L	115	Standard
|	**Ni**	60	68.0	10.6	**-0.0107**	0.002	16.1	ug/L	75	Standard
|	**Cu**	65	131.3	12.0	**-0.0079**	0.005	57.8	ug/L	155	Standard
|	**Zn**	66	220.0	7.1	**-0.0305**	0.022	70.8	ug/L	237	Standard
|>	**Ge**	72	395358.6	7.2				ug/L	413856	Standard
|	**As**	75	-186.2	22.8	**0.0039**	0.038	977.2	ug/L	-197	Standard
|	**Se**	82	-8.3	164.3	**-0.0671**	0.111	165.7	ug/L	-5	Standard
⌊	**Se-1**	77	93.3	4.5	**0.0184**	0.033	180.3	ug/L	105	Standard
⌈>	**Ga**	71	185.0	11.8				mg/L	225	Standard
⌊	**Rb**	85	25.0	40.0				ug/L	28	Standard
⌈	**Y**	89	299118.7	8.3				ug/L	322845	Standard
⌊>	**Rh**	103	111.7	18.6				ug/L	92	Standard
⌈	**Mo**	98	70.4	58.1	**0.0073**	0.009	129.4	ug/L	18	Standard
|	**Ag**	107	93.0	68.2	**0.0042**	0.008	200.2	ug/L	63	Standard
|	**Cd**	111	33.9	61.5	**-0.0010**	0.006	678.1	mg/L	20	Standard
|	**Cd**	114	106.5	56.1	**0.0026**	0.007	271.4	ug/L	56	Standard
|>	**In**	115	641316.6	5.2				ug/L	657102	Standard
|	**Sn**	118	427.0	10.3	**-0.0054**	0.005	90.4	ug/L	555	Standard
|	**Sb**	123	307.5	39.0	**0.0369**	0.014	37.3	ug/L	62	Standard
⌊	**Ba**	135	34.0	65.0	**-0.0097**	0.007	70.9	ug/L	19	Standard
⌈	**Ce**	140	32.3	18.9				ug/L	24	Standard
⌊>	**Tb**	159	912392.0	4.6				ug/L	910514	Standard
⌈	**Ho**	165	8.7	13.3				ug/L	7	Standard
|	**Tl**	203	72.3	103.8	**0.0020**	0.006	293.3	ug/L	13	Standard
|	**Tl**	205	3.3	124.9	**0.0098**	0.011	110.7	ug/L	1	Standard
|	**Pb**	206	375.7	15.3	**0.0035**	0.006	182.5	ug/L	342	Standard
|	**Pb**	207	306.3	15.1	**-0.0012**	0.006	490.8	ug/L	284	Standard
|	**Pb**	208	1452.4	14.6	**0.0012**	0.005	453.8	ug/L	1363	Standard
|	**U**	238	37.7	111.1	**0.0023**	0.004	188.4	ug/L	2	Standard
⌊>	**Bi**	209	473595.2	4.6				ug/L	470592	Standard

Sample ID: QC Std 7
Report Date/Time: Sunday, November 18, 2012 11:36:22
Page 1

Approved: November 19, 2012

⌈	**Na**	23	0.0		**0.0050**	0.000	0.0	mg/L	2	Standard
|	**Mg**	24	993.4	2.8	**-0.0024**	0.000	1.3	mg/L	5586	Standard
|	**K**	39	5.0	0.0	**0.0360**	0.006	17.6	mg/L	5	Standard
|	**Ca**	43	36.7	20.8	**-0.4606**	0.362	78.6	mg/L	45	Standard
|	**Fe**	54	362.3	20.0	**0.0032**	0.019	589.3	mg/L	350	Standard
|	**Fe**	57	81.7	33.7	**0.0153**	0.041	266.5	mg/L	102	Standard
⌊>	**Sc-1**	45	46787.5	8.3				mg/L	53004	Standard
	Cl	35	3.7	83.3				ug/L	2	Standard
	Kr	83	148.0	6.2				ug/L	157	Standard
	Br	81	3.3	86.6				ug/L	3	Standard
	P	31	107445.9	7.2				ug/L	91588	Standard
	S	34	25090.8	5.7				ug/L	32556	Standard
	Sr	88	66.7	30.3				ug/L	62	Standard
	C	12	178.3	23.3				mg/L	133	Standard
	N	14	1.7	173.2				mg/L	0	Standard
	Hg	202	1.7	173.2				mg/L	7	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		95.531	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: QC Std 7
Report Date/Time: Sunday, November 18, 2012 11:36:22
Page 2

Approved: November 19, 2012

	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	97.598
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	100.638
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: QC Std 7
Report Date/Time: Sunday, November 18, 2012 11:36:22
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

Sample ID: L1211039301
Sample Date/Time: Sunday, November 18, 2012 11:37:04
Number of Replicates: 3
Autosampler Position: 214
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	719367.2	5.4	**-425717.9389**	23634.461	5.6	ug/L	8369	Standard
|	**Be**	9	41.7	66.1	**0.0121**	0.014	116.4	ug/L	18	Standard
|	**Al**	27	63721888.1	7.2	**561.8142**	41.776	7.4	ug/L	215	Standard
⌊>	**Sc**	45	48940.6	1.0				ug/L	53004	Standard
⌈	**Ti**	47	1160.4	7.6	**2.3627**	0.150	6.4	ug/L	26	Standard
|	**V**	51	10573.4	26.5	**0.6877**	0.240	34.8	ug/L	3223	Standard
|	**Cr**	52	627836.6	6.5	**60.4388**	3.308	5.5	ug/L	10379	Standard
|	**Cr**	53	79616.6	5.9	**61.9510**	2.800	4.5	ug/L	192	Standard
|	**Mn**	55	359583.2	5.4	**22.1643**	0.900	4.1	ug/L	1840	Standard
|	**Co**	59	15160.9	4.6	**1.2048**	0.043	3.5	ug/L	115	Standard
|	**Ni**	60	117787.6	5.4	**44.0495**	1.910	4.3	ug/L	75	Standard
|	**Cu**	65	3409.1	6.8	**1.2642**	0.076	6.0	ug/L	155	Standard
|	**Zn**	66	27421.5	5.3	**21.2926**	0.908	4.3	ug/L	237	Standard
| >	**Ge**	72	385232.2	1.4				ug/L	413856	Standard
|	**As**	75	60596.3	4.7	**44.9753**	1.655	3.7	ug/L	-197	Standard
|	**Se**	82	192.1	4.2	**1.5982**	0.081	5.0	ug/L	-5	Standard
⌊	**Se-1**	77	596.3	1.3	**5.5507**	0.079	1.4	ug/L	105	Standard
⌈>	**Ga**	71	940.0	17.6				mg/L	225	Standard
⌊	**Rb**	85	640611.8	5.6				ug/L	28	Standard
⌈	**Y**	89	313621.3	1.4				ug/L	322845	Standard
⌊>	**Rh**	103	840.0	2.1				ug/L	92	Standard
⌈	**Mo**	98	17512.5	3.8	**4.1445**	0.148	3.6	ug/L	18	Standard
|	**Ag**	107	211.7	35.2	**0.0207**	0.010	49.1	ug/L	63	Standard
|	**Cd**	111	213.3	19.1	**0.0553**	0.013	23.5	mg/L	20	Standard
|	**Cd**	114	515.9	11.8	**0.0515**	0.007	13.9	ug/L	56	Standard
| >	**In**	115	615282.2	1.1				ug/L	657102	Standard
|	**Sn**	118	2080.1	2.3	**0.1739**	0.006	3.2	ug/L	555	Standard
|	**Sb**	123	7813.9	6.8	**1.0627**	0.072	6.8	ug/L	62	Standard
⌊	**Ba**	135	1077994.6	4.5	**338.1748**	14.737	4.4	ug/L	19	Standard
⌈	**Ce**	140	3491.4	6.6				ug/L	24	Standard
⌊>	**Tb**	159	857831.8	0.5				ug/L	910514	Standard
⌈	**Ho**	165	2994.6	2.9				ug/L	7	Standard
|	**Tl**	203	199.0	12.6	**0.0147**	0.002	15.2	ug/L	13	Standard
|	**Tl**	205	5.7	62.0	**0.0184**	0.011	58.0	ug/L	1	Standard
|	**Pb**	206	628.3	5.6	**0.0394**	0.003	8.6	ug/L	342	Standard
|	**Pb**	207	534.0	1.4	**0.0362**	0.000	0.8	ug/L	284	Standard
|	**Pb**	208	2481.4	3.8	**0.0379**	0.002	5.3	ug/L	1363	Standard
|	**U**	238	105.3	9.5	**0.0109**	0.001	9.9	ug/L	2	Standard
⌊>	**Bi**	209	397934.2	1.1				ug/L	470592	Standard

Sample ID: L1211039301
Report Date/Time: Sunday, November 18, 2012 11:39:36
Page 1

Approved: November 19, 2012

	Na	23	6.7	43.3	**0.6570**	0.281	42.7	mg/L	2	Standard
	Mg	24	20104948.5	2.2	**10.6821**	0.218	2.0	mg/L	5586	Standard
	K	39	1856.8	11.2	**27.2996**	2.963	10.9	mg/L	5	Standard
	Ca	43	1678.4	3.1	**75.1650**	3.189	4.2	mg/L	45	Standard
	Fe	54	386.1	19.0	**0.0073**	0.032	435.0	mg/L	350	Standard
	Fe	57	945.0	7.8	**1.4784**	0.110	7.4	mg/L	102	Standard
>	**Sc-1**	45	48940.6	1.0				mg/L	53004	Standard
	Cl	35	8.7	54.5				ug/L	2	Standard
	Kr	83	163.3	1.7				ug/L	157	Standard
	Br	81	6.7	57.3				ug/L	3	Standard
	P	31	165713.6	3.2				ug/L	91588	Standard
	S	34	28415.0	4.2				ug/L	32556	Standard
	Sr	88	7440.2	4.4				ug/L	62	Standard
	C	12	5957.8	8.5				mg/L	133	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	225.0	15.6				mg/L	7	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		93.084	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			
	Y	89			
>	Rh	103			

Sample ID: L1211039301
Report Date/Time: Sunday, November 18, 2012 11:39:36
Page 2

Approved: November 19, 2012

	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	93.636
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	84.560
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Ba 135 Upper, S, EEE	Ba	135	

Sample ID: L1211039301
Report Date/Time: Sunday, November 18, 2012 11:39:36
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

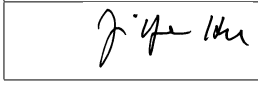
Sample ID: L1211039302
Sample Date/Time: Sunday, November 18, 2012 11:40:16
Number of Replicates: 3
Autosampler Position: 215
Sample Description: 1
Method File: C:\NexION Data\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
	Li	7	771369.9	4.1	**-466531.3393**	22451.593	4.8	ug/L	8369	Standard
	Be	9	30.0	76.4	**0.0064**	0.012	184.9	ug/L	18	Standard
	Al	27	66459973.8	3.4	**598.1633**	22.927	3.8	ug/L	215	Standard
>	Sc	45	47952.5	2.8				ug/L	53004	Standard
	Ti	47	1092.7	6.9	**2.1646**	0.192	8.9	ug/L	26	Standard
	V	51	8374.6	52.7	**0.4721**	0.386	81.9	ug/L	3223	Standard
	Cr	52	665657.0	3.3	**62.4771**	3.267	5.2	ug/L	10379	Standard
	Cr	53	84949.3	2.8	**64.3884**	1.859	2.9	ug/L	192	Standard
	Mn	55	379646.9	3.5	**22.7944**	0.805	3.5	ug/L	1840	Standard
	Co	59	15989.4	2.1	**1.2378**	0.021	1.7	ug/L	115	Standard
	Ni	60	114022.5	1.9	**41.5338**	1.245	3.0	ug/L	75	Standard
	Cu	65	4043.5	3.8	**1.4693**	0.054	3.7	ug/L	155	Standard
	Zn	66	18912.8	3.6	**14.2367**	0.518	3.6	ug/L	237	Standard
>	Ge	72	395785.4	2.9				ug/L	413856	Standard
	As	75	64944.8	3.2	**46.9559**	2.270	4.8	ug/L	-197	Standard
	Se	82	224.9	11.7	**1.8245**	0.259	14.2	ug/L	-5	Standard
	Se-1	77	593.0	5.4	**5.3387**	0.206	3.9	ug/L	105	Standard
>	Ga	71	980.0	7.7				mg/L	225	Standard
	Rb	85	672779.3	2.7				ug/L	28	Standard
	Y	89	316380.8	0.4				ug/L	322845	Standard
>	Rh	103	853.4	5.9				ug/L	92	Standard
	Mo	98	17864.1	4.4	**4.2579**	0.200	4.7	ug/L	18	Standard
	Ag	107	198.0	3.1	**0.0190**	0.001	5.0	ug/L	63	Standard
	Cd	111	42.9	4.6	**0.0023**	0.001	34.0	mg/L	20	Standard
	Cd	114	165.2	3.4	**0.0101**	0.001	5.7	ug/L	56	Standard
>	In	115	611042.3	1.1				ug/L	657102	Standard
	Sn	118	6180.3	1.9	**0.6185**	0.011	1.7	ug/L	555	Standard
	Sb	123	8331.3	3.0	**1.1413**	0.039	3.4	ug/L	62	Standard
	Ba	135	1103628.9	4.4	**348.6569**	15.925	4.6	ug/L	19	Standard
	Ce	140	1838.4	5.8				ug/L	24	Standard
>	Tb	159	856268.1	1.6				ug/L	910514	Standard
	Ho	165	3076.0	4.7				ug/L	7	Standard
	Tl	203	125.0	2.4	**0.0077**	0.000	2.3	ug/L	13	Standard
	Tl	205	5.3	10.8	**0.0172**	0.002	8.9	ug/L	1	Standard
	Pb	206	869.7	5.6	**0.0659**	0.007	10.8	ug/L	342	Standard
	Pb	207	738.0	4.9	**0.0625**	0.007	10.7	ug/L	284	Standard
	Pb	208	3374.8	2.2	**0.0627**	0.004	6.2	ug/L	1363	Standard
	U	238	94.3	4.4	**0.0094**	0.001	7.4	ug/L	2	Standard
>	Bi	209	403659.3	1.9				ug/L	470592	Standard

Sample ID: L1211039302
Report Date/Time: Sunday, November 18, 2012 11:42:49
Page 1

Approved: November 19, 2012



⌈	**Na**	23	5.0	100.0	**0.5042**	0.491	97.4	mg/L	2	Standard
|	**Mg**	24	20199543.3	2.1	**10.9554**	0.160	1.5	mg/L	5586	Standard
|	**K**	39	1628.4	8.3	**24.4284**	1.760	7.2	mg/L	5	Standard
|	**Ca**	43	1681.8	6.4	**76.9105**	4.882	6.3	mg/L	45	Standard
|	**Fe**	54	326.2	11.8	**-0.0146**	0.020	137.7	mg/L	350	Standard
|	**Fe**	57	945.0	6.0	**1.5138**	0.122	8.0	mg/L	102	Standard
⌊>	**Sc-1**	45	47952.5	2.8				mg/L	53004	Standard
	Cl	35	11.3	18.4				ug/L	2	Standard
	Kr	83	181.0	1.9				ug/L	157	Standard
	Br	81	5.8	49.5				ug/L	3	Standard
	P	31	168417.0	2.4				ug/L	91588	Standard
	S	34	29056.2	2.8				ug/L	32556	Standard
	Sr	88	7817.0	4.0				ug/L	62	Standard
	C	12	6001.2	9.4				mg/L	133	Standard
	N	14	3.3	173.2				mg/L	0	Standard
	Hg	202	195.0	13.3				mg/L	7	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		95.634	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: L1211039302
Report Date/Time: Sunday, November 18, 2012 11:42:49
Page 2

Approved: November 19, 2012

⌈	Mo	98		
|	Ag	107		
|	Cd	111		
|	Cd	114		
|>	In	115		92.991
|	Sn	118		
|	Sb	123		
⌊	Ba	135		
⌈	Ce	140		
⌊>	Tb	159		
⌈	Ho	165		
|	Tl	203		
|	Tl	205		
|	Pb	206		
|	Pb	207		
|	Pb	208		
|	U	238		
⌊>	Bi	209		85.777
⌈	Na	23		
|	Mg	24		
|	K	39		
|	Ca	43		
|	Fe	54		
|	Fe	57		
⌊>	Sc-1	45		
	Cl	35		
	Kr	83		
	Br	81		
	P	31		
	S	34		
	Sr	88		
	C	12		
	N	14		
	Hg	202		

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Ba 135 Upper, S, EEE	Ba	135	

Sample ID: L1211039302
Report Date/Time: Sunday, November 18, 2012 11:42:49
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

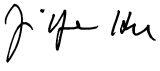
Sample ID: L1211039303
Sample Date/Time: Sunday, November 18, 2012 11:43:30
Number of Replicates: 3
Autosampler Position: 216
Sample Description: 1
Method File: C:\NexION Data\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
	Li	7	733516.4	7.6	**-446169.7514**	22640.424	5.1	ug/L	8369	Standard
	Be	9	23.3	24.7	**0.0031**	0.003	111.1	ug/L	18	Standard
	Al	27	64832720.2	3.1	**587.8492**	19.958	3.4	ug/L	215	Standard
>	Sc	45	47614.8	4.5				ug/L	53004	Standard
	Ti	47	1127.0	3.3	**2.2561**	0.038	1.7	ug/L	26	Standard
	V	51	14226.0	31.6	**0.9957**	0.377	37.8	ug/L	3223	Standard
	Cr	52	628269.3	7.0	**59.4823**	3.305	5.6	ug/L	10379	Standard
	Cr	53	79560.5	6.1	**60.9046**	2.733	4.5	ug/L	192	Standard
	Mn	55	362018.4	5.9	**21.9530**	0.964	4.4	ug/L	1840	Standard
	Co	59	15396.8	4.9	**1.2037**	0.040	3.3	ug/L	115	Standard
	Ni	60	120056.6	6.2	**44.1662**	1.967	4.5	ug/L	75	Standard
	Cu	65	3714.8	3.5	**1.3598**	0.026	1.9	ug/L	155	Standard
	Zn	66	29648.0	5.7	**22.6611**	0.974	4.3	ug/L	237	Standard
>	Ge	72	391536.3	1.7				ug/L	413856	Standard
	As	75	60422.4	4.9	**44.1206**	1.441	3.3	ug/L	-197	Standard
	Se	82	219.2	7.0	**1.7948**	0.154	8.6	ug/L	-5	Standard
	Se-1	77	597.0	4.3	**5.4517**	0.232	4.3	ug/L	105	Standard
>	Ga	71	946.7	5.0				mg/L	225	Standard
	Rb	85	659090.7	5.7				ug/L	28	Standard
	Y	89	324079.6	3.0				ug/L	322845	Standard
>	Rh	103	831.7	0.9				ug/L	92	Standard
	Mo	98	18242.5	4.0	**4.2726**	0.157	3.7	ug/L	18	Standard
	Ag	107	161.7	17.8	**0.0137**	0.004	26.2	ug/L	63	Standard
	Cd	111	52.1	10.4	**0.0049**	0.002	33.9	mg/L	20	Standard
	Cd	114	180.9	6.3	**0.0116**	0.001	9.8	ug/L	56	Standard
>	In	115	621724.2	1.1				ug/L	657102	Standard
	Sn	118	2416.2	4.9	**0.2072**	0.010	4.8	ug/L	555	Standard
	Sb	123	7667.3	4.2	**1.0318**	0.038	3.7	ug/L	62	Standard
	Ba	135	1080075.3	4.0	**335.2895**	11.434	3.4	ug/L	19	Standard
	Ce	140	1474.1	3.2				ug/L	24	Standard
>	Tb	159	867654.8	1.2				ug/L	910514	Standard
	Ho	165	3049.0	5.3				ug/L	7	Standard
	Tl	203	94.3	5.8	**0.0049**	0.000	9.4	ug/L	13	Standard
	Tl	205	3.0	33.3	**0.0102**	0.003	28.9	ug/L	1	Standard
	Pb	206	704.0	3.4	**0.0469**	0.003	5.4	ug/L	342	Standard
	Pb	207	564.0	6.7	**0.0391**	0.005	12.0	ug/L	284	Standard
	Pb	208	2658.8	5.5	**0.0419**	0.004	9.3	ug/L	1363	Standard
	U	238	94.3	7.4	**0.0094**	0.001	8.2	ug/L	2	Standard
>	Bi	209	404083.5	0.5				ug/L	470592	Standard

Sample ID: L1211039303
Report Date/Time: Sunday, November 18, 2012 11:46:01
Page 1

Approved: November 19, 2012



	Na	23	5.0	100.0	**0.5213**	0.516	99.0	mg/L	2	Standard
	Mg	24	20122605.3	2.1	**11.0103**	0.706	6.4	mg/L	5586	Standard
	K	39	1673.4	7.7	**25.2708**	0.996	3.9	mg/L	5	Standard
	Ca	43	1478.4	6.9	**67.9383**	6.276	9.2	mg/L	45	Standard
	Fe	54	363.3	10.0	**0.0021**	0.017	831.7	mg/L	350	Standard
	Fe	57	923.4	6.2	**1.4860**	0.071	4.8	mg/L	102	Standard
>	**Sc-1**	45	47614.8	4.5				mg/L	53004	Standard
	Cl	35	11.0	24.1				ug/L	2	Standard
	Kr	83	176.6	7.2				ug/L	157	Standard
	Br	81	7.5	0.0				ug/L	3	Standard
	P	31	169005.8	1.3				ug/L	91588	Standard
	S	34	28518.5	1.3				ug/L	32556	Standard
	Sr	88	7540.2	5.4				ug/L	62	Standard
	C	12	6246.3	3.2				mg/L	133	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	178.3	21.4				mg/L	7	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		94.607	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			
	Y	89			
>	Rh	103			

Sample ID: L1211039303
Report Date/Time: Sunday, November 18, 2012 11:46:01
Page 2

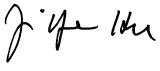
Approved: November 19, 2012

	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	94.616
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	85.867
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Ba 135 Upper, S, EEE	Ba	135	

Approved: November 19, 2012



Method 6020 - Summary Report

Sample ID: L1211039304
Sample Date/Time: Sunday, November 18, 2012 11:46:42
Number of Replicates: 3
Autosampler Position: 217
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	771355.2	10.1	**-478991.7645**	28324.012	5.9	ug/L	8369	Standard
|	**Be**	9	23.3	24.7	**0.0032**	0.003	79.5	ug/L	18	Standard
|	**Al**	27	66713220.6	5.9	**617.4442**	28.548	4.6	ug/L	215	Standard
⌊>	**Sc**	45	46620.0	4.3				ug/L	53004	Standard
⌈	**Ti**	47	1173.7	6.1	**2.3783**	0.113	4.8	ug/L	26	Standard
|	**V**	51	6745.8	20.4	**0.3395**	0.117	34.4	ug/L	3223	Standard
|	**Cr**	52	673627.1	6.4	**64.5707**	3.289	5.1	ug/L	10379	Standard
|	**Cr**	53	86836.1	5.5	**67.2339**	2.710	4.0	ug/L	192	Standard
|	**Mn**	55	387138.3	6.1	**23.7448**	1.110	4.7	ug/L	1840	Standard
|	**Co**	59	14938.7	4.4	**1.1807**	0.035	3.0	ug/L	115	Standard
|	**Ni**	60	121609.7	5.4	**45.2432**	1.783	3.9	ug/L	75	Standard
|	**Cu**	65	3813.1	7.6	**1.4130**	0.091	6.5	ug/L	155	Standard
|	**Zn**	66	17274.5	6.0	**13.2685**	0.620	4.7	ug/L	237	Standard
|>	**Ge**	72	387213.1	1.5				ug/L	413856	Standard
|	**As**	75	63185.7	5.0	**46.6460**	1.667	3.6	ug/L	-197	Standard
|	**Se**	82	244.3	5.3	**2.0215**	0.137	6.8	ug/L	-5	Standard
⌊	**Se-1**	77	609.3	8.1	**5.6551**	0.459	8.1	ug/L	105	Standard
⌈>	**Ga**	71	1025.0	6.4				mg/L	225	Standard
⌊	**Rb**	85	675677.2	4.8				ug/L	28	Standard
⌈	**Y**	89	312471.4	1.6				ug/L	322845	Standard
⌊>	**Rh**	103	863.4	9.6				ug/L	92	Standard
⌈	**Mo**	98	15602.3	5.9	**3.7183**	0.185	5.0	ug/L	18	Standard
|	**Ag**	107	206.3	42.0	**0.0202**	0.012	59.4	ug/L	63	Standard
|	**Cd**	111	60.6	40.8	**0.0079**	0.008	100.7	mg/L	20	Standard
|	**Cd**	114	215.9	34.4	**0.0162**	0.009	56.2	ug/L	56	Standard
|>	**In**	115	610681.2	1.3				ug/L	657102	Standard
|	**Sn**	118	2053.8	5.1	**0.1727**	0.012	6.9	ug/L	555	Standard
|	**Sb**	123	7866.7	4.1	**1.0779**	0.040	3.7	ug/L	62	Standard
⌊	**Ba**	135	1120690.3	4.4	**354.1675**	12.953	3.7	ug/L	19	Standard
⌈	**Ce**	140	1845.1	1.5				ug/L	24	Standard
⌊>	**Tb**	159	855287.9	0.7				ug/L	910514	Standard
⌈	**Ho**	165	3181.3	4.9				ug/L	7	Standard
|	**Tl**	203	145.7	38.8	**0.0099**	0.005	53.7	ug/L	13	Standard
|	**Tl**	205	3.0	33.3	**0.0104**	0.003	30.2	ug/L	1	Standard
|	**Pb**	206	657.7	4.9	**0.0433**	0.004	9.2	ug/L	342	Standard
|	**Pb**	207	532.3	5.3	**0.0364**	0.003	7.9	ug/L	284	Standard
|	**Pb**	208	2472.4	3.2	**0.0382**	0.002	6.1	ug/L	1363	Standard
|	**U**	238	132.0	21.4	**0.0141**	0.003	24.5	ug/L	2	Standard
⌊>	**Bi**	209	395452.7	1.3				ug/L	470592	Standard

Sample ID: L1211039304
Report Date/Time: Sunday, November 18, 2012 11:49:14
Page 1

Approved: November 19, 2012

⌈	**Na**	23	10.0		**1.0336**	0.043	4.2	mg/L	2	Standard
|	**Mg**	24	19379487.3	0.9	**10.8237**	0.518	4.8	mg/L	5586	Standard
|	**K**	39	1771.8	2.0	**27.3963**	1.611	5.9	mg/L	5	Standard
|	**Ca**	43	1800.1	4.4	**84.9182**	3.205	3.8	mg/L	45	Standard
|	**Fe**	54	349.2	6.3	**-0.0007**	0.013	1933.7	mg/L	350	Standard
|	**Fe**	57	958.4	9.5	**1.5827**	0.144	9.1	mg/L	102	Standard
⌊>	**Sc-1**	45	46620.0	4.3				mg/L	53004	Standard
	Cl	35	9.7	15.8				ug/L	2	Standard
	Kr	83	164.1	6.1				ug/L	157	Standard
	Br	81	5.0	86.6				ug/L	3	Standard
	P	31	170530.3	1.5				ug/L	91588	Standard
	S	34	30132.4	1.7				ug/L	32556	Standard
	Sr	88	7443.5	8.0				ug/L	62	Standard
	C	12	5661.1	9.6				mg/L	133	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	170.0	15.6				mg/L	7	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		93.562	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: L1211039304
Report Date/Time: Sunday, November 18, 2012 11:49:14
Page 2

Approved: November 19, 2012

	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	92.936
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	84.033
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Ba 135 Upper, S, EEE	Ba	135	

Approved: November 19, 2012

Method 6020 - Summary Report

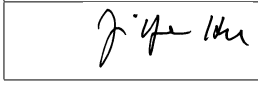
Sample ID: L1211041123
Sample Date/Time: Sunday, November 18, 2012 11:49:54
Number of Replicates: 3
Autosampler Position: 218
Sample Description: 1
Method File: C:\NexION Data\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
⌈	**Li**	7	19325.7	3.0	**-6472.4379**	263.514	4.1	ug/L	8369	Standard
|	**Be**	9	131.7	15.8	**0.0564**	0.009	15.6	ug/L	18	Standard
|	**Al**	27	1173349.0	8.9	**9.9488**	0.567	5.7	ug/L	215	Standard
⌊>	**Sc**	45	50810.1	3.5				ug/L	53004	Standard
⌈	**Ti**	47	22202.0	7.2	**44.8481**	2.598	5.8	ug/L	26	Standard
|	**V**	51	38875.6	5.8	**3.1421**	0.148	4.7	ug/L	3223	Standard
|	**Cr**	52	28955.4	5.4	**1.8258**	0.101	5.5	ug/L	10379	Standard
|	**Cr**	53	3232.8	9.9	**2.3310**	0.207	8.9	ug/L	192	Standard
|	**Mn**	55	724075.8	5.4	**43.3240**	1.517	3.5	ug/L	1840	Standard
|	**Co**	59	5849.8	3.9	**0.4408**	0.015	3.3	ug/L	115	Standard
|	**Ni**	60	2650.6	4.8	**0.9260**	0.045	4.8	ug/L	75	Standard
|	**Cu**	65	4129.2	4.3	**1.4937**	0.034	2.3	ug/L	155	Standard
|	**Zn**	66	7375.1	6.0	**5.3999**	0.229	4.2	ug/L	237	Standard
|>	**Ge**	72	397610.0	2.1				ug/L	413856	Standard
|	**As**	75	91.4	84.8	**0.2051**	0.055	26.9	ug/L	-197	Standard
|	**Se**	82	73.8	24.8	**0.5970**	0.139	23.2	ug/L	-5	Standard
⌊	**Se-1**	77	148.7	16.6	**0.5953**	0.230	38.6	ug/L	105	Standard
⌈>	**Ga**	71	4682.4	5.4				mg/L	225	Standard
⌊	**Rb**	85	13531.1	7.8				ug/L	28	Standard
⌈	**Y**	89	314418.8	2.8				ug/L	322845	Standard
⌊>	**Rh**	103	135.0	9.8				ug/L	92	Standard
⌈	**Mo**	98	470.6	5.9	**0.0961**	0.007	7.1	ug/L	18	Standard
|	**Ag**	107	81.7	5.8	**0.0024**	0.001	20.9	ug/L	63	Standard
|	**Cd**	111	38.1	14.4	**-0.0000**	0.002	6488.1	mg/L	20	Standard
|	**Cd**	114	110.0	11.3	**0.0026**	0.001	53.9	ug/L	56	Standard
|>	**In**	115	655629.0	1.8				ug/L	657102	Standard
|	**Sn**	118	1204.7	2.9	**0.0720**	0.004	6.0	ug/L	555	Standard
|	**Sb**	123	328.7	8.7	**0.0391**	0.004	9.1	ug/L	62	Standard
⌊	**Ba**	135	100882.8	5.6	**29.6871**	1.686	5.7	ug/L	19	Standard
⌈	**Ce**	140	145961.5	5.6				ug/L	24	Standard
⌊>	**Tb**	159	951014.0	2.0				ug/L	910514	Standard
⌈	**Ho**	165	1461.1	7.8				ug/L	7	Standard
|	**Tl**	203	159.3	7.0	**0.0083**	0.001	12.4	ug/L	13	Standard
|	**Tl**	205	3.3	45.8	**0.0095**	0.004	39.6	ug/L	1	Standard
|	**Pb**	206	5686.4	5.1	**0.4990**	0.018	3.6	ug/L	342	Standard
|	**Pb**	207	4696.4	5.4	**0.4806**	0.020	4.1	ug/L	284	Standard
|	**Pb**	208	21851.1	5.5	**0.4834**	0.020	4.0	ug/L	1363	Standard
|	**U**	238	2830.9	6.2	**0.2694**	0.013	4.9	ug/L	2	Standard
⌊>	**Bi**	209	489730.5	1.7				ug/L	470592	Standard

Sample ID: L1211041123
Report Date/Time: Sunday, November 18, 2012 11:52:26
Page 1

Approved: November 19, 2012



⌈	**Na**	23	1.7	173.2	**0.1594**	0.267	167.8	mg/L	2	Standard
|	**Mg**	24	441507.1	2.1	**0.2232**	0.003	1.4	mg/L	5586	Standard
|	**K**	39	36.7	20.8	**0.4774**	0.097	20.2	mg/L	5	Standard
|	**Ca**	43	105.0	28.6	**2.4070**	1.198	49.8	mg/L	45	Standard
|	**Fe**	54	3299.8	8.5	**1.1675**	0.069	5.9	mg/L	350	Standard
|	**Fe**	57	786.7	3.7	**1.1610**	0.042	3.6	mg/L	102	Standard
⌊>	**Sc-1**	45	50810.1	3.5				mg/L	53004	Standard
	Cl	35	1.7	124.9				ug/L	2	Standard
	Kr	83	154.2	6.0				ug/L	157	Standard
	Br	81	9.2	31.5				ug/L	3	Standard
	P	31	232497.8	3.8				ug/L	91588	Standard
	S	34	20285.3	4.7				ug/L	32556	Standard
	Sr	88	285.0	9.3				ug/L	62	Standard
	C	12	1033.4	19.8				mg/L	133	Standard
	N	14	3.3	86.6				mg/L	0	Standard
	Hg	202	6.7	86.6				mg/L	7	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		96.075	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: L1211041123
Report Date/Time: Sunday, November 18, 2012 11:52:26
Page 2

Approved: November 19, 2012

	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	99.776
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	104.067
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: L1211041123
Report Date/Time: Sunday, November 18, 2012 11:52:26
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

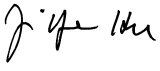
Sample ID: L1211041124
Sample Date/Time: Sunday, November 18, 2012 11:53:06
Number of Replicates: 3
Autosampler Position: 219
Sample Description: 1
Method File: C:\NexION Data\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
⌈	**Li**	7	29624.0	7.0	**-12963.6361**	859.716	6.6	ug/L	8369	Standard
|	**Be**	9	25.0	34.6	**0.0036**	0.005	133.1	ug/L	18	Standard
|	**Al**	27	1392422.5	9.1	**12.2034**	0.800	6.6	ug/L	215	Standard
⌊>	**Sc**	45	49164.7	2.9				ug/L	53004	Standard
⌈	**Ti**	47	2063.8	6.6	**4.1141**	0.167	4.1	ug/L	26	Standard
|	**V**	51	7831.7	4.4	**0.4195**	0.020	4.7	ug/L	3223	Standard
|	**Cr**	52	13624.8	2.9	**0.3748**	0.011	2.8	ug/L	10379	Standard
|	**Cr**	53	1239.2	9.6	**0.8256**	0.071	8.6	ug/L	192	Standard
|	**Mn**	55	66960.8	4.0	**3.9264**	0.053	1.4	ug/L	1840	Standard
|	**Co**	59	851.0	2.9	**0.0509**	0.000	0.7	ug/L	115	Standard
|	**Ni**	60	1335.7	7.8	**0.4486**	0.025	5.7	ug/L	75	Standard
|	**Cu**	65	2341.2	7.2	**0.8215**	0.038	4.7	ug/L	155	Standard
|	**Zn**	66	5008.8	14.9	**3.5964**	0.456	12.7	ug/L	237	Standard
|>	**Ge**	72	397624.6	2.9				ug/L	413856	Standard
|	**As**	75	-94.8	29.0	**0.0722**	0.019	26.3	ug/L	-197	Standard
|	**Se**	82	36.7	17.3	**0.2992**	0.045	15.0	ug/L	-5	Standard
⌊	**Se-1**	77	133.7	1.9	**0.4402**	0.062	14.0	ug/L	105	Standard
⌈>	**Ga**	71	441.7	19.1				mg/L	225	Standard
⌊	**Rb**	85	1320.1	5.0				ug/L	28	Standard
⌈	**Y**	89	304361.5	2.8				ug/L	322845	Standard
⌊>	**Rh**	103	106.7	25.8				ug/L	92	Standard
⌈	**Mo**	98	196.8	4.2	**0.0352**	0.001	3.5	ug/L	18	Standard
|	**Ag**	107	197.0	3.5	**0.0171**	0.001	4.4	ug/L	63	Standard
|	**Cd**	111	30.4	15.5	**-0.0023**	0.002	68.8	mg/L	20	Standard
|	**Cd**	114	88.4	9.4	**0.0003**	0.001	413.2	ug/L	56	Standard
|>	**In**	115	654190.0	2.4				ug/L	657102	Standard
|	**Sn**	118	1067.7	1.1	**0.0584**	0.004	6.5	ug/L	555	Standard
|	**Sb**	123	64.4	8.9	**0.0053**	0.001	9.9	ug/L	62	Standard
⌊	**Ba**	135	51277.1	5.0	**15.1050**	0.435	2.9	ug/L	19	Standard
⌈	**Ce**	140	23043.2	4.8				ug/L	24	Standard
⌊>	**Tb**	159	950020.8	2.1				ug/L	910514	Standard
⌈	**Ho**	165	144.7	7.0				ug/L	7	Standard
|	**Tl**	203	139.3	15.6	**0.0069**	0.002	26.8	ug/L	13	Standard
|	**Tl**	205	5.0	40.0	**0.0136**	0.005	34.4	ug/L	1	Standard
|	**Pb**	206	845.7	1.7	**0.0467**	0.001	2.9	ug/L	342	Standard
|	**Pb**	207	652.3	7.5	**0.0361**	0.004	10.3	ug/L	284	Standard
|	**Pb**	208	3232.1	3.6	**0.0427**	0.001	3.1	ug/L	1363	Standard
|	**U**	238	69.3	7.9	**0.0052**	0.001	12.6	ug/L	2	Standard
⌊>	**Bi**	209	486541.7	2.3				ug/L	470592	Standard

Sample ID: L1211041124
Report Date/Time: Sunday, November 18, 2012 11:55:38
Page 1

Approved: November 19, 2012



⌈	**Na**	23	0.0		**0.0050**	0.000	0.0	mg/L	2	Standard
|	**Mg**	24	397417.2	2.8	**0.2073**	0.001	0.6	mg/L	5586	Standard
|	**K**	39	46.7	16.4	**0.6452**	0.131	20.3	mg/L	5	Standard
|	**Ca**	43	93.3	18.8	**2.0465**	0.743	36.3	mg/L	45	Standard
|	**Fe**	54	654.8	11.6	**0.1179**	0.033	28.0	mg/L	350	Standard
|	**Fe**	57	195.0	11.8	**0.2019**	0.038	18.9	mg/L	102	Standard
⌊>	**Sc-1**	45	49164.7	2.9				mg/L	53004	Standard
	Cl	35	1.3	114.6				ug/L	2	Standard
	Kr	83	148.9	2.1				ug/L	157	Standard
	Br	81	5.8	49.5				ug/L	3	Standard
	P	31	202894.4	5.2				ug/L	91588	Standard
	S	34	19587.7	3.2				ug/L	32556	Standard
	Sr	88	211.7	17.7				ug/L	62	Standard
	C	12	690.0	18.6				mg/L	133	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	80.0	10.8				mg/L	7	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		96.078	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: L1211041124
Report Date/Time: Sunday, November 18, 2012 11:55:38
Page 2

Approved: November 19, 2012

	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	99.557
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	103.389
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: L1211041124
Report Date/Time: Sunday, November 18, 2012 11:55:38
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

Sample ID: L1211041125
Sample Date/Time: Sunday, November 18, 2012 11:56:18
Number of Replicates: 3
Autosampler Position: 220
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	9965.0	7.4	**-1620.8254**	256.483	15.8	ug/L	8369	Standard
	Be	9	28.3	56.7	**0.0063**	0.009	146.1	ug/L	18	Standard
	Al	27	3133346.5	5.4	**29.1650**	1.521	5.2	ug/L	215	Standard
>	Sc	45	46360.9	3.4				ug/L	53004	Standard
	Ti	47	345.0	20.2	**0.6422**	0.143	22.3	ug/L	26	Standard
	V	51	4201.0	3.0	**0.1034**	0.024	23.2	ug/L	3223	Standard
	Cr	52	11411.6	0.7	**0.1710**	0.033	19.0	ug/L	10379	Standard
	Cr	53	955.0	3.0	**0.6153**	0.004	0.7	ug/L	192	Standard
	Mn	55	2893189.4	8.0	**174.1152**	9.206	5.3	ug/L	1840	Standard
	Co	59	5742.1	7.0	**0.4342**	0.020	4.7	ug/L	115	Standard
	Ni	60	2393.5	3.7	**0.8368**	0.008	1.0	ug/L	75	Standard
	Cu	65	1482.1	5.1	**0.5018**	0.012	2.5	ug/L	155	Standard
	Zn	66	4721.1	6.6	**3.4016**	0.147	4.3	ug/L	237	Standard
>	Ge	72	395758.3	3.6				ug/L	413856	Standard
	As	75	62.3	60.3	**0.1842**	0.025	13.8	ug/L	-197	Standard
	Se	82	45.4	32.6	**0.3690**	0.105	28.6	ug/L	-5	Standard
	Se-1	77	120.0	11.3	**0.3035**	0.174	57.5	ug/L	105	Standard
>	Ga	71	256.7	10.7				mg/L	225	Standard
	Rb	85	16512.4	7.5				ug/L	28	Standard
	Y	89	299885.8	4.4				ug/L	322845	Standard
>	Rh	103	128.3	4.5				ug/L	92	Standard
	Mo	98	307.5	8.1	**0.0603**	0.005	8.8	ug/L	18	Standard
	Ag	107	56.3	6.7	**-0.0007**	0.000	51.3	ug/L	63	Standard
	Cd	111	43.0	17.2	**0.0015**	0.002	141.4	mg/L	20	Standard
	Cd	114	99.1	7.1	**0.0015**	0.000	26.9	ug/L	56	Standard
>	In	115	650770.4	3.8				ug/L	657102	Standard
	Sn	118	2393.9	7.4	**0.1933**	0.009	4.9	ug/L	555	Standard
	Sb	123	236.2	4.3	**0.0275**	0.000	1.2	ug/L	62	Standard
	Ba	135	80924.2	5.1	**23.9818**	0.723	3.0	ug/L	19	Standard
	Ce	140	20312.0	5.6				ug/L	24	Standard
>	Tb	159	934930.0	2.6				ug/L	910514	Standard
	Ho	165	267.0	4.3				ug/L	7	Standard
	Tl	203	208.3	2.5	**0.0122**	0.001	4.4	ug/L	13	Standard
	Tl	205	10.3	11.2	**0.0271**	0.003	11.9	ug/L	1	Standard
	Pb	206	958.4	6.9	**0.0582**	0.005	8.6	ug/L	342	Standard
	Pb	207	793.7	1.3	**0.0527**	0.002	4.7	ug/L	284	Standard
	Pb	208	3728.2	3.2	**0.0554**	0.001	2.5	ug/L	1363	Standard
	U	238	46.3	23.3	**0.0030**	0.001	35.5	ug/L	2	Standard
>	Bi	209	481814.1	1.6				ug/L	470592	Standard

Sample ID: L1211041125
Report Date/Time: Sunday, November 18, 2012 11:58:50
Page 1

Approved: November 19, 2012

⌈	**Na**	23	1.7	173.2	**0.1712**	0.288	168.1	mg/L	2	Standard
|	**Mg**	24	370984.5	1.9	**0.2053**	0.005	2.4	mg/L	5586	Standard
|	**K**	39	96.7	28.5	**1.4626**	0.434	29.7	mg/L	5	Standard
|	**Ca**	43	278.3	3.7	**11.3228**	0.631	5.6	mg/L	45	Standard
|	**Fe**	54	737.2	6.9	**0.1706**	0.026	15.0	mg/L	350	Standard
|	**Fe**	57	300.0	7.6	**0.4118**	0.059	14.3	mg/L	102	Standard
⌊>	**Sc-1**	45	46360.9	3.4				mg/L	53004	Standard
	Cl	35	2.7	57.3				ug/L	2	Standard
	Kr	83	154.4	7.5				ug/L	157	Standard
	Br	81	7.5	120.2				ug/L	3	Standard
	P	31	141699.6	1.6				ug/L	91588	Standard
	S	34	23266.2	2.0				ug/L	32556	Standard
	Sr	88	308.3	12.0				ug/L	62	Standard
	C	12	740.0	11.7				mg/L	133	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	3.3	86.6				mg/L	7	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		95.627	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: L1211041125
Report Date/Time: Sunday, November 18, 2012 11:58:50
Page 2

Approved: November 19, 2012

⌈	Mo	98		
|	Ag	107		
|	Cd	111		
|	Cd	114		
|>	In	115		99.036
|	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		102.385
⌈	Na	23		
|	Mg	24		
|	K	39		
|	Ca	43		
|	Fe	54		
|	Fe	57		
⌊>	Sc-1	45		
	Cl	35		
	Kr	83		
	Br	81		
	P	31		
	S	34		
	Sr	88		
	C	12		
	N	14		
	Hg	202		

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Mn 55 Upper, S, EEE	Mn	55	

Approved: November 19, 2012

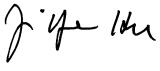
Method 6020 - Summary Report

Sample ID: L1211041126
Sample Date/Time: Sunday, November 18, 2012 11:59:30
Number of Replicates: 3
Autosampler Position: 221
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	13549.4	9.7	**-3629.9104**	633.669	17.5	ug/L	8369	Standard
	Be	9	18.3	41.7	**0.0004**	0.004	1127.0	ug/L	18	Standard
	Al	27	6242317.4	7.2	**56.4072**	4.402	7.8	ug/L	215	Standard
>	Sc	45	47770.2	2.7				ug/L	53004	Standard
	Ti	47	856.0	36.6	**1.6991**	0.669	39.4	ug/L	26	Standard
	V	51	6392.8	5.9	**0.3003**	0.020	6.5	ug/L	3223	Standard
	Cr	52	12950.2	3.8	**0.3266**	0.030	9.3	ug/L	10379	Standard
	Cr	53	1329.2	7.4	**0.9077**	0.078	8.6	ug/L	192	Standard
	Mn	55	210520.2	6.8	**12.6918**	0.554	4.4	ug/L	1840	Standard
	Co	59	1185.0	7.7	**0.0780**	0.004	5.6	ug/L	115	Standard
	Ni	60	1993.8	6.0	**0.6965**	0.023	3.3	ug/L	75	Standard
	Cu	65	1865.1	8.0	**0.6517**	0.039	6.0	ug/L	155	Standard
	Zn	66	2939.6	5.5	**2.0616**	0.092	4.5	ug/L	237	Standard
>	Ge	72	392616.4	3.3				ug/L	413856	Standard
	As	75	54.8	38.5	**0.1794**	0.014	7.7	ug/L	-197	Standard
	Se	82	56.8	23.1	**0.4657**	0.093	19.9	ug/L	-5	Standard
	Se-1	77	161.3	6.5	**0.7560**	0.133	17.6	ug/L	105	Standard
>	Ga	71	250.0	15.1				mg/L	225	Standard
	Rb	85	9086.1	2.6				ug/L	28	Standard
	Y	89	304434.8	4.2				ug/L	322845	Standard
>	Rh	103	118.3	9.8				ug/L	92	Standard
	Mo	98	396.3	10.6	**0.0798**	0.009	11.0	ug/L	18	Standard
	Ag	107	69.7	4.4	**0.0010**	0.000	43.2	ug/L	63	Standard
	Cd	111	22.5	11.9	**-0.0046**	0.001	20.1	mg/L	20	Standard
	Cd	114	69.1	6.0	**-0.0019**	0.000	17.0	ug/L	56	Standard
>	In	115	653027.7	2.2				ug/L	657102	Standard
	Sn	118	1028.4	13.1	**0.0547**	0.015	27.7	ug/L	555	Standard
	Sb	123	260.7	3.7	**0.0306**	0.002	6.3	ug/L	62	Standard
	Ba	135	87496.9	6.2	**25.8398**	1.398	5.4	ug/L	19	Standard
	Ce	140	2705.6	6.1				ug/L	24	Standard
>	Tb	159	938223.8	2.4				ug/L	910514	Standard
	Ho	165	78.0	9.0				ug/L	7	Standard
	Tl	203	280.0	5.7	**0.0179**	0.001	7.6	ug/L	13	Standard
	Tl	205	10.0	20.0	**0.0264**	0.005	19.1	ug/L	1	Standard
	Pb	206	682.0	5.5	**0.0324**	0.003	10.0	ug/L	342	Standard
	Pb	207	558.0	6.4	**0.0268**	0.004	14.3	ug/L	284	Standard
	Pb	208	2667.1	4.3	**0.0303**	0.003	8.3	ug/L	1363	Standard
	U	238	1705.4	6.5	**0.1656**	0.010	6.1	ug/L	2	Standard
>	Bi	209	478379.8	0.6				ug/L	470592	Standard

Approved: November 19, 2012



⌈	**Na**	23	1.7	173.2	**0.1689**	0.284	168.1	mg/L	2	Standard
|	**Mg**	24	358071.7	2.5	**0.1921**	0.007	3.6	mg/L	5586	Standard
|	**K**	39	103.3	14.0	**1.5225**	0.264	17.3	mg/L	5	Standard
|	**Ca**	43	323.3	19.6	**13.0489**	2.993	22.9	mg/L	45	Standard
|	**Fe**	54	589.8	10.6	**0.0985**	0.033	33.8	mg/L	350	Standard
|	**Fe**	57	263.3	19.5	**0.3324**	0.102	30.8	mg/L	102	Standard
⌊>	**Sc-1**	45	47770.2	2.7				mg/L	53004	Standard
	Cl	35	2.3	49.5				ug/L	2	Standard
	Kr	83	157.3	1.9				ug/L	157	Standard
	Br	81	6.7	43.3				ug/L	3	Standard
	P	31	174433.4	1.2				ug/L	91588	Standard
	S	34	26086.6	1.7				ug/L	32556	Standard
	Sr	88	458.3	14.1				ug/L	62	Standard
	C	12	1093.4	4.6				mg/L	133	Standard
	N	14	1.7	173.2				mg/L	0	Standard
	Hg	202	3.3	173.2				mg/L	7	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		94.868	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: L1211041126
Report Date/Time: Sunday, November 18, 2012 12:02:02
Page 2

Approved: November 19, 2012

	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	99.380
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	101.655
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: L1211041126
Report Date/Time: Sunday, November 18, 2012 12:02:02
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

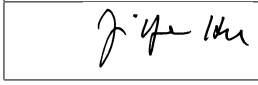
Sample ID: L1211041127
Sample Date/Time: Sunday, November 18, 2012 12:02:43
Number of Replicates: 3
Autosampler Position: 222
Sample Description: 1
Method File: C:\NexION Data\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
	Li	7	14006.5	4.3	**-3963.6207**	335.324	8.5	ug/L	8369	Standard
	Be	9	31.7	18.2	**0.0075**	0.003	43.5	ug/L	18	Standard
	Al	27	8110910.6	4.1	**73.6369**	2.456	3.3	ug/L	215	Standard
>	Sc	45	47512.7	1.2				ug/L	53004	Standard
	Ti	47	756.0	11.9	**1.4756**	0.174	11.8	ug/L	26	Standard
	V	51	6452.2	3.7	**0.3007**	0.016	5.2	ug/L	3223	Standard
	Cr	52	13064.0	3.8	**0.3262**	0.036	11.1	ug/L	10379	Standard
	Cr	53	1557.6	2.8	**1.0715**	0.025	2.3	ug/L	192	Standard
	Mn	55	552865.9	6.1	**33.1913**	1.785	5.4	ug/L	1840	Standard
	Co	59	2062.1	5.8	**0.1459**	0.009	5.9	ug/L	115	Standard
	Ni	60	2448.9	6.6	**0.8561**	0.056	6.5	ug/L	75	Standard
	Cu	65	1907.5	4.6	**0.6618**	0.027	4.1	ug/L	155	Standard
	Zn	66	4113.2	4.9	**2.9363**	0.131	4.5	ug/L	237	Standard
>	Ge	72	396091.5	0.9				ug/L	413856	Standard
	As	75	236.7	22.6	**0.3104**	0.039	12.5	ug/L	-197	Standard
	Se	82	124.1	23.4	**1.0064**	0.238	23.7	ug/L	-5	Standard
	Se-1	77	172.0	2.3	**0.8531**	0.059	6.9	ug/L	105	Standard
>	Ga	71	265.0	5.7				mg/L	225	Standard
	Rb	85	12455.1	5.1				ug/L	28	Standard
	Y	89	298044.2	2.7				ug/L	322845	Standard
>	Rh	103	185.0	16.2				ug/L	92	Standard
	Mo	98	430.7	11.4	**0.0881**	0.010	11.2	ug/L	18	Standard
	Ag	107	84.3	4.5	**0.0029**	0.001	23.2	ug/L	63	Standard
	Cd	111	19.5	27.0	**-0.0054**	0.002	30.5	mg/L	20	Standard
	Cd	114	79.2	20.3	**-0.0007**	0.002	292.8	ug/L	56	Standard
>	In	115	648573.6	2.0				ug/L	657102	Standard
	Sn	118	1259.7	7.8	**0.0788**	0.008	10.5	ug/L	555	Standard
	Sb	123	318.6	3.5	**0.0383**	0.001	2.6	ug/L	62	Standard
	Ba	135	112628.3	4.5	**33.4946**	1.100	3.3	ug/L	19	Standard
	Ce	140	3804.5	4.6				ug/L	24	Standard
>	Tb	159	937440.5	1.6				ug/L	910514	Standard
	Ho	165	89.7	5.0				ug/L	7	Standard
	Tl	203	304.0	5.3	**0.0195**	0.002	8.6	ug/L	13	Standard
	Tl	205	13.0	7.7	**0.0337**	0.003	7.5	ug/L	1	Standard
	Pb	206	821.4	2.5	**0.0450**	0.000	0.8	ug/L	342	Standard
	Pb	207	705.0	1.6	**0.0426**	0.002	5.9	ug/L	284	Standard
	Pb	208	3246.1	1.4	**0.0436**	0.001	1.8	ug/L	1363	Standard
	U	238	2562.2	4.0	**0.2473**	0.008	3.2	ug/L	2	Standard
>	Bi	209	482812.0	2.1				ug/L	470592	Standard

Sample ID: L1211041127
Report Date/Time: Sunday, November 18, 2012 12:05:16
Page 1

Approved: November 19, 2012



⌈	**Na**	23	1.7	173.2	**0.1706**	0.287	168.1	mg/L	2	Standard
|	**Mg**	24	384312.2	1.8	**0.2075**	0.003	1.6	mg/L	5586	Standard
|	**K**	39	105.0	37.8	**1.5527**	0.610	39.3	mg/L	5	Standard
|	**Ca**	43	393.3	5.1	**16.4552**	1.162	7.1	mg/L	45	Standard
|	**Fe**	54	758.8	13.0	**0.1717**	0.041	24.0	mg/L	350	Standard
|	**Fe**	57	311.7	16.1	**0.4175**	0.084	20.2	mg/L	102	Standard
⌊>	**Sc-1**	45	47512.7	1.2				mg/L	53004	Standard
	Cl	35	1.7	34.6				ug/L	2	Standard
	Kr	83	153.9	4.8				ug/L	157	Standard
	Br	81	7.5	88.2				ug/L	3	Standard
	P	31	187994.0	4.5				ug/L	91588	Standard
	S	34	27805.5	1.4				ug/L	32556	Standard
	Sr	88	575.0	4.3				ug/L	62	Standard
	C	12	990.0	4.3				mg/L	133	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	13.3	43.3				mg/L	7	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		95.708	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: L1211041127
Report Date/Time: Sunday, November 18, 2012 12:05:16
Page 2

Approved: November 19, 2012

	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	98.702
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	102.597
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: L1211041127
Report Date/Time: Sunday, November 18, 2012 12:05:16
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

Sample ID: L1211041128
Sample Date/Time: Sunday, November 18, 2012 12:05:56
Number of Replicates: 3
Autosampler Position: 223
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	10858.9	9.4	**-2138.3544**	548.034	25.6	ug/L	8369	Standard
|	**Be**	9	21.7	13.3	**0.0024**	0.002	76.0	ug/L	18	Standard
|	**Al**	27	1752649.7	8.0	**16.1802**	0.958	5.9	ug/L	215	Standard
⌊>	**Sc**	45	46695.2	2.8				ug/L	53004	Standard
⌈	**Ti**	47	1119.4	8.5	**2.2105**	0.170	7.7	ug/L	26	Standard
|	**V**	51	7030.4	6.0	**0.3506**	0.024	6.9	ug/L	3223	Standard
|	**Cr**	52	12094.2	4.1	**0.2323**	0.008	3.3	ug/L	10379	Standard
|	**Cr**	53	960.9	4.8	**0.6177**	0.012	2.0	ug/L	192	Standard
|	**Mn**	55	1083870.5	6.3	**65.0360**	1.969	3.0	ug/L	1840	Standard
|	**Co**	59	3371.4	6.9	**0.2479**	0.009	3.7	ug/L	115	Standard
|	**Ni**	60	1153.7	8.4	**0.3835**	0.023	5.9	ug/L	75	Standard
|	**Cu**	65	1456.7	3.4	**0.4912**	0.010	2.0	ug/L	155	Standard
|	**Zn**	66	6624.8	3.4	**4.8446**	0.016	0.3	ug/L	237	Standard
|>	**Ge**	72	396676.9	3.5				ug/L	413856	Standard
|	**As**	75	41.5	173.3	**0.1690**	0.052	30.7	ug/L	-197	Standard
|	**Se**	82	37.3	64.0	**0.3022**	0.187	61.8	ug/L	-5	Standard
⌊	**Se-1**	77	140.7	4.7	**0.5196**	0.119	22.9	ug/L	105	Standard
⌈>	**Ga**	71	420.0	8.3				mg/L	225	Standard
⌊	**Rb**	85	3245.3	2.4				ug/L	28	Standard
⌈	**Y**	89	303779.5	2.3				ug/L	322845	Standard
⌊>	**Rh**	103	115.0	19.9				ug/L	92	Standard
⌈	**Mo**	98	211.5	20.2	**0.0381**	0.008	21.1	ug/L	18	Standard
|	**Ag**	107	85.3	5.9	**0.0029**	0.001	20.2	ug/L	63	Standard
|	**Cd**	111	27.1	12.0	**-0.0033**	0.001	35.2	mg/L	20	Standard
|	**Cd**	114	86.5	17.6	**0.0000**	0.002	6689.7	ug/L	56	Standard
|>	**In**	115	658060.3	2.9				ug/L	657102	Standard
|	**Sn**	118	614.0	9.1	**0.0122**	0.004	31.4	ug/L	555	Standard
|	**Sb**	123	562.2	9.7	**0.0687**	0.005	7.8	ug/L	62	Standard
⌊	**Ba**	135	48772.2	5.0	**14.2811**	0.315	2.2	ug/L	19	Standard
⌈	**Ce**	140	18573.4	6.2				ug/L	24	Standard
⌊>	**Tb**	159	929562.0	1.7				ug/L	910514	Standard
⌈	**Ho**	165	218.0	0.5				ug/L	7	Standard
|	**Tl**	203	170.3	6.1	**0.0095**	0.001	6.8	ug/L	13	Standard
|	**Tl**	205	4.0	25.0	**0.0114**	0.003	22.7	ug/L	1	Standard
|	**Pb**	206	1155.7	8.8	**0.0781**	0.009	11.4	ug/L	342	Standard
|	**Pb**	207	1011.0	4.7	**0.0782**	0.005	6.4	ug/L	284	Standard
|	**Pb**	208	4595.6	6.7	**0.0774**	0.007	9.1	ug/L	1363	Standard
|	**U**	238	65.0	15.2	**0.0049**	0.001	18.0	ug/L	2	Standard
⌊>	**Bi**	209	476939.5	1.4				ug/L	470592	Standard

Sample ID: L1211041128
Report Date/Time: Sunday, November 18, 2012 12:08:28
Page 1

Approved: November 19, 2012

⌈	**Na**	23	1.7	173.2	**0.1781**	0.300	168.3	mg/L	2	Standard
|	**Mg**	24	290343.4	2.7	**0.1588**	0.001	0.5	mg/L	5586	Standard
|	**K**	39	60.0	22.0	**0.8815**	0.176	19.9	mg/L	5	Standard
|	**Ca**	43	113.3	25.5	**3.2381**	1.356	41.9	mg/L	45	Standard
|	**Fe**	54	1484.9	9.4	**0.4945**	0.067	13.5	mg/L	350	Standard
|	**Fe**	57	355.0	12.5	**0.5035**	0.061	12.1	mg/L	102	Standard
⌊>	**Sc-1**	45	46695.2	2.8				mg/L	53004	Standard
	Cl	35	2.0	0.0				ug/L	2	Standard
	Kr	83	154.8	9.5				ug/L	157	Standard
	Br	81	7.5	33.3				ug/L	3	Standard
	P	31	154883.8	4.7				ug/L	91588	Standard
	S	34	26354.6	2.2				ug/L	32556	Standard
	Sr	88	176.7	5.9				ug/L	62	Standard
	C	12	463.3	5.4				mg/L	133	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	6.7	43.3				mg/L	7	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		95.849	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: L1211041128
Report Date/Time: Sunday, November 18, 2012 12:08:28
Page 2

Approved: November 19, 2012

⌈	Mo	98	
|	Ag	107	
|	Cd	111	
|	Cd	114	
|>	In	115	100.146
|	Sn	118	
|	Sb	123	
⌊	Ba	135	
⌈	Ce	140	
⌊>	Tb	159	
⌈	Ho	165	
|	Tl	203	
|	Tl	205	
|	Pb	206	
|	Pb	207	
|	Pb	208	
|	U	238	
⌊>	Bi	209	101.349
⌈	Na	23	
|	Mg	24	
|	K	39	
|	Ca	43	
|	Fe	54	
|	Fe	57	
⌊>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: L1211041128
Report Date/Time: Sunday, November 18, 2012 12:08:28
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

Sample ID: QC Std 6
Sample Date/Time: Sunday, November 18, 2012 12:09:11
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	8946.0	5.5	**-1050.6978**	38.833	3.7	ug/L	8369	Standard
|	**Be**	9	109374.0	5.1	**60.8339**	1.948	3.2	ug/L	18	Standard
|	**Al**	27	6850552.3	6.0	**64.5152**	1.778	2.8	ug/L	215	Standard
⌊>	**Sc**	45	45800.9	4.8				ug/L	53004	Standard
⌈	**Ti**	47	45055.8	7.6	**92.3050**	4.265	4.6	ug/L	26	Standard
|	**V**	51	532547.6	7.4	**47.0575**	1.735	3.7	ug/L	3223	Standard
|	**Cr**	52	512949.3	6.8	**48.3124**	1.992	4.1	ug/L	10379	Standard
|	**Cr**	53	63945.0	6.5	**48.8465**	1.945	4.0	ug/L	192	Standard
|	**Mn**	55	810577.1	7.9	**49.1664**	2.680	5.5	ug/L	1840	Standard
|	**Co**	59	629116.3	5.6	**49.7179**	1.407	2.8	ug/L	115	Standard
|	**Ni**	60	132896.6	6.5	**48.8139**	1.991	4.1	ug/L	75	Standard
|	**Cu**	65	131288.2	7.7	**49.9172**	2.299	4.6	ug/L	155	Standard
|	**Zn**	66	65391.1	6.1	**50.1380**	1.854	3.7	ug/L	237	Standard
| >	**Ge**	72	392259.8	4.2				ug/L	413856	Standard
|	**As**	75	67567.5	6.4	**49.2293**	1.699	3.5	ug/L	-197	Standard
|	**Se**	82	5894.9	6.8	**47.9835**	2.209	4.6	ug/L	-5	Standard
⌊	**Se-1**	77	4584.7	4.9	**48.3114**	0.865	1.8	ug/L	105	Standard
⌈>	**Ga**	71	226.7	7.1				mg/L	225	Standard
⌊	**Rb**	85	993.4	6.0				ug/L	28	Standard
⌈	**Y**	89	297824.4	2.1				ug/L	322845	Standard
⌊>	**Rh**	103	135.0	0.0				ug/L	92	Standard
⌈	**Mo**	98	406214.4	5.2	**92.1522**	2.479	2.7	ug/L	18	Standard
|	**Ag**	107	396831.0	4.1	**51.1855**	1.090	2.1	ug/L	63	Standard
|	**Cd**	111	168154.9	5.7	**50.0899**	1.758	3.5	mg/L	20	Standard
|	**Cd**	114	437494.6	5.7	**49.5159**	1.674	3.4	ug/L	56	Standard
| >	**In**	115	642959.8	3.2				ug/L	657102	Standard
|	**Sn**	118	487956.0	6.5	**50.0349**	1.962	3.9	ug/L	555	Standard
|	**Sb**	123	383437.5	4.2	**50.0316**	1.118	2.2	ug/L	62	Standard
⌊	**Ba**	135	165420.6	6.1	**49.6208**	1.830	3.7	ug/L	19	Standard
⌈	**Ce**	140	693.0	4.1				ug/L	24	Standard
⌊>	**Tb**	159	918939.3	2.3				ug/L	910514	Standard
⌈	**Ho**	165	458.7	5.1				ug/L	7	Standard
|	**Tl**	203	645139.3	3.7	**49.9973**	1.177	2.4	ug/L	13	Standard
|	**Tl**	205	21016.6	4.2	**53.3854**	1.557	2.9	ug/L	1	Standard
|	**Pb**	206	519049.2	5.9	**50.1672**	2.312	4.6	ug/L	342	Standard
|	**Pb**	207	444335.7	4.8	**50.5183**	1.758	3.5	ug/L	284	Standard
|	**Pb**	208	2034638.6	5.0	**49.8246**	1.833	3.7	ug/L	1363	Standard
|	**U**	238	529596.5	6.0	**52.4020**	2.494	4.8	ug/L	2	Standard
⌊>	**Bi**	209	473661.3	1.3				ug/L	470592	Standard

Sample ID: QC Std 6
Report Date/Time: Sunday, November 18, 2012 12:11:43
Page 1

Approved: November 19, 2012

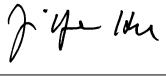
⌈	**Na**	23	0.0		**0.0050**	0.000	0.0	mg/L	2	Standard
|	**Mg**	24	307470.2	3.0	**0.1718**	0.004	2.1	mg/L	5586	Standard
|	**K**	39	331.7	19.9	**5.1626**	0.880	17.0	mg/L	5	Standard
|	**Ca**	43	128.3	11.9	**4.1062**	0.894	21.8	mg/L	45	Standard
|	**Fe**	54	13394.1	4.1	**5.8046**	0.175	3.0	mg/L	350	Standard
|	**Fe**	57	3118.7	8.0	**5.5368**	0.287	5.2	mg/L	102	Standard
⌊>	**Sc-1**	45	45800.9	4.8				mg/L	53004	Standard
	Cl	35	2.7	43.3				ug/L	2	Standard
	Kr	83	155.6	4.3				ug/L	157	Standard
	Br	81	5.8	65.5				ug/L	3	Standard
	P	31	116997.0	3.3				ug/L	91588	Standard
	S	34	32432.2	2.3				ug/L	32556	Standard
	Sr	88	55.0	18.2				ug/L	62	Standard
	C	12	190.0	24.1				mg/L	133	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	6.7	86.6				mg/L	7	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈	Li	7			
|	Be	9	121.668		
|	Al	27	129.030		
⌊>	Sc	45			
⌈	Ti	47	92.305		
|	V	51	94.115		
|	Cr	52	96.625		
|	Cr	53			
|	Mn	55	98.333		
|	Co	59	99.436		
|	Ni	60	97.628		
|	Cu	65	99.834		
|	Zn	66	100.276		
|>	Ge	72		94.782	
|	As	75	98.459		
|	Se	82	95.967		
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: QC Std 6
Report Date/Time: Sunday, November 18, 2012 12:11:43
Page 2

Approved: November 19, 2012



	Mo	98	92.152	
	Ag	107	102.371	
	Cd	111	100.180	
	Cd	114		
>	In	115		97.848
	Sn	118	100.070	
	Sb	123	100.063	
	Ba	135	99.242	
	Ce	140		
>	Tb	159		
	Ho	165		
	Tl	203	99.995	
	Tl	205		
	Pb	206	100.334	
	Pb	207	101.037	
	Pb	208	99.649	
	U	238	104.804	
>	Bi	209		100.652
	Na	23		
	Mg	24		
	K	39		
	Ca	43		
	Fe	54		
	Fe	57		
>	Sc-1	45		
	Cl	35		
	Kr	83		
	Br	81		
	P	31		
	S	34		
	Sr	88		
	C	12		
	N	14		
	Hg	202		

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 6	Be	9	
QC Std 6	Al	27	

Sample ID: QC Std 6
Report Date/Time: Sunday, November 18, 2012 12:11:43
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

Sample ID: QC Std 7
Sample Date/Time: Sunday, November 18, 2012 12:12:23
Number of Replicates: 3
Autosampler Position: 102
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	8143.9	5.8	**-835.8027**	291.948	34.9	ug/L	8369	Standard
|	**Be**	9	23.3	65.5	**0.0042**	0.009	210.5	ug/L	18	Standard
|	**Al**	27	966.7	60.3	**0.0074**	0.006	76.8	ug/L	215	Standard
⌊>	**Sc**	45	43326.9	1.3				ug/L	53004	Standard
⌈	**Ti**	47	25.0	30.2	**-0.0055**	0.016	291.6	ug/L	26	Standard
|	**V**	51	2595.6	1.6	**-0.0240**	0.001	6.2	ug/L	3223	Standard
|	**Cr**	52	8747.5	2.4	**-0.0297**	0.008	26.1	ug/L	10379	Standard
|	**Cr**	53	295.8	11.3	**0.1296**	0.030	23.2	ug/L	192	Standard
|	**Mn**	55	9309.5	3.2	**0.5082**	0.016	3.1	ug/L	1840	Standard
|	**Co**	59	117.3	14.5	**-0.0057**	0.001	23.8	ug/L	115	Standard
|	**Ni**	60	63.7	14.3	**-0.0108**	0.003	29.1	ug/L	75	Standard
|	**Cu**	65	188.3	3.4	**0.0182**	0.004	19.6	ug/L	155	Standard
|	**Zn**	66	244.0	11.9	**-0.0014**	0.021	1471.9	ug/L	237	Standard
|>	**Ge**	72	371780.0	1.5				ug/L	413856	Standard
|	**As**	75	-165.8	10.2	**0.0129**	0.011	88.5	ug/L	-197	Standard
|	**Se**	82	2.7	101.1	**0.0287**	0.024	82.1	ug/L	-5	Standard
⌊	**Se-1**	77	94.7	9.8	**0.0945**	0.092	97.8	ug/L	105	Standard
⌈>	**Ga**	71	190.0	25.4				mg/L	225	Standard
⌊	**Rb**	85	33.3	8.7				ug/L	28	Standard
⌈	**Y**	89	276619.6	2.0				ug/L	322845	Standard
⌊>	**Rh**	103	105.0	4.8				ug/L	92	Standard
⌈	**Mo**	98	94.8	82.3	**0.0133**	0.018	133.8	ug/L	18	Standard
|	**Ag**	107	94.7	29.6	**0.0046**	0.004	75.5	ug/L	63	Standard
|	**Cd**	111	29.6	47.6	**-0.0022**	0.004	192.0	mg/L	20	Standard
|	**Cd**	114	97.8	48.8	**0.0018**	0.005	301.2	ug/L	56	Standard
|>	**In**	115	624815.5	1.4				ug/L	657102	Standard
|	**Sn**	118	515.3	9.2	**0.0050**	0.004	86.8	ug/L	555	Standard
|	**Sb**	123	277.7	41.2	**0.0342**	0.015	43.2	ug/L	62	Standard
⌊	**Ba**	135	40.3	27.3	**-0.0075**	0.003	43.3	ug/L	19	Standard
⌈	**Ce**	140	27.7	34.2				ug/L	24	Standard
⌊>	**Tb**	159	876993.7	1.1				ug/L	910514	Standard
⌈	**Ho**	165	8.3	27.7				ug/L	7	Standard
|	**Tl**	203	66.7	52.8	**0.0017**	0.003	167.4	ug/L	13	Standard
|	**Tl**	205	2.3	65.5	**0.0074**	0.004	53.0	ug/L	1	Standard
|	**Pb**	206	401.7	21.5	**0.0071**	0.009	123.8	ug/L	342	Standard
|	**Pb**	207	324.0	14.0	**0.0019**	0.006	292.3	ug/L	284	Standard
|	**Pb**	208	1541.0	16.6	**0.0045**	0.007	148.2	ug/L	1363	Standard
|	**U**	238	48.3	104.1	**0.0034**	0.005	151.6	ug/L	2	Standard
⌊>	**Bi**	209	459910.4	1.3				ug/L	470592	Standard

Sample ID: QC Std 7
Report Date/Time: Sunday, November 18, 2012 12:14:55
Page 1

Approved: November 19, 2012

⌈	**Na**	23	0.0		**0.0050**	0.000	0.0	mg/L	2	Standard
|	**Mg**	24	1373.4	6.2	**-0.0021**	0.000	2.0	mg/L	5586	Standard
|	**K**	39	1.7	173.2	**-0.0137**	0.048	348.3	mg/L	5	Standard
|	**Ca**	43	46.7	12.4	**0.1969**	0.273	138.5	mg/L	45	Standard
|	**Fe**	54	335.5	6.8	**0.0042**	0.010	243.4	mg/L	350	Standard
|	**Fe**	57	81.7	18.7	**0.0287**	0.029	101.7	mg/L	102	Standard
⌊>	**Sc-1**	45	43326.9	1.3				mg/L	53004	Standard
	Cl	35	1.3	173.2				ug/L	2	Standard
	Kr	83	155.8	3.4				ug/L	157	Standard
	Br	81	5.8	99.0				ug/L	3	Standard
	P	31	109524.9	4.0				ug/L	91588	Standard
	S	34	30883.1	1.2				ug/L	32556	Standard
	Sr	88	48.3	6.0				ug/L	62	Standard
	C	12	171.7	19.0				mg/L	133	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	1.7	173.2				mg/L	7	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		89.833	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: QC Std 7
Report Date/Time: Sunday, November 18, 2012 12:14:55
Page 2

Approved: November 19, 2012

	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	95.087
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	97.730
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 7	Mn	55	

Sample ID: QC Std 7
Report Date/Time: Sunday, November 18, 2012 12:14:55
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

Sample ID: L1211041129
Sample Date/Time: Sunday, November 18, 2012 12:15:38
Number of Replicates: 3
Autosampler Position: 224
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	21076.4	7.0	**-8367.2055**	884.218	10.6	ug/L	8369	Standard
	Be	9	63.3	12.1	**0.0247**	0.005	19.9	ug/L	18	Standard
	Al	27	36000864.3	4.9	**328.4697**	25.328	7.7	ug/L	215	Standard
>	**Sc**	45	47390.8	5.5				ug/L	53004	Standard
	Ti	47	11275.9	4.4	**26.1162**	1.217	4.7	ug/L	26	Standard
	V	51	57278.9	7.0	**5.4943**	0.338	6.2	ug/L	3223	Standard
	Cr	52	73432.4	7.1	**7.0602**	0.515	7.3	ug/L	10379	Standard
	Cr	53	13914.7	2.9	**11.9607**	0.734	6.1	ug/L	192	Standard
	Mn	55	6373748.9	5.0	**438.4613**	22.963	5.2	ug/L	1840	Standard
	Co	59	93279.9	7.3	**8.3281**	0.551	6.6	ug/L	115	Standard
	Ni	60	62006.9	5.3	**25.7563**	1.120	4.3	ug/L	75	Standard
	Cu	65	7962.8	5.5	**3.3758**	0.217	6.4	ug/L	155	Standard
	Zn	66	94922.3	3.4	**82.5148**	3.183	3.9	ug/L	237	Standard
>	**Ge**	72	346786.7	3.6				ug/L	413856	Standard
	As	75	13898.9	3.2	**11.5766**	0.568	4.9	ug/L	-197	Standard
	Se	82	5061.7	3.1	**46.6574**	2.243	4.8	ug/L	-5	Standard
	Se-1	77	755.4	5.0	**8.2253**	0.766	9.3	ug/L	105	Standard
>	**Ga**	71	1576.7	5.9				mg/L	225	Standard
	Rb	85	185745.6	2.9				ug/L	28	Standard
	Y	89	289146.0	2.9				ug/L	322845	Standard
>	**Rh**	103	386.7	23.2				ug/L	92	Standard
	Mo	98	6724.1	5.7	**1.6970**	0.090	5.3	ug/L	18	Standard
	Ag	107	132.0	16.1	**0.0112**	0.003	28.4	ug/L	63	Standard
	Cd	111	228.6	2.3	**0.0650**	0.001	2.3	mg/L	20	Standard
	Cd	114	608.2	5.1	**0.0674**	0.004	5.3	ug/L	56	Standard
>	**In**	115	575156.5	0.5				ug/L	657102	Standard
	Sn	118	16779.3	5.1	**1.8767**	0.089	4.7	ug/L	555	Standard
	Sb	123	3657.4	4.9	**0.5306**	0.024	4.5	ug/L	62	Standard
	Ba	135	832065.2	4.3	**279.2007**	10.674	3.8	ug/L	19	Standard
	Ce	140	70998.5	3.9				ug/L	24	Standard
>	**Tb**	159	837904.2	1.4				ug/L	910514	Standard
	Ho	165	2242.8	3.3				ug/L	7	Standard
	Tl	203	138.0	6.9	**0.0096**	0.001	8.2	ug/L	13	Standard
	Tl	205	3.0	0.0	**0.0107**	0.000	1.3	ug/L	1	Standard
	Pb	206	7282.8	4.1	**0.8381**	0.027	3.2	ug/L	342	Standard
	Pb	207	5926.8	2.0	**0.7980**	0.021	2.6	ug/L	284	Standard
	Pb	208	27997.5	3.7	**0.8140**	0.025	3.1	ug/L	1363	Standard
	U	238	1069.4	5.2	**0.1293**	0.006	4.8	ug/L	2	Standard
>	**Bi**	209	383110.5	1.5				ug/L	470592	Standard

Sample ID: L1211041129
Report Date/Time: Sunday, November 18, 2012 12:18:10
Page 1

Approved: November 19, 2012

⌈	**Na**	23	1.7	173.2	**0.1847**	0.311	168.5	mg/L	2	Standard
|	**Mg**	24	19320507.2	1.4	**10.6193**	0.518	4.9	mg/L	5586	Standard
|	**K**	39	2265.2	1.7	**34.4804**	2.013	5.8	mg/L	5	Standard
|	**Ca**	43	760.0	2.6	**34.0212**	2.147	6.3	mg/L	45	Standard
|	**Fe**	54	12740.2	6.8	**5.3395**	0.590	11.0	mg/L	350	Standard
|	**Fe**	57	3467.1	4.6	**5.9684**	0.297	5.0	mg/L	102	Standard
⌊>	**Sc-1**	45	47390.8	5.5				mg/L	53004	Standard
	Cl	35	3.0	33.3				ug/L	2	Standard
	Kr	83	239.8	8.1				ug/L	157	Standard
	Br	81	88.3	23.6				ug/L	3	Standard
	P	31	161747.2	4.0				ug/L	91588	Standard
	S	34	24447.2	2.8				ug/L	32556	Standard
	Sr	88	2213.5	6.8				ug/L	62	Standard
	C	12	3288.7	12.6				mg/L	133	Standard
	N	14	1.7	173.2				mg/L	0	Standard
	Hg	202	38.3	45.8				mg/L	7	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		83.794	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: L1211041129
Report Date/Time: Sunday, November 18, 2012 12:18:10
Page 2

Approved: November 19, 2012

⌈	Mo	98		
|	Ag	107		
|	Cd	111		
|	Cd	114		
| >	In	115		87.529
|	Sn	118		
|	Sb	123		
⌊	Ba	135		
⌈	Ce	140		
⌊ >	Tb	159		
⌈	Ho	165		
|	Tl	203		
|	Tl	205		
|	Pb	206		
|	Pb	207		
|	Pb	208		
|	U	238		
⌊ >	Bi	209		81.410
⌈	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		
	C	12		
	N	14		
	Hg	202		

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: November 19, 2012

Method 6020 - Summary Report

Sample ID: L1211041901
Sample Date/Time: Sunday, November 18, 2012 12:18:50
Number of Replicates: 3
Autosampler Position: 225
Sample Description: 5
Method File: C:\NexION Data\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
⌈	**Li**	7	13290.8	1.5	**-4446.7628**	59.517	1.3	ug/L	8369	Standard
|	**Be**	9	11.7	107.9	**-0.0024**	0.008	312.8	ug/L	18	Standard
|	**Al**	27	1704036.0	0.7	**17.2178**	0.266	1.5	ug/L	215	Standard
⌊>	**Sc**	45	42700.1	1.8				ug/L	53004	Standard
⌈	**Ti**	47	960.0	2.0	**2.0849**	0.025	1.2	ug/L	26	Standard
|	**V**	51	3106.5	3.1	**0.0333**	0.005	14.5	ug/L	3223	Standard
|	**Cr**	52	13351.5	1.2	**0.4803**	0.005	1.1	ug/L	10379	Standard
|	**Cr**	53	2043.5	3.8	**1.5947**	0.066	4.1	ug/L	192	Standard
|	**Mn**	55	2918195.0	3.9	**193.0826**	4.832	2.5	ug/L	1840	Standard
|	**Co**	59	1476.7	5.1	**0.1116**	0.005	4.7	ug/L	115	Standard
|	**Ni**	60	2035.5	2.8	**0.7794**	0.011	1.4	ug/L	75	Standard
|	**Cu**	65	62959.9	0.8	**26.0614**	0.259	1.0	ug/L	155	Standard
|	**Zn**	66	31889.2	2.9	**26.5354**	0.392	1.5	ug/L	237	Standard
|>	**Ge**	72	360196.8	1.5				ug/L	413856	Standard
|	**As**	75	264.1	19.0	**0.3487**	0.037	10.7	ug/L	-197	Standard
|	**Se**	82	52.8	47.9	**0.4724**	0.220	46.6	ug/L	-5	Standard
⌊	**Se-1**	77	188.3	3.1	**1.2266**	0.063	5.2	ug/L	105	Standard
⌈>	**Ga**	71	285.0	9.3				mg/L	225	Standard
⌊	**Rb**	85	11517.7	6.9				ug/L	28	Standard
⌈	**Y**	89	270041.0	2.2				ug/L	322845	Standard
⌊>	**Rh**	103	93.3	27.0				ug/L	92	Standard
⌈	**Mo**	98	2606.3	6.5	**0.6289**	0.032	5.0	ug/L	18	Standard
|	**Ag**	107	374.0	4.2	**0.0441**	0.001	3.2	ug/L	63	Standard
|	**Cd**	111	143.2	4.5	**0.0348**	0.002	4.9	mg/L	20	Standard
|	**Cd**	114	391.0	2.3	**0.0382**	0.002	5.2	ug/L	56	Standard
|>	**In**	115	596235.6	1.9				ug/L	657102	Standard
|	**Sn**	118	3106.7	7.0	**0.2945**	0.020	6.8	ug/L	555	Standard
|	**Sb**	123	681.4	5.1	**0.0929**	0.003	3.4	ug/L	62	Standard
⌊	**Ba**	135	51309.8	2.9	**16.5901**	0.234	1.4	ug/L	19	Standard
⌈	**Ce**	140	5631.0	3.0				ug/L	24	Standard
⌊>	**Tb**	159	862531.6	2.0				ug/L	910514	Standard
⌈	**Ho**	165	117.3	6.0				ug/L	7	Standard
|	**Tl**	203	171.0	7.9	**0.0091**	0.001	11.3	ug/L	13	Standard
|	**Tl**	205	6.0	16.7	**0.0159**	0.002	15.2	ug/L	1	Standard
|	**Pb**	206	14171.3	2.4	**1.2845**	0.021	1.6	ug/L	342	Standard
|	**Pb**	207	11961.4	2.5	**1.2719**	0.022	1.7	ug/L	284	Standard
|	**Pb**	208	55794.0	1.7	**1.2797**	0.011	0.9	ug/L	1363	Standard
|	**U**	238	394.7	3.9	**0.0360**	0.002	4.7	ug/L	2	Standard
⌊>	**Bi**	209	492917.3	0.9				ug/L	470592	Standard

Approved: November 19, 2012

⌈	**Na**	23	5.0	100.0	**0.5718**	0.567	99.1	mg/L	2	Standard
|	**Mg**	24	406915.2	0.7	**0.2450**	0.005	2.0	mg/L	5586	Standard
|	**K**	39	105.0	21.8	**1.7279**	0.363	21.0	mg/L	5	Standard
|	**Ca**	43	236.7	21.7	**10.2688**	2.694	26.2	mg/L	45	Standard
|	**Fe**	54	543.2	11.2	**0.1059**	0.033	31.1	mg/L	350	Standard
|	**Fe**	57	258.3	16.5	**0.3764**	0.091	24.1	mg/L	102	Standard
⌊>	**Sc-1**	45	42700.1	1.8				mg/L	53004	Standard
	Cl	35	2.0	50.0				ug/L	2	Standard
	Kr	83	159.8	2.6				ug/L	157	Standard
	Br	81	5.0	50.0				ug/L	3	Standard
	P	31	55234.7	0.8				ug/L	91588	Standard
	S	34	27661.9	2.7				ug/L	32556	Standard
	Sr	88	103.3	17.0				ug/L	62	Standard
	C	12	538.3	3.5				mg/L	133	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	91.7	11.4				mg/L	7	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		87.034	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: L1211041901
Report Date/Time: Sunday, November 18, 2012 12:21:22
Page 2

Approved: November 19, 2012

	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	90.737
	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	104.744
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Mn 55 Upper, S, EEE	Mn	55	

Sample ID: L1211041901
Report Date/Time: Sunday, November 18, 2012 12:21:22
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

Sample ID: L1211041902 WG414324-02
Sample Date/Time: Sunday, November 18, 2012 12:22:02
Number of Replicates: 3
Autosampler Position: 226
Sample Description: 5
Method File: C:\NexION Data\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
	Li	7	13040.6	3.8	**-4405.7794**	173.254	3.9	ug/L	8369	Standard
	Be	9	10.0	50.0	**-0.0034**	0.003	84.6	ug/L	18	Standard
	Al	27	1419984.1	6.2	**14.5525**	0.694	4.8	ug/L	215	Standard
>	Sc	45	42073.3	1.9				ug/L	53004	Standard
	Ti	47	154.0	6.9	**0.2911**	0.023	7.9	ug/L	26	Standard
	V	51	2100.4	8.3	**-0.0600**	0.020	33.4	ug/L	3223	Standard
	Cr	52	9333.2	4.3	**0.0794**	0.054	68.1	ug/L	10379	Standard
	Cr	53	1473.4	2.8	**1.1427**	0.019	1.7	ug/L	192	Standard
	Mn	55	23430.4	2.8	**1.4923**	0.023	1.6	ug/L	1840	Standard
	Co	59	302.7	3.5	**0.0110**	0.001	7.7	ug/L	115	Standard
	Ni	60	986.7	2.3	**0.3673**	0.012	3.2	ug/L	75	Standard
	Cu	65	3338.0	2.7	**1.3538**	0.025	1.9	ug/L	155	Standard
	Zn	66	9086.7	1.0	**7.5673**	0.027	0.4	ug/L	237	Standard
>	Ge	72	353356.7	1.3				ug/L	413856	Standard
	As	75	-41.7	16.6	**0.1063**	0.006	5.4	ug/L	-197	Standard
	Se	82	16.8	30.7	**0.1573**	0.047	29.8	ug/L	-5	Standard
	Se-1	77	153.3	9.1	**0.8507**	0.152	17.9	ug/L	105	Standard
>	Ga	71	178.3	15.9				mg/L	225	Standard
	Rb	85	9679.8	2.1				ug/L	28	Standard
	Y	89	268223.5	0.9				ug/L	322845	Standard
>	Rh	103	86.7	16.7				ug/L	92	Standard
	Mo	98	517.4	5.1	**0.1169**	0.007	5.9	ug/L	18	Standard
	Ag	107	50.0	31.4	**-0.0010**	0.002	221.5	ug/L	63	Standard
	Cd	111	50.7	13.9	**0.0050**	0.002	47.6	mg/L	20	Standard
	Cd	114	133.2	9.8	**0.0066**	0.001	21.5	ug/L	56	Standard
>	In	115	601177.3	1.0				ug/L	657102	Standard
	Sn	118	1048.4	1.4	**0.0658**	0.003	4.2	ug/L	555	Standard
	Sb	123	244.7	6.5	**0.0312**	0.002	7.4	ug/L	62	Standard
	Ba	135	9914.9	1.9	**3.1638**	0.066	2.1	ug/L	19	Standard
	Ce	140	81.0	13.1				ug/L	24	Standard
>	Tb	159	859536.3	1.2				ug/L	910514	Standard
	Ho	165	24.3	13.2				ug/L	7	Standard
	Tl	203	206.7	7.6	**0.0132**	0.001	9.3	ug/L	13	Standard
	Tl	205	7.7	41.9	**0.0217**	0.009	39.3	ug/L	1	Standard
	Pb	206	1397.1	3.0	**0.1091**	0.003	3.0	ug/L	342	Standard
	Pb	207	1220.7	1.0	**0.1099**	0.002	2.2	ug/L	284	Standard
	Pb	208	5489.1	2.1	**0.1069**	0.002	2.0	ug/L	1363	Standard
	U	238	11.0	24.1	**-0.0004**	0.000	70.2	ug/L	2	Standard
>	Bi	209	450748.3	0.7				ug/L	470592	Standard

Approved: November 19, 2012

⌈	**Na**	23	0.0		**0.0050**	0.000	0.0	mg/L	2	Standard
|	**Mg**	24	373398.6	0.8	**0.2280**	0.004	1.9	mg/L	5586	Standard
|	**K**	39	71.7	14.5	**1.1852**	0.166	14.0	mg/L	5	Standard
|	**Ca**	43	181.7	3.2	**7.5098**	0.192	2.6	mg/L	45	Standard
|	**Fe**	54	150.7	17.1	**-0.0805**	0.013	16.1	mg/L	350	Standard
|	**Fe**	57	133.3	29.1	**0.1364**	0.080	58.5	mg/L	102	Standard
⌊>	**Sc-1**	45	42073.3	1.9				mg/L	53004	Standard
	Cl	35	2.7	57.3				ug/L	2	Standard
	Kr	83	157.0	5.1				ug/L	157	Standard
	Br	81	10.0	66.1				ug/L	3	Standard
	P	31	53148.1	1.5				ug/L	91588	Standard
	S	34	29697.4	2.5				ug/L	32556	Standard
	Sr	88	138.3	18.5				ug/L	62	Standard
	C	12	206.7	18.2				mg/L	133	Standard
	N	14	1.7	173.2				mg/L	0	Standard
	Hg	202	5.0	100.0				mg/L	7	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		85.382	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: L1211041902 WG414324-02
Report Date/Time: Sunday, November 18, 2012 12:24:34
Page 2

Approved: November 19, 2012

	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	91.489
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	95.783
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: L1211041902 WG414324-02
Report Date/Time: Sunday, November 18, 2012 12:24:34
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

Sample ID: L1211041902DP WG414324-07
Sample Date/Time: Sunday, November 18, 2012 12:25:15
Number of Replicates: 3
Autosampler Position: 227
Sample Description: 5
Method File: C:\NexION Data\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
	Li	7	12623.6	4.1	**-4254.7459**	146.291	3.4	ug/L	8369	Standard
	Be	9	1.7	173.2	**-0.0084**	0.002	21.4	ug/L	18	Standard
	Al	27	1535058.6	2.1	**15.9890**	0.050	0.3	ug/L	215	Standard
>	**Sc**	45	41416.6	2.4				ug/L	53004	Standard
	Ti	47	174.7	10.8	**0.3402**	0.042	12.5	ug/L	26	Standard
	V	51	2068.0	7.8	**-0.0623**	0.016	26.3	ug/L	3223	Standard
	Cr	52	9545.3	1.2	**0.1070**	0.015	14.0	ug/L	10379	Standard
	Cr	53	1464.2	6.8	**1.1416**	0.084	7.4	ug/L	192	Standard
	Mn	55	25028.7	1.4	**1.6093**	0.020	1.3	ug/L	1840	Standard
	Co	59	322.0	7.8	**0.0129**	0.002	16.6	ug/L	115	Standard
	Ni	60	938.4	1.3	**0.3495**	0.005	1.4	ug/L	75	Standard
	Cu	65	3625.4	2.2	**1.4836**	0.034	2.3	ug/L	155	Standard
	Zn	66	11878.7	6.2	**10.0082**	0.653	6.5	ug/L	237	Standard
>	**Ge**	72	351494.0	0.3				ug/L	413856	Standard
	As	75	-81.7	11.2	**0.0737**	0.008	10.2	ug/L	-197	Standard
	Se	82	12.5	24.2	**0.1191**	0.027	23.0	ug/L	-5	Standard
	Se-1	77	153.3	6.5	**0.8612**	0.121	14.0	ug/L	105	Standard
>	**Ga**	71	175.0	20.0				mg/L	225	Standard
	Rb	85	10760.5	0.9				ug/L	28	Standard
	Y	89	259531.0	1.8				ug/L	322845	Standard
>	**Rh**	103	88.3	18.2				ug/L	92	Standard
	Mo	98	532.9	7.3	**0.1233**	0.009	7.0	ug/L	18	Standard
	Ag	107	44.3	10.2	**-0.0016**	0.001	37.2	ug/L	63	Standard
	Cd	111	48.4	8.9	**0.0045**	0.001	28.4	mg/L	20	Standard
	Cd	114	122.6	4.0	**0.0056**	0.001	12.8	ug/L	56	Standard
>	**In**	115	588882.4	0.9				ug/L	657102	Standard
	Sn	118	1495.4	5.9	**0.1183**	0.009	7.4	ug/L	555	Standard
	Sb	123	248.8	4.0	**0.0325**	0.002	4.8	ug/L	62	Standard
	Ba	135	10534.3	1.1	**3.4335**	0.060	1.7	ug/L	19	Standard
	Ce	140	104.0	11.7				ug/L	24	Standard
>	**Tb**	159	843011.9	1.5				ug/L	910514	Standard
	Ho	165	22.7	14.2				ug/L	7	Standard
	Tl	203	225.3	2.1	**0.0151**	0.000	2.6	ug/L	13	Standard
	Tl	205	10.0	10.0	**0.0285**	0.003	9.1	ug/L	1	Standard
	Pb	206	1449.4	2.6	**0.1174**	0.005	3.9	ug/L	342	Standard
	Pb	207	1230.4	1.2	**0.1140**	0.002	1.9	ug/L	284	Standard
	Pb	208	5674.7	1.1	**0.1146**	0.002	2.1	ug/L	1363	Standard
	U	238	13.7	18.4	**-0.0001**	0.000	358.0	ug/L	2	Standard
>	**Bi**	209	441965.5	0.5				ug/L	470592	Standard

Sample ID: L1211041902DP WG414324-07
Report Date/Time: Sunday, November 18, 2012 12:27:48
Page 1

Approved: November 19, 2012

⌈	**Na**	23	1.7	173.2	**0.2003**	0.338	168.9	mg/L	2	Standard
|	**Mg**	24	386280.4	0.3	**0.2398**	0.006	2.4	mg/L	5586	Standard
|	**K**	39	88.3	3.3	**1.4961**	0.047	3.1	mg/L	5	Standard
|	**Ca**	43	180.0	10.0	**7.5934**	1.200	15.8	mg/L	45	Standard
|	**Fe**	54	140.4	2.2	**-0.0844**	0.003	3.3	mg/L	350	Standard
|	**Fe**	57	136.7	18.0	**0.1471**	0.054	36.7	mg/L	102	Standard
⌊>	**Sc-1**	45	41416.6	2.4				mg/L	53004	Standard
	Cl	35	4.0	66.1				ug/L	2	Standard
	Kr	83	163.1	5.0				ug/L	157	Standard
	Br	81	5.8	137.8				ug/L	3	Standard
	P	31	54536.3	1.6				ug/L	91588	Standard
	S	34	30708.6	1.0				ug/L	32556	Standard
	Sr	88	135.0	7.4				ug/L	62	Standard
	C	12	195.0	17.9				mg/L	133	Standard
	N	14	1.7	173.2				mg/L	0	Standard
	Hg	202	20.0	25.0				mg/L	7	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		84.932	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: L1211041902DP WG414324-07
Report Date/Time: Sunday, November 18, 2012 12:27:48
Page 2

Approved: November 19, 2012

⌈	Mo	98		
|	Ag	107		
|	Cd	111		
|	Cd	114		
|>	In	115		89.618
|	Sn	118		
|	Sb	123		
⌊	Ba	135		
⌈	Ce	140		
⌊>	Tb	159		
⌈	Ho	165		
|	Tl	203		
|	Tl	205		
|	Pb	206		
|	Pb	207		
|	Pb	208		
|	U	238		
⌊>	Bi	209		93.917
⌈	Na	23		
|	Mg	24		
|	K	39		
|	Ca	43		
|	Fe	54		
|	Fe	57		
⌊>	Sc-1	45		
	Cl	35		
	Kr	83		
	Br	81		
	P	31		
	S	34		
	Sr	88		
	C	12		
	N	14		
	Hg	202		

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: L1211041902DP WG414324-07
Report Date/Time: Sunday, November 18, 2012 12:27:48
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

Sample ID: L1211042001
Sample Date/Time: Sunday, November 18, 2012 12:28:28
Number of Replicates: 3
Autosampler Position: 228
Sample Description: 5
Method File: C:\NexION Data\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
⌈	**Li**	7	13149.0	4.4	**-4577.6278**	434.996	9.5	ug/L	8369	Standard
|	**Be**	9	23.3	44.6	**0.0047**	0.006	128.7	ug/L	18	Standard
|	**Al**	27	1776170.3	2.3	**18.3985**	0.541	2.9	ug/L	215	Standard
⌊>	**Sc**	45	41653.9	1.8				ug/L	53004	Standard
⌈	**Ti**	47	158.3	12.4	**0.2987**	0.041	13.6	ug/L	26	Standard
|	**V**	51	7003.7	1.5	**0.4202**	0.017	4.1	ug/L	3223	Standard
|	**Cr**	52	8695.5	3.6	**0.0060**	0.034	570.6	ug/L	10379	Standard
|	**Cr**	53	778.4	3.5	**0.5482**	0.016	3.0	ug/L	192	Standard
|	**Mn**	55	77968909.3	2.8	**5232.4983**	90.013	1.7	ug/L	1840	Standard
|	**Co**	59	8768.2	1.6	**0.7499**	0.010	1.3	ug/L	115	Standard
|	**Ni**	60	2826.3	2.1	**1.1116**	0.011	1.0	ug/L	75	Standard
|	**Cu**	65	2373.5	4.8	**0.9403**	0.037	3.9	ug/L	155	Standard
|	**Zn**	66	11488.0	1.4	**9.5650**	0.048	0.5	ug/L	237	Standard
|>	**Ge**	72	355323.1	1.1				ug/L	413856	Standard
|	**As**	75	3026.0	4.6	**2.5674**	0.088	3.4	ug/L	-197	Standard
|	**Se**	82	19.8	8.9	**0.1828**	0.014	7.7	ug/L	-5	Standard
⌊	**Se-1**	77	131.0	10.7	**0.5752**	0.149	26.0	ug/L	105	Standard
⌈>	**Ga**	71	648.3	7.1				mg/L	225	Standard
⌊	**Rb**	85	1916.8	4.0				ug/L	28	Standard
⌈	**Y**	89	270505.8	3.9				ug/L	322845	Standard
⌊>	**Rh**	103	96.7	20.9				ug/L	92	Standard
⌈	**Mo**	98	5211.7	2.2	**1.2729**	0.015	1.2	ug/L	18	Standard
|	**Ag**	107	58.3	32.4	**0.0003**	0.003	981.1	ug/L	63	Standard
|	**Cd**	111	341.4	3.3	**0.0991**	0.003	3.0	mg/L	20	Standard
|	**Cd**	114	920.8	4.6	**0.1034**	0.005	4.7	ug/L	56	Standard
|>	**In**	115	593372.5	1.2				ug/L	657102	Standard
|	**Sn**	118	1025.7	1.0	**0.0648**	0.002	2.8	ug/L	555	Standard
|	**Sb**	123	108.4	12.2	**0.0124**	0.002	13.6	ug/L	62	Standard
⌊	**Ba**	135	307016.1	2.7	**99.8523**	2.041	2.0	ug/L	19	Standard
⌈	**Ce**	140	4854.1	3.8				ug/L	24	Standard
⌊>	**Tb**	159	851764.0	1.9				ug/L	910514	Standard
⌈	**Ho**	165	358.3	9.2				ug/L	7	Standard
|	**Tl**	203	523.0	5.7	**0.0387**	0.003	8.0	ug/L	13	Standard
|	**Tl**	205	16.3	39.8	**0.0448**	0.018	39.6	ug/L	1	Standard
|	**Pb**	206	1919.1	3.6	**0.1609**	0.005	2.8	ug/L	342	Standard
|	**Pb**	207	1599.8	1.2	**0.1540**	0.002	1.3	ug/L	284	Standard
|	**Pb**	208	7485.7	2.6	**0.1572**	0.002	1.2	ug/L	1363	Standard
|	**U**	238	412.0	7.8	**0.0410**	0.003	7.0	ug/L	2	Standard
⌊>	**Bi**	209	453612.1	1.8				ug/L	470592	Standard

Sample ID: L1211042001
Report Date/Time: Sunday, November 18, 2012 12:31:00
Page 1

Approved: November 19, 2012

⌈	**Na**	23	1.7	173.2	**0.1935**	0.326	168.7	mg/L	2	Standard
|	**Mg**	24	334894.2	1.0	**0.2063**	0.006	2.8	mg/L	5586	Standard
|	**K**	39	16.7	75.5	**0.2459**	0.213	86.7	mg/L	5	Standard
|	**Ca**	43	191.7	14.4	**8.1585**	1.547	19.0	mg/L	45	Standard
|	**Fe**	54	1444.1	8.1	**0.5528**	0.062	11.3	mg/L	350	Standard
|	**Fe**	57	518.3	15.1	**0.9063**	0.143	15.8	mg/L	102	Standard
⌊>	**Sc-1**	45	41653.9	1.8				mg/L	53004	Standard
	Cl	35	3.0	88.2				ug/L	2	Standard
	Kr	83	161.8	8.0				ug/L	157	Standard
	Br	81	7.5	66.7				ug/L	3	Standard
	P	31	58180.7	0.0				ug/L	91588	Standard
	S	34	31973.7	1.3				ug/L	32556	Standard
	Sr	88	118.3	25.5				ug/L	62	Standard
	C	12	191.7	17.4				mg/L	133	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	31.7	39.7				mg/L	7	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		85.857	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: L1211042001
Report Date/Time: Sunday, November 18, 2012 12:31:00
Page 2

Approved: November 19, 2012

	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	90.301
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	96.392
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Mn 55 Upper, S, EEE	Mn	55	

Sample ID: L1211042001
Report Date/Time: Sunday, November 18, 2012 12:31:00
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

Sample ID: QC Std 6
Sample Date/Time: Sunday, November 18, 2012 12:32:51
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	8163.9	5.2	**-445.7704**	214.871	48.2	ug/L	8369	Standard
|	**Be**	9	102049.9	5.8	**55.5845**	2.488	4.5	ug/L	18	Standard
|	**Al**	27	6649002.2	3.5	**61.3589**	1.383	2.3	ug/L	215	Standard
⌊>	**Sc**	45	46740.3	1.4				ug/L	53004	Standard
⌈	**Ti**	47	45164.6	2.4	**93.6151**	0.771	0.8	ug/L	26	Standard
|	**V**	51	538053.5	2.5	**48.1144**	0.333	0.7	ug/L	3223	Standard
|	**Cr**	52	514691.2	3.7	**49.0413**	0.964	2.0	ug/L	10379	Standard
|	**Cr**	53	63133.8	1.5	**48.7845**	0.442	0.9	ug/L	192	Standard
|	**Mn**	55	807016.5	5.1	**49.5014**	1.437	2.9	ug/L	1840	Standard
|	**Co**	59	621486.8	4.0	**49.6594**	0.934	1.9	ug/L	115	Standard
|	**Ni**	60	134433.9	5.4	**49.9192**	1.532	3.1	ug/L	75	Standard
|	**Cu**	65	131522.0	5.2	**50.5749**	1.447	2.9	ug/L	155	Standard
|	**Zn**	66	65209.5	3.9	**50.5578**	1.100	2.2	ug/L	237	Standard
|>	**Ge**	72	387950.3	2.3				ug/L	413856	Standard
|	**As**	75	67246.7	4.2	**49.5475**	1.238	2.5	ug/L	-197	Standard
|	**Se**	82	5956.1	3.7	**49.0250**	0.746	1.5	ug/L	-5	Standard
⌊	**Se-1**	77	4607.7	3.2	**49.1109**	0.701	1.4	ug/L	105	Standard
⌈>	**Ga**	71	241.7	15.7				mg/L	225	Standard
⌊	**Rb**	85	1008.4	6.0				ug/L	28	Standard
⌈	**Y**	89	285309.1	6.0				ug/L	322845	Standard
⌊>	**Rh**	103	118.3	34.2				ug/L	92	Standard
⌈	**Mo**	98	406208.1	4.4	**93.3732**	4.053	4.3	ug/L	18	Standard
|	**Ag**	107	385600.4	2.9	**50.3795**	1.118	2.2	ug/L	63	Standard
|	**Cd**	111	167110.2	3.6	**50.4472**	2.025	4.0	mg/L	20	Standard
|	**Cd**	114	438679.3	3.9	**50.3172**	2.122	4.2	ug/L	56	Standard
|>	**In**	115	634813.9	1.9				ug/L	657102	Standard
|	**Sn**	118	486649.6	4.4	**50.5752**	2.160	4.3	ug/L	555	Standard
|	**Sb**	123	383745.1	2.5	**50.7349**	1.737	3.4	ug/L	62	Standard
⌊	**Ba**	135	167520.2	3.7	**50.9325**	2.164	4.2	ug/L	19	Standard
⌈	**Ce**	140	648.7	7.2				ug/L	24	Standard
⌊>	**Tb**	159	902220.0	0.4				ug/L	910514	Standard
⌈	**Ho**	165	436.7	4.4				ug/L	7	Standard
|	**Tl**	203	634476.3	2.1	**50.2897**	0.920	1.8	ug/L	13	Standard
|	**Tl**	205	19890.1	2.6	**51.6751**	1.211	2.3	ug/L	1	Standard
|	**Pb**	206	509122.9	3.2	**50.3380**	1.530	3.0	ug/L	342	Standard
|	**Pb**	207	434355.8	3.4	**50.5112**	1.570	3.1	ug/L	284	Standard
|	**Pb**	208	2002338.1	2.9	**50.1549**	1.362	2.7	ug/L	1363	Standard
|	**U**	238	509566.8	3.9	**51.5750**	1.876	3.6	ug/L	2	Standard
⌊>	**Bi**	209	463211.9	0.7				ug/L	470592	Standard

Sample ID: QC Std 6
Report Date/Time: Sunday, November 18, 2012 12:35:23
Page 1

Approved: November 19, 2012

⌈	**Na**	23	0.0		**0.0050**	0.000	0.0	mg/L	2	Standard
|	**Mg**	24	304806.3	2.2	**0.1667**	0.002	1.2	mg/L	5586	Standard
|	**K**	39	346.7	13.4	**5.3016**	0.684	12.9	mg/L	5	Standard
|	**Ca**	43	133.3	22.0	**4.2012**	1.385	33.0	mg/L	45	Standard
|	**Fe**	54	13044.9	3.3	**5.5292**	0.135	2.4	mg/L	350	Standard
|	**Fe**	57	3015.3	4.6	**5.2407**	0.199	3.8	mg/L	102	Standard
⌊>	**Sc-1**	45	46740.3	1.4				mg/L	53004	Standard
	Cl	35	3.3	69.3				ug/L	2	Standard
	Kr	83	172.2	2.1				ug/L	157	Standard
	Br	81	5.8	49.5				ug/L	3	Standard
	P	31	114225.7	1.7				ug/L	91588	Standard
	S	34	33818.5	0.8				ug/L	32556	Standard
	Sr	88	75.0	37.1				ug/L	62	Standard
	C	12	146.7	22.7				mg/L	133	Standard
	N	14	1.7	173.2				mg/L	0	Standard
	Hg	202	1.7	173.2				mg/L	7	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈	Li	7			
|	Be	9	111.169		
|	Al	27	122.718		
⌊>	Sc	45			
⌈	Ti	47	93.615		
|	V	51	96.229		
|	Cr	52	98.083		
|	Cr	53			
|	Mn	55	99.003		
|	Co	59	99.319		
|	Ni	60	99.838		
|	Cu	65	101.150		
|	Zn	66	101.116		
|>	Ge	72		93.740	
|	As	75	99.095		
|	Se	82	98.050		
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: QC Std 6
Report Date/Time: Sunday, November 18, 2012 12:35:23
Page 2

Approved: November 19, 2012

	Mo	98	93.373	
	Ag	107	100.759	
	Cd	111	100.894	
	Cd	114		
>	In	115		96.608
	Sn	118	101.150	
	Sb	123	101.470	
	Ba	135	101.865	
	Ce	140		
>	Tb	159		
	Ho	165		
	Tl	203	100.579	
	Tl	205		
	Pb	206	100.676	
	Pb	207	101.022	
	Pb	208	100.310	
	U	238	103.150	
>	Bi	209		98.432
	Na	23		
	Mg	24		
	K	39		
	Ca	43		
	Fe	54		
	Fe	57		
>	Sc-1	45		
	Cl	35		
	Kr	83		
	Br	81		
	P	31		
	S	34		
	Sr	88		
	C	12		
	N	14		
	Hg	202		

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 6	Be	9	
QC Std 6	Al	27	

Sample ID: QC Std 6
Report Date/Time: Sunday, November 18, 2012 12:35:23
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

Sample ID: QC Std 7
Sample Date/Time: Sunday, November 18, 2012 12:36:04
Number of Replicates: 3
Autosampler Position: 102
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	8008.8	4.3	**-741.5539**	242.833	32.7	ug/L	8369	Standard
|	**Be**	9	6.7	114.6	**-0.0055**	0.005	82.9	ug/L	18	Standard
|	**Al**	27	1131.7	112.8	**0.0092**	0.013	140.8	ug/L	215	Standard
⌊>	**Sc**	45	43367.0	2.6				ug/L	53004	Standard
⌈	**Ti**	47	19.0	27.9	**-0.0180**	0.012	65.9	ug/L	26	Standard
|	**V**	51	2595.2	0.4	**-0.0213**	0.004	17.5	ug/L	3223	Standard
|	**Cr**	52	8769.5	0.6	**-0.0176**	0.012	68.3	ug/L	10379	Standard
|	**Cr**	53	266.7	18.5	**0.1078**	0.038	35.1	ug/L	192	Standard
|	**Mn**	55	10130.1	16.6	**0.5689**	0.117	20.6	ug/L	1840	Standard
|	**Co**	59	107.7	29.5	**-0.0064**	0.003	42.7	ug/L	115	Standard
|	**Ni**	60	78.7	0.7	**-0.0047**	0.001	12.6	ug/L	75	Standard
|	**Cu**	65	182.7	2.3	**0.0167**	0.001	5.7	ug/L	155	Standard
|	**Zn**	66	241.3	3.9	**-0.0012**	0.009	741.0	ug/L	237	Standard
|>	**Ge**	72	367756.4	1.3				ug/L	413856	Standard
|	**As**	75	-149.2	20.2	**0.0240**	0.025	103.4	ug/L	-197	Standard
|	**Se**	82	11.5	103.0	**0.1040**	0.102	97.7	ug/L	-5	Standard
⌊	**Se-1**	77	109.7	2.9	**0.2794**	0.051	18.2	ug/L	105	Standard
⌈>	**Ga**	71	173.3	26.2				mg/L	225	Standard
⌊	**Rb**	85	46.7	65.5				ug/L	28	Standard
⌈	**Y**	89	273592.0	3.8				ug/L	322845	Standard
⌊>	**Rh**	103	96.7	21.5				ug/L	92	Standard
⌈	**Mo**	98	152.4	119.5	**0.0287**	0.045	158.0	ug/L	18	Standard
|	**Ag**	107	158.0	109.1	**0.0141**	0.024	173.0	ug/L	63	Standard
|	**Cd**	111	63.8	125.9	**0.0094**	0.026	279.2	mg/L	20	Standard
|	**Cd**	114	169.5	107.9	**0.0111**	0.023	204.4	ug/L	56	Standard
|>	**In**	115	605930.4	2.5				ug/L	657102	Standard
|	**Sn**	118	616.7	25.5	**0.0181**	0.019	104.5	ug/L	555	Standard
|	**Sb**	123	329.5	38.4	**0.0429**	0.018	42.9	ug/L	62	Standard
⌊	**Ba**	135	110.0	108.7	**0.0157**	0.039	250.8	ug/L	19	Standard
⌈	**Ce**	140	31.3	30.3				ug/L	24	Standard
⌊>	**Tb**	159	859941.5	1.8				ug/L	910514	Standard
⌈	**Ho**	165	10.3	22.3				ug/L	7	Standard
|	**Tl**	203	98.3	100.1	**0.0044**	0.008	182.8	ug/L	13	Standard
|	**Tl**	205	1.7	91.7	**0.0057**	0.004	71.4	ug/L	1	Standard
|	**Pb**	206	377.0	15.1	**0.0056**	0.006	104.1	ug/L	342	Standard
|	**Pb**	207	306.7	16.6	**0.0007**	0.006	792.2	ug/L	284	Standard
|	**Pb**	208	1502.4	12.5	**0.0045**	0.005	109.0	ug/L	1363	Standard
|	**U**	238	38.7	130.7	**0.0025**	0.005	209.9	ug/L	2	Standard
⌊>	**Bi**	209	448333.7	1.5				ug/L	470592	Standard

Sample ID: QC Std 7
Report Date/Time: Sunday, November 18, 2012 12:38:37
Page 1

Approved: November 19, 2012

⌈	**Na**	23	0.0		**0.0050**	0.000	0.0	mg/L	2	Standard
|	**Mg**	24	2193.5	33.2	**-0.0016**	0.000	28.4	mg/L	5586	Standard
|	**K**	39	8.3	91.7	**0.0966**	0.128	132.3	mg/L	5	Standard
|	**Ca**	43	41.7	48.5	**-0.0463**	1.089	2355.0	mg/L	45	Standard
|	**Fe**	54	317.0	29.3	**-0.0039**	0.047	1208.9	mg/L	350	Standard
|	**Fe**	57	96.7	7.9	**0.0574**	0.016	27.9	mg/L	102	Standard
⌊>	**Sc-1**	45	43367.0	2.6				mg/L	53004	Standard
	Cl	35	3.0	66.7				ug/L	2	Standard
	Kr	83	169.9	1.1				ug/L	157	Standard
	Br	81	4.2	69.3				ug/L	3	Standard
	P	31	111381.0	4.7				ug/L	91588	Standard
	S	34	32499.0	2.3				ug/L	32556	Standard
	Sr	88	61.7	16.9				ug/L	62	Standard
	C	12	145.0	27.4				mg/L	133	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	1.7	173.2				mg/L	7	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		88.861	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: QC Std 7
Report Date/Time: Sunday, November 18, 2012 12:38:37
Page 2

Approved: November 19, 2012

	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	92.213
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	95.270
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 7	Mn	55	

Sample ID: QC Std 7
Report Date/Time: Sunday, November 18, 2012 12:38:37
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

Sample ID: QC Std 4
Sample Date/Time: Sunday, November 18, 2012 12:40:39
Number of Replicates: 3
Autosampler Position: 203
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	8280.6	5.3	**-713.0786**	187.079	26.2	ug/L	8369	Standard
|	**Be**	9	5.0	0.0	**-0.0066**	0.000	1.6	ug/L	18	Standard
|	**Al**	27	5982930.0	5.5	**57.3133**	3.351	5.8	ug/L	215	Standard
⌊>	**Sc**	45	45060.3	3.8				ug/L	53004	Standard
⌈	**Ti**	47	43551.9	3.8	**90.7706**	2.089	2.3	ug/L	26	Standard
|	**V**	51	1273.3	34.6	**-0.1522**	0.040	26.5	ug/L	3223	Standard
|	**Cr**	52	9451.6	4.0	**0.0069**	0.027	383.4	ug/L	10379	Standard
|	**Cr**	53	2448.5	2.4	**1.7974**	0.048	2.7	ug/L	192	Standard
|	**Mn**	55	2920.6	11.7	**0.0915**	0.019	20.7	ug/L	1840	Standard
|	**Co**	59	270.7	9.2	**0.0063**	0.002	34.4	ug/L	115	Standard
|	**Ni**	60	849.4	9.2	**0.2819**	0.026	9.2	ug/L	75	Standard
|	**Cu**	65	517.3	8.4	**0.1428**	0.015	10.7	ug/L	155	Standard
|	**Zn**	66	1781.8	5.5	**1.1948**	0.047	3.9	ug/L	237	Standard
|>	**Ge**	72	385765.4	2.3				ug/L	413856	Standard
|	**As**	75	-140.6	40.0	**0.0360**	0.041	114.1	ug/L	-197	Standard
|	**Se**	82	1.7	472.7	**0.0194**	0.065	332.5	ug/L	-5	Standard
⌊	**Se-1**	77	317.7	2.1	**2.4948**	0.054	2.1	ug/L	105	Standard
⌈>	**Ga**	71	303.3	11.6				mg/L	225	Standard
⌊	**Rb**	85	2895.3	3.3				ug/L	28	Standard
⌈	**Y**	89	288577.7	1.7				ug/L	322845	Standard
⌊>	**Rh**	103	88.3	22.9				ug/L	92	Standard
⌈	**Mo**	98	365374.6	4.1	**85.8216**	2.718	3.2	ug/L	18	Standard
|	**Ag**	107	96.7	39.7	**0.0050**	0.005	96.9	ug/L	63	Standard
|	**Cd**	111	191.6	17.1	**0.0478**	0.009	18.5	mg/L	20	Standard
|	**Cd**	114	1288.8	2.8	**0.1415**	0.002	1.3	ug/L	56	Standard
|>	**In**	115	621124.1	2.1				ug/L	657102	Standard
|	**Sn**	118	419.3	4.1	**-0.0048**	0.001	19.3	ug/L	555	Standard
|	**Sb**	123	327.5	6.5	**0.0413**	0.002	4.7	ug/L	62	Standard
⌊	**Ba**	135	181.7	15.6	**0.0364**	0.008	20.8	ug/L	19	Standard
⌈	**Ce**	140	1783.4	3.3				ug/L	24	Standard
⌊>	**Tb**	159	886949.9	1.3				ug/L	910514	Standard
⌈	**Ho**	165	12.0	0.0				ug/L	7	Standard
|	**Tl**	203	177.0	5.7	**0.0106**	0.001	6.1	ug/L	13	Standard
|	**Tl**	205	6.0	28.9	**0.0171**	0.004	25.5	ug/L	1	Standard
|	**Pb**	206	586.0	5.2	**0.0260**	0.004	14.0	ug/L	342	Standard
|	**Pb**	207	483.7	3.3	**0.0211**	0.002	9.6	ug/L	284	Standard
|	**Pb**	208	2285.1	3.5	**0.0238**	0.002	10.2	ug/L	1363	Standard
|	**U**	238	8.0	82.0	**-0.0007**	0.001	96.1	ug/L	2	Standard
⌊>	**Bi**	209	455661.2	1.3				ug/L	470592	Standard

Sample ID: QC Std 4
Report Date/Time: Sunday, November 18, 2012 12:43:10
Page 1

Approved: November 19, 2012

⌈	**Na**	23	0.0		**0.0050**	0.000	0.0	mg/L	2	Standard
|	**Mg**	24	428979.7	2.1	**0.2448**	0.006	2.3	mg/L	5586	Standard
|	**K**	39	325.0	4.1	**5.1570**	0.030	0.6	mg/L	5	Standard
|	**Ca**	43	300.0	6.0	**12.8001**	0.997	7.8	mg/L	45	Standard
|	**Fe**	54	27964.6	6.4	**12.4836**	0.648	5.2	mg/L	350	Standard
|	**Fe**	57	6813.2	8.2	**12.4581**	0.941	7.6	mg/L	102	Standard
⌊>	**Sc-1**	45	45060.3	3.8				mg/L	53004	Standard
	Cl	35	1.0	100.0				ug/L	2	Standard
	Kr	83	186.0	4.2				ug/L	157	Standard
	Br	81	3.3	114.6				ug/L	3	Standard
	P	31	92392.7	3.5				ug/L	91588	Standard
	S	34	30265.2	3.2				ug/L	32556	Standard
	Sr	88	71.7	10.7				ug/L	62	Standard
	C	12	293.3	8.6				mg/L	133	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	3.3	173.2				mg/L	7	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈	Li	7			
|	Be	9			
|	Al	27	1.146		
⌊>	Sc	45			
⌈	Ti	47	90.771		
|	V	51			
|	Cr	52			
|	Cr	53			
|	Mn	55			
|	Co	59			
|	Ni	60			
|	Cu	65			
|	Zn	66			
|>	Ge	72		93.213	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: QC Std 4
Report Date/Time: Sunday, November 18, 2012 12:43:10
Page 2

Approved: November 19, 2012

	Mo	98	85.822	
	Ag	107		
	Cd	111		
	Cd	114		
>	In	115		94.525
	Sn	118		
	Sb	123		
	Ba	135		
	Ce	140		
>	Tb	159		
	Ho	165		
	Tl	203		
	Tl	205		
	Pb	206		
	Pb	207		
	Pb	208		
	U	238		
>	Bi	209		96.827
	Na	23	0.040	
	Mg	24	4.896	
	K	39	103.139	
	Ca	43	85.334	
	Fe	54	99.869	
	Fe	57	99.665	
>	Sc-1	45		
	Cl	35		
	Kr	83		
	Br	81		
	P	31		
	S	34		
	Sr	88		
	C	12		
	N	14		
	Hg	202		

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 4	Al	27	
QC Std 4	Na	23	
QC Std 4	Mg	24	

Sample ID: QC Std 4
Report Date/Time: Sunday, November 18, 2012 12:43:10
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

Sample ID: QC Std 5
Sample Date/Time: Sunday, November 18, 2012 12:43:50
Number of Replicates: 3
Autosampler Position: 204
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	8252.3	7.1	**-850.9968**	162.321	19.1	ug/L	8369	Standard
|	**Be**	9	197088.1	7.4	**114.7325**	7.039	6.1	ug/L	18	Standard
|	**Al**	27	5062940.8	5.2	**49.9330**	2.044	4.1	ug/L	215	Standard
⌊>	**Sc**	45	43756.5	4.5				ug/L	53004	Standard
⌈	**Ti**	47	36358.7	5.8	**77.1233**	3.109	4.0	ug/L	26	Standard
|	**V**	51	949092.6	5.7	**87.0907**	3.797	4.4	ug/L	3223	Standard
|	**Cr**	52	912961.0	5.2	**89.7986**	3.029	3.4	ug/L	10379	Standard
|	**Cr**	53	115182.4	6.7	**91.1748**	4.673	5.1	ug/L	192	Standard
|	**Mn**	55	1465008.9	5.8	**92.0929**	3.896	4.2	ug/L	1840	Standard
|	**Co**	59	1125621.1	4.7	**92.1076**	2.923	3.2	ug/L	115	Standard
|	**Ni**	60	240477.1	4.7	**91.4763**	2.595	2.8	ug/L	75	Standard
|	**Cu**	65	240078.0	4.6	**94.5889**	2.518	2.7	ug/L	155	Standard
|	**Zn**	66	120033.9	4.6	**95.4570**	2.711	2.8	ug/L	237	Standard
|>	**Ge**	72	378894.0	2.3				ug/L	413856	Standard
|	**As**	75	125132.8	5.0	**94.2640**	2.950	3.1	ug/L	-197	Standard
|	**Se**	82	10938.0	4.9	**92.1742**	3.169	3.4	ug/L	-5	Standard
⌊	**Se-1**	77	8624.8	5.4	**94.9942**	3.439	3.6	ug/L	105	Standard
⌈>	**Ga**	71	373.3	11.2				mg/L	225	Standard
⌊	**Rb**	85	2455.2	7.6				ug/L	28	Standard
⌈	**Y**	89	281708.3	1.2				ug/L	322845	Standard
⌊>	**Rh**	103	140.0	0.0				ug/L	92	Standard
⌈	**Mo**	98	310273.1	6.2	**73.2433**	4.974	6.8	ug/L	18	Standard
|	**Ag**	107	699246.9	3.1	**93.8405**	4.099	4.4	ug/L	63	Standard
|	**Cd**	111	304283.3	5.9	**94.3427**	6.372	6.8	mg/L	20	Standard
|	**Cd**	114	790268.8	6.1	**93.1000**	6.490	7.0	ug/L	56	Standard
|>	**In**	115	618456.8	3.1				ug/L	657102	Standard
|	**Sn**	118	697.0	4.9	**0.0250**	0.002	6.8	ug/L	555	Standard
|	**Sb**	123	710261.6	4.9	**96.4475**	6.183	6.4	ug/L	62	Standard
⌊	**Ba**	135	304304.3	5.3	**95.0418**	6.278	6.6	ug/L	19	Standard
⌈	**Ce**	140	1539.7	9.2				ug/L	24	Standard
⌊>	**Tb**	159	883784.4	2.3				ug/L	910514	Standard
⌈	**Ho**	165	180.7	10.4				ug/L	7	Standard
|	**Tl**	203	1176435.6	2.4	**96.1918**	2.425	2.5	ug/L	13	Standard
|	**Tl**	205	37504.4	2.5	**100.5227**	3.189	3.2	ug/L	1	Standard
|	**Pb**	206	937739.3	4.4	**95.6656**	4.094	4.3	ug/L	342	Standard
|	**Pb**	207	807997.4	4.4	**96.9627**	4.329	4.5	ug/L	284	Standard
|	**Pb**	208	3770010.5	6.8	**97.3845**	5.143	5.3	ug/L	1363	Standard
|	**U**	238	920647.8	5.4	**96.1013**	4.410	4.6	ug/L	2	Standard
⌊>	**Bi**	209	449222.5	3.3				ug/L	470592	Standard

Sample ID: QC Std 5
Report Date/Time: Sunday, November 18, 2012 12:46:22
Page 1

Approved: November 19, 2012

⌈	**Na**	23	0.0		**0.0050**	0.000	0.0	mg/L	2	Standard
|	**Mg**	24	400216.9	2.3	**0.2352**	0.007	3.0	mg/L	5586	Standard
|	**K**	39	268.3	8.4	**4.3819**	0.384	8.8	mg/L	5	Standard
|	**Ca**	43	280.0	1.8	**12.2193**	0.474	3.9	mg/L	45	Standard
|	**Fe**	54	24314.0	3.8	**11.1675**	0.357	3.2	mg/L	350	Standard
|	**Fe**	57	5912.8	3.0	**11.1353**	0.620	5.6	mg/L	102	Standard
⌊>	**Sc-1**	45	43756.5	4.5				mg/L	53004	Standard
	Cl	35	2.3	49.5				ug/L	2	Standard
	Kr	83	183.3	1.5				ug/L	157	Standard
	Br	81	5.0	50.0				ug/L	3	Standard
	P	31	98502.3	5.6				ug/L	91588	Standard
	S	34	28046.8	1.2				ug/L	32556	Standard
	Sr	88	50.0	10.0				ug/L	62	Standard
	C	12	246.7	16.9				mg/L	133	Standard
	N	14	1.7	173.2				mg/L	0	Standard
	Hg	202	0.0					mg/L	7	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈	Li	7			
|	Be	9	114.732		
|	Al	27	0.999		
⌊>	Sc	45			
⌈	Ti	47	77.123		
|	V	51	87.091		
|	Cr	52	89.799		
|	Cr	53			
|	Mn	55	92.093		
|	Co	59	92.108		
|	Ni	60	91.476		
|	Cu	65	94.589		
|	Zn	66	95.457		
|>	Ge	72		91.552	
|	As	75	94.264		
|	Se	82	92.174		
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: QC Std 5
Report Date/Time: Sunday, November 18, 2012 12:46:22
Page 2

Approved: November 19, 2012

	Mo	98	73.243	
	Ag	107	93.841	
	Cd	111	94.343	
	Cd	114		
>	In	115		94.119
	Sn	118		
	Sb	123	96.447	
	Ba	135	95.042	
	Ce	140		
>	Tb	159		
	Ho	165		
	Tl	203	96.192	
	Tl	205		
	Pb	206	95.666	
	Pb	207	96.963	
	Pb	208	97.384	
	U	238	96.101	
>	Bi	209		95.459
	Na	23	0.040	
	Mg	24	4.703	
	K	39	87.639	
	Ca	43	81.462	
	Fe	54	89.340	
	Fe	57	89.082	
>	Sc-1	45		
	Cl	35		
	Kr	83		
	Br	81		
	P	31		
	S	34		
	Sr	88		
	C	12		
	N	14		
	Hg	202		

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 5	Al	27	
QC Std 5	Ti	47	
QC Std 5	Mo	98	
QC Std 5	Na	23	
QC Std 5	Mg	24	

Approved: November 19, 2012

Method 6020 - Summary Report

Sample ID: QC Std 6
Sample Date/Time: Sunday, November 18, 2012 12:47:07
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	8243.9	4.9	**-561.4093**	80.440	14.3	ug/L	8369	Standard
|	**Be**	9	101683.6	3.3	**56.1160**	0.323	0.6	ug/L	18	Standard
|	**Al**	27	6550845.5	5.0	**61.2228**	1.514	2.5	ug/L	215	Standard
⌊>	**Sc**	45	46150.2	3.4				ug/L	53004	Standard
⌈	**Ti**	47	44255.0	4.8	**93.4104**	3.687	3.9	ug/L	26	Standard
|	**V**	51	529866.9	4.4	**48.2533**	1.715	3.6	ug/L	3223	Standard
|	**Cr**	52	502676.5	3.8	**48.7813**	1.498	3.1	ug/L	10379	Standard
|	**Cr**	53	62105.6	5.4	**48.8683**	2.447	5.0	ug/L	192	Standard
|	**Mn**	55	797450.0	3.4	**49.8400**	1.426	2.9	ug/L	1840	Standard
|	**Co**	59	619221.0	4.1	**50.4031**	1.801	3.6	ug/L	115	Standard
|	**Ni**	60	130757.1	5.2	**49.4624**	2.012	4.1	ug/L	75	Standard
|	**Cu**	65	129901.1	4.2	**50.8906**	1.666	3.3	ug/L	155	Standard
|	**Zn**	66	64375.3	4.5	**50.8417**	2.051	4.0	ug/L	237	Standard
| >	**Ge**	72	380891.4	1.4				ug/L	413856	Standard
|	**As**	75	66673.5	3.8	**50.0395**	1.490	3.0	ug/L	-197	Standard
|	**Se**	82	5843.5	4.3	**48.9970**	1.942	4.0	ug/L	-5	Standard
⌊	**Se-1**	77	4511.0	1.9	**48.9729**	0.649	1.3	ug/L	105	Standard
⌈>	**Ga**	71	175.0	22.7				mg/L	225	Standard
⌊	**Rb**	85	966.7	7.1				ug/L	28	Standard
⌈	**Y**	89	292906.5	2.0				ug/L	322845	Standard
⌊>	**Rh**	103	133.3	5.7				ug/L	92	Standard
⌈	**Mo**	98	409012.2	5.4	**94.7872**	3.736	3.9	ug/L	18	Standard
|	**Ag**	107	386348.4	3.2	**50.9060**	0.840	1.6	ug/L	63	Standard
|	**Cd**	111	166009.3	4.5	**50.5249**	1.591	3.1	mg/L	20	Standard
|	**Cd**	114	430676.0	3.5	**49.8098**	1.096	2.2	ug/L	56	Standard
| >	**In**	115	629350.0	1.6				ug/L	657102	Standard
|	**Sn**	118	482791.2	5.5	**50.5857**	2.039	4.0	ug/L	555	Standard
|	**Sb**	123	384078.6	3.6	**51.1932**	1.097	2.1	ug/L	62	Standard
⌊	**Ba**	135	163892.9	3.9	**50.2390**	1.321	2.6	ug/L	19	Standard
⌈	**Ce**	140	638.3	4.9				ug/L	24	Standard
⌊>	**Tb**	159	887371.5	2.2				ug/L	910514	Standard
⌈	**Ho**	165	442.3	5.8				ug/L	7	Standard
|	**Tl**	203	631280.4	3.1	**50.6853**	0.877	1.7	ug/L	13	Standard
|	**Tl**	205	19827.0	2.4	**52.1898**	1.165	2.2	ug/L	1	Standard
|	**Pb**	206	503865.0	3.9	**50.4629**	1.398	2.8	ug/L	342	Standard
|	**Pb**	207	431591.1	3.5	**50.8430**	1.265	2.5	ug/L	284	Standard
|	**Pb**	208	1985765.7	4.0	**50.3836**	1.429	2.8	ug/L	1363	Standard
|	**U**	238	508194.9	5.6	**52.0910**	2.092	4.0	ug/L	2	Standard
⌊>	**Bi**	209	457324.2	3.0				ug/L	470592	Standard

Sample ID: QC Std 6
Report Date/Time: Sunday, November 18, 2012 12:49:39
Page 1

Approved: November 19, 2012

	Na	23	0.0		**0.0050**	0.000	0.0	mg/L	2	Standard
	Mg	24	303554.3	1.3	**0.1682**	0.004	2.1	mg/L	5586	Standard
	K	39	365.0	6.0	**5.6577**	0.235	4.1	mg/L	5	Standard
	Ca	43	121.7	17.1	**3.7223**	1.056	28.4	mg/L	45	Standard
	Fe	54	12784.4	4.3	**5.4866**	0.070	1.3	mg/L	350	Standard
	Fe	57	3050.3	2.4	**5.3749**	0.064	1.2	mg/L	102	Standard
>	**Sc-1**	45	46150.2	3.4				mg/L	53004	Standard
	Cl	35	4.3	13.3				ug/L	2	Standard
	Kr	83	186.3	3.5				ug/L	157	Standard
	Br	81	6.7	57.3				ug/L	3	Standard
	P	31	106088.5	1.7				ug/L	91588	Standard
	S	34	30906.5	2.2				ug/L	32556	Standard
	Sr	88	91.7	27.5				ug/L	62	Standard
	C	12	153.3	14.7				mg/L	133	Standard
	N	14	1.7	173.2				mg/L	0	Standard
	Hg	202	6.7	114.6				mg/L	7	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
	Li	7			
	Be	9	112.232		
	Al	27	122.446		
>	Sc	45			
	Ti	47	93.410		
	V	51	96.507		
	Cr	52	97.563		
	Cr	53			
	Mn	55	99.680		
	Co	59	100.806		
	Ni	60	98.925		
	Cu	65	101.781		
	Zn	66	101.683		
>	Ge	72		92.035	
	As	75	100.079		
	Se	82	97.994		
	Se-1	77			
>	Ga	71			
	Rb	85			
	Y	89			
>	Rh	103			

Sample ID: QC Std 6
Report Date/Time: Sunday, November 18, 2012 12:49:39
Page 2

Approved: November 19, 2012

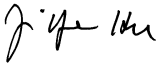
⌈	Mo	98	94.787	
|	Ag	107	101.812	
|	Cd	111	101.050	
|	Cd	114		
|>	In	115		95.777
|	Sn	118	101.171	
|	Sb	123	102.386	
⌊	Ba	135	100.478	
⌈	Ce	140		
⌊>	Tb	159		
⌈	Ho	165		
|	Tl	203	101.371	
|	Tl	205		
|	Pb	206	100.926	
|	Pb	207	101.686	
|	Pb	208	100.767	
|	U	238	104.182	
⌊>	Bi	209		97.181
⌈	Na	23		
|	Mg	24		
|	K	39		
|	Ca	43		
|	Fe	54		
|	Fe	57		
⌊>	Sc-1	45		
	Cl	35		
	Kr	83		
	Br	81		
	P	31		
	S	34		
	Sr	88		
	C	12		
	N	14		
	Hg	202		

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 6	Be	9	
QC Std 6	Al	27	

Sample ID: QC Std 6
Report Date/Time: Sunday, November 18, 2012 12:49:39
Page 3

Approved: November 19, 2012



Method 6020 - Summary Report

Sample ID: QC Std 7
Sample Date/Time: Sunday, November 18, 2012 12:50:20
Number of Replicates: 3
Autosampler Position: 102
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	7813.7	3.1	**-665.7284**	57.987	8.7	ug/L	8369	Standard
|	**Be**	9	16.7	17.3	**0.0005**	0.002	421.4	ug/L	18	Standard
|	**Al**	27	755.0	52.5	**0.0055**	0.004	76.2	ug/L	215	Standard
⌊>	**Sc**	45	42914.1	4.3				ug/L	53004	Standard
⌈	**Ti**	47	27.3	22.4	**0.0004**	0.014	3785.6	ug/L	26	Standard
|	**V**	51	2440.4	3.2	**-0.0354**	0.012	32.7	ug/L	3223	Standard
|	**Cr**	52	8426.3	0.7	**-0.0509**	0.020	39.4	ug/L	10379	Standard
|	**Cr**	53	314.2	0.9	**0.1474**	0.007	4.5	ug/L	192	Standard
|	**Mn**	55	11016.8	25.1	**0.6283**	0.188	30.0	ug/L	1840	Standard
|	**Co**	59	137.3	40.9	**-0.0039**	0.005	127.6	ug/L	115	Standard
|	**Ni**	60	79.0	12.1	**-0.0044**	0.004	98.2	ug/L	75	Standard
|	**Cu**	65	191.3	5.6	**0.0204**	0.006	28.7	ug/L	155	Standard
|	**Zn**	66	243.3	4.6	**0.0007**	0.005	777.3	ug/L	237	Standard
|>	**Ge**	72	367070.1	2.0				ug/L	413856	Standard
|	**As**	75	-186.7	14.6	**-0.0049**	0.019	385.5	ug/L	-197	Standard
|	**Se**	82	-3.8	153.7	**-0.0268**	0.049	183.2	ug/L	-5	Standard
⌊	**Se-1**	77	110.7	8.1	**0.2919**	0.080	27.6	ug/L	105	Standard
⌈>	**Ga**	71	188.3	13.6				mg/L	225	Standard
⌊	**Rb**	85	30.0	16.7				ug/L	28	Standard
⌈	**Y**	89	269282.0	3.5				ug/L	322845	Standard
⌊>	**Rh**	103	85.0	17.6				ug/L	92	Standard
⌈	**Mo**	98	50.7	25.8	**0.0037**	0.003	79.5	ug/L	18	Standard
|	**Ag**	107	66.0	25.0	**0.0013**	0.002	170.9	ug/L	63	Standard
|	**Cd**	111	26.6	15.2	**-0.0026**	0.001	55.9	mg/L	20	Standard
|	**Cd**	114	67.0	16.1	**-0.0014**	0.001	101.5	ug/L	56	Standard
|>	**In**	115	596224.8	2.1				ug/L	657102	Standard
|	**Sn**	118	496.0	10.8	**0.0055**	0.005	90.2	ug/L	555	Standard
|	**Sb**	123	378.9	21.0	**0.0503**	0.010	20.2	ug/L	62	Standard
⌊	**Ba**	135	33.3	28.5	**-0.0091**	0.003	33.7	ug/L	19	Standard
⌈	**Ce**	140	26.7	25.0				ug/L	24	Standard
⌊>	**Tb**	159	852843.6	2.8				ug/L	910514	Standard
⌈	**Ho**	165	8.0	21.7				ug/L	7	Standard
|	**Tl**	203	119.7	62.2	**0.0064**	0.006	99.9	ug/L	13	Standard
|	**Tl**	205	2.7	94.4	**0.0086**	0.007	80.3	ug/L	1	Standard
|	**Pb**	206	401.0	15.1	**0.0087**	0.007	80.5	ug/L	342	Standard
|	**Pb**	207	359.0	19.9	**0.0077**	0.009	122.6	ug/L	284	Standard
|	**Pb**	208	1586.0	16.2	**0.0073**	0.007	102.3	ug/L	1363	Standard
|	**U**	238	61.3	90.5	**0.0050**	0.006	118.8	ug/L	2	Standard
⌊>	**Bi**	209	442581.9	2.4				ug/L	470592	Standard

Sample ID: QC Std 7
Report Date/Time: Sunday, November 18, 2012 12:52:52
Page 1

Approved: November 19, 2012

⌈	**Na**	23	0.0		**0.0050**	0.000	0.0	mg/L	2	Standard
|	**Mg**	24	1706.8	0.6	**-0.0019**	0.000	2.6	mg/L	5586	Standard
|	**K**	39	5.0	100.0	**0.0447**	0.086	192.4	mg/L	5	Standard
|	**Ca**	43	46.7	27.0	**0.2401**	0.741	308.6	mg/L	45	Standard
|	**Fe**	54	343.8	11.6	**0.0094**	0.012	127.4	mg/L	350	Standard
|	**Fe**	57	80.0	6.3	**0.0269**	0.005	19.6	mg/L	102	Standard
⌊>	**Sc-1**	45	42914.1	4.3				mg/L	53004	Standard
	Cl	35	2.0	50.0				ug/L	2	Standard
	Kr	83	184.1	4.2				ug/L	157	Standard
	Br	81	6.7	78.1				ug/L	3	Standard
	P	31	105599.3	2.0				ug/L	91588	Standard
	S	34	30642.6	1.7				ug/L	32556	Standard
	Sr	88	68.3	36.1				ug/L	62	Standard
	C	12	150.0	28.5				mg/L	133	Standard
	N	14	3.3	173.2				mg/L	0	Standard
	Hg	202	0.0					mg/L	7	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		88.695	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: QC Std 7
Report Date/Time: Sunday, November 18, 2012 12:52:52
Page 2

Approved: November 19, 2012

	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	90.736
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	94.048
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 7	Mn	55	

Sample ID: QC Std 7
Report Date/Time: Sunday, November 18, 2012 12:52:52
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

Sample ID: QC Std 8
Sample Date/Time: Sunday, November 18, 2012 12:55:39
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	7735.3	8.8	**-465.5281**	227.502	48.9	ug/L	8369	Standard
|	**Be**	9	425.0	13.4	**0.2354**	0.019	8.2	ug/L	18	Standard
|	**Al**	27	2285.4	154.6	**0.0191**	0.032	170.5	ug/L	215	Standard
⌊>	**Sc**	45	44097.6	5.9				ug/L	53004	Standard
⌈	**Ti**	47	20.7	22.9	**-0.0147**	0.009	59.2	ug/L	26	Standard
|	**V**	51	6255.5	10.4	**0.3230**	0.045	14.0	ug/L	3223	Standard
|	**Cr**	52	15545.7	6.3	**0.6699**	0.069	10.3	ug/L	10379	Standard
|	**Cr**	53	1065.9	9.9	**0.7565**	0.057	7.5	ug/L	192	Standard
|	**Mn**	55	8886.9	8.0	**0.4848**	0.029	6.1	ug/L	1840	Standard
|	**Co**	59	4576.7	6.2	**0.3689**	0.017	4.5	ug/L	115	Standard
|	**Ni**	60	4081.9	6.4	**1.5584**	0.050	3.2	ug/L	75	Standard
|	**Cu**	65	2079.8	8.7	**0.7837**	0.053	6.8	ug/L	155	Standard
|	**Zn**	66	7777.0	5.9	**6.1632**	0.287	4.7	ug/L	237	Standard
|>	**Ge**	72	369095.9	3.2				ug/L	413856	Standard
|	**As**	75	345.0	22.7	**0.4053**	0.051	12.6	ug/L	-197	Standard
|	**Se**	82	49.9	35.5	**0.4343**	0.137	31.5	ug/L	-5	Standard
⌊	**Se-1**	77	131.7	5.3	**0.5254**	0.047	9.0	ug/L	105	Standard
⌈>	**Ga**	71	180.0	15.5				mg/L	225	Standard
⌊	**Rb**	85	25.0	20.0				ug/L	28	Standard
⌈	**Y**	89	273008.7	4.1				ug/L	322845	Standard
⌊>	**Rh**	103	71.7	29.0				ug/L	92	Standard
⌈	**Mo**	98	124.7	148.4	**0.0208**	0.043	208.6	ug/L	18	Standard
|	**Ag**	107	2898.6	9.1	**0.3938**	0.024	6.1	ug/L	63	Standard
|	**Cd**	111	773.2	10.7	**0.2363**	0.020	8.3	mg/L	20	Standard
|	**Cd**	114	2005.5	9.3	**0.2344**	0.016	6.9	ug/L	56	Standard
|>	**In**	115	597941.0	3.4				ug/L	657102	Standard
|	**Sn**	118	360.0	8.9	**-0.0097**	0.002	22.3	ug/L	555	Standard
|	**Sb**	123	2952.7	8.1	**0.4110**	0.020	4.9	ug/L	62	Standard
⌊	**Ba**	135	2313.5	6.5	**0.7267**	0.034	4.7	ug/L	19	Standard
⌈	**Ce**	140	22.0	4.5				ug/L	24	Standard
⌊>	**Tb**	159	857628.6	2.3				ug/L	910514	Standard
⌈	**Ho**	165	7.0	49.5				ug/L	7	Standard
|	**Tl**	203	1217.4	37.6	**0.0962**	0.035	35.9	ug/L	13	Standard
|	**Tl**	205	37.7	22.9	**0.1029**	0.021	20.4	ug/L	1	Standard
|	**Pb**	206	2433.2	17.6	**0.2171**	0.038	17.3	ug/L	342	Standard
|	**Pb**	207	1997.5	16.0	**0.2054**	0.033	16.1	ug/L	284	Standard
|	**Pb**	208	9501.5	17.8	**0.2129**	0.037	17.6	ug/L	1363	Standard
|	**U**	238	3807.5	10.4	**0.3992**	0.032	7.9	ug/L	2	Standard
⌊>	**Bi**	209	445057.3	3.3				ug/L	470592	Standard

Sample ID: QC Std 8
Report Date/Time: Sunday, November 18, 2012 12:58:11
Page 1

Approved: November 19, 2012

⌈	**Na**	23	5.0	100.0	**0.5387**	0.514	95.3	mg/L	2	Standard
|	**Mg**	24	1815.1	34.5	**-0.0019**	0.000	16.6	mg/L	5586	Standard
|	**K**	39	5.0	100.0	**0.0390**	0.077	198.3	mg/L	5	Standard
|	**Ca**	43	50.0	26.5	**0.3536**	0.823	232.6	mg/L	45	Standard
|	**Fe**	54	321.3	14.9	**-0.0052**	0.020	376.7	mg/L	350	Standard
|	**Fe**	57	93.3	11.2	**0.0489**	0.029	59.0	mg/L	102	Standard
⌊>	**Sc-1**	45	44097.6	5.9				mg/L	53004	Standard
	Cl	35	2.3	107.9				ug/L	2	Standard
	Kr	83	168.7	8.6				ug/L	157	Standard
	Br	81	5.0	86.6				ug/L	3	Standard
	P	31	104141.4	4.7				ug/L	91588	Standard
	S	34	32124.9	2.2				ug/L	32556	Standard
	Sr	88	48.3	15.8				ug/L	62	Standard
	C	12	158.3	19.0				mg/L	133	Standard
	N	14	1.7	173.2				mg/L	0	Standard
	Hg	202	1.7	173.2				mg/L	7	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈	Li	7			
|	Be	9	117.709		
|	Al	27			
⌊>	Sc	45			
⌈	Ti	47			
|	V	51	80.752		
|	Cr	52	83.743		
|	Cr	53			
|	Mn	55	96.963		
|	Co	59	92.237		
|	Ni	60	97.402		
|	Cu	65	97.963		
|	Zn	66	98.611		
|>	Ge	72		89.185	
|	As	75	101.334		
|	Se	82	108.576		
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: QC Std 8
Report Date/Time: Sunday, November 18, 2012 12:58:11
Page 2

Approved: November 19, 2012

⌈	Mo	98			
|	Ag	107	98.447		
|	Cd	111	98.462		
|	Cd	114			
|>	In	115			90.997
|	Sn	118			
|	Sb	123	102.758		
⌊	Ba	135	96.895		
⌈	Ce	140			
⌊>	Tb	159			
⌈	Ho	165			
|	Tl	203	120.230		
|	Tl	205			
|	Pb	206			
|	Pb	207			
|	Pb	208	106.440		
|	U	238	99.793		
⌊>	Bi	209			94.574
⌈	Na	23			
|	Mg	24			
|	K	39			
|	Ca	43			
|	Fe	54			
|	Fe	57			
⌊>	Sc-1	45			
	Cl	35			
	Kr	83			
	Br	81			
	P	31			
	S	34			
	Sr	88			
	C	12			
	N	14			
	Hg	202			

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: QC Std 8
Report Date/Time: Sunday, November 18, 2012 12:58:11
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

Sample ID: PBW 63 WG414031-02
Sample Date/Time: Sunday, November 18, 2012 13:01:04
Number of Replicates: 3
Autosampler Position: 229
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	7668.6	8.3	**-605.4855**	279.871	46.2	ug/L	8369	Standard
	Be	9	8.3	34.6	**-0.0045**	0.002	36.9	ug/L	18	Standard
	Al	27	206.7	20.1	**-0.0001**	0.000	623.4	ug/L	215	Standard
>	Sc	45	42541.3	3.0				ug/L	53004	Standard
	Ti	47	21.0	12.6	**-0.0118**	0.008	67.9	ug/L	26	Standard
	V	51	2610.4	3.1	**-0.0110**	0.005	48.8	ug/L	3223	Standard
	Cr	52	8306.9	1.2	**-0.0339**	0.035	104.1	ug/L	10379	Standard
	Cr	53	196.7	3.9	**0.0567**	0.008	13.8	ug/L	192	Standard
	Mn	55	1339.4	1.2	**0.0011**	0.004	318.4	ug/L	1840	Standard
	Co	59	73.3	14.2	**-0.0091**	0.001	13.4	ug/L	115	Standard
	Ni	60	196.0	3.5	**0.0441**	0.003	6.1	ug/L	75	Standard
	Cu	65	184.3	5.2	**0.0202**	0.007	36.5	ug/L	155	Standard
	Zn	66	1552.1	3.1	**1.1209**	0.023	2.1	ug/L	237	Standard
>	Ge	72	355213.1	4.8				ug/L	413856	Standard
	As	75	-194.1	4.5	**-0.0163**	0.014	88.7	ug/L	-197	Standard
	Se	82	-3.9	189.9	**-0.0278**	0.065	234.5	ug/L	-5	Standard
	Se-1	77	103.0	5.4	**0.2444**	0.040	16.2	ug/L	105	Standard
>	Ga	71	168.3	4.5				mg/L	225	Standard
	Rb	85	15.0	0.0				ug/L	28	Standard
	Y	89	271119.5	1.5				ug/L	322845	Standard
>	Rh	103	106.7	9.8				ug/L	92	Standard
	Mo	98	15.0	13.8	**-0.0050**	0.001	11.7	ug/L	18	Standard
	Ag	107	58.3	8.6	**0.0003**	0.001	259.5	ug/L	63	Standard
	Cd	111	20.3	15.8	**-0.0046**	0.001	18.9	mg/L	20	Standard
	Cd	114	64.8	23.4	**-0.0016**	0.002	122.1	ug/L	56	Standard
>	In	115	592990.1	2.4				ug/L	657102	Standard
	Sn	118	293.3	4.5	**-0.0167**	0.001	4.6	ug/L	555	Standard
	Sb	123	68.3	15.7	**0.0067**	0.001	20.1	ug/L	62	Standard
	Ba	135	19.0	45.6	**-0.0137**	0.003	21.2	ug/L	19	Standard
	Ce	140	15.7	7.4				ug/L	24	Standard
>	Tb	159	849310.5	2.4				ug/L	910514	Standard
	Ho	165	7.3	28.4				ug/L	7	Standard
	Tl	203	31.3	14.4	**-0.0010**	0.000	41.8	ug/L	13	Standard
	Tl	205	1.3	43.3	**0.0049**	0.001	30.0	ug/L	1	Standard
	Pb	206	326.3	4.8	**0.0014**	0.002	115.3	ug/L	342	Standard
	Pb	207	262.0	7.1	**-0.0037**	0.002	60.4	ug/L	284	Standard
	Pb	208	1221.4	1.1	**-0.0019**	0.001	44.5	ug/L	1363	Standard
	U	238	12.3	89.3	**-0.0002**	0.001	685.0	ug/L	2	Standard
>	Bi	209	435526.0	2.7				ug/L	470592	Standard

Approved: November 19, 2012

	Na	23	0.0		**0.0050**	0.000	0.0	mg/L	2	Standard
	Mg	24	1323.4	2.1	**-0.0021**	0.000	1.9	mg/L	5586	Standard
	K	39	5.0	100.0	**0.0431**	0.086	198.9	mg/L	5	Standard
	Ca	43	35.0	28.6	**-0.3835**	0.477	124.4	mg/L	45	Standard
	Fe	54	326.6	9.2	**0.0031**	0.017	545.3	mg/L	350	Standard
	Fe	57	101.7	7.5	**0.0711**	0.020	28.5	mg/L	102	Standard
>	**Sc-1**	45	42541.3	3.0				mg/L	53004	Standard
	Cl	35	1.0	100.0				ug/L	2	Standard
	Kr	83	186.8	2.7				ug/L	157	Standard
	Br	81	4.2	34.6				ug/L	3	Standard
	P	31	100159.2	2.2				ug/L	91588	Standard
	S	34	30064.0	1.0				ug/L	32556	Standard
	Sr	88	78.3	9.8				ug/L	62	Standard
	C	12	121.7	15.6				mg/L	133	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	0.0					mg/L	7	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		85.830	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			
	Y	89			
>	Rh	103			

Sample ID: PBW 63 WG414031-02
Report Date/Time: Sunday, November 18, 2012 13:03:36
Page 2

Approved: November 19, 2012

	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	90.243
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	92.549
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: PBW 63 WG414031-02
Report Date/Time: Sunday, November 18, 2012 13:03:36
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

Sample ID: LCSW 63 WG414031-03
Sample Date/Time: Sunday, November 18, 2012 13:04:16
Number of Replicates: 3
Autosampler Position: 230
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	7960.4	8.5	**-524.5952**	369.204	70.4	ug/L	8369	Standard
	Be	9	49383.8	4.7	**28.0179**	0.842	3.0	ug/L	18	Standard
	Al	27	14677.1	6.2	**0.1389**	0.007	5.0	ug/L	215	Standard
>	Sc	45	44879.8	3.4				ug/L	53004	Standard
	Ti	47	29.3	21.9	**0.0026**	0.012	456.1	ug/L	26	Standard
	V	51	254314.1	4.1	**23.2020**	0.493	2.1	ug/L	3223	Standard
	Cr	52	252909.0	5.6	**24.2744**	0.859	3.5	ug/L	10379	Standard
	Cr	53	30201.0	6.6	**23.8704**	0.556	2.3	ug/L	192	Standard
	Mn	55	390874.4	6.4	**24.5519**	0.492	2.0	ug/L	1840	Standard
	Co	59	300348.0	6.0	**24.6100**	0.281	1.1	ug/L	115	Standard
	Ni	60	64011.1	4.6	**24.3811**	0.219	0.9	ug/L	75	Standard
	Cu	65	64127.7	6.0	**25.2719**	0.341	1.3	ug/L	155	Standard
	Zn	66	34244.7	4.4	**27.1554**	0.197	0.7	ug/L	237	Standard
>	Ge	72	378171.0	5.0				ug/L	413856	Standard
	As	75	31998.9	5.5	**24.2601**	0.143	0.6	ug/L	-197	Standard
	Se	82	2829.9	3.9	**23.9123**	0.298	1.2	ug/L	-5	Standard
	Se-1	77	2259.2	6.6	**24.2057**	0.454	1.9	ug/L	105	Standard
>	Ga	71	180.0	19.4				mg/L	225	Standard
	Rb	85	51.7	22.3				ug/L	28	Standard
	Y	89	283289.2	1.4				ug/L	322845	Standard
>	Rh	103	108.3	25.4				ug/L	92	Standard
	Mo	98	53.3	15.9	**0.0041**	0.002	45.4	ug/L	18	Standard
	Ag	107	190509.3	3.8	**25.9942**	0.235	0.9	ug/L	63	Standard
	Cd	111	80209.0	5.0	**25.2752**	0.632	2.5	mg/L	20	Standard
	Cd	114	207521.6	4.9	**24.8479**	0.573	2.3	ug/L	56	Standard
>	In	115	607698.2	3.2				ug/L	657102	Standard
	Sn	118	407.7	5.7	**-0.0051**	0.001	25.9	ug/L	555	Standard
	Sb	123	183692.6	3.5	**25.3600**	0.366	1.4	ug/L	62	Standard
	Ba	135	96730.9	4.8	**30.7497**	2.296	7.5	ug/L	19	Standard
	Ce	140	142.3	22.3				ug/L	24	Standard
>	Tb	159	866778.2	2.6				ug/L	910514	Standard
	Ho	165	13.0	23.1				ug/L	7	Standard
	Tl	203	308390.0	4.0	**25.3135**	0.423	1.7	ug/L	13	Standard
	Tl	205	9522.0	2.2	**25.6320**	0.482	1.9	ug/L	1	Standard
	Pb	206	246906.3	4.4	**25.2674**	0.690	2.7	ug/L	342	Standard
	Pb	207	210341.5	3.6	**25.3178**	0.411	1.6	ug/L	284	Standard
	Pb	208	969739.3	4.2	**25.1395**	0.547	2.2	ug/L	1363	Standard
	U	238	237057.6	5.2	**24.8437**	0.631	2.5	ug/L	2	Standard
>	Bi	209	447204.2	3.0				ug/L	470592	Standard

Sample ID: LCSW 63 WG414031-03
Report Date/Time: Sunday, November 18, 2012 13:06:49
Page 1

Approved: November 19, 2012

⌈	**Na**	23	0.0		**0.0050**	0.000	0.0	mg/L	2	Standard
|	**Mg**	24	8896.0	8.7	**0.0022**	0.000	13.2	mg/L	5586	Standard
|	**K**	39	6.7	173.2	**0.0643**	0.183	284.6	mg/L	5	Standard
|	**Ca**	43	41.7	6.9	**-0.1359**	0.135	99.0	mg/L	45	Standard
|	**Fe**	54	352.1	15.0	**0.0069**	0.029	421.6	mg/L	350	Standard
|	**Fe**	57	85.0	25.6	**0.0300**	0.043	144.2	mg/L	102	Standard
⌊>	**Sc-1**	45	44879.8	3.4				mg/L	53004	Standard
	Cl	35	2.3	65.5				ug/L	2	Standard
	Kr	83	175.1	9.1				ug/L	157	Standard
	Br	81	4.2	91.7				ug/L	3	Standard
	P	31	106284.0	0.8				ug/L	91588	Standard
	S	34	29542.1	1.7				ug/L	32556	Standard
	Sr	88	78.3	25.8				ug/L	62	Standard
	C	12	120.0	14.4				mg/L	133	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	1.7	173.2				mg/L	7	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		91.378	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: LCSW 63 WG414031-03
Report Date/Time: Sunday, November 18, 2012 13:06:49
Page 2

Approved: November 19, 2012

	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	92.482
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	95.030
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: LCSW 63 WG414031-03
Report Date/Time: Sunday, November 18, 2012 13:06:49
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

Sample ID: L1211029402 WG414031-01
Sample Date/Time: Sunday, November 18, 2012 13:07:29
Number of Replicates: 3
Autosampler Position: 231
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	11641.1	6.0	**-2837.6067**	254.097	9.0	ug/L	8369	Standard
	Be	9	20.0	43.3	**0.0018**	0.005	280.5	ug/L	18	Standard
	Al	27	2205665.3	12.6	**20.9328**	2.240	10.7	ug/L	215	Standard
>	Sc	45	45391.3	2.6				ug/L	53004	Standard
	Ti	47	153.7	12.2	**0.2657**	0.028	10.5	ug/L	26	Standard
	V	51	3064.0	4.1	**0.0148**	0.022	148.9	ug/L	3223	Standard
	Cr	52	17736.1	4.2	**0.8449**	0.003	0.3	ug/L	10379	Standard
	Cr	53	1268.4	6.1	**0.8941**	0.021	2.3	ug/L	192	Standard
	Mn	55	540787.8	7.9	**33.8723**	1.319	3.9	ug/L	1840	Standard
	Co	59	2424.2	7.3	**0.1825**	0.007	3.8	ug/L	115	Standard
	Ni	60	2573.2	7.0	**0.9421**	0.034	3.6	ug/L	75	Standard
	Cu	65	799.0	7.1	**0.2569**	0.010	3.8	ug/L	155	Standard
	Zn	66	17558.9	6.5	**13.7701**	0.344	2.5	ug/L	237	Standard
>	Ge	72	379366.4	4.1				ug/L	413856	Standard
	As	75	185.5	16.5	**0.2790**	0.018	6.5	ug/L	-197	Standard
	Se	82	5.7	146.7	**0.0516**	0.069	132.8	ug/L	-5	Standard
	Se-1	77	105.3	3.8	**0.1943**	0.081	41.9	ug/L	105	Standard
>	Ga	71	238.3	12.3				mg/L	225	Standard
	Rb	85	3558.8	4.6				ug/L	28	Standard
	Y	89	295093.1	1.7				ug/L	322845	Standard
>	Rh	103	80.0	21.7				ug/L	92	Standard
	Mo	98	2239.2	7.0	**0.5157**	0.018	3.5	ug/L	18	Standard
	Ag	107	120.7	12.6	**0.0082**	0.002	24.3	ug/L	63	Standard
	Cd	111	32.3	32.1	**-0.0013**	0.003	244.9	mg/L	20	Standard
	Cd	114	103.7	31.6	**0.0026**	0.004	146.8	ug/L	56	Standard
>	In	115	622627.6	3.6				ug/L	657102	Standard
	Sn	118	532.0	5.5	**0.0070**	0.001	17.7	ug/L	555	Standard
	Sb	123	285.8	24.5	**0.0354**	0.008	23.2	ug/L	62	Standard
	Ba	135	48294.0	5.6	**14.9455**	0.321	2.1	ug/L	19	Standard
	Ce	140	2718.9	7.4				ug/L	24	Standard
>	Tb	159	890972.7	3.2				ug/L	910514	Standard
	Ho	165	42.3	21.4				ug/L	7	Standard
	Tl	203	93.3	20.1	**0.0038**	0.001	35.5	ug/L	13	Standard
	Tl	205	4.0	43.3	**0.0117**	0.004	36.5	ug/L	1	Standard
	Pb	206	1173.4	8.4	**0.0835**	0.007	8.2	ug/L	342	Standard
	Pb	207	946.4	5.7	**0.0744**	0.003	4.0	ug/L	284	Standard
	Pb	208	4502.9	6.0	**0.0788**	0.004	4.6	ug/L	1363	Standard
	U	238	290.3	20.2	**0.0279**	0.005	18.6	ug/L	2	Standard
>	Bi	209	461338.0	3.1				ug/L	470592	Standard

Sample ID: L1211029402 WG414031-01
Report Date/Time: Sunday, November 18, 2012 13:10:01
Page 1

Approved: November 19, 2012

⌈	**Na**	23	0.0		**0.0050**	0.000	0.0	mg/L	2	Standard
|	**Mg**	24	92159.5	1.3	**0.0499**	0.001	1.9	mg/L	5586	Standard
|	**K**	39	36.7	55.1	**0.5361**	0.308	57.4	mg/L	5	Standard
|	**Ca**	43	141.7	14.3	**4.8174**	1.061	22.0	mg/L	45	Standard
|	**Fe**	54	543.2	12.6	**0.0907**	0.035	38.2	mg/L	350	Standard
|	**Fe**	57	150.0	3.3	**0.1469**	0.010	6.7	mg/L	102	Standard
⌊>	**Sc-1**	45	45391.3	2.6				mg/L	53004	Standard
	Cl	35	3.0	88.2				ug/L	2	Standard
	Kr	83	142.8	4.3				ug/L	157	Standard
	Br	81	4.2	34.6				ug/L	3	Standard
	P	31	116875.5	4.6				ug/L	91588	Standard
	S	34	28029.3	3.1				ug/L	32556	Standard
	Sr	88	113.3	5.1				ug/L	62	Standard
	C	12	153.3	22.2				mg/L	133	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	36.7	56.8				mg/L	7	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		91.666	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: L1211029402 WG414031-01
Report Date/Time: Sunday, November 18, 2012 13:10:01
Page 2

Approved: November 19, 2012

⌈	Mo	98		
|	Ag	107		
|	Cd	111		
|	Cd	114		
|>	In	115		94.754
|	Sn	118		
|	Sb	123		
⌊	Ba	135		
⌈	Ce	140		
⌊>	Tb	159		
⌈	Ho	165		
|	Tl	203		
|	Tl	205		
|	Pb	206		
|	Pb	207		
|	Pb	208		
|	U	238		
⌊>	Bi	209		98.034
⌈	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		
	C	12		
	N	14		
	Hg	202		

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: L1211029402 WG414031-01
Report Date/Time: Sunday, November 18, 2012 13:10:01
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

Sample ID: L1211029402S WG414031-04
Sample Date/Time: Sunday, November 18, 2012 13:10:41
Number of Replicates: 3
Autosampler Position: 232
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	11477.7	5.2	**-2633.2859**	394.182	15.0	ug/L	8369	Standard
	Be	9	52517.8	6.1	**29.0365**	1.389	4.8	ug/L	18	Standard
	Al	27	2164485.3	11.5	**20.2919**	2.465	12.1	ug/L	215	Standard
>	Sc	45	46088.5	5.9				ug/L	53004	Standard
	Ti	47	125.3	17.8	**0.1960**	0.032	16.3	ug/L	26	Standard
	V	51	262849.1	7.3	**23.0601**	0.567	2.5	ug/L	3223	Standard
	Cr	52	267370.5	7.7	**24.7048**	1.057	4.3	ug/L	10379	Standard
	Cr	53	32363.8	7.4	**24.6265**	0.785	3.2	ug/L	192	Standard
	Mn	55	949210.2	6.0	**57.5320**	1.318	2.3	ug/L	1840	Standard
	Co	59	312893.9	7.4	**24.6743**	0.747	3.0	ug/L	115	Standard
	Ni	60	68365.4	7.2	**25.0541**	0.869	3.5	ug/L	75	Standard
	Cu	65	65995.7	8.1	**25.0230**	0.849	3.4	ug/L	155	Standard
	Zn	66	48992.5	8.7	**37.4295**	1.511	4.0	ug/L	237	Standard
>	Ge	72	392813.0	5.1				ug/L	413856	Standard
	As	75	34051.5	5.9	**24.8521**	0.665	2.7	ug/L	-197	Standard
	Se	82	2915.7	4.7	**23.7131**	0.283	1.2	ug/L	-5	Standard
	Se-1	77	2334.5	5.7	**24.0867**	0.579	2.4	ug/L	105	Standard
>	Ga	71	205.0	30.6				mg/L	225	Standard
	Rb	85	3458.7	5.1				ug/L	28	Standard
	Y	89	294661.4	6.2				ug/L	322845	Standard
>	Rh	103	108.3	16.2				ug/L	92	Standard
	Mo	98	2275.3	7.4	**0.5109**	0.011	2.2	ug/L	18	Standard
	Ag	107	195781.4	6.9	**25.4160**	0.661	2.6	ug/L	63	Standard
	Cd	111	82286.3	7.4	**24.6730**	0.875	3.5	mg/L	20	Standard
	Cd	114	213430.9	6.3	**24.3284**	0.836	3.4	ug/L	56	Standard
>	In	115	638480.7	5.1				ug/L	657102	Standard
	Sn	118	1274.1	106.4	**0.0780**	0.130	166.6	ug/L	555	Standard
	Sb	123	191515.4	6.7	**25.1580**	0.802	3.2	ug/L	62	Standard
	Ba	135	132190.9	5.4	**39.9550**	1.342	3.4	ug/L	19	Standard
	Ce	140	1266.7	8.2				ug/L	24	Standard
>	Tb	159	900320.1	3.5				ug/L	910514	Standard
	Ho	165	25.3	23.8				ug/L	7	Standard
	Tl	203	317202.8	4.9	**24.9645**	0.701	2.8	ug/L	13	Standard
	Tl	205	9826.2	5.0	**25.3490**	0.608	2.4	ug/L	1	Standard
	Pb	206	253566.5	6.0	**24.8745**	0.966	3.9	ug/L	342	Standard
	Pb	207	217520.7	5.8	**25.0983**	0.941	3.7	ug/L	284	Standard
	Pb	208	1004254.2	5.8	**24.9586**	0.911	3.7	ug/L	1363	Standard
	U	238	247306.8	7.0	**24.8496**	1.256	5.1	ug/L	2	Standard
>	Bi	209	466372.1	3.1				ug/L	470592	Standard

Approved: November 19, 2012

⌈	**Na**	23	0.0		**0.0050**	0.000	0.0	mg/L	2	Standard
|	**Mg**	24	92017.0	2.8	**0.0492**	0.004	8.9	mg/L	5586	Standard
|	**K**	39	26.7	57.3	**0.3736**	0.228	61.1	mg/L	5	Standard
|	**Ca**	43	135.0	9.8	**4.3687**	0.328	7.5	mg/L	45	Standard
|	**Fe**	54	484.5	10.2	**0.0609**	0.023	38.2	mg/L	350	Standard
|	**Fe**	57	171.7	9.4	**0.1817**	0.018	9.9	mg/L	102	Standard
⌊>	**Sc-1**	45	46088.5	5.9				mg/L	53004	Standard
	Cl	35	4.0	25.0				ug/L	2	Standard
	Kr	83	179.9	21.6				ug/L	157	Standard
	Br	81	6.7	43.3				ug/L	3	Standard
	P	31	121487.4	4.4				ug/L	91588	Standard
	S	34	27938.3	3.2				ug/L	32556	Standard
	Sr	88	113.3	34.3				ug/L	62	Standard
	C	12	278.3	13.6				mg/L	133	Standard
	N	14	1.7	173.2				mg/L	0	Standard
	Hg	202	40.0	37.5				mg/L	7	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		94.915	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: L1211029402S WG414031-04
Report Date/Time: Sunday, November 18, 2012 13:13:14
Page 2

Approved: November 19, 2012

⌈	Mo	98		
|	Ag	107		
|	Cd	111		
|	Cd	114		
|>	In	115		97.166
|	Sn	118		
|	Sb	123		
⌊	Ba	135		
⌈	Ce	140		
⌊>	Tb	159		
⌈	Ho	165		
|	Tl	203		
|	Tl	205		
|	Pb	206		
|	Pb	207		
|	Pb	208		
|	U	238		
⌊>	Bi	209		99.103
⌈	Na	23		
|	Mg	24		
|	K	39		
|	Ca	43		
|	Fe	54		
|	Fe	57		
⌊>	Sc-1	45		
	Cl	35		
	Kr	83		
	Br	81		
	P	31		
	S	34		
	Sr	88		
	C	12		
	N	14		
	Hg	202		

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: L1211029402S WG414031-04
Report Date/Time: Sunday, November 18, 2012 13:13:14
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

Sample ID: L1211029402SD WG414031-05
Sample Date/Time: Sunday, November 18, 2012 13:13:55
Number of Replicates: 3
Autosampler Position: 233
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	12558.6	7.2	**-2924.7682**	375.088	12.8	ug/L	8369	Standard
	Be	9	51608.2	8.6	**27.1281**	1.766	6.5	ug/L	18	Standard
	Al	27	2404137.9	5.8	**21.4221**	0.988	4.6	ug/L	215	Standard
>	**Sc**	45	48402.2	2.5				ug/L	53004	Standard
	Ti	47	220.0	12.2	**0.3785**	0.044	11.7	ug/L	26	Standard
	V	51	272762.8	5.5	**23.3066**	0.819	3.5	ug/L	3223	Standard
	Cr	52	277848.3	6.5	**25.0057**	1.157	4.6	ug/L	10379	Standard
	Cr	53	33226.5	8.0	**24.6107**	1.469	6.0	ug/L	192	Standard
	Mn	55	992667.5	5.7	**58.5636**	2.242	3.8	ug/L	1840	Standard
	Co	59	318789.8	5.3	**24.4815**	0.769	3.1	ug/L	115	Standard
	Ni	60	70616.3	4.0	**25.2021**	0.465	1.8	ug/L	75	Standard
	Cu	65	68713.0	4.5	**25.3814**	0.602	2.4	ug/L	155	Standard
	Zn	66	51100.8	4.4	**38.0425**	0.887	2.3	ug/L	237	Standard
>	**Ge**	72	403447.8	2.2				ug/L	413856	Standard
	As	75	34512.5	3.8	**24.5227**	0.417	1.7	ug/L	-197	Standard
	Se	82	2996.1	4.0	**23.7143**	0.442	1.9	ug/L	-5	Standard
	Se-1	77	2416.5	7.9	**24.2633**	1.480	6.1	ug/L	105	Standard
>	**Ga**	71	371.7	6.4				mg/L	225	Standard
	Rb	85	4905.8	3.5				ug/L	28	Standard
	Y	89	308871.8	1.2				ug/L	322845	Standard
>	**Rh**	103	118.3	13.6				ug/L	92	Standard
	Mo	98	2374.9	9.3	**0.5246**	0.044	8.4	ug/L	18	Standard
	Ag	107	198086.5	3.5	**25.2867**	0.500	2.0	ug/L	63	Standard
	Cd	111	83590.5	5.1	**24.6450**	0.932	3.8	mg/L	20	Standard
	Cd	114	218023.4	5.5	**24.4198**	0.853	3.5	ug/L	56	Standard
>	**In**	115	649622.3	3.1				ug/L	657102	Standard
	Sn	118	537.3	4.9	**0.0052**	0.002	39.9	ug/L	555	Standard
	Sb	123	193976.6	5.6	**25.0422**	0.851	3.4	ug/L	62	Standard
	Ba	135	136255.9	4.0	**40.4647**	0.871	2.2	ug/L	19	Standard
	Ce	140	15838.0	7.0				ug/L	24	Standard
>	**Tb**	159	913921.8	1.3				ug/L	910514	Standard
	Ho	165	150.3	4.4				ug/L	7	Standard
	Tl	203	323405.6	3.1	**25.3996**	0.633	2.5	ug/L	13	Standard
	Tl	205	10005.6	3.5	**25.7596**	0.731	2.8	ug/L	1	Standard
	Pb	206	269877.8	4.0	**26.4244**	0.876	3.3	ug/L	342	Standard
	Pb	207	231086.7	4.3	**26.6103**	0.914	3.4	ug/L	284	Standard
	Pb	208	1065353.1	4.0	**26.4274**	0.945	3.6	ug/L	1363	Standard
	U	238	253640.1	6.4	**25.4307**	1.338	5.3	ug/L	2	Standard
>	**Bi**	209	467502.6	2.6				ug/L	470592	Standard

Sample ID: L1211029402SD WG414031-05
Report Date/Time: Sunday, November 18, 2012 13:16:27
Page 1

Approved: November 19, 2012

⌈	**Na**	23	3.3	86.6	**0.3335**	0.285	85.4	mg/L	2	Standard
|	**Mg**	24	95444.7	1.0	**0.0484**	0.001	2.3	mg/L	5586	Standard
|	**K**	39	28.3	36.7	**0.3782**	0.143	37.8	mg/L	5	Standard
|	**Ca**	43	163.3	12.4	**5.3995**	1.113	20.6	mg/L	45	Standard
|	**Fe**	54	593.9	16.0	**0.0971**	0.046	47.1	mg/L	350	Standard
|	**Fe**	57	178.3	38.1	**0.1779**	0.115	64.6	mg/L	102	Standard
⌊>	**Sc-1**	45	48402.2	2.5				mg/L	53004	Standard
	Cl	35	3.0	33.3				ug/L	2	Standard
	Kr	83	304.8	38.0				ug/L	157	Standard
	Br	81	4.2	69.3				ug/L	3	Standard
	P	31	124882.6	5.0				ug/L	91588	Standard
	S	34	27618.5	2.4				ug/L	32556	Standard
	Sr	88	95.0	26.3				ug/L	62	Standard
	C	12	175.0	14.8				mg/L	133	Standard
	N	14	5.0	100.0				mg/L	0	Standard
	Hg	202	43.3	24.0				mg/L	7	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		97.485	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: L1211029402SD WG414031-05
Report Date/Time: Sunday, November 18, 2012 13:16:27
Page 2

Approved: November 19, 2012

⌈	Mo	98		
|	Ag	107		
|	Cd	111		
|	Cd	114		
|>	In	115		98.862
|	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		99.344
⌈	Na	23		
|	Mg	24		
|	K	39		
|	Ca	43		
|	Fe	54		
|	Fe	57		
⌊>	Sc-1	45		
	Cl	35		
	Kr	83		
	Br	81		
	P	31		
	S	34		
	Sr	88		
	C	12		
	N	14		
	Hg	202		

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: L1211029402SD WG414031-05
Report Date/Time: Sunday, November 18, 2012 13:16:27
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

Sample ID: L1211024802
Sample Date/Time: Sunday, November 18, 2012 13:17:07
Number of Replicates: 3
Autosampler Position: 234
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	65760.0	9.9	**-35843.7528**	1418.490	4.0	ug/L	8369	Standard
|	**Be**	9	21.7	13.3	**0.0022**	0.002	74.9	ug/L	18	Standard
|	**Al**	27	3460062.7	8.6	**31.4215**	0.733	2.3	ug/L	215	Standard
⌊>	**Sc**	45	47462.8	6.6				ug/L	53004	Standard
⌈	**Ti**	47	232.0	9.5	**0.4297**	0.037	8.5	ug/L	26	Standard
|	**V**	51	42416.9	8.6	**3.6107**	0.227	6.3	ug/L	3223	Standard
|	**Cr**	52	12365.4	7.6	**0.3050**	0.056	18.2	ug/L	10379	Standard
|	**Cr**	53	999.2	4.5	**0.6775**	0.014	2.0	ug/L	192	Standard
|	**Mn**	55	78819.8	8.4	**4.8376**	0.264	5.5	ug/L	1840	Standard
|	**Co**	59	1446.1	13.5	**0.1020**	0.014	13.7	ug/L	115	Standard
|	**Ni**	60	2786.3	10.1	**1.0169**	0.063	6.2	ug/L	75	Standard
|	**Cu**	65	3164.3	8.4	**1.1817**	0.069	5.8	ug/L	155	Standard
|	**Zn**	66	26067.2	7.6	**20.4409**	1.091	5.3	ug/L	237	Standard
|>	**Ge**	72	381347.6	4.9				ug/L	413856	Standard
|	**As**	75	518.6	7.8	**0.5293**	0.048	9.1	ug/L	-197	Standard
|	**Se**	82	183.5	2.8	**1.5447**	0.098	6.3	ug/L	-5	Standard
⌊	**Se-1**	77	201.0	10.1	**1.2407**	0.111	9.0	ug/L	105	Standard
⌈>	**Ga**	71	225.0	5.9				mg/L	225	Standard
⌊	**Rb**	85	4202.3	12.7				ug/L	28	Standard
⌈	**Y**	89	285265.9	6.4				ug/L	322845	Standard
⌊>	**Rh**	103	120.0	39.7				ug/L	92	Standard
⌈	**Mo**	98	751.8	10.9	**0.1704**	0.020	11.8	ug/L	18	Standard
|	**Ag**	107	130.7	82.0	**0.0099**	0.015	149.4	ug/L	63	Standard
|	**Cd**	111	65.1	83.8	**0.0092**	0.017	187.9	mg/L	20	Standard
|	**Cd**	114	190.4	75.2	**0.0132**	0.017	131.8	ug/L	56	Standard
|>	**In**	115	612732.1	3.3				ug/L	657102	Standard
|	**Sn**	118	480.7	4.7	**0.0025**	0.003	125.0	ug/L	555	Standard
|	**Sb**	123	377.7	34.8	**0.0488**	0.018	37.5	ug/L	62	Standard
⌊	**Ba**	135	136964.5	6.2	**43.1068**	1.523	3.5	ug/L	19	Standard
⌈	**Ce**	140	882.4	5.8				ug/L	24	Standard
⌊>	**Tb**	159	891269.7	3.1				ug/L	910514	Standard
⌈	**Ho**	165	30.7	10.0				ug/L	7	Standard
|	**Tl**	203	454.7	28.5	**0.0340**	0.011	31.6	ug/L	13	Standard
|	**Tl**	205	13.3	37.0	**0.0375**	0.013	36.0	ug/L	1	Standard
|	**Pb**	206	663.3	13.4	**0.0355**	0.009	24.3	ug/L	342	Standard
|	**Pb**	207	527.3	13.1	**0.0279**	0.008	29.7	ug/L	284	Standard
|	**Pb**	208	2531.4	10.8	**0.0317**	0.007	21.2	ug/L	1363	Standard
|	**U**	238	2990.0	8.8	**0.3139**	0.021	6.6	ug/L	2	Standard
⌊>	**Bi**	209	444046.1	3.1				ug/L	470592	Standard

Sample ID: L1211024802
Report Date/Time: Sunday, November 18, 2012 13:19:39
Page 1

Approved: November 19, 2012

⌈	**Na**	23	6.7	114.6	**0.6880**	0.764	111.0	mg/L	2	Standard
|	**Mg**	24	520519.7	3.3	**0.2827**	0.009	3.3	mg/L	5586	Standard
|	**K**	39	51.7	11.2	**0.7459**	0.108	14.4	mg/L	5	Standard
|	**Ca**	43	918.4	10.7	**41.3627**	2.558	6.2	mg/L	45	Standard
|	**Fe**	54	329.6	2.2	**-0.0117**	0.008	67.8	mg/L	350	Standard
|	**Fe**	57	403.3	10.5	**0.5792**	0.061	10.5	mg/L	102	Standard
⌊>	**Sc-1**	45	47462.8	6.6				mg/L	53004	Standard
	Cl	35	1.7	124.9				ug/L	2	Standard
	Kr	83	280.4	33.6				ug/L	157	Standard
	Br	81	5.8	107.9				ug/L	3	Standard
	P	31	156813.5	4.7				ug/L	91588	Standard
	S	34	28297.2	1.9				ug/L	32556	Standard
	Sr	88	330.0	5.2				ug/L	62	Standard
	C	12	463.3	3.1				mg/L	133	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	0.0					mg/L	7	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		92.145	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: L1211024802
Report Date/Time: Sunday, November 18, 2012 13:19:39
Page 2

Approved: November 19, 2012

	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	93.248
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	94.359
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: L1211024802
Report Date/Time: Sunday, November 18, 2012 13:19:39
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

Sample ID: L1211024802PS WG414510-03
Sample Date/Time: Sunday, November 18, 2012 13:20:19
Number of Replicates: 3
Autosampler Position: 235
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	73843.3	6.4	**-38083.7681**	593.479	1.6	ug/L	8369	Standard
	Be	9	97496.4	4.1	**49.1535**	1.639	3.3	ug/L	18	Standard
	Al	27	3836075.5	6.3	**32.7236**	0.445	1.4	ug/L	215	Standard
>	Sc	45	50586.2	6.8				ug/L	53004	Standard
	Ti	47	273.3	11.3	**0.4995**	0.057	11.4	ug/L	26	Standard
	V	51	565411.8	10.1	**49.8082**	3.426	6.9	ug/L	3223	Standard
	Cr	52	505024.2	8.9	**47.3871**	2.702	5.7	ug/L	10379	Standard
	Cr	53	61032.5	9.2	**46.4480**	2.729	5.9	ug/L	192	Standard
	Mn	55	856520.8	7.9	**51.7974**	2.405	4.6	ug/L	1840	Standard
	Co	59	593864.7	8.8	**46.7609**	2.557	5.5	ug/L	115	Standard
	Ni	60	128148.9	7.4	**46.9173**	1.911	4.1	ug/L	75	Standard
	Cu	65	127359.8	7.8	**48.2833**	2.219	4.6	ug/L	155	Standard
	Zn	66	86485.7	7.4	**66.1582**	2.749	4.2	ug/L	237	Standard
>	Ge	72	393286.0	3.4				ug/L	413856	Standard
	As	75	63253.8	7.3	**45.9552**	1.881	4.1	ug/L	-197	Standard
	Se	82	5494.3	6.2	**44.5911**	1.300	2.9	ug/L	-5	Standard
	Se-1	77	4323.0	9.3	**45.3224**	2.819	6.2	ug/L	105	Standard
>	Ga	71	238.3	28.6				mg/L	225	Standard
	Rb	85	4599.0	2.0				ug/L	28	Standard
	Y	89	305855.7	2.4				ug/L	322845	Standard
>	Rh	103	135.0	29.6				ug/L	92	Standard
	Mo	98	975.1	10.4	**0.2102**	0.019	8.9	ug/L	18	Standard
	Ag	107	351200.3	4.9	**44.8414**	1.325	3.0	ug/L	63	Standard
	Cd	111	152037.0	7.1	**44.8181**	1.948	4.3	mg/L	20	Standard
	Cd	114	394811.6	7.1	**44.2208**	1.896	4.3	ug/L	56	Standard
>	In	115	649498.9	3.5				ug/L	657102	Standard
	Sn	118	734.7	6.0	**0.0253**	0.002	8.6	ug/L	555	Standard
	Sb	123	354822.2	5.7	**45.8225**	1.576	3.4	ug/L	62	Standard
	Ba	135	302171.7	5.7	**89.7498**	2.584	2.9	ug/L	19	Standard
	Ce	140	964.7	6.7				ug/L	24	Standard
>	Tb	159	922453.3	2.6				ug/L	910514	Standard
	Ho	165	107.7	15.9				ug/L	7	Standard
	Tl	203	597292.7	4.6	**48.2168**	1.627	3.4	ug/L	13	Standard
	Tl	205	18615.8	4.4	**49.2564**	1.407	2.9	ug/L	1	Standard
	Pb	206	471268.1	5.8	**47.4456**	2.098	4.4	ug/L	342	Standard
	Pb	207	404275.0	5.6	**47.8678**	1.816	3.8	ug/L	284	Standard
	Pb	208	1863823.6	5.8	**47.5364**	2.001	4.2	ug/L	1363	Standard
	U	238	466684.0	8.0	**48.0872**	3.080	6.4	ug/L	2	Standard
>	Bi	209	454741.1	2.1				ug/L	470592	Standard

Sample ID: L1211024802PS WG414510-03
Report Date/Time: Sunday, November 18, 2012 13:22:51
Page 1

Approved: November 19, 2012

⌈	**Na**	23	3.3	86.6	**0.3294**	0.282	85.7	mg/L	2	Standard
|	**Mg**	24	545936.5	2.8	**0.2783**	0.012	4.5	mg/L	5586	Standard
|	**K**	39	76.7	39.3	**1.0372**	0.379	36.5	mg/L	5	Standard
|	**Ca**	43	928.4	2.5	**39.2778**	2.438	6.2	mg/L	45	Standard
|	**Fe**	54	494.4	10.4	**0.0452**	0.008	17.9	mg/L	350	Standard
|	**Fe**	57	426.7	12.9	**0.5733**	0.065	11.4	mg/L	102	Standard
⌊>	**Sc-1**	45	50586.2	6.8				mg/L	53004	Standard
	Cl	35	2.7	21.7				ug/L	2	Standard
	Kr	83	153.4	6.5				ug/L	157	Standard
	Br	81	6.7	21.7				ug/L	3	Standard
	P	31	204897.1	4.4				ug/L	91588	Standard
	S	34	28346.5	1.6				ug/L	32556	Standard
	Sr	88	360.0	16.0				ug/L	62	Standard
	C	12	541.7	9.3				mg/L	133	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	10.0	100.0				mg/L	7	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		95.030	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: L1211024802PS WG414510-03
Report Date/Time: Sunday, November 18, 2012 13:22:51
Page 2

Approved: November 19, 2012

	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	98.843
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	96.632
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: L1211024802PS WG414510-03
Report Date/Time: Sunday, November 18, 2012 13:22:51
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

Sample ID: L1211024802SDL WG414510-04
Sample Date/Time: Sunday, November 18, 2012 13:23:31
Number of Replicates: 3
Autosampler Position: 236
Sample Description: 5
Method File: C:\NexION Data\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
	Li	7	19042.0	2.0	**-7694.5500**	239.152	3.1	ug/L	8369	Standard
	Be	9	235.0	160.3	**0.1259**	0.218	172.8	ug/L	18	Standard
	Al	27	654622.0	2.3	**6.2636**	0.302	4.8	ug/L	215	Standard
>	Sc	45	45123.8	3.9				ug/L	53004	Standard
	Ti	47	62.3	11.3	**0.0743**	0.012	16.0	ug/L	26	Standard
	V	51	11426.7	17.5	**0.8005**	0.206	25.7	ug/L	3223	Standard
	Cr	52	10304.6	18.0	**0.1242**	0.206	166.1	ug/L	10379	Standard
	Cr	53	596.7	43.0	**0.3722**	0.217	58.3	ug/L	192	Standard
	Mn	55	19594.2	15.9	**1.1635**	0.225	19.3	ug/L	1840	Standard
	Co	59	1691.9	131.4	**0.1271**	0.189	148.5	ug/L	115	Standard
	Ni	60	1072.7	44.6	**0.3804**	0.194	50.9	ug/L	75	Standard
	Cu	65	1122.4	41.4	**0.3931**	0.196	49.8	ug/L	155	Standard
	Zn	66	8145.5	4.4	**6.3840**	0.422	6.6	ug/L	237	Standard
>	Ge	72	374035.3	2.7				ug/L	413856	Standard
	As	75	114.7	158.9	**0.2289**	0.142	62.1	ug/L	-197	Standard
	Se	82	51.3	23.0	**0.4434**	0.105	23.6	ug/L	-5	Standard
	Se-1	77	127.7	22.4	**0.4645**	0.347	74.8	ug/L	105	Standard
>	Ga	71	166.7	1.7				mg/L	225	Standard
	Rb	85	788.4	10.3				ug/L	28	Standard
	Y	89	284015.7	0.8				ug/L	322845	Standard
>	Rh	103	101.7	32.0				ug/L	92	Standard
	Mo	98	188.5	2.6	**0.0363**	0.001	3.3	ug/L	18	Standard
	Ag	107	639.4	135.7	**0.0805**	0.121	149.9	ug/L	63	Standard
	Cd	111	368.8	147.6	**0.1067**	0.175	163.7	mg/L	20	Standard
	Cd	114	938.5	147.3	**0.1044**	0.169	161.6	ug/L	56	Standard
>	In	115	611712.7	2.3				ug/L	657102	Standard
	Sn	118	405.0	7.3	**-0.0057**	0.002	38.3	ug/L	555	Standard
	Sb	123	996.9	123.7	**0.1362**	0.174	127.7	ug/L	62	Standard
	Ba	135	28233.3	4.8	**8.8988**	0.627	7.0	ug/L	19	Standard
	Ce	140	215.0	10.1				ug/L	24	Standard
>	Tb	159	872875.3	2.3				ug/L	910514	Standard
	Ho	165	16.3	46.4				ug/L	7	Standard
	Tl	203	1004.4	133.7	**0.0798**	0.113	141.2	ug/L	13	Standard
	Tl	205	30.3	116.5	**0.0837**	0.097	116.3	ug/L	1	Standard
	Pb	206	1363.1	109.4	**0.1079**	0.157	145.3	ug/L	342	Standard
	Pb	207	1180.1	107.8	**0.1072**	0.157	146.7	ug/L	284	Standard
	Pb	208	5379.0	107.8	**0.1063**	0.154	145.2	ug/L	1363	Standard
	U	238	1621.8	104.1	**0.1697**	0.182	107.1	ug/L	2	Standard
>	Bi	209	451774.1	2.9				ug/L	470592	Standard

Approved: November 19, 2012

	Na	23	1.7	173.2	**0.1742**	0.293	168.2	mg/L	2	Standard
	Mg	24	253309.9	0.2	**0.1432**	0.006	4.1	mg/L	5586	Standard
	K	39	18.3	31.5	**0.2530**	0.100	39.3	mg/L	5	Standard
	Ca	43	201.7	5.7	**7.8475**	0.179	2.3	mg/L	45	Standard
	Fe	54	363.8	11.9	**0.0104**	0.014	133.2	mg/L	350	Standard
	Fe	57	170.0	14.7	**0.1867**	0.056	30.1	mg/L	102	Standard
>	**Sc-1**	45	45123.8	3.9				mg/L	53004	Standard
	Cl	35	4.3	70.5				ug/L	2	Standard
	Kr	83	143.7	7.4				ug/L	157	Standard
	Br	81	9.2	15.7				ug/L	3	Standard
	P	31	112653.3	2.6				ug/L	91588	Standard
	S	34	28726.4	2.7				ug/L	32556	Standard
	Sr	88	125.0	4.0				ug/L	62	Standard
	C	12	158.3	9.6				mg/L	133	Standard
	N	14	3.3	173.2				mg/L	0	Standard
	Hg	202	5.0	173.2				mg/L	7	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		90.378	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			
	Y	89			
>	Rh	103			

Sample ID: L1211024802SDL WG414510-04
Report Date/Time: Sunday, November 18, 2012 13:26:03
Page 2

Approved: November 19, 2012

	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	93.093
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	96.001
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: L1211024802SDL WG414510-04
Report Date/Time: Sunday, November 18, 2012 13:26:03
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

Sample ID: QC Std 6
Sample Date/Time: Sunday, November 18, 2012 13:26:45
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	7850.4	5.6	**-451.8117**	152.465	33.7	ug/L	8369	Standard
|	**Be**	9	100515.2	7.5	**56.9803**	2.438	4.3	ug/L	18	Standard
|	**Al**	27	6317844.2	5.4	**60.7009**	1.878	3.1	ug/L	215	Standard
⌊>	**Sc**	45	44886.4	3.2				ug/L	53004	Standard
⌈	**Ti**	47	44245.0	6.5	**94.6873**	3.225	3.4	ug/L	26	Standard
|	**V**	51	529046.8	6.6	**48.8483**	1.614	3.3	ug/L	3223	Standard
|	**Cr**	52	497866.1	6.0	**48.9965**	1.717	3.5	ug/L	10379	Standard
|	**Cr**	53	62294.9	6.9	**49.6882**	1.726	3.5	ug/L	192	Standard
|	**Mn**	55	780424.3	7.2	**49.4377**	2.035	4.1	ug/L	1840	Standard
|	**Co**	59	606973.5	6.7	**50.0912**	2.057	4.1	ug/L	115	Standard
|	**Ni**	60	128156.1	5.6	**49.1657**	1.203	2.4	ug/L	75	Standard
|	**Cu**	65	128581.8	7.1	**51.0634**	1.891	3.7	ug/L	155	Standard
|	**Zn**	66	63461.8	5.0	**50.8295**	1.232	2.4	ug/L	237	Standard
| >	**Ge**	72	375508.2	3.5				ug/L	413856	Standard
|	**As**	75	65346.7	5.4	**49.7321**	1.083	2.2	ug/L	-197	Standard
|	**Se**	82	5772.4	3.7	**49.0957**	0.539	1.1	ug/L	-5	Standard
⌊	**Se-1**	77	4515.0	4.5	**49.7272**	1.125	2.3	ug/L	105	Standard
⌈>	**Ga**	71	188.3	17.1				mg/L	225	Standard
⌊	**Rb**	85	956.7	15.0				ug/L	28	Standard
⌈	**Y**	89	284853.7	5.8				ug/L	322845	Standard
⌊>	**Rh**	103	121.7	6.3				ug/L	92	Standard
⌈	**Mo**	98	393221.3	4.0	**94.0734**	3.112	3.3	ug/L	18	Standard
|	**Ag**	107	371318.0	4.2	**50.4932**	1.661	3.3	ug/L	63	Standard
|	**Cd**	111	160383.1	5.3	**50.3823**	2.377	4.7	mg/L	20	Standard
|	**Cd**	114	422538.5	5.5	**50.4356**	2.519	5.0	ug/L	56	Standard
| >	**In**	115	609875.2	2.1				ug/L	657102	Standard
|	**Sn**	118	467197.3	5.3	**50.5318**	2.359	4.7	ug/L	555	Standard
|	**Sb**	123	373399.2	3.7	**51.3725**	1.696	3.3	ug/L	62	Standard
⌊	**Ba**	135	161646.3	4.7	**51.1455**	2.240	4.4	ug/L	19	Standard
⌈	**Ce**	140	641.3	7.0				ug/L	24	Standard
⌊>	**Tb**	159	870165.5	2.9				ug/L	910514	Standard
⌈	**Ho**	165	441.7	4.5				ug/L	7	Standard
|	**Tl**	203	617335.3	3.1	**50.5927**	0.526	1.0	ug/L	13	Standard
|	**Tl**	205	19292.3	4.4	**51.8190**	1.420	2.7	ug/L	1	Standard
|	**Pb**	206	496700.0	5.2	**50.7670**	1.792	3.5	ug/L	342	Standard
|	**Pb**	207	424148.4	3.2	**51.0025**	0.914	1.8	ug/L	284	Standard
|	**Pb**	208	1955233.3	3.9	**50.6367**	1.206	2.4	ug/L	1363	Standard
|	**U**	238	495552.8	5.5	**51.8500**	1.977	3.8	ug/L	2	Standard
⌊>	**Bi**	209	447964.0	2.3				ug/L	470592	Standard

Sample ID: QC Std 6
Report Date/Time: Sunday, November 18, 2012 13:29:17
Page 1

Approved: November 19, 2012

⌈	**Na**	23	1.7	173.2	**0.1768**	0.297	168.3	mg/L	2	Standard
|	**Mg**	24	299715.5	0.9	**0.1708**	0.004	2.4	mg/L	5586	Standard
|	**K**	39	368.3	10.2	**5.8688**	0.494	8.4	mg/L	5	Standard
|	**Ca**	43	151.7	11.6	**5.3835**	0.710	13.2	mg/L	45	Standard
|	**Fe**	54	12749.7	2.6	**5.6329**	0.168	3.0	mg/L	350	Standard
|	**Fe**	57	3145.3	5.1	**5.7024**	0.116	2.0	mg/L	102	Standard
⌊>	**Sc-1**	45	44886.4	3.2				mg/L	53004	Standard
	Cl	35	3.0	57.7				ug/L	2	Standard
	Kr	83	140.0	2.4				ug/L	157	Standard
	Br	81	6.7	57.3				ug/L	3	Standard
	P	31	114435.8	3.3				ug/L	91588	Standard
	S	34	33380.1	1.2				ug/L	32556	Standard
	Sr	88	70.0	31.1				ug/L	62	Standard
	C	12	135.0	12.8				mg/L	133	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	1.7	173.2				mg/L	7	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈	Li	7			
|	Be	9	113.961		
|	Al	27	121.402		
⌊>	Sc	45			
⌈	Ti	47	94.687		
|	V	51	97.697		
|	Cr	52	97.993		
|	Cr	53			
|	Mn	55	98.875		
|	Co	59	100.182		
|	Ni	60	98.331		
|	Cu	65	102.127		
|	Zn	66	101.659		
|>	Ge	72		90.734	
|	As	75	99.464		
|	Se	82	98.191		
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: QC Std 6
Report Date/Time: Sunday, November 18, 2012 13:29:17
Page 2

Approved: November 19, 2012

	Mo	98	94.073	
	Ag	107	100.986	
	Cd	111	100.765	
	Cd	114		
>	In	115		92.813
	Sn	118	101.064	
	Sb	123	102.745	
	Ba	135	102.291	
	Ce	140		
>	Tb	159		
	Ho	165		
	Tl	203	101.185	
	Tl	205		
	Pb	206	101.534	
	Pb	207	102.005	
	Pb	208	101.273	
	U	238	103.700	
>	Bi	209		95.192
	Na	23		
	Mg	24		
	K	39		
	Ca	43		
	Fe	54		
	Fe	57		
>	Sc-1	45		
	Cl	35		
	Kr	83		
	Br	81		
	P	31		
	S	34		
	Sr	88		
	C	12		
	N	14		
	Hg	202		

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 6	Be	9	
QC Std 6	Al	27	

Sample ID: QC Std 6
Report Date/Time: Sunday, November 18, 2012 13:29:17
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

Sample ID: QC Std 7
Sample Date/Time: Sunday, November 18, 2012 13:29:57
Number of Replicates: 3
Autosampler Position: 102
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	7822.0	6.3	**-651.4971**	190.778	29.3	ug/L	8369	Standard
|	**Be**	9	25.0	72.1	**0.0051**	0.010	206.0	ug/L	18	Standard
|	**Al**	27	445.0	84.3	**0.0022**	0.003	158.9	ug/L	215	Standard
⌊>	**Sc**	45	43067.9	5.5				ug/L	53004	Standard
⌈	**Ti**	47	20.7	10.1	**-0.0141**	0.005	37.7	ug/L	26	Standard
|	**V**	51	2599.4	2.6	**-0.0198**	0.004	21.8	ug/L	3223	Standard
|	**Cr**	52	8016.1	2.9	**-0.0912**	0.011	12.4	ug/L	10379	Standard
|	**Cr**	53	171.7	7.3	**0.0314**	0.015	48.1	ug/L	192	Standard
|	**Mn**	55	1382.1	7.4	**0.0012**	0.008	678.7	ug/L	1840	Standard
|	**Co**	59	139.0	64.9	**-0.0037**	0.008	214.8	ug/L	115	Standard
|	**Ni**	60	65.0	20.0	**-0.0100**	0.005	47.3	ug/L	75	Standard
|	**Cu**	65	198.0	10.4	**0.0233**	0.009	40.0	ug/L	155	Standard
|	**Zn**	66	193.0	3.2	**-0.0403**	0.004	11.1	ug/L	237	Standard
|>	**Ge**	72	366310.8	4.3				ug/L	413856	Standard
|	**As**	75	-160.9	15.3	**0.0144**	0.022	150.2	ug/L	-197	Standard
|	**Se**	82	2.7	159.6	**0.0278**	0.036	128.7	ug/L	-5	Standard
⌊	**Se-1**	77	92.3	16.6	**0.0906**	0.217	239.7	ug/L	105	Standard
⌈>	**Ga**	71	155.0	17.1				mg/L	225	Standard
⌊	**Rb**	85	18.3	68.6				ug/L	28	Standard
⌈	**Y**	89	280053.7	3.9				ug/L	322845	Standard
⌊>	**Rh**	103	85.0	15.6				ug/L	92	Standard
⌈	**Mo**	98	87.8	92.3	**0.0124**	0.019	152.0	ug/L	18	Standard
|	**Ag**	107	126.0	66.7	**0.0094**	0.011	116.2	ug/L	63	Standard
|	**Cd**	111	40.2	68.0	**0.0016**	0.008	521.0	mg/L	20	Standard
|	**Cd**	114	116.2	87.1	**0.0044**	0.012	267.3	ug/L	56	Standard
|>	**In**	115	595647.0	3.1				ug/L	657102	Standard
|	**Sn**	118	352.0	21.9	**-0.0105**	0.007	68.5	ug/L	555	Standard
|	**Sb**	123	327.8	48.5	**0.0428**	0.021	48.5	ug/L	62	Standard
⌊	**Ba**	135	31.7	45.4	**-0.0098**	0.004	43.8	ug/L	19	Standard
⌈	**Ce**	140	24.7	19.2				ug/L	24	Standard
⌊>	**Tb**	159	842547.9	3.5				ug/L	910514	Standard
⌈	**Ho**	165	6.7	31.2				ug/L	7	Standard
|	**Tl**	203	64.0	87.3	**0.0017**	0.004	268.0	ug/L	13	Standard
|	**Tl**	205	2.7	57.3	**0.0088**	0.004	49.8	ug/L	1	Standard
|	**Pb**	206	329.3	16.5	**0.0017**	0.005	269.3	ug/L	342	Standard
|	**Pb**	207	281.3	14.1	**-0.0013**	0.004	293.7	ug/L	284	Standard
|	**Pb**	208	1287.4	11.9	**-0.0001**	0.003	2812.6	ug/L	1363	Standard
|	**U**	238	26.3	99.1	**0.0013**	0.003	213.0	ug/L	2	Standard
⌊>	**Bi**	209	434609.7	3.1				ug/L	470592	Standard

Sample ID: QC Std 7
Report Date/Time: Sunday, November 18, 2012 13:32:29
Page 1

Approved: November 19, 2012

	Na	23	0.0		**0.0050**	0.000	0.0	mg/L	2	Standard
	Mg	24	1065.0	11.1	**-0.0023**	0.000	2.5	mg/L	5586	Standard
	K	39	3.3	173.2	**0.0145**	0.097	667.8	mg/L	5	Standard
	Ca	43	31.7	32.9	**-0.5880**	0.469	79.8	mg/L	45	Standard
	Fe	54	347.5	13.8	**0.0104**	0.014	132.5	mg/L	350	Standard
	Fe	57	76.7	3.8	**0.0203**	0.010	47.5	mg/L	102	Standard
>	**Sc-1**	45	43067.9	5.5				mg/L	53004	Standard
	Cl	35	2.0	86.6				ug/L	2	Standard
	Kr	83	132.9	0.8				ug/L	157	Standard
	Br	81	5.8	49.5				ug/L	3	Standard
	P	31	107058.6	1.7				ug/L	91588	Standard
	S	34	33104.5	1.6				ug/L	32556	Standard
	Sr	88	58.3	4.9				ug/L	62	Standard
	C	12	111.7	15.7				mg/L	133	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	3.3	86.6				mg/L	7	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		88.512	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			
	Y	89			
>	Rh	103			

Sample ID: QC Std 7
Report Date/Time: Sunday, November 18, 2012 13:32:29
Page 2

Approved: November 19, 2012

⌈	Mo	98		
|	Ag	107		
|	Cd	111		
|	Cd	114		
|>	In	115		90.648
|	Sn	118		
|	Sb	123		
⌊	Ba	135		
⌈	Ce	140		
⌊>	Tb	159		
⌈	Ho	165		
|	Tl	203		
|	Tl	205		
|	Pb	206		
|	Pb	207		
|	Pb	208		
|	U	238		
⌊>	Bi	209		92.354
⌈	Na	23		
|	Mg	24		
|	K	39		
|	Ca	43		
|	Fe	54		
|	Fe	57		
⌊>	Sc-1	45		
	Cl	35		
	Kr	83		
	Br	81		
	P	31		
	S	34		
	Sr	88		
	C	12		
	N	14		
	Hg	202		

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: QC Std 7
Report Date/Time: Sunday, November 18, 2012 13:32:29
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

Sample ID: L1211024601
Sample Date/Time: Sunday, November 18, 2012 13:33:11
Number of Replicates: 3
Autosampler Position: 237
Sample Description: 10
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	112439.1	1.5	**-75152.9313**	3414.174	4.5	ug/L	8369	Standard
	Be	9	3.3	86.6	**-0.0074**	0.002	23.6	ug/L	18	Standard
	Al	27	19730837.6	1.4	**206.2842**	2.988	1.4	ug/L	215	Standard
>	**Sc**	45	41276.2	2.8				ug/L	53004	Standard
	Ti	47	48.0	17.1	**0.0504**	0.021	40.7	ug/L	26	Standard
	V	51	2654.8	6.1	**-0.0040**	0.020	503.6	ug/L	3223	Standard
	Cr	52	9185.5	3.6	**0.0685**	0.047	69.0	ug/L	10379	Standard
	Cr	53	565.0	12.9	**0.3725**	0.056	15.0	ug/L	192	Standard
	Mn	55	1797.8	2.5	**0.0330**	0.003	9.1	ug/L	1840	Standard
	Co	59	383.7	5.1	**0.0183**	0.002	8.3	ug/L	115	Standard
	Ni	60	1382.4	4.9	**0.5318**	0.035	6.6	ug/L	75	Standard
	Cu	65	750.7	4.6	**0.2614**	0.011	4.2	ug/L	155	Standard
	Zn	66	6258.0	1.9	**5.1770**	0.165	3.2	ug/L	237	Standard
>	**Ge**	72	351630.4	1.5				ug/L	413856	Standard
	As	75	-52.3	19.2	**0.0976**	0.008	7.8	ug/L	-197	Standard
	Se	82	127.3	4.9	**1.1621**	0.069	5.9	ug/L	-5	Standard
	Se-1	77	180.0	4.9	**1.1806**	0.110	9.3	ug/L	105	Standard
>	**Ga**	71	176.7	9.1				mg/L	225	Standard
	Rb	85	1010.0	4.2				ug/L	28	Standard
	Y	89	259992.1	1.7				ug/L	322845	Standard
>	**Rh**	103	155.0	3.2				ug/L	92	Standard
	Mo	98	123.3	12.2	**0.0226**	0.005	20.0	ug/L	18	Standard
	Ag	107	59.7	1.9	**0.0007**	0.000	53.0	ug/L	63	Standard
	Cd	111	19.9	48.0	**-0.0046**	0.003	67.6	mg/L	20	Standard
	Cd	114	62.6	16.0	**-0.0017**	0.001	78.1	ug/L	56	Standard
>	**In**	115	576884.6	2.3				ug/L	657102	Standard
	Sn	118	314.3	1.9	**-0.0134**	0.001	5.1	ug/L	555	Standard
	Sb	123	104.8	4.4	**0.0123**	0.001	6.7	ug/L	62	Standard
	Ba	135	1157.0	2.5	**0.3672**	0.003	0.7	ug/L	19	Standard
	Ce	140	473.7	3.6				ug/L	24	Standard
>	**Tb**	159	842693.0	3.1				ug/L	910514	Standard
	Ho	165	14.7	14.2				ug/L	7	Standard
	Tl	203	276.0	12.1	**0.0204**	0.003	13.5	ug/L	13	Standard
	Tl	205	11.0	15.7	**0.0327**	0.005	15.0	ug/L	1	Standard
	Pb	206	394.7	3.9	**0.0099**	0.002	21.1	ug/L	342	Standard
	Pb	207	341.0	4.6	**0.0075**	0.003	34.0	ug/L	284	Standard
	Pb	208	1563.0	1.3	**0.0086**	0.001	13.1	ug/L	1363	Standard
	U	238	19289.9	1.0	**2.1422**	0.047	2.2	ug/L	2	Standard
>	**Bi**	209	421981.5	1.3				ug/L	470592	Standard

Sample ID: L1211024601
Report Date/Time: Sunday, November 18, 2012 13:35:42
Page 1

Approved: November 19, 2012

⌈	**Na**	23	1.7	173.2	**0.1937**	0.327	168.7	mg/L	2	Standard
|	**Mg**	24	875445.4	0.8	**0.5490**	0.014	2.5	mg/L	5586	Standard
|	**K**	39	38.3	27.2	**0.6253**	0.164	26.2	mg/L	5	Standard
|	**Ca**	43	390.0	10.5	**19.1198**	2.570	13.4	mg/L	45	Standard
|	**Fe**	54	142.2	11.0	**-0.0834**	0.006	7.0	mg/L	350	Standard
|	**Fe**	57	228.3	14.6	**0.3327**	0.070	21.0	mg/L	102	Standard
⌊>	**Sc-1**	45	41276.2	2.8				mg/L	53004	Standard
	Cl	35	4.3	48.0				ug/L	2	Standard
	Kr	83	125.0	0.3				ug/L	157	Standard
	Br	81	8.3	17.3				ug/L	3	Standard
	P	31	42385.1	2.1				ug/L	91588	Standard
	S	34	31357.4	1.3				ug/L	32556	Standard
	Sr	88	793.4	10.1				ug/L	62	Standard
	C	12	193.3	22.3				mg/L	133	Standard
	N	14	1.7	173.2				mg/L	0	Standard
	Hg	202	3.3	86.6				mg/L	7	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			

Sample ID: L1211024601
Report Date/Time: Sunday, November 18, 2012 13:35:42
Page 2

Approved: November 19, 2012

	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	87.792
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	89.670
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: L1211024601
Report Date/Time: Sunday, November 18, 2012 13:35:42
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

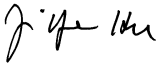
Sample ID: L1211024602
Sample Date/Time: Sunday, November 18, 2012 13:36:23
Number of Replicates: 3
Autosampler Position: 238
Sample Description: 10
Method File: C:\NexION Data\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
⌈	**Li**	7	155108.2	8.0	**-115842.0539**	10188.461	8.8	ug/L	8369	Standard
|	**Be**	9	46.7	136.1	**0.0242**	0.047	194.5	ug/L	18	Standard
|	**Al**	27	21832962.0	3.6	**249.9423**	12.219	4.9	ug/L	215	Standard
⌊>	**Sc**	45	37762.2	7.0				ug/L	53004	Standard
⌈	**Ti**	47	43.7	17.3	**0.0490**	0.022	44.9	ug/L	26	Standard
|	**V**	51	2463.4	3.7	**-0.0028**	0.016	578.2	ug/L	3223	Standard
|	**Cr**	52	10913.3	1.2	**0.3501**	0.048	13.8	ug/L	10379	Standard
|	**Cr**	53	1143.4	9.8	**0.9456**	0.065	6.9	ug/L	192	Standard
|	**Mn**	55	477942.8	4.6	**34.9782**	0.500	1.4	ug/L	1840	Standard
|	**Co**	59	634.0	32.8	**0.0453**	0.021	46.1	ug/L	115	Standard
|	**Ni**	60	1941.5	3.5	**0.8262**	0.010	1.2	ug/L	75	Standard
|	**Cu**	65	1127.4	3.6	**0.4610**	0.018	4.0	ug/L	155	Standard
|	**Zn**	66	2169.8	4.6	**1.8190**	0.124	6.8	ug/L	237	Standard
|>	**Ge**	72	324984.3	3.6				ug/L	413856	Standard
|	**As**	75	136.4	42.0	**0.2607**	0.053	20.2	ug/L	-197	Standard
|	**Se**	82	115.8	4.3	**1.1456**	0.088	7.7	ug/L	-5	Standard
⌊	**Se-1**	77	175.3	2.9	**1.2982**	0.084	6.5	ug/L	105	Standard
⌈>	**Ga**	71	178.3	15.4				mg/L	225	Standard
⌊	**Rb**	85	5644.4	7.1				ug/L	28	Standard
⌈	**Y**	89	244582.3	2.3				ug/L	322845	Standard
⌊>	**Rh**	103	203.3	12.4				ug/L	92	Standard
⌈	**Mo**	98	326.9	11.2	**0.0789**	0.008	10.0	ug/L	18	Standard
|	**Ag**	107	92.0	22.3	**0.0062**	0.003	52.3	ug/L	63	Standard
|	**Cd**	111	169.3	3.6	**0.0485**	0.002	3.3	mg/L	20	Standard
|	**Cd**	114	430.0	9.2	**0.0480**	0.004	9.0	ug/L	56	Standard
|>	**In**	115	543841.0	2.4				ug/L	657102	Standard
|	**Sn**	118	300.0	2.6	**-0.0130**	0.001	5.2	ug/L	555	Standard
|	**Sb**	123	94.9	15.3	**0.0117**	0.002	16.7	ug/L	62	Standard
⌊	**Ba**	135	1556.1	2.9	**0.5323**	0.003	0.5	ug/L	19	Standard
⌈	**Ce**	140	537.3	8.9				ug/L	24	Standard
⌊>	**Tb**	159	797694.6	1.0				ug/L	910514	Standard
⌈	**Ho**	165	28.7	27.1				ug/L	7	Standard
|	**Tl**	203	249.7	4.0	**0.0194**	0.001	6.2	ug/L	13	Standard
|	**Tl**	205	12.7	68.1	**0.0394**	0.026	65.7	ug/L	1	Standard
|	**Pb**	206	399.3	5.5	**0.0130**	0.002	17.7	ug/L	342	Standard
|	**Pb**	207	357.3	2.0	**0.0123**	0.001	12.1	ug/L	284	Standard
|	**Pb**	208	1744.4	18.8	**0.0164**	0.009	57.7	ug/L	1363	Standard
|	**U**	238	8752.2	1.9	**1.0284**	0.015	1.5	ug/L	2	Standard
⌊>	**Bi**	209	398452.7	1.2				ug/L	470592	Standard

Sample ID: L1211024602
Report Date/Time: Sunday, November 18, 2012 13:38:55
Page 1

Approved: November 19, 2012



⌈	**Na**	23	1.7	173.2	**0.2088**	0.353	169.1	mg/L	2	Standard
|	**Mg**	24	12962564.9	74.0	**9.0976**	6.823	75.0	mg/L	5586	Standard
|	**K**	39	26.7	39.0	**0.4601**	0.171	37.2	mg/L	5	Standard
|	**Ca**	43	300.0	15.3	**15.8568**	3.889	24.5	mg/L	45	Standard
|	**Fe**	54	153.6	24.6	**-0.0705**	0.019	27.6	mg/L	350	Standard
|	**Fe**	57	178.3	4.3	**0.2654**	0.013	4.8	mg/L	102	Standard
⌊>	**Sc-1**	45	37762.2	7.0				mg/L	53004	Standard
	Cl	35	6.0	28.9				ug/L	2	Standard
	Kr	83	118.4	1.4				ug/L	157	Standard
	Br	81	7.5	57.7				ug/L	3	Standard
	P	31	39581.7	2.5				ug/L	91588	Standard
	S	34	30308.6	3.0				ug/L	32556	Standard
	Sr	88	910.0	7.1				ug/L	62	Standard
	C	12	215.0	62.5				mg/L	133	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	1.7	173.2				mg/L	7	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		78.526	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: L1211024602
Report Date/Time: Sunday, November 18, 2012 13:38:55
Page 2

Approved: November 19, 2012

	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	82.764
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	84.671
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: L1211024602
Report Date/Time: Sunday, November 18, 2012 13:38:55
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

Sample ID: L1211024603
Sample Date/Time: Sunday, November 18, 2012 13:39:35
Number of Replicates: 3
Autosampler Position: 239
Sample Description: 10
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	132562.7	2.7	**-95175.1063**	3805.649	4.0	ug/L	8369	Standard
	Be	9	16.7	69.3	**0.0013**	0.007	547.8	ug/L	18	Standard
	Al	27	23774214.2	3.4	**263.8179**	10.320	3.9	ug/L	215	Standard
>	Sc	45	38903.3	4.0				ug/L	53004	Standard
	Ti	47	37.7	5.5	**0.0342**	0.003	9.4	ug/L	26	Standard
	V	51	2864.8	5.6	**0.0419**	0.008	18.0	ug/L	3223	Standard
	Cr	52	9426.6	1.8	**0.1844**	0.026	13.9	ug/L	10379	Standard
	Cr	53	515.8	13.5	**0.3701**	0.062	16.6	ug/L	192	Standard
	Mn	55	5099.2	4.2	**0.2877**	0.003	1.2	ug/L	1840	Standard
	Co	59	435.3	2.9	**0.0263**	0.000	1.6	ug/L	115	Standard
	Ni	60	1609.4	3.8	**0.6840**	0.037	5.4	ug/L	75	Standard
	Cu	65	816.0	1.2	**0.3203**	0.011	3.4	ug/L	155	Standard
	Zn	66	4401.3	6.2	**3.9174**	0.206	5.3	ug/L	237	Standard
>	Ge	72	322883.7	3.6				ug/L	413856	Standard
	As	75	-29.8	60.7	**0.1138**	0.015	13.5	ug/L	-197	Standard
	Se	82	140.0	4.2	**1.3920**	0.096	6.9	ug/L	-5	Standard
	Se-1	77	201.3	6.2	**1.6496**	0.069	4.2	ug/L	105	Standard
>	Ga	71	133.3	27.6				mg/L	225	Standard
	Rb	85	1136.7	6.7				ug/L	28	Standard
	Y	89	248160.0	4.4				ug/L	322845	Standard
>	Rh	103	211.7	15.7				ug/L	92	Standard
	Mo	98	152.6	14.4	**0.0307**	0.007	22.3	ug/L	18	Standard
	Ag	107	58.7	16.8	**0.0007**	0.001	191.2	ug/L	63	Standard
	Cd	111	26.8	9.8	**-0.0021**	0.001	55.4	mg/L	20	Standard
	Cd	114	74.6	16.7	**-0.0000**	0.001	10488.3	ug/L	56	Standard
>	In	115	567315.5	3.0				ug/L	657102	Standard
	Sn	118	289.3	6.7	**-0.0157**	0.003	18.5	ug/L	555	Standard
	Sb	123	66.0	17.0	**0.0069**	0.002	27.5	ug/L	62	Standard
	Ba	135	1199.4	1.4	**0.3885**	0.018	4.5	ug/L	19	Standard
	Ce	140	417.7	3.0				ug/L	24	Standard
>	Tb	159	818383.4	0.9				ug/L	910514	Standard
	Ho	165	13.0	13.3				ug/L	7	Standard
	Tl	203	298.7	1.4	**0.0230**	0.001	2.9	ug/L	13	Standard
	Tl	205	10.3	44.7	**0.0317**	0.014	43.8	ug/L	1	Standard
	Pb	206	385.0	1.8	**0.0100**	0.001	12.0	ug/L	342	Standard
	Pb	207	324.7	7.4	**0.0064**	0.003	42.4	ug/L	284	Standard
	Pb	208	1544.4	2.6	**0.0091**	0.000	4.6	ug/L	1363	Standard
	U	238	22015.3	1.9	**2.5069**	0.037	1.5	ug/L	2	Standard
>	Bi	209	411531.6	1.7				ug/L	470592	Standard

Sample ID: L1211024603
Report Date/Time: Sunday, November 18, 2012 13:42:07
Page 1

Approved: November 19, 2012

⌈	**Na**	23	3.3	173.2	**0.4313**	0.738	171.2	mg/L	2	Standard
|	**Mg**	24	969505.4	1.5	**0.6458**	0.019	3.0	mg/L	5586	Standard
|	**K**	39	26.7	60.3	**0.4456**	0.274	61.5	mg/L	5	Standard
|	**Ca**	43	363.3	11.5	**18.8074**	1.824	9.7	mg/L	45	Standard
|	**Fe**	54	122.3	19.7	**-0.0891**	0.015	17.0	mg/L	350	Standard
|	**Fe**	57	231.7	36.9	**0.3634**	0.161	44.4	mg/L	102	Standard
⌊>	**Sc-1**	45	38903.3	4.0				mg/L	53004	Standard
	Cl	35	4.0	25.0				ug/L	2	Standard
	Kr	83	121.8	5.4				ug/L	157	Standard
	Br	81	5.8	65.5				ug/L	3	Standard
	P	31	43468.9	0.7				ug/L	91588	Standard
	S	34	29320.8	1.1				ug/L	32556	Standard
	Sr	88	826.7	5.1				ug/L	62	Standard
	C	12	226.7	19.8				mg/L	133	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	6.7	114.6				mg/L	7	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		78.018	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: L1211024603
Report Date/Time: Sunday, November 18, 2012 13:42:07
Page 2

Approved: November 19, 2012

	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	86.336
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	87.450
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Approved: November 19, 2012

Method 6020 - Summary Report

Sample ID: L1211024803
Sample Date/Time: Sunday, November 18, 2012 13:45:00
Number of Replicates: 3
Autosampler Position: 240
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	67803.3	5.3	**-39417.0749**	1780.892	4.5	ug/L	8369	Standard
|	**Be**	9	13.3	57.3	**-0.0019**	0.004	237.5	ug/L	18	Standard
|	**Al**	27	3521734.1	5.5	**33.7286**	1.023	3.0	ug/L	215	Standard
⌊>	**Sc**	45	45021.8	2.5				ug/L	53004	Standard
⌈	**Ti**	47	233.7	3.9	**0.4430**	0.002	0.5	ug/L	26	Standard
|	**V**	51	42101.7	4.8	**3.6582**	0.082	2.2	ug/L	3223	Standard
|	**Cr**	52	14027.5	5.8	**0.4960**	0.034	6.9	ug/L	10379	Standard
|	**Cr**	53	1095.0	3.6	**0.7713**	0.065	8.4	ug/L	192	Standard
|	**Mn**	55	44426.8	3.8	**2.7436**	0.033	1.2	ug/L	1840	Standard
|	**Co**	59	905.7	5.4	**0.0596**	0.002	4.0	ug/L	115	Standard
|	**Ni**	60	2949.0	8.8	**1.1002**	0.059	5.4	ug/L	75	Standard
|	**Cu**	65	975.4	4.4	**0.3321**	0.013	3.8	ug/L	155	Standard
|	**Zn**	66	2339.8	2.0	**1.6906**	0.043	2.5	ug/L	237	Standard
|>	**Ge**	72	374126.2	4.3				ug/L	413856	Standard
|	**As**	75	602.6	12.2	**0.5983**	0.040	6.6	ug/L	-197	Standard
|	**Se**	82	200.3	9.2	**1.7129**	0.082	4.8	ug/L	-5	Standard
⌊	**Se-1**	77	187.7	5.4	**1.1374**	0.092	8.1	ug/L	105	Standard
⌈>	**Ga**	71	201.7	5.2				mg/L	225	Standard
⌊	**Rb**	85	4240.6	5.8				ug/L	28	Standard
⌈	**Y**	89	282008.4	6.2				ug/L	322845	Standard
⌊>	**Rh**	103	111.7	6.8				ug/L	92	Standard
⌈	**Mo**	98	720.6	5.9	**0.1617**	0.007	4.5	ug/L	18	Standard
|	**Ag**	107	72.0	52.1	**0.0018**	0.005	279.6	ug/L	63	Standard
|	**Cd**	111	27.5	31.1	**-0.0026**	0.003	102.7	mg/L	20	Standard
|	**Cd**	114	77.2	38.7	**-0.0004**	0.004	805.5	ug/L	56	Standard
|>	**In**	115	616808.6	2.8				ug/L	657102	Standard
|	**Sn**	118	364.0	5.5	**-0.0104**	0.002	22.9	ug/L	555	Standard
|	**Sb**	123	161.3	8.2	**0.0190**	0.001	7.1	ug/L	62	Standard
⌊	**Ba**	135	132093.6	4.2	**41.3146**	1.009	2.4	ug/L	19	Standard
⌈	**Ce**	140	1222.4	8.0				ug/L	24	Standard
⌊>	**Tb**	159	878848.5	3.2				ug/L	910514	Standard
⌈	**Ho**	165	23.0	19.0				ug/L	7	Standard
|	**Tl**	203	388.7	4.5	**0.0282**	0.001	4.6	ug/L	13	Standard
|	**Tl**	205	9.3	22.3	**0.0264**	0.006	21.8	ug/L	1	Standard
|	**Pb**	206	586.7	4.7	**0.0270**	0.002	7.2	ug/L	342	Standard
|	**Pb**	207	489.7	3.0	**0.0228**	0.002	8.0	ug/L	284	Standard
|	**Pb**	208	2316.4	5.2	**0.0255**	0.002	8.8	ug/L	1363	Standard
|	**U**	238	2947.6	5.4	**0.3067**	0.012	3.9	ug/L	2	Standard
⌊>	**Bi**	209	448236.8	1.9				ug/L	470592	Standard

Sample ID: L1211024803
Report Date/Time: Sunday, November 18, 2012 13:47:32
Page 1

Approved: November 19, 2012

⌈	**Na**	23	3.3	86.6	**0.3646**	0.311	85.4	mg/L	2	Standard
|	**Mg**	24	519815.6	1.2	**0.2975**	0.004	1.4	mg/L	5586	Standard
|	**K**	39	65.0	55.5	**0.9987**	0.581	58.2	mg/L	5	Standard
|	**Ca**	43	818.4	5.8	**38.8291**	3.255	8.4	mg/L	45	Standard
|	**Fe**	54	363.6	5.0	**0.0109**	0.004	36.6	mg/L	350	Standard
|	**Fe**	57	375.0	5.8	**0.5656**	0.048	8.5	mg/L	102	Standard
⌊>	**Sc-1**	45	45021.8	2.5				mg/L	53004	Standard
	Cl	35	2.7	108.3				ug/L	2	Standard
	Kr	83	124.6	7.9				ug/L	157	Standard
	Br	81	7.5	88.2				ug/L	3	Standard
	P	31	159148.7	3.3				ug/L	91588	Standard
	S	34	28260.5	1.5				ug/L	32556	Standard
	Sr	88	326.7	7.9				ug/L	62	Standard
	C	12	1066.7	9.5				mg/L	133	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	1.7	173.2				mg/L	7	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		90.400	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: L1211024803
Report Date/Time: Sunday, November 18, 2012 13:47:32
Page 2

Approved: November 19, 2012

	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	93.868
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	95.250
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: L1211024803
Report Date/Time: Sunday, November 18, 2012 13:47:32
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

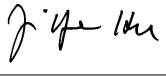
Sample ID: L1211024804
Sample Date/Time: Sunday, November 18, 2012 13:48:12
Number of Replicates: 3
Autosampler Position: 241
Sample Description: 1
Method File: C:\NexION Data\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
⌈	**Li**	7	64535.8	5.5	**-35602.8697**	736.280	2.1	ug/L	8369	Standard
|	**Be**	9	13.3	57.3	**-0.0021**	0.004	208.4	ug/L	18	Standard
|	**Al**	27	4791848.8	7.2	**44.0432**	1.741	4.0	ug/L	215	Standard
⌊>	**Sc**	45	46900.9	3.9				ug/L	53004	Standard
⌈	**Ti**	47	302.7	10.6	**0.5766**	0.044	7.7	ug/L	26	Standard
|	**V**	51	4537.9	3.5	**0.1469**	0.013	8.7	ug/L	3223	Standard
|	**Cr**	52	12129.5	3.9	**0.2799**	0.025	9.0	ug/L	10379	Standard
|	**Cr**	53	837.5	2.9	**0.5489**	0.013	2.4	ug/L	192	Standard
|	**Mn**	55	12200836.2	6.5	**761.0064**	28.532	3.7	ug/L	1840	Standard
|	**Co**	59	5613.7	6.9	**0.4398**	0.017	3.8	ug/L	115	Standard
|	**Ni**	60	67361.0	7.6	**25.3694**	1.195	4.7	ug/L	75	Standard
|	**Cu**	65	11066.4	6.7	**4.2667**	0.147	3.4	ug/L	155	Standard
|	**Zn**	66	15222.0	7.3	**11.8234**	0.531	4.5	ug/L	237	Standard
|>	**Ge**	72	382149.6	4.0				ug/L	413856	Standard
|	**As**	75	4733.0	6.6	**3.6696**	0.143	3.9	ug/L	-197	Standard
|	**Se**	82	211.3	3.5	**1.7711**	0.022	1.2	ug/L	-5	Standard
⌊	**Se-1**	77	154.7	3.6	**0.7286**	0.019	2.7	ug/L	105	Standard
⌈>	**Ga**	71	326.7	10.8				mg/L	225	Standard
⌊	**Rb**	85	9076.1	5.9				ug/L	28	Standard
⌈	**Y**	89	292739.7	6.2				ug/L	322845	Standard
⌊>	**Rh**	103	141.7	13.4				ug/L	92	Standard
⌈	**Mo**	98	2357.4	5.0	**0.5504**	0.015	2.7	ug/L	18	Standard
|	**Ag**	107	66.7	14.6	**0.0011**	0.001	129.3	ug/L	63	Standard
|	**Cd**	111	75.5	12.4	**0.0123**	0.002	19.3	mg/L	20	Standard
|	**Cd**	114	195.8	10.5	**0.0136**	0.002	14.3	ug/L	56	Standard
|>	**In**	115	615061.0	2.4				ug/L	657102	Standard
|	**Sn**	118	629.7	4.0	**0.0182**	0.001	6.2	ug/L	555	Standard
|	**Sb**	123	286.7	11.8	**0.0361**	0.004	10.3	ug/L	62	Standard
⌊	**Ba**	135	482398.1	5.7	**151.2985**	5.074	3.4	ug/L	19	Standard
⌈	**Ce**	140	5425.6	6.9				ug/L	24	Standard
⌊>	**Tb**	159	884163.7	3.7				ug/L	910514	Standard
⌈	**Ho**	165	65.7	14.6				ug/L	7	Standard
|	**Tl**	203	347.0	8.2	**0.0248**	0.002	6.6	ug/L	13	Standard
|	**Tl**	205	14.0	14.3	**0.0390**	0.005	14.0	ug/L	1	Standard
|	**Pb**	206	17219.1	5.8	**1.7301**	0.052	3.0	ug/L	342	Standard
|	**Pb**	207	14147.6	4.3	**1.6682**	0.022	1.3	ug/L	284	Standard
|	**Pb**	208	66282.7	5.2	**1.6851**	0.039	2.3	ug/L	1363	Standard
|	**U**	238	1334.1	3.5	**0.1383**	0.004	3.1	ug/L	2	Standard
⌊>	**Bi**	209	447370.1	3.0				ug/L	470592	Standard

Sample ID: L1211024804
Report Date/Time: Sunday, November 18, 2012 13:50:44
Page 1

Approved: November 19, 2012



⌈	**Na**	23	8.3	91.7	**0.8366**	0.757	90.5	mg/L	2	Standard
|	**Mg**	24	485838.4	3.8	**0.2665**	0.003	1.2	mg/L	5586	Standard
|	**K**	39	136.7	20.1	**2.0504**	0.354	17.2	mg/L	5	Standard
|	**Ca**	43	1133.4	4.7	**52.2764**	0.489	0.9	mg/L	45	Standard
|	**Fe**	54	1917.0	8.9	**0.6778**	0.043	6.3	mg/L	350	Standard
|	**Fe**	57	843.4	6.6	**1.3683**	0.070	5.2	mg/L	102	Standard
⌊>	**Sc-1**	45	46900.9	3.9				mg/L	53004	Standard
	Cl	35	3.3	96.4				ug/L	2	Standard
	Kr	83	119.2	7.0				ug/L	157	Standard
	Br	81	8.3	75.5				ug/L	3	Standard
	P	31	153550.5	3.2				ug/L	91588	Standard
	S	34	29177.2	2.8				ug/L	32556	Standard
	Sr	88	380.0	1.3				ug/L	62	Standard
	C	12	875.0	6.9				mg/L	133	Standard
	N	14	1.7	173.2				mg/L	0	Standard
	Hg	202	16.7	45.8				mg/L	7	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		92.339	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: L1211024804
Report Date/Time: Sunday, November 18, 2012 13:50:44
Page 2

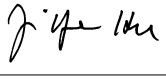
Approved: November 19, 2012

⌈	Mo	98		
|	Ag	107		
|	Cd	111		
|	Cd	114		
| >	In	115		93.602
|	Sn	118		
|	Sb	123		
⌊	Ba	135		
⌈	Ce	140		
⌊ >	Tb	159		
⌈	Ho	165		
|	Tl	203		
|	Tl	205		
|	Pb	206		
|	Pb	207		
|	Pb	208		
|	U	238		
⌊ >	Bi	209		95.065
⌈	Na	23		
|	Mg	24		
|	K	39		
|	Ca	43		
|	Fe	54		
|	Fe	57		
⌊ >	Sc-1	45		
	Cl	35		
	Kr	83		
	Br	81		
	P	31		
	S	34		
	Sr	88		
	C	12		
	N	14		
	Hg	202		

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: November 19, 2012



Method 6020 - Summary Report

Sample ID: L1211024805
Sample Date/Time: Sunday, November 18, 2012 13:51:24
Number of Replicates: 3
Autosampler Position: 242
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	32935.9	6.9	**-16560.9078**	749.965	4.5	ug/L	8369	Standard
|	**Be**	9	16.7	62.4	**0.0001**	0.006	4418.6	ug/L	18	Standard
|	**Al**	27	2153900.0	9.2	**20.4470**	1.318	6.4	ug/L	215	Standard
⌊>	**Sc**	45	45431.5	6.3				ug/L	53004	Standard
⌈	**Ti**	47	192.0	8.9	**0.3561**	0.026	7.4	ug/L	26	Standard
|	**V**	51	7402.6	2.5	**0.4282**	0.019	4.5	ug/L	3223	Standard
|	**Cr**	52	14060.2	3.7	**0.5103**	0.023	4.5	ug/L	10379	Standard
|	**Cr**	53	1067.5	11.7	**0.7517**	0.062	8.3	ug/L	192	Standard
|	**Mn**	55	14972268.4	6.6	**960.7034**	27.773	2.9	ug/L	1840	Standard
|	**Co**	59	3045.0	8.1	**0.2384**	0.008	3.5	ug/L	115	Standard
|	**Ni**	60	114503.0	5.9	**44.4136**	1.319	3.0	ug/L	75	Standard
|	**Cu**	65	28986.1	6.4	**11.5966**	0.305	2.6	ug/L	155	Standard
|	**Zn**	66	13846.0	5.2	**11.0568**	0.166	1.5	ug/L	237	Standard
|>	**Ge**	72	371488.9	4.9				ug/L	413856	Standard
|	**As**	75	2249.6	6.1	**1.8657**	0.021	1.1	ug/L	-197	Standard
|	**Se**	82	153.7	13.1	**1.3238**	0.113	8.5	ug/L	-5	Standard
⌊	**Se-1**	77	141.7	2.7	**0.6334**	0.117	18.4	ug/L	105	Standard
⌈>	**Ga**	71	483.3	11.6				mg/L	225	Standard
⌊	**Rb**	85	27940.8	3.8				ug/L	28	Standard
⌈	**Y**	89	279210.8	4.5				ug/L	322845	Standard
⌊>	**Rh**	103	123.3	13.0				ug/L	92	Standard
⌈	**Mo**	98	7277.6	5.4	**1.7136**	0.064	3.8	ug/L	18	Standard
|	**Ag**	107	55.3	16.2	**-0.0005**	0.001	243.3	ug/L	63	Standard
|	**Cd**	111	43.6	25.7	**0.0024**	0.004	152.1	mg/L	20	Standard
|	**Cd**	114	137.3	19.2	**0.0066**	0.003	43.2	ug/L	56	Standard
|>	**In**	115	616345.4	1.7				ug/L	657102	Standard
|	**Sn**	118	1332.4	4.7	**0.0933**	0.004	4.8	ug/L	555	Standard
|	**Sb**	123	896.0	4.9	**0.1190**	0.004	3.6	ug/L	62	Standard
⌊	**Ba**	135	132020.2	4.7	**41.3134**	1.265	3.1	ug/L	19	Standard
⌈	**Ce**	140	1987.5	2.8				ug/L	24	Standard
⌊>	**Tb**	159	884209.0	2.0				ug/L	910514	Standard
⌈	**Ho**	165	36.7	23.5				ug/L	7	Standard
|	**Tl**	203	794.7	1.7	**0.0612**	0.000	0.8	ug/L	13	Standard
|	**Tl**	205	24.7	20.4	**0.0672**	0.013	19.5	ug/L	1	Standard
|	**Pb**	206	69487.5	3.7	**7.0469**	0.114	1.6	ug/L	342	Standard
|	**Pb**	207	57503.7	3.5	**6.8558**	0.107	1.6	ug/L	284	Standard
|	**Pb**	208	269535.4	3.5	**6.9233**	0.101	1.5	ug/L	1363	Standard
|	**U**	238	902.4	6.3	**0.0925**	0.004	4.6	ug/L	2	Standard
⌊>	**Bi**	209	449712.5	2.2				ug/L	470592	Standard

Sample ID: L1211024805
Report Date/Time: Sunday, November 18, 2012 13:53:56
Page 1

Approved: November 19, 2012

⌈	**Na**	23	3.3	86.6	**0.3695**	0.316	85.4	mg/L	2	Standard
|	**Mg**	24	355115.5	1.3	**0.2008**	0.010	4.9	mg/L	5586	Standard
|	**K**	39	430.0	14.8	**6.7944**	1.098	16.2	mg/L	5	Standard
|	**Ca**	43	626.7	7.6	**28.9826**	3.309	11.4	mg/L	45	Standard
|	**Fe**	54	2695.0	5.1	**1.0552**	0.027	2.6	mg/L	350	Standard
|	**Fe**	57	868.4	3.7	**1.4645**	0.045	3.1	mg/L	102	Standard
⌊>	**Sc-1**	45	45431.5	6.3				mg/L	53004	Standard
	Cl	35	3.3	45.8				ug/L	2	Standard
	Kr	83	116.4	6.7				ug/L	157	Standard
	Br	81	6.7	57.3				ug/L	3	Standard
	P	31	129905.1	4.2				ug/L	91588	Standard
	S	34	29574.7	2.2				ug/L	32556	Standard
	Sr	88	265.0	3.3				ug/L	62	Standard
	C	12	623.3	17.4				mg/L	133	Standard
	N	14	1.7	173.2				mg/L	0	Standard
	Hg	202	20.0	50.0				mg/L	7	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		89.763	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: L1211024805
Report Date/Time: Sunday, November 18, 2012 13:53:56
Page 2

Approved: November 19, 2012

⌈	Mo	98		
|	Ag	107		
|	Cd	111		
|	Cd	114		
|>	In	115		93.798
|	Sn	118		
|	Sb	123		
⌊	Ba	135		
⌈	Ce	140		
⌊>	Tb	159		
⌈	Ho	165		
|	Tl	203		
|	Tl	205		
|	Pb	206		
|	Pb	207		
|	Pb	208		
|	U	238		
⌊>	Bi	209		95.563
⌈	Na	23		
|	Mg	24		
|	K	39		
|	Ca	43		
|	Fe	54		
|	Fe	57		
⌊>	Sc-1	45		
	Cl	35		
	Kr	83		
	Br	81		
	P	31		
	S	34		
	Sr	88		
	C	12		
	N	14		
	Hg	202		

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Mn 55 Upper, S, EEE	Mn	55	

Sample ID: L1211024805
Report Date/Time: Sunday, November 18, 2012 13:53:56
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

Sample ID: L1211024805
Sample Date/Time: Sunday, November 18, 2012 13:56:41
Number of Replicates: 3
Autosampler Position: 243
Sample Description: 50
Method File: C:\NexION Data\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
⌈	**Li**	7	6979.9	4.1	**-943.6309**	399.403	42.3	ug/L	8369	Standard
|	**Be**	9	3.3	86.6	**-0.0071**	0.002	28.6	ug/L	18	Standard
|	**Al**	27	35474.9	4.6	**0.4174**	0.015	3.6	ug/L	215	Standard
⌊>	**Sc**	45	36475.5	3.0				ug/L	53004	Standard
⌈	**Ti**	47	16.7	51.0	**-0.0175**	0.022	125.3	ug/L	26	Standard
|	**V**	51	2396.0	1.4	**-0.0058**	0.006	111.3	ug/L	3223	Standard
|	**Cr**	52	7282.4	1.6	**-0.0569**	0.023	40.6	ug/L	10379	Standard
|	**Cr**	53	174.2	5.8	**0.0541**	0.010	19.3	ug/L	192	Standard
|	**Mn**	55	233659.3	2.4	**17.3576**	0.369	2.1	ug/L	1840	Standard
|	**Co**	59	126.7	8.5	**-0.0032**	0.001	37.4	ug/L	115	Standard
|	**Ni**	60	2049.1	4.0	**0.8899**	0.041	4.6	ug/L	75	Standard
|	**Cu**	65	650.7	3.4	**0.2468**	0.009	3.7	ug/L	155	Standard
|	**Zn**	66	1531.4	4.2	**1.2486**	0.059	4.7	ug/L	237	Standard
|>	**Ge**	72	319409.3	1.2				ug/L	413856	Standard
|	**As**	75	-64.5	77.0	**0.0824**	0.044	53.5	ug/L	-197	Standard
|	**Se**	82	8.4	43.8	**0.0894**	0.037	40.9	ug/L	-5	Standard
⌊	**Se-1**	77	99.3	8.4	**0.3322**	0.095	28.5	ug/L	105	Standard
⌈>	**Ga**	71	190.0	16.0				mg/L	225	Standard
⌊	**Rb**	85	491.7	18.3				ug/L	28	Standard
⌈	**Y**	89	234326.6	1.4				ug/L	322845	Standard
⌊>	**Rh**	103	71.7	24.5				ug/L	92	Standard
⌈	**Mo**	98	136.0	4.8	**0.0284**	0.002	6.8	ug/L	18	Standard
|	**Ag**	107	48.7	21.0	**-0.0004**	0.002	451.6	ug/L	63	Standard
|	**Cd**	111	17.5	14.4	**-0.0049**	0.001	19.1	mg/L	20	Standard
|	**Cd**	114	53.0	20.4	**-0.0024**	0.001	60.3	ug/L	56	Standard
|>	**In**	115	535798.1	0.6				ug/L	657102	Standard
|	**Sn**	118	285.0	2.7	**-0.0143**	0.001	6.9	ug/L	555	Standard
|	**Sb**	123	33.1	6.1	**0.0023**	0.000	15.3	ug/L	62	Standard
⌊	**Ba**	135	2466.9	7.0	**0.8689**	0.064	7.4	ug/L	19	Standard
⌈	**Ce**	140	57.3	7.3				ug/L	24	Standard
⌊>	**Tb**	159	771806.8	1.1				ug/L	910514	Standard
⌈	**Ho**	165	8.3	25.0				ug/L	7	Standard
|	**Tl**	203	60.3	13.4	**0.0016**	0.001	45.7	ug/L	13	Standard
|	**Tl**	205	2.3	49.5	**0.0080**	0.003	41.9	ug/L	1	Standard
|	**Pb**	206	1549.1	4.2	**0.1355**	0.008	5.9	ug/L	342	Standard
|	**Pb**	207	1302.1	4.4	**0.1304**	0.007	5.7	ug/L	284	Standard
|	**Pb**	208	5964.5	2.8	**0.1298**	0.005	3.7	ug/L	1363	Standard
|	**U**	238	18.3	19.2	**0.0005**	0.000	72.9	ug/L	2	Standard
⌊>	**Bi**	209	421605.6	0.8				ug/L	470592	Standard

Sample ID: L1211024805
Report Date/Time: Sunday, November 18, 2012 13:59:13
Page 1

Approved: November 19, 2012

⌈	**Na**	23	1.7	173.2	**0.2207**	0.374	169.3	mg/L	2	Standard
|	**Mg**	24	24606.7	5.0	**0.0146**	0.001	5.3	mg/L	5586	Standard
|	**K**	39	20.0	50.0	**0.3544**	0.196	55.2	mg/L	5	Standard
|	**Ca**	43	56.7	13.5	**1.2736**	0.447	35.1	mg/L	45	Standard
|	**Fe**	54	172.4	9.4	**-0.0570**	0.011	19.2	mg/L	350	Standard
|	**Fe**	57	91.7	3.1	**0.0812**	0.013	16.0	mg/L	102	Standard
⌊>	**Sc-1**	45	36475.5	3.0				mg/L	53004	Standard
	Cl	35	1.7	34.6				ug/L	2	Standard
	Kr	83	101.7	3.9				ug/L	157	Standard
	Br	81	1.7	173.2				ug/L	3	Standard
	P	31	37148.1	4.9				ug/L	91588	Standard
	S	34	29588.9	1.0				ug/L	32556	Standard
	Sr	88	73.3	14.2				ug/L	62	Standard
	C	12	136.7	12.8				mg/L	133	Standard
	N	14	1.7	173.2				mg/L	0	Standard
	Hg	202	6.7	173.2				mg/L	7	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		77.179	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: L1211024805
Report Date/Time: Sunday, November 18, 2012 13:59:13
Page 2

Approved: November 19, 2012

	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	81.540
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	89.591
	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	
	C	12	
	N	14	
	Hg	202	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: L1211024805
Report Date/Time: Sunday, November 18, 2012 13:59:13
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

Sample ID: QC Std 6
Sample Date/Time: Sunday, November 18, 2012 13:59:56
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	7948.8	10.4	**-521.7674**	386.145	74.0	ug/L	8369	Standard
|	**Be**	9	105379.2	5.3	**59.9017**	1.564	2.6	ug/L	18	Standard
|	**Al**	27	6628289.3	4.2	**63.8333**	0.737	1.2	ug/L	215	Standard
⌊>	**Sc**	45	44786.1	3.0				ug/L	53004	Standard
⌈	**Ti**	47	44587.2	2.8	**94.3548**	0.783	0.8	ug/L	26	Standard
|	**V**	51	529285.4	3.6	**48.3159**	0.528	1.1	ug/L	3223	Standard
|	**Cr**	52	510099.8	3.8	**49.6317**	0.705	1.4	ug/L	10379	Standard
|	**Cr**	53	62100.4	2.7	**48.9865**	0.471	1.0	ug/L	192	Standard
|	**Mn**	55	786425.0	3.2	**49.2661**	0.560	1.1	ug/L	1840	Standard
|	**Co**	59	612620.3	4.1	**49.9760**	0.801	1.6	ug/L	115	Standard
|	**Ni**	60	130727.1	5.0	**49.5631**	1.192	2.4	ug/L	75	Standard
|	**Cu**	65	128591.6	4.1	**50.4937**	0.773	1.5	ug/L	155	Standard
|	**Zn**	66	63906.5	2.5	**50.5957**	0.034	0.1	ug/L	237	Standard
|>	**Ge**	72	379981.4	2.5				ug/L	413856	Standard
|	**As**	75	66202.8	2.7	**49.8116**	0.496	1.0	ug/L	-197	Standard
|	**Se**	82	5852.7	2.7	**49.1925**	0.220	0.4	ug/L	-5	Standard
⌊	**Se-1**	77	4593.7	2.2	**50.0138**	0.268	0.5	ug/L	105	Standard
⌈>	**Ga**	71	206.7	14.2				mg/L	225	Standard
⌊	**Rb**	85	970.0	8.5				ug/L	28	Standard
⌈	**Y**	89	281539.0	2.0				ug/L	322845	Standard
⌊>	**Rh**	103	116.7	17.3				ug/L	92	Standard
⌈	**Mo**	98	396885.8	4.5	**93.4142**	2.077	2.2	ug/L	18	Standard
|	**Ag**	107	380691.2	4.1	**50.9411**	1.269	2.5	ug/L	63	Standard
|	**Cd**	111	162386.6	3.2	**50.2032**	0.927	1.8	mg/L	20	Standard
|	**Cd**	114	425979.8	3.4	**50.0414**	1.212	2.4	ug/L	56	Standard
|>	**In**	115	619704.6	2.4				ug/L	657102	Standard
|	**Sn**	118	479882.3	3.4	**51.0773**	0.819	1.6	ug/L	555	Standard
|	**Sb**	123	379289.0	2.2	**51.3574**	0.722	1.4	ug/L	62	Standard
⌊	**Ba**	135	161475.6	2.7	**50.2775**	0.479	1.0	ug/L	19	Standard
⌈	**Ce**	140	653.0	5.2				ug/L	24	Standard
⌊>	**Tb**	159	874130.0	1.7				ug/L	910514	Standard
⌈	**Ho**	165	432.0	3.7				ug/L	7	Standard
|	**Tl**	203	627783.9	2.3	**50.7033**	0.754	1.5	ug/L	13	Standard
|	**Tl**	205	19177.8	1.9	**50.7727**	0.721	1.4	ug/L	1	Standard
|	**Pb**	206	507839.1	2.8	**51.1613**	0.979	1.9	ug/L	342	Standard
|	**Pb**	207	431519.8	3.4	**51.1316**	1.320	2.6	ug/L	284	Standard
|	**Pb**	208	1982484.3	3.4	**50.5973**	1.340	2.6	ug/L	1363	Standard
|	**U**	238	508115.9	4.4	**52.4006**	1.904	3.6	ug/L	2	Standard
⌊>	**Bi**	209	454565.8	1.0				ug/L	470592	Standard

Sample ID: QC Std 6
Report Date/Time: Sunday, November 18, 2012 14:02:28
Page 1

Approved: November 19, 2012

⌈	**Na**	23	3.3	86.6	**0.3557**	0.304	85.4	mg/L	2	Standard
|	**Mg**	24	301449.5	1.2	**0.1722**	0.003	1.9	mg/L	5586	Standard
|	**K**	39	331.7	10.6	**5.2969**	0.541	10.2	mg/L	5	Standard
|	**Ca**	43	106.7	22.2	**3.1216**	1.043	33.4	mg/L	45	Standard
|	**Fe**	54	12680.1	3.5	**5.6115**	0.060	1.1	mg/L	350	Standard
|	**Fe**	57	3030.3	5.1	**5.5097**	0.384	7.0	mg/L	102	Standard
⌊>	**Sc-1**	45	44786.1	3.0				mg/L	53004	Standard
	Cl	35	1.0	0.0				ug/L	2	Standard
	Kr	83	109.6	2.8				ug/L	157	Standard
	Br	81	9.2	41.7				ug/L	3	Standard
	P	31	112207.3	1.2				ug/L	91588	Standard
	S	34	33872.8	2.2				ug/L	32556	Standard
	Sr	88	70.0	25.8				ug/L	62	Standard
	C	12	151.7	15.6				mg/L	133	Standard
	N	14	1.7	173.2				mg/L	0	Standard
	Hg	202	6.7	86.6				mg/L	7	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈	Li	7			
|	Be	9	119.803		
|	Al	27	127.667		
⌊>	Sc	45			
⌈	Ti	47	94.355		
|	V	51	96.632		
|	Cr	52	99.263		
|	Cr	53			
|	Mn	55	98.532		
|	Co	59	99.952		
|	Ni	60	99.126		
|	Cu	65	100.987		
|	Zn	66	101.191		
|>	Ge	72		91.815	
|	As	75	99.623		
|	Se	82	98.385		
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: QC Std 6
Report Date/Time: Sunday, November 18, 2012 14:02:28
Page 2

Approved: November 19, 2012

	Mo	98	93.414	
	Ag	107	101.882	
	Cd	111	100.406	
	Cd	114		
>	In	115		94.309
	Sn	118	102.155	
	Sb	123	102.715	
	Ba	135	100.555	
	Ce	140		
>	Tb	159		
	Ho	165		
	Tl	203	101.407	
	Tl	205		
	Pb	206	102.323	
	Pb	207	102.263	
	Pb	208	101.195	
	U	238	104.801	
>	Bi	209		96.595
	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		
	C	12		
	N	14		
	Hg	202		

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 6	Be	9	
QC Std 6	Al	27	

Sample ID: QC Std 6
Report Date/Time: Sunday, November 18, 2012 14:02:28
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

Sample ID: QC Std 7
Sample Date/Time: Sunday, November 18, 2012 14:03:08
Number of Replicates: 3
Autosampler Position: 102
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	8412.3	7.8	**-939.3008**	334.045	35.6	ug/L	8369	Standard
|	**Be**	9	10.0	50.0	**-0.0036**	0.003	88.6	ug/L	18	Standard
|	**Al**	27	275.0	17.3	**0.0005**	0.000	70.2	ug/L	215	Standard
⌊>	**Sc**	45	43925.3	4.2				ug/L	53004	Standard
⌈	**Ti**	47	16.0	16.5	**-0.0252**	0.006	21.9	ug/L	26	Standard
|	**V**	51	2595.1	0.8	**-0.0256**	0.006	23.6	ug/L	3223	Standard
|	**Cr**	52	8092.8	1.4	**-0.1013**	0.022	21.4	ug/L	10379	Standard
|	**Cr**	53	160.0	11.3	**0.0185**	0.013	69.3	ug/L	192	Standard
|	**Mn**	55	1372.7	3.1	**-0.0015**	0.002	150.9	ug/L	1840	Standard
|	**Co**	59	72.0	16.4	**-0.0096**	0.001	9.1	ug/L	115	Standard
|	**Ni**	60	59.0	17.9	**-0.0128**	0.004	28.5	ug/L	75	Standard
|	**Cu**	65	193.7	11.6	**0.0197**	0.008	41.3	ug/L	155	Standard
|	**Zn**	66	208.3	5.3	**-0.0315**	0.006	19.7	ug/L	237	Standard
|>	**Ge**	72	374348.7	1.8				ug/L	413856	Standard
|	**As**	75	-156.1	7.3	**0.0210**	0.009	42.7	ug/L	-197	Standard
|	**Se**	82	1.7	137.0	**0.0198**	0.020	100.8	ug/L	-5	Standard
⌊	**Se-1**	77	95.0	13.7	**0.0929**	0.159	171.3	ug/L	105	Standard
⌈>	**Ga**	71	158.3	14.2				mg/L	225	Standard
⌊	**Rb**	85	23.3	44.6				ug/L	28	Standard
⌈	**Y**	89	281165.3	1.8				ug/L	322845	Standard
⌊>	**Rh**	103	80.0	18.8				ug/L	92	Standard
⌈	**Mo**	98	35.9	57.3	**-0.0003**	0.004	1472.1	ug/L	18	Standard
|	**Ag**	107	66.7	9.8	**0.0011**	0.001	87.6	ug/L	63	Standard
|	**Cd**	111	21.0	23.8	**-0.0047**	0.001	28.5	mg/L	20	Standard
|	**Cd**	114	59.0	25.7	**-0.0026**	0.002	57.2	ug/L	56	Standard
|>	**In**	115	615223.6	3.9				ug/L	657102	Standard
|	**Sn**	118	335.3	2.5	**-0.0133**	0.002	14.6	ug/L	555	Standard
|	**Sb**	123	261.2	37.9	**0.0324**	0.012	37.4	ug/L	62	Standard
⌊	**Ba**	135	19.0	13.9	**-0.0140**	0.001	5.9	ug/L	19	Standard
⌈	**Ce**	140	23.3	10.8				ug/L	24	Standard
⌊>	**Tb**	159	866021.7	3.3				ug/L	910514	Standard
⌈	**Ho**	165	8.7	26.6				ug/L	7	Standard
|	**Tl**	203	26.0	10.2	**-0.0016**	0.000	12.8	ug/L	13	Standard
|	**Tl**	205	1.3	114.6	**0.0048**	0.004	82.4	ug/L	1	Standard
|	**Pb**	206	313.3	7.2	**-0.0015**	0.002	121.7	ug/L	342	Standard
|	**Pb**	207	300.3	5.4	**-0.0006**	0.002	394.8	ug/L	284	Standard
|	**Pb**	208	1277.4	3.7	**-0.0020**	0.001	31.4	ug/L	1363	Standard
|	**U**	238	5.3	43.3	**-0.0010**	0.000	22.7	ug/L	2	Standard
⌊>	**Bi**	209	456561.1	2.2				ug/L	470592	Standard

Sample ID: QC Std 7
Report Date/Time: Sunday, November 18, 2012 14:05:40
Page 1

Approved: November 19, 2012

⌈	**Na**	23	0.0		**0.0050**	0.000	0.0	mg/L	2	Standard
|	**Mg**	24	1215.0	11.8	**-0.0022**	0.000	3.1	mg/L	5586	Standard
|	**K**	39	1.7	173.2	**-0.0126**	0.050	393.9	mg/L	5	Standard
|	**Ca**	43	43.3	43.7	**0.0239**	1.089	4553.6	mg/L	45	Standard
|	**Fe**	54	325.9	10.2	**-0.0024**	0.014	593.8	mg/L	350	Standard
|	**Fe**	57	93.3	12.4	**0.0493**	0.027	55.4	mg/L	102	Standard
⌊>	**Sc-1**	45	43925.3	4.2				mg/L	53004	Standard
	Cl	35	2.7	21.7				ug/L	2	Standard
	Kr	83	108.4	1.8				ug/L	157	Standard
	Br	81	6.7	21.7				ug/L	3	Standard
	P	31	111339.4	1.9				ug/L	91588	Standard
	S	34	33700.8	2.7				ug/L	32556	Standard
	Sr	88	70.0	43.4				ug/L	62	Standard
	C	12	106.7	9.8				mg/L	133	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	1.7	173.2				mg/L	7	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		90.454	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: QC Std 7
Report Date/Time: Sunday, November 18, 2012 14:05:40
Page 2

Approved: November 19, 2012

	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	93.627
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	97.019
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: QC Std 7
Report Date/Time: Sunday, November 18, 2012 14:05:40
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

Sample ID: QC Std 8
Sample Date/Time: Sunday, November 18, 2012 14:06:22
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	8033.8	9.1	**-679.0919**	310.371	45.7	ug/L	8369	Standard
|	**Be**	9	366.7	25.7	**0.2043**	0.062	30.2	ug/L	18	Standard
|	**Al**	27	408.3	44.9	**0.0018**	0.002	97.8	ug/L	215	Standard
⌊>	**Sc**	45	43952.1	3.9				ug/L	53004	Standard
⌈	**Ti**	47	22.0	13.6	**-0.0121**	0.005	37.5	ug/L	26	Standard
|	**V**	51	6485.1	5.6	**0.3406**	0.010	2.9	ug/L	3223	Standard
|	**Cr**	52	15516.6	3.5	**0.6561**	0.018	2.7	ug/L	10379	Standard
|	**Cr**	53	1040.0	4.5	**0.7309**	0.037	5.1	ug/L	192	Standard
|	**Mn**	55	8756.9	5.9	**0.4724**	0.010	2.2	ug/L	1840	Standard
|	**Co**	59	4621.7	7.0	**0.3697**	0.014	3.7	ug/L	115	Standard
|	**Ni**	60	4097.6	8.6	**1.5518**	0.072	4.6	ug/L	75	Standard
|	**Cu**	65	2137.5	7.5	**0.8005**	0.029	3.7	ug/L	155	Standard
|	**Zn**	66	7678.3	7.7	**6.0309**	0.229	3.8	ug/L	237	Standard
|>	**Ge**	72	371855.1	4.1				ug/L	413856	Standard
|	**As**	75	322.6	21.9	**0.3862**	0.044	11.4	ug/L	-197	Standard
|	**Se**	82	41.7	21.6	**0.3613**	0.062	17.2	ug/L	-5	Standard
⌊	**Se-1**	77	136.3	1.8	**0.5697**	0.079	13.8	ug/L	105	Standard
⌈>	**Ga**	71	181.7	6.9				mg/L	225	Standard
⌊	**Rb**	85	20.0	25.0				ug/L	28	Standard
⌈	**Y**	89	274288.9	4.6				ug/L	322845	Standard
⌊>	**Rh**	103	95.0	19.0				ug/L	92	Standard
⌈	**Mo**	98	30.8	53.8	**-0.0012**	0.004	353.2	ug/L	18	Standard
|	**Ag**	107	2965.3	4.4	**0.4024**	0.002	0.6	ug/L	63	Standard
|	**Cd**	111	743.3	6.9	**0.2263**	0.007	3.2	mg/L	20	Standard
|	**Cd**	114	2019.2	6.4	**0.2355**	0.006	2.7	ug/L	56	Standard
|>	**In**	115	599442.0	3.8				ug/L	657102	Standard
|	**Sn**	118	346.3	5.4	**-0.0112**	0.003	24.9	ug/L	555	Standard
|	**Sb**	123	2921.4	6.8	**0.4057**	0.014	3.5	ug/L	62	Standard
⌊	**Ba**	135	2256.5	8.5	**0.7060**	0.036	5.2	ug/L	19	Standard
⌈	**Ce**	140	26.0	16.8				ug/L	24	Standard
⌊>	**Tb**	159	856211.9	4.3				ug/L	910514	Standard
⌈	**Ho**	165	6.0	33.3				ug/L	7	Standard
|	**Tl**	203	1002.0	6.5	**0.0784**	0.003	4.0	ug/L	13	Standard
|	**Tl**	205	25.3	17.8	**0.0691**	0.010	14.5	ug/L	1	Standard
|	**Pb**	206	2243.8	3.8	**0.1964**	0.003	1.7	ug/L	342	Standard
|	**Pb**	207	1947.5	1.0	**0.1982**	0.005	2.5	ug/L	284	Standard
|	**Pb**	208	8911.4	3.7	**0.1963**	0.003	1.3	ug/L	1363	Standard
|	**U**	238	3764.8	7.1	**0.3921**	0.022	5.7	ug/L	2	Standard
⌊>	**Bi**	209	448309.8	3.0				ug/L	470592	Standard

Sample ID: QC Std 8
Report Date/Time: Sunday, November 18, 2012 14:08:55
Page 1

Approved: November 19, 2012

⌈	**Na**	23	0.0		**0.0050**	0.000	0.0	mg/L	2	Standard
|	**Mg**	24	1145.0	1.2	**-0.0022**	0.000	1.2	mg/L	5586	Standard
|	**K**	39	10.0	132.3	**0.1260**	0.225	178.7	mg/L	5	Standard
|	**Ca**	43	41.7	25.0	**-0.1018**	0.471	462.3	mg/L	45	Standard
|	**Fe**	54	309.0	7.9	**-0.0104**	0.006	60.7	mg/L	350	Standard
|	**Fe**	57	103.3	19.6	**0.0669**	0.032	48.0	mg/L	102	Standard
⌊>	**Sc-1**	45	43952.1	3.9				mg/L	53004	Standard
	Cl	35	3.0	88.2				ug/L	2	Standard
	Kr	83	112.7	4.9				ug/L	157	Standard
	Br	81	8.3	86.6				ug/L	3	Standard
	P	31	109345.9	3.1				ug/L	91588	Standard
	S	34	32514.9	1.7				ug/L	32556	Standard
	Sr	88	85.0	11.8				ug/L	62	Standard
	C	12	148.3	8.5				mg/L	133	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	3.3	173.2				mg/L	7	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈	Li	7			
|	Be	9	102.164		
|	Al	27			
⌊>	Sc	45			
⌈	Ti	47			
|	V	51	85.157		
|	Cr	52	82.011		
|	Cr	53			
|	Mn	55	94.484		
|	Co	59	92.425		
|	Ni	60	96.987		
|	Cu	65	100.067		
|	Zn	66	96.494		
|>	Ge	72		89.851	
|	As	75	96.551		
|	Se	82	90.327		
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: QC Std 8
Report Date/Time: Sunday, November 18, 2012 14:08:55
Page 2

Approved: November 19, 2012

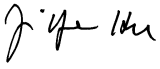
⌈	Mo	98			
|	Ag	107	100.598		
|	Cd	111	94.278		
|	Cd	114			
|>	In	115			91.225
|	Sn	118			
|	Sb	123	101.433		
⌊	Ba	135	94.128		
⌈	Ce	140			
⌊>	Tb	159			
⌈	Ho	165			
|	Tl	203	97.975		
|	Tl	205			
|	Pb	206			
|	Pb	207			
|	Pb	208	98.163		
|	U	238	98.019		
⌊>	Bi	209			95.265
⌈	Na	23			
|	Mg	24			
|	K	39			
|	Ca	43			
|	Fe	54			
|	Fe	57			
⌊>	Sc-1	45			
	Cl	35			
	Kr	83			
	Br	81			
	P	31			
	S	34			
	Sr	88			
	C	12			
	N	14			
	Hg	202			

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: QC Std 8
Report Date/Time: Sunday, November 18, 2012 14:08:55
Page 3

Approved: November 19, 2012



Method 6020 - Summary Report

Sample ID: PBW 58 WG414119-03
Sample Date/Time: Sunday, November 18, 2012 14:09:37
Number of Replicates: 3
Autosampler Position: 301
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	7421.8	5.3	**-791.5265**	269.106	34.0	ug/L	8369	Standard
	Be	9	8.3	69.3	**-0.0041**	0.004	88.5	ug/L	18	Standard
	Al	27	206.7	44.4	**0.0001**	0.001	1286.3	ug/L	215	Standard
>	Sc	45	39819.0	3.1				ug/L	53004	Standard
	Ti	47	12.3	16.9	**-0.0308**	0.005	16.5	ug/L	26	Standard
	V	51	2357.7	3.2	**-0.0294**	0.005	17.3	ug/L	3223	Standard
	Cr	52	7417.1	2.0	**-0.1069**	0.015	13.6	ug/L	10379	Standard
	Cr	53	114.2	24.4	**-0.0103**	0.025	241.7	ug/L	192	Standard
	Mn	55	1082.4	4.2	**-0.0142**	0.003	22.0	ug/L	1840	Standard
	Co	59	79.7	33.0	**-0.0083**	0.002	29.6	ug/L	115	Standard
	Ni	60	165.7	2.1	**0.0337**	0.001	2.5	ug/L	75	Standard
	Cu	65	160.0	7.0	**0.0117**	0.005	41.3	ug/L	155	Standard
	Zn	66	1003.0	6.2	**0.6781**	0.064	9.4	ug/L	237	Standard
>	Ge	72	345375.1	1.3				ug/L	413856	Standard
	As	75	-108.4	19.5	**0.0506**	0.016	32.4	ug/L	-197	Standard
	Se	82	11.8	19.8	**0.1140**	0.020	17.8	ug/L	-5	Standard
	Se-1	77	95.0	3.2	**0.1818**	0.051	28.1	ug/L	105	Standard
>	Ga	71	155.0	14.1				mg/L	225	Standard
	Rb	85	21.7	74.2				ug/L	28	Standard
	Y	89	254378.5	2.5				ug/L	322845	Standard
>	Rh	103	90.0	16.7				ug/L	92	Standard
	Mo	98	12.3	37.4	**-0.0055**	0.001	22.6	ug/L	18	Standard
	Ag	107	49.3	11.2	**-0.0007**	0.001	100.1	ug/L	63	Standard
	Cd	111	18.3	16.7	**-0.0050**	0.001	23.8	mg/L	20	Standard
	Cd	114	45.0	29.5	**-0.0038**	0.002	41.7	ug/L	56	Standard
>	In	115	565503.1	3.0				ug/L	657102	Standard
	Sn	118	274.7	3.5	**-0.0173**	0.000	2.8	ug/L	555	Standard
	Sb	123	43.1	16.4	**0.0035**	0.001	35.8	ug/L	62	Standard
	Ba	135	17.0	27.0	**-0.0141**	0.001	10.3	ug/L	19	Standard
	Ce	140	15.7	13.3				ug/L	24	Standard
>	Tb	159	804590.5	2.4				ug/L	910514	Standard
	Ho	165	5.3	65.8				ug/L	7	Standard
	Tl	203	21.3	13.5	**-0.0018**	0.000	13.3	ug/L	13	Standard
	Tl	205	0.3	173.2	**0.0022**	0.002	73.7	ug/L	1	Standard
	Pb	206	301.3	5.8	**-0.0003**	0.002	715.3	ug/L	342	Standard
	Pb	207	250.7	2.0	**-0.0042**	0.001	14.8	ug/L	284	Standard
	Pb	208	1186.0	1.5	**-0.0020**	0.000	12.0	ug/L	1363	Standard
	U	238	3.7	78.7	**-0.0011**	0.000	27.4	ug/L	2	Standard
>	Bi	209	424179.8	2.0				ug/L	470592	Standard

Sample ID: PBW 58 WG414119-03
Report Date/Time: Sunday, November 18, 2012 14:12:09

Approved: November 19, 2012

⌈	**Na**	23	1.7	173.2	**0.1999**	0.337	168.9	mg/L	2	Standard
|	**Mg**	24	915.0	4.7	**-0.0023**	0.000	1.1	mg/L	5586	Standard
|	**K**	39	3.3	86.6	**0.0192**	0.052	273.6	mg/L	5	Standard
|	**Ca**	43	43.3	17.6	**0.2301**	0.478	207.9	mg/L	45	Standard
|	**Fe**	54	265.5	5.7	**-0.0178**	0.004	20.5	mg/L	350	Standard
|	**Fe**	57	108.3	29.3	**0.0997**	0.074	74.4	mg/L	102	Standard
⌊>	**Sc-1**	45	39819.0	3.1				mg/L	53004	Standard
	Cl	35	2.0	50.0				ug/L	2	Standard
	Kr	83	99.1	4.5				ug/L	157	Standard
	Br	81	10.0	43.3				ug/L	3	Standard
	P	31	71916.1	1.9				ug/L	91588	Standard
	S	34	31183.7	0.6				ug/L	32556	Standard
	Sr	88	63.3	39.7				ug/L	62	Standard
	C	12	103.3	19.6				mg/L	133	Standard
	N	14	1.7	173.2				mg/L	0	Standard
	Hg	202	1.7	173.2				mg/L	7	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		83.453	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: PBW 58 WG414119-03
Report Date/Time: Sunday, November 18, 2012 14:12:09
Page 2

Approved: November 19, 2012

	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	86.060
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	90.138
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: PBW 58 WG414119-03
Report Date/Time: Sunday, November 18, 2012 14:12:09
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

Sample ID: LCSW 58 WG414119-04
Sample Date/Time: Sunday, November 18, 2012 14:12:49
Number of Replicates: 3
Autosampler Position: 302
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	8457.4	0.8	**-687.7627**	126.982	18.5	ug/L	8369	Standard
	Be	9	54648.5	4.6	**30.0945**	1.578	5.2	ug/L	18	Standard
	Al	27	2116.8	24.5	**0.0175**	0.005	26.0	ug/L	215	Standard
>	**Sc**	45	46255.5	1.6				ug/L	53004	Standard
	Ti	47	26.0	31.5	**-0.0061**	0.016	261.9	ug/L	26	Standard
	V	51	279102.9	1.9	**24.7204**	0.695	2.8	ug/L	3223	Standard
	Cr	52	275582.5	3.9	**25.7182**	1.097	4.3	ug/L	10379	Standard
	Cr	53	33664.9	3.7	**25.8435**	1.035	4.0	ug/L	192	Standard
	Mn	55	431750.0	3.3	**26.3344**	0.912	3.5	ug/L	1840	Standard
	Co	59	328174.5	2.9	**26.1033**	0.731	2.8	ug/L	115	Standard
	Ni	60	69943.9	3.8	**25.8452**	0.756	2.9	ug/L	75	Standard
	Cu	65	71033.3	4.4	**27.1712**	0.960	3.5	ug/L	155	Standard
	Zn	66	35325.2	3.8	**27.1731**	0.830	3.1	ug/L	237	Standard
>	**Ge**	72	389743.8	1.8				ug/L	413856	Standard
	As	75	34961.4	3.9	**25.7144**	0.878	3.4	ug/L	-197	Standard
	Se	82	3093.1	3.7	**25.3517**	0.883	3.5	ug/L	-5	Standard
	Se-1	77	2469.9	5.5	**25.7573**	1.596	6.2	ug/L	105	Standard
>	**Ga**	71	208.3	3.7				mg/L	225	Standard
	Rb	85	33.3	22.9				ug/L	28	Standard
	Y	89	288305.5	0.5				ug/L	322845	Standard
>	**Rh**	103	116.7	6.5				ug/L	92	Standard
	Mo	98	35.0	73.7	**-0.0007**	0.006	870.6	ug/L	18	Standard
	Ag	107	204044.1	0.8	**26.7357**	0.252	0.9	ug/L	63	Standard
	Cd	111	86573.5	4.0	**26.1943**	0.657	2.5	mg/L	20	Standard
	Cd	114	222776.7	3.4	**25.6136**	0.512	2.0	ug/L	56	Standard
>	**In**	115	632963.3	1.8				ug/L	657102	Standard
	Sn	118	393.3	4.4	**-0.0084**	0.001	15.0	ug/L	555	Standard
	Sb	123	199146.3	2.5	**26.3950**	0.336	1.3	ug/L	62	Standard
	Ba	135	86396.4	2.7	**26.3261**	0.391	1.5	ug/L	19	Standard
	Ce	140	112.3	16.0				ug/L	24	Standard
>	**Tb**	159	886105.8	1.6				ug/L	910514	Standard
	Ho	165	10.3	14.8				ug/L	7	Standard
	Tl	203	333520.3	1.4	**26.6893**	0.408	1.5	ug/L	13	Standard
	Tl	205	10259.8	2.0	**26.9142**	0.564	2.1	ug/L	1	Standard
	Pb	206	267616.2	3.8	**26.7004**	1.036	3.9	ug/L	342	Standard
	Pb	207	229958.7	2.7	**26.9842**	0.736	2.7	ug/L	284	Standard
	Pb	208	1056983.5	3.1	**26.7157**	0.860	3.2	ug/L	1363	Standard
	U	238	259141.9	4.0	**26.4828**	1.066	4.0	ug/L	2	Standard
>	**Bi**	209	458792.0	0.4				ug/L	470592	Standard

Sample ID: LCSW 58 WG414119-04
Report Date/Time: Sunday, November 18, 2012 14:15:21

Approved: November 19, 2012

⌈	**Na**	23	1.7	173.2	**0.1766**	0.297	168.3	mg/L	2	Standard
|	**Mg**	24	1418.4	8.7	**-0.0021**	0.000	2.7	mg/L	5586	Standard
|	**K**	39	5.0	100.0	**0.0364**	0.077	211.4	mg/L	5	Standard
|	**Ca**	43	53.3	10.8	**0.3689**	0.254	68.9	mg/L	45	Standard
|	**Fe**	54	370.1	12.7	**0.0095**	0.021	222.6	mg/L	350	Standard
|	**Fe**	57	110.0	4.5	**0.0699**	0.012	17.3	mg/L	102	Standard
⌊>	**Sc-1**	45	46255.5	1.6				mg/L	53004	Standard
	Cl	35	3.7	41.7				ug/L	2	Standard
	Kr	83	108.0	5.3				ug/L	157	Standard
	Br	81	5.0	50.0				ug/L	3	Standard
	P	31	120439.4	1.9				ug/L	91588	Standard
	S	34	33055.2	0.9				ug/L	32556	Standard
	Sr	88	65.0	30.8				ug/L	62	Standard
	C	12	185.0	26.6				mg/L	133	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	1.7	173.2				mg/L	7	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		94.174	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: LCSW 58 WG414119-04
Report Date/Time: Sunday, November 18, 2012 14:15:21
Page 2

Approved: November 19, 2012

⌈	Mo	98		
|	Ag	107		
|	Cd	111		
|	Cd	114		
|>	In	115		96.327
|	Sn	118		
|	Sb	123		
⌊	Ba	135		
⌈	Ce	140		
⌊>	Tb	159		
⌈	Ho	165		
|	Tl	203		
|	Tl	205		
|	Pb	206		
|	Pb	207		
|	Pb	208		
|	U	238		
⌊>	Bi	209		97.493
⌈	Na	23		
|	Mg	24		
|	K	39		
|	Ca	43		
|	Fe	54		
|	Fe	57		
⌊>	Sc-1	45		
	Cl	35		
	Kr	83		
	Br	81		
	P	31		
	S	34		
	Sr	88		
	C	12		
	N	14		
	Hg	202		

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: LCSW 58 WG414119-04
Report Date/Time: Sunday, November 18, 2012 14:15:21
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

Sample ID: L1211023001 WG414119-01
Sample Date/Time: Sunday, November 18, 2012 14:27:04
Number of Replicates: 3
Autosampler Position: 303
Sample Description: 1
Method File: C:\NexION Data\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
	Li	7	30679.4	5.9	**-14400.8148**	158.605	1.1	ug/L	8369	Standard
	Be	9	25.0	40.0	**0.0039**	0.005	120.8	ug/L	18	Standard
	Al	27	5912733.5	5.1	**54.1747**	1.460	2.7	ug/L	215	Standard
>	**Sc**	45	47098.2	5.3				ug/L	53004	Standard
	Ti	47	753.7	7.9	**1.5789**	0.097	6.1	ug/L	26	Standard
	V	51	1807.1	26.4	**-0.0980**	0.039	39.9	ug/L	3223	Standard
	Cr	52	10454.3	3.0	**0.1488**	0.015	9.8	ug/L	10379	Standard
	Cr	53	2686.9	22.1	**2.0848**	0.551	26.4	ug/L	192	Standard
	Mn	55	292835.1	5.4	**18.7853**	0.534	2.8	ug/L	1840	Standard
	Co	59	908.4	2.7	**0.0607**	0.002	2.8	ug/L	115	Standard
	Ni	60	2432.9	2.8	**0.9132**	0.012	1.4	ug/L	75	Standard
	Cu	65	8804.9	4.9	**3.4985**	0.098	2.8	ug/L	155	Standard
	Zn	66	16112.9	6.1	**12.9500**	0.425	3.3	ug/L	237	Standard
>	**Ge**	72	369895.0	3.4				ug/L	413856	Standard
	As	75	184.6	1.9	**0.2824**	0.007	2.3	ug/L	-197	Standard
	Se	82	75.9	8.6	**0.6612**	0.066	10.0	ug/L	-5	Standard
	Se-1	77	308.0	7.4	**2.5418**	0.376	14.8	ug/L	105	Standard
>	**Ga**	71	230.0	7.8				mg/L	225	Standard
	Rb	85	35820.7	5.4				ug/L	28	Standard
	Y	89	289098.0	2.4				ug/L	322845	Standard
>	**Rh**	103	116.7	19.3				ug/L	92	Standard
	Mo	98	576.6	5.0	**0.1308**	0.007	5.4	ug/L	18	Standard
	Ag	107	61.7	9.5	**0.0006**	0.001	94.9	ug/L	63	Standard
	Cd	111	99.3	8.9	**0.0204**	0.003	14.2	mg/L	20	Standard
	Cd	114	273.8	4.5	**0.0235**	0.001	4.7	ug/L	56	Standard
>	**In**	115	603473.3	3.1				ug/L	657102	Standard
	Sn	118	827.7	1.4	**0.0413**	0.004	9.7	ug/L	555	Standard
	Sb	123	580.6	5.6	**0.0778**	0.002	3.0	ug/L	62	Standard
	Ba	135	84046.0	3.9	**26.8594**	0.214	0.8	ug/L	19	Standard
	Ce	140	445.3	8.9				ug/L	24	Standard
>	**Tb**	159	871595.2	2.6				ug/L	910514	Standard
	Ho	165	27.7	18.5				ug/L	7	Standard
	Tl	203	222.0	9.4	**0.0153**	0.002	15.1	ug/L	13	Standard
	Tl	205	8.0	33.1	**0.0236**	0.007	30.5	ug/L	1	Standard
	Pb	206	915.7	4.5	**0.0646**	0.002	3.0	ug/L	342	Standard
	Pb	207	731.4	3.5	**0.0555**	0.002	2.7	ug/L	284	Standard
	Pb	208	3502.2	4.8	**0.0600**	0.002	3.9	ug/L	1363	Standard
	U	238	372.0	0.8	**0.0390**	0.001	3.0	ug/L	2	Standard
>	**Bi**	209	430282.2	2.6				ug/L	470592	Standard

Sample ID: L1211023001 WG414119-01
Report Date/Time: Sunday, November 18, 2012 14:29:36
Page 1

Approved: November 19, 2012

⌈	**Na**	23	3.3	173.2	**0.3582**	0.612	170.8	mg/L	2	Standard
|	**Mg**	24	880391.7	3.0	**0.4836**	0.011	2.3	mg/L	5586	Standard
|	**K**	39	310.0	3.2	**4.7102**	0.259	5.5	mg/L	5	Standard
|	**Ca**	43	811.7	7.5	**36.6323**	1.565	4.3	mg/L	45	Standard
|	**Fe**	54	351.8	4.2	**-0.0010**	0.013	1296.8	mg/L	350	Standard
|	**Fe**	57	368.3	13.3	**0.5211**	0.052	10.0	mg/L	102	Standard
⌊>	**Sc-1**	45	47098.2	5.3				mg/L	53004	Standard
	Cl	35	0.7	173.2				ug/L	2	Standard
	Kr	83	113.0	6.3				ug/L	157	Standard
	Br	81	5.0	86.6				ug/L	3	Standard
	P	31	138702.2	2.5				ug/L	91588	Standard
	S	34	29361.8	2.7				ug/L	32556	Standard
	Sr	88	256.7	13.0				ug/L	62	Standard
	C	12	345.0	4.3				mg/L	133	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	3.3	86.6				mg/L	7	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		89.378	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: L1211023001 WG414119-01
Report Date/Time: Sunday, November 18, 2012 14:29:36
Page 2

Approved: November 19, 2012

	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	91.839
	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	91.434
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: L1211023001 WG414119-01
Report Date/Time: Sunday, November 18, 2012 14:29:36
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

Sample ID: L1211023001DP WG414119-05
Sample Date/Time: Sunday, November 18, 2012 14:30:16
Number of Replicates: 3
Autosampler Position: 304
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	31805.2	10.3	**-15349.6058**	1545.502	10.1	ug/L	8369	Standard
	Be	9	11.7	24.7	**-0.0030**	0.002	67.2	ug/L	18	Standard
	Al	27	6145781.6	3.5	**57.0682**	1.805	3.2	ug/L	215	Standard
>	Sc	45	46506.4	5.7				ug/L	53004	Standard
	Ti	47	684.0	5.7	**1.3794**	0.024	1.7	ug/L	26	Standard
	V	51	801.5	27.6	**-0.1946**	0.018	9.4	ug/L	3223	Standard
	Cr	52	11313.9	4.3	**0.1995**	0.049	24.4	ug/L	10379	Standard
	Cr	53	3991.4	5.4	**3.0308**	0.226	7.4	ug/L	192	Standard
	Mn	55	308277.4	5.9	**19.1389**	0.697	3.6	ug/L	1840	Standard
	Co	59	910.4	10.5	**0.0582**	0.006	9.8	ug/L	115	Standard
	Ni	60	2814.9	4.8	**1.0263**	0.020	1.9	ug/L	75	Standard
	Cu	65	9197.8	3.9	**3.5389**	0.126	3.6	ug/L	155	Standard
	Zn	66	16468.0	4.8	**12.8099**	0.310	2.4	ug/L	237	Standard
>	Ge	72	382427.5	5.1				ug/L	413856	Standard
	As	75	261.7	6.4	**0.3353**	0.013	3.9	ug/L	-197	Standard
	Se	82	104.2	12.1	**0.8771**	0.110	12.6	ug/L	-5	Standard
	Se-1	77	360.3	5.7	**2.9947**	0.052	1.7	ug/L	105	Standard
>	Ga	71	223.3	10.1				mg/L	225	Standard
	Rb	85	37571.7	7.8				ug/L	28	Standard
	Y	89	295790.0	7.0				ug/L	322845	Standard
>	Rh	103	121.7	18.5				ug/L	92	Standard
	Mo	98	572.4	10.2	**0.1271**	0.011	8.7	ug/L	18	Standard
	Ag	107	50.3	20.3	**-0.0011**	0.001	111.5	ug/L	63	Standard
	Cd	111	98.3	23.2	**0.0193**	0.006	31.3	mg/L	20	Standard
	Cd	114	261.2	4.3	**0.0214**	0.000	0.4	ug/L	56	Standard
>	In	115	614716.6	4.5				ug/L	657102	Standard
	Sn	118	739.0	5.3	**0.0300**	0.001	2.5	ug/L	555	Standard
	Sb	123	534.9	8.9	**0.0700**	0.004	5.2	ug/L	62	Standard
	Ba	135	87145.8	3.6	**27.3545**	0.434	1.6	ug/L	19	Standard
	Ce	140	225.3	12.9				ug/L	24	Standard
>	Tb	159	890891.8	5.4				ug/L	910514	Standard
	Ho	165	23.3	24.4				ug/L	7	Standard
	Tl	203	239.0	10.7	**0.0164**	0.001	8.7	ug/L	13	Standard
	Tl	205	5.7	27.0	**0.0168**	0.004	23.9	ug/L	1	Standard
	Pb	206	1090.4	7.6	**0.0810**	0.005	5.8	ug/L	342	Standard
	Pb	207	874.0	8.9	**0.0713**	0.006	8.1	ug/L	284	Standard
	Pb	208	4109.2	5.6	**0.0744**	0.002	3.4	ug/L	1363	Standard
	U	238	376.0	1.2	**0.0388**	0.002	4.9	ug/L	2	Standard
>	Bi	209	438141.3	3.7				ug/L	470592	Standard

Sample ID: L1211023001DP WG414119-05
Report Date/Time: Sunday, November 18, 2012 14:32:48
Page 1

Approved: November 19, 2012

⌈	**Na**	23	3.3	173.2	**0.3356**	0.573	170.6	mg/L	2	Standard
|	**Mg**	24	911433.5	3.4	**0.5078**	0.032	6.3	mg/L	5586	Standard
|	**K**	39	385.0	17.0	**5.9036**	0.748	12.7	mg/L	5	Standard
|	**Ca**	43	771.7	3.1	**35.2436**	1.031	2.9	mg/L	45	Standard
|	**Fe**	54	363.5	5.4	**0.0058**	0.004	65.1	mg/L	350	Standard
|	**Fe**	57	375.0	5.8	**0.5437**	0.037	6.8	mg/L	102	Standard
⌊>	**Sc-1**	45	46506.4	5.7				mg/L	53004	Standard
	Cl	35	3.3	62.4				ug/L	2	Standard
	Kr	83	122.4	8.7				ug/L	157	Standard
	Br	81	8.3	62.4				ug/L	3	Standard
	P	31	141888.5	3.7				ug/L	91588	Standard
	S	34	29222.3	2.3				ug/L	32556	Standard
	Sr	88	310.0	0.0				ug/L	62	Standard
	C	12	500.0	8.9				mg/L	133	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	0.0					mg/L	7	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		92.406	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: L1211023001DP WG414119-05
Report Date/Time: Sunday, November 18, 2012 14:32:48
Page 2

Approved: November 19, 2012

	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	93.550
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	93.104
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: L1211023001DP WG414119-05
Report Date/Time: Sunday, November 18, 2012 14:32:48
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

Sample ID: L1211023001S WG414119-06
Sample Date/Time: Sunday, November 18, 2012 14:33:29
Number of Replicates: 3
Autosampler Position: 305
Sample Description: 1
Method File: C:\NexION Data\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
⌈	**Li**	7	31001.7	5.4	**-14806.6884**	961.612	6.5	ug/L	8369	Standard
|	**Be**	9	52723.5	6.0	**28.7981**	1.463	5.1	ug/L	18	Standard
|	**Al**	27	6018168.5	6.8	**55.7103**	3.803	6.8	ug/L	215	Standard
⌊>	**Sc**	45	46621.7	3.3				ug/L	53004	Standard
⌈	**Ti**	47	697.7	2.7	**1.4583**	0.006	0.4	ug/L	26	Standard
|	**V**	51	260091.3	5.8	**24.2533**	0.827	3.4	ug/L	3223	Standard
|	**Cr**	52	257108.3	6.4	**25.2486**	0.988	3.9	ug/L	10379	Standard
|	**Cr**	53	34861.0	5.7	**28.1957**	1.050	3.7	ug/L	192	Standard
|	**Mn**	55	689193.5	5.7	**44.3373**	1.671	3.8	ug/L	1840	Standard
|	**Co**	59	301692.3	5.2	**25.2737**	0.630	2.5	ug/L	115	Standard
|	**Ni**	60	66397.4	7.9	**25.8324**	1.345	5.2	ug/L	75	Standard
|	**Cu**	65	72050.0	6.2	**29.0333**	1.074	3.7	ug/L	155	Standard
|	**Zn**	66	47938.9	6.0	**38.9263**	1.339	3.4	ug/L	237	Standard
|>	**Ge**	72	369862.3	3.1				ug/L	413856	Standard
|	**As**	75	34046.9	6.0	**26.3709**	0.924	3.5	ug/L	-197	Standard
|	**Se**	82	3041.1	5.2	**26.2555**	0.793	3.0	ug/L	-5	Standard
⌊	**Se-1**	77	2622.2	6.4	**28.9057**	1.090	3.8	ug/L	105	Standard
⌈>	**Ga**	71	195.0	13.6				mg/L	225	Standard
⌊	**Rb**	85	37020.2	5.0				ug/L	28	Standard
⌈	**Y**	89	290150.1	3.0				ug/L	322845	Standard
⌊>	**Rh**	103	126.7	4.6				ug/L	92	Standard
⌈	**Mo**	98	589.2	13.0	**0.1327**	0.015	11.4	ug/L	18	Standard
|	**Ag**	107	183791.5	2.7	**25.1127**	0.080	0.3	ug/L	63	Standard
|	**Cd**	111	80680.3	5.3	**25.4517**	0.635	2.5	mg/L	20	Standard
|	**Cd**	114	210563.7	6.6	**25.2363**	1.051	4.2	ug/L	56	Standard
|>	**In**	115	606935.3	3.0				ug/L	657102	Standard
|	**Sn**	118	758.7	3.5	**0.0331**	0.001	3.6	ug/L	555	Standard
|	**Sb**	123	190412.1	5.9	**26.3068**	0.864	3.3	ug/L	62	Standard
⌊	**Ba**	135	166491.0	5.7	**52.9031**	1.532	2.9	ug/L	19	Standard
⌈	**Ce**	140	720.7	2.7				ug/L	24	Standard
⌊>	**Tb**	159	875853.4	2.9				ug/L	910514	Standard
⌈	**Ho**	165	34.7	23.3				ug/L	7	Standard
|	**Tl**	203	307932.4	3.7	**26.1710**	0.312	1.2	ug/L	13	Standard
|	**Tl**	205	9668.8	5.2	**26.9305**	0.726	2.7	ug/L	1	Standard
|	**Pb**	206	247379.3	5.1	**26.2061**	0.736	2.8	ug/L	342	Standard
|	**Pb**	207	212293.8	4.0	**26.4553**	0.401	1.5	ug/L	284	Standard
|	**Pb**	208	982047.9	4.8	**26.3577**	0.676	2.6	ug/L	1363	Standard
|	**U**	238	245307.4	5.5	**26.6192**	0.947	3.6	ug/L	2	Standard
⌊>	**Bi**	209	431893.2	2.5				ug/L	470592	Standard

Sample ID: L1211023001S WG414119-06
Report Date/Time: Sunday, November 18, 2012 14:36:00
Page 1

Approved: November 19, 2012

	Na	23	3.3	86.6	**0.3414**	0.291	85.3	mg/L	2	Standard
	Mg	24	904881.0	3.5	**0.5023**	0.027	5.3	mg/L	5586	Standard
	K	39	340.0	20.2	**5.2314**	1.176	22.5	mg/L	5	Standard
	Ca	43	821.7	13.6	**37.6080**	6.079	16.2	mg/L	45	Standard
	Fe	54	471.8	20.6	**0.0526**	0.042	79.0	mg/L	350	Standard
	Fe	57	396.7	19.5	**0.5827**	0.158	27.1	mg/L	102	Standard
>	**Sc-1**	45	46621.7	3.3				mg/L	53004	Standard
	Cl	35	3.0	66.7				ug/L	2	Standard
	Kr	83	122.4	2.3				ug/L	157	Standard
	Br	81	5.8	49.5				ug/L	3	Standard
	P	31	137065.8	2.8				ug/L	91588	Standard
	S	34	29721.6	1.5				ug/L	32556	Standard
	Sr	88	281.7	5.7				ug/L	62	Standard
	C	12	576.7	3.3				mg/L	133	Standard
	N	14	1.7	173.2				mg/L	0	Standard
	Hg	202	3.3	86.6				mg/L	7	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		89.370	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			
	Y	89			
>	Rh	103			

Sample ID: L1211023001S WG414119-06
Report Date/Time: Sunday, November 18, 2012 14:36:00
Page 2

Approved: November 19, 2012

	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	92.366
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	91.777
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: L1211023001S WG414119-06
Report Date/Time: Sunday, November 18, 2012 14:36:00
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

Sample ID: L1211025103
Sample Date/Time: Sunday, November 18, 2012 14:36:41
Number of Replicates: 3
Autosampler Position: 306
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	10380.2	6.8	**-1821.7867**	458.825	25.2	ug/L	8369	Standard
	Be	9	16.7	121.2	**-0.0003**	0.011	3385.0	ug/L	18	Standard
	Al	27	645375.3	4.9	**5.9475**	0.425	7.1	ug/L	215	Standard
>	Sc	45	46850.7	2.4				ug/L	53004	Standard
	Ti	47	51.3	9.6	**0.0479**	0.012	24.4	ug/L	26	Standard
	V	51	3134.8	3.2	**0.0173**	0.018	101.9	ug/L	3223	Standard
	Cr	52	10499.0	2.1	**0.1129**	0.017	15.2	ug/L	10379	Standard
	Cr	53	544.2	13.9	**0.3146**	0.047	15.0	ug/L	192	Standard
	Mn	55	32692.3	5.4	**1.9379**	0.045	2.3	ug/L	1840	Standard
	Co	59	141.7	13.7	**-0.0041**	0.002	41.4	ug/L	115	Standard
	Ni	60	1734.1	9.3	**0.6142**	0.042	6.9	ug/L	75	Standard
	Cu	65	505.7	7.3	**0.1388**	0.008	6.1	ug/L	155	Standard
	Zn	66	2413.5	3.4	**1.6965**	0.048	2.8	ug/L	237	Standard
>	Ge	72	384510.2	3.1				ug/L	413856	Standard
	As	75	-132.1	4.4	**0.0419**	0.007	17.4	ug/L	-197	Standard
	Se	82	52.1	15.8	**0.4369**	0.055	12.6	ug/L	-5	Standard
	Se-1	77	154.3	10.8	**0.7151**	0.189	26.4	ug/L	105	Standard
>	Ga	71	213.3	14.3				mg/L	225	Standard
	Rb	85	761.7	7.6				ug/L	28	Standard
	Y	89	288283.8	4.6				ug/L	322845	Standard
>	Rh	103	98.3	25.6				ug/L	92	Standard
	Mo	98	244.6	5.7	**0.0477**	0.004	9.4	ug/L	18	Standard
	Ag	107	71.3	9.9	**0.0014**	0.001	41.1	ug/L	63	Standard
	Cd	111	20.0	28.3	**-0.0051**	0.002	37.6	mg/L	20	Standard
	Cd	114	62.7	7.3	**-0.0024**	0.001	30.5	ug/L	56	Standard
>	In	115	633963.8	3.6				ug/L	657102	Standard
	Sn	118	435.0	8.0	**-0.0040**	0.004	105.3	ug/L	555	Standard
	Sb	123	63.5	8.3	**0.0055**	0.000	7.7	ug/L	62	Standard
	Ba	135	1237.1	4.9	**0.3570**	0.022	6.0	ug/L	19	Standard
	Ce	140	310.7	112.0				ug/L	24	Standard
>	Tb	159	890773.8	2.5				ug/L	910514	Standard
	Ho	165	13.0	15.4				ug/L	7	Standard
	Tl	203	62.0	19.0	**0.0013**	0.001	63.4	ug/L	13	Standard
	Tl	205	4.0	90.1	**0.0118**	0.009	80.5	ug/L	1	Standard
	Pb	206	444.7	5.5	**0.0111**	0.001	13.4	ug/L	342	Standard
	Pb	207	362.7	8.8	**0.0061**	0.003	53.3	ug/L	284	Standard
	Pb	208	1728.7	3.8	**0.0090**	0.001	13.4	ug/L	1363	Standard
	U	238	147.0	36.0	**0.0134**	0.005	41.0	ug/L	2	Standard
>	Bi	209	462571.5	2.6				ug/L	470592	Standard

Sample ID: L1211025103
Report Date/Time: Sunday, November 18, 2012 14:39:14
Page 1

Approved: November 19, 2012

	Na	23	1.7	173.2	**0.1773**	0.298	168.3	mg/L	2	Standard
	Mg	24	75219.7	3.1	**0.0389**	0.002	5.7	mg/L	5586	Standard
	K	39	16.7	17.3	**0.2145**	0.038	17.6	mg/L	5	Standard
	Ca	43	63.3	27.7	**0.8208**	0.864	105.3	mg/L	45	Standard
	Fe	54	370.1	8.3	**0.0075**	0.015	202.2	mg/L	350	Standard
	Fe	57	93.3	17.2	**0.0381**	0.032	84.4	mg/L	102	Standard
>	**Sc-1**	45	46850.7	2.4				mg/L	53004	Standard
	Cl	35	3.0	88.2				ug/L	2	Standard
	Kr	83	125.0	5.7				ug/L	157	Standard
	Br	81	4.2	34.6				ug/L	3	Standard
	P	31	117359.4	0.6				ug/L	91588	Standard
	S	34	31177.9	2.1				ug/L	32556	Standard
	Sr	88	81.7	25.5				ug/L	62	Standard
	C	12	201.7	7.6				mg/L	133	Standard
	N	14	1.7	173.2				mg/L	0	Standard
	Hg	202	6.7	86.6				mg/L	7	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		92.909	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			
	Y	89			
>	Rh	103			

Sample ID: L1211025103
Report Date/Time: Sunday, November 18, 2012 14:39:14
Page 2

Approved: November 19, 2012

	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	96.479
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	98.296
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: L1211025103
Report Date/Time: Sunday, November 18, 2012 14:39:14
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

Sample ID: L1211025103PS WG414621-01
Sample Date/Time: Sunday, November 18, 2012 14:39:54
Number of Replicates: 3
Autosampler Position: 307
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	11762.9	0.4	**-1856.7391**	253.592	13.7	ug/L	8369	Standard
	Be	9	103644.5	7.3	**49.9015**	1.551	3.1	ug/L	18	Standard
	Al	27	688174.2	4.3	**5.6155**	0.049	0.9	ug/L	215	Standard
>	Sc	45	52850.5	4.2				ug/L	53004	Standard
	Ti	47	50.3	9.4	**0.0343**	0.009	25.7	ug/L	26	Standard
	V	51	531187.3	3.7	**42.6999**	1.102	2.6	ug/L	3223	Standard
	Cr	52	523799.7	3.9	**44.8220**	1.115	2.5	ug/L	10379	Standard
	Cr	53	64638.7	5.4	**44.9008**	1.588	3.5	ug/L	192	Standard
	Mn	55	850287.6	4.5	**46.9288**	1.598	3.4	ug/L	1840	Standard
	Co	59	620229.2	4.7	**44.5760**	1.060	2.4	ug/L	115	Standard
	Ni	60	134469.0	4.8	**44.9223**	1.318	2.9	ug/L	75	Standard
	Cu	65	131834.3	4.8	**45.6150**	1.796	3.9	ug/L	155	Standard
	Zn	66	63560.2	4.3	**44.3005**	0.808	1.8	ug/L	237	Standard
>	Ge	72	431389.1	4.0				ug/L	413856	Standard
	As	75	63681.4	3.4	**42.2428**	1.238	2.9	ug/L	-197	Standard
	Se	82	5495.0	3.2	**40.6974**	0.954	2.3	ug/L	-5	Standard
	Se-1	77	4445.3	5.3	**42.4711**	0.825	1.9	ug/L	105	Standard
>	Ga	71	248.3	15.1				mg/L	225	Standard
	Rb	85	776.7	2.4				ug/L	28	Standard
	Y	89	323724.1	3.2				ug/L	322845	Standard
>	Rh	103	136.7	11.8				ug/L	92	Standard
	Mo	98	306.4	4.7	**0.0558**	0.001	2.0	ug/L	18	Standard
	Ag	107	404409.1	5.5	**48.4295**	3.633	7.5	ug/L	63	Standard
	Cd	111	155114.0	3.9	**42.8632**	1.287	3.0	mg/L	20	Standard
	Cd	114	397265.4	4.2	**41.7034**	0.936	2.2	ug/L	56	Standard
>	In	115	693456.4	3.5				ug/L	657102	Standard
	Sn	118	550.0	3.2	**0.0030**	0.000	9.1	ug/L	555	Standard
	Sb	123	356443.2	4.5	**43.1226**	0.954	2.2	ug/L	62	Standard
	Ba	135	158694.9	3.9	**44.1597**	1.092	2.5	ug/L	19	Standard
	Ce	140	135.3	6.9				ug/L	24	Standard
>	Tb	159	977456.0	3.3				ug/L	910514	Standard
	Ho	165	79.3	8.4				ug/L	7	Standard
	Tl	203	608594.7	2.4	**44.9680**	0.721	1.6	ug/L	13	Standard
	Tl	205	18934.5	3.3	**45.8490**	0.557	1.2	ug/L	1	Standard
	Pb	206	488574.8	3.6	**45.0201**	0.946	2.1	ug/L	342	Standard
	Pb	207	416790.6	3.5	**45.1716**	0.822	1.8	ug/L	284	Standard
	Pb	208	1925237.2	3.5	**44.9428**	0.825	1.8	ug/L	1363	Standard
	U	238	478326.8	5.4	**45.1051**	1.203	2.7	ug/L	2	Standard
>	Bi	209	497118.8	4.1				ug/L	470592	Standard

Sample ID: L1211025103PS WG414621-01
Report Date/Time: Sunday, November 18, 2012 14:42:26
Page 1

Approved: November 19, 2012

⌈	**Na**	23	1.7	173.2	**0.1632**	0.274	167.9	mg/L	2	Standard
|	**Mg**	24	78888.4	3.6	**0.0359**	0.001	1.6	mg/L	5586	Standard
|	**K**	39	18.3	78.7	**0.2080**	0.194	93.5	mg/L	5	Standard
|	**Ca**	43	60.0	36.3	**0.3098**	0.858	277.0	mg/L	45	Standard
|	**Fe**	54	465.4	3.4	**0.0262**	0.014	52.9	mg/L	350	Standard
|	**Fe**	57	111.7	10.3	**0.0484**	0.026	53.3	mg/L	102	Standard
⌊>	**Sc-1**	45	52850.5	4.2				mg/L	53004	Standard
	Cl	35	1.7	69.3				ug/L	2	Standard
	Kr	83	131.7	3.7				ug/L	157	Standard
	Br	81	5.0	50.0				ug/L	3	Standard
	P	31	162512.0	1.4				ug/L	91588	Standard
	S	34	32409.6	1.7				ug/L	32556	Standard
	Sr	88	68.3	51.4				ug/L	62	Standard
	C	12	166.7	29.4				mg/L	133	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	5.0	100.0				mg/L	7	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		104.237	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: L1211025103PS WG414621-01
Report Date/Time: Sunday, November 18, 2012 14:42:26
Page 2

Approved: November 19, 2012

⌈	Mo	98		
|	Ag	107		
|	Cd	111		
|	Cd	114		
| >	In	115		105.533
|	Sn	118		
|	Sb	123		
⌊	Ba	135		
⌈	Ce	140		
⌊ >	Tb	159		
⌈	Ho	165		
|	Tl	203		
|	Tl	205		
|	Pb	206		
|	Pb	207		
|	Pb	208		
|	U	238		
⌊ >	Bi	209		105.637
⌈	Na	23		
|	Mg	24		
|	K	39		
|	Ca	43		
|	Fe	54		
|	Fe	57		
⌊ >	Sc-1	45		
	Cl	35		
	Kr	83		
	Br	81		
	P	31		
	S	34		
	Sr	88		
	C	12		
	N	14		
	Hg	202		

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: L1211025103PS WG414621-01
Report Date/Time: Sunday, November 18, 2012 14:42:26
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

Sample ID: L1211025103SDL WG414621-02
Sample Date/Time: Sunday, November 18, 2012 14:43:06
Number of Replicates: 3
Autosampler Position: 308
Sample Description: 5
Method File: C:\NexION Data\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
⌈	**Li**	7	8450.7	6.3	**-881.5673**	133.015	15.1	ug/L	8369	Standard
|	**Be**	9	405.0	157.2	**0.2109**	0.344	163.1	ug/L	18	Standard
|	**Al**	27	116106.1	10.0	**1.1195**	0.051	4.6	ug/L	215	Standard
⌊>	**Sc**	45	44587.3	5.5				ug/L	53004	Standard
⌈	**Ti**	47	26.3	22.3	**-0.0021**	0.012	596.9	ug/L	26	Standard
|	**V**	51	5110.0	67.6	**0.2132**	0.316	148.0	ug/L	3223	Standard
|	**Cr**	52	11954.4	32.0	**0.3038**	0.365	120.2	ug/L	10379	Standard
|	**Cr**	53	577.5	78.4	**0.3575**	0.357	100.0	ug/L	192	Standard
|	**Mn**	55	10956.8	56.3	**0.6167**	0.383	62.1	ug/L	1840	Standard
|	**Co**	59	2626.0	161.7	**0.2016**	0.351	173.9	ug/L	115	Standard
|	**Ni**	60	1052.1	90.8	**0.3725**	0.363	97.5	ug/L	75	Standard
|	**Cu**	65	880.7	106.3	**0.2957**	0.370	125.2	ug/L	155	Standard
|	**Zn**	66	2679.2	22.7	**1.9944**	0.451	22.6	ug/L	237	Standard
|>	**Ge**	72	367806.2	2.5				ug/L	413856	Standard
|	**As**	75	93.2	460.3	**0.2078**	0.328	158.1	ug/L	-197	Standard
|	**Se**	82	24.0	99.4	**0.2106**	0.201	95.5	ug/L	-5	Standard
⌊	**Se-1**	77	125.3	21.9	**0.4563**	0.293	64.3	ug/L	105	Standard
⌈>	**Ga**	71	165.0	24.1				mg/L	225	Standard
⌊	**Rb**	85	186.7	12.1				ug/L	28	Standard
⌈	**Y**	89	271096.1	2.0				ug/L	322845	Standard
⌊>	**Rh**	103	83.3	3.5				ug/L	92	Standard
⌈	**Mo**	98	110.8	16.9	**0.0184**	0.004	23.4	ug/L	18	Standard
|	**Ag**	107	1437.8	148.9	**0.1909**	0.295	154.4	ug/L	63	Standard
|	**Cd**	111	659.9	150.0	**0.1994**	0.315	157.9	mg/L	20	Standard
|	**Cd**	114	1705.3	153.1	**0.1972**	0.316	160.1	ug/L	56	Standard
|>	**In**	115	597373.4	2.6				ug/L	657102	Standard
|	**Sn**	118	421.3	3.2	**-0.0028**	0.002	63.5	ug/L	555	Standard
|	**Sb**	123	1567.3	144.4	**0.2160**	0.315	146.1	ug/L	62	Standard
⌊	**Ba**	135	930.4	101.2	**0.2794**	0.301	107.8	ug/L	19	Standard
⌈	**Ce**	140	52.0	20.3				ug/L	24	Standard
⌊>	**Tb**	159	846511.1	1.2				ug/L	910514	Standard
⌈	**Ho**	165	7.3	56.8				ug/L	7	Standard
|	**Tl**	203	1849.6	148.3	**0.1476**	0.224	151.5	ug/L	13	Standard
|	**Tl**	205	45.7	161.8	**0.1236**	0.198	160.0	ug/L	1	Standard
|	**Pb**	206	2315.4	122.5	**0.2039**	0.288	141.3	ug/L	342	Standard
|	**Pb**	207	1912.2	123.2	**0.1940**	0.282	145.2	ug/L	284	Standard
|	**Pb**	208	8992.5	124.0	**0.1986**	0.287	144.6	ug/L	1363	Standard
|	**U**	238	1874.0	157.0	**0.1940**	0.307	158.0	ug/L	2	Standard
⌊>	**Bi**	209	443350.9	1.8				ug/L	470592	Standard

Approved: November 19, 2012

⌈	**Na**	23	1.7	173.2	**0.1839**	0.310	168.5	mg/L	2	Standard
|	**Mg**	24	17633.6	3.3	**0.0074**	0.000	3.3	mg/L	5586	Standard
|	**K**	39	1.7	173.2	**-0.0128**	0.049	385.7	mg/L	5	Standard
|	**Ca**	43	53.3	27.1	**0.4973**	0.888	178.5	mg/L	45	Standard
|	**Fe**	54	351.6	14.5	**0.0068**	0.018	261.9	mg/L	350	Standard
|	**Fe**	57	111.7	22.1	**0.0823**	0.058	70.7	mg/L	102	Standard
⌊>	**Sc-1**	45	44587.3	5.5				mg/L	53004	Standard
	Cl	35	1.0	100.0				ug/L	2	Standard
	Kr	83	127.7	0.9				ug/L	157	Standard
	Br	81	2.5	0.0				ug/L	3	Standard
	P	31	105615.6	4.0				ug/L	91588	Standard
	S	34	31638.0	1.7				ug/L	32556	Standard
	Sr	88	68.3	34.6				ug/L	62	Standard
	C	12	118.3	8.8				mg/L	133	Standard
	N	14	1.7	173.2				mg/L	0	Standard
	Hg	202	8.3	34.6				mg/L	7	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		88.873	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: L1211025103SDL WG414621-02
Report Date/Time: Sunday, November 18, 2012 14:45:38
Page 2

Approved: November 19, 2012

	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	90.910
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	94.211
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: L1211025103SDL WG414621-02
Report Date/Time: Sunday, November 18, 2012 14:45:38
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

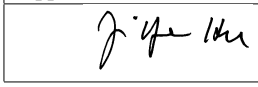
Sample ID: L1211025103
Sample Date/Time: Sunday, November 18, 2012 14:46:19
Number of Replicates: 3
Autosampler Position: 309
Sample Description: 25
Method File: C:\NexION Data\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
⌈	**Li**	7	6471.4	3.9	**-378.2690**	322.275	85.2	ug/L	8369	Standard
|	**Be**	9	8.3	69.3	**-0.0039**	0.004	94.3	ug/L	18	Standard
|	**Al**	27	21298.3	1.3	**0.2424**	0.010	4.0	ug/L	215	Standard
⌊>	**Sc**	45	37603.3	3.4				ug/L	53004	Standard
⌈	**Ti**	47	16.7	22.7	**-0.0174**	0.009	50.0	ug/L	26	Standard
|	**V**	51	2530.4	2.3	**0.0107**	0.007	60.7	ug/L	3223	Standard
|	**Cr**	52	7908.7	1.3	**0.0236**	0.033	142.1	ug/L	10379	Standard
|	**Cr**	53	231.7	17.3	**0.1098**	0.039	35.7	ug/L	192	Standard
|	**Mn**	55	2298.2	2.8	**0.0840**	0.009	10.6	ug/L	1840	Standard
|	**Co**	59	80.7	10.7	**-0.0076**	0.001	9.4	ug/L	115	Standard
|	**Ni**	60	240.3	6.3	**0.0739**	0.009	12.5	ug/L	75	Standard
|	**Cu**	65	132.7	6.4	**0.0050**	0.005	92.2	ug/L	155	Standard
|	**Zn**	66	1032.7	2.5	**0.7836**	0.017	2.2	ug/L	237	Standard
|>	**Ge**	72	317302.3	2.7				ug/L	413856	Standard
|	**As**	75	-117.6	41.9	**0.0340**	0.045	131.5	ug/L	-197	Standard
|	**Se**	82	5.9	200.4	**0.0651**	0.118	181.6	ug/L	-5	Standard
⌊	**Se-1**	77	91.7	5.5	**0.2414**	0.097	40.4	ug/L	105	Standard
⌈>	**Ga**	71	148.3	7.0				mg/L	225	Standard
⌊	**Rb**	85	50.0	10.0				ug/L	28	Standard
⌈	**Y**	89	241062.7	3.8				ug/L	322845	Standard
⌊>	**Rh**	103	71.7	22.4				ug/L	92	Standard
⌈	**Mo**	98	11.8	39.2	**-0.0054**	0.001	24.6	ug/L	18	Standard
|	**Ag**	107	76.0	72.3	**0.0041**	0.008	205.2	ug/L	63	Standard
|	**Cd**	111	27.7	61.5	**-0.0011**	0.006	519.2	mg/L	20	Standard
|	**Cd**	114	87.6	61.2	**0.0025**	0.007	280.6	ug/L	56	Standard
|>	**In**	115	522409.7	3.0				ug/L	657102	Standard
|	**Sn**	118	249.7	11.8	**-0.0179**	0.003	15.7	ug/L	555	Standard
|	**Sb**	123	51.7	39.0	**0.0053**	0.003	56.5	ug/L	62	Standard
⌊	**Ba**	135	66.0	9.1	**0.0044**	0.002	40.8	ug/L	19	Standard
⌈	**Ce**	140	25.7	9.8				ug/L	24	Standard
⌊>	**Tb**	159	759552.0	2.2				ug/L	910514	Standard
⌈	**Ho**	165	9.3	16.4				ug/L	7	Standard
|	**Tl**	203	59.7	25.7	**0.0017**	0.001	72.5	ug/L	13	Standard
|	**Tl**	205	1.0	0.0	**0.0042**	0.000	1.7	ug/L	1	Standard
|	**Pb**	206	285.3	11.3	**-0.0009**	0.003	321.0	ug/L	342	Standard
|	**Pb**	207	259.3	9.8	**-0.0018**	0.003	141.2	ug/L	284	Standard
|	**Pb**	208	1134.7	6.8	**-0.0021**	0.001	66.4	ug/L	1363	Standard
|	**U**	238	11.0	32.8	**-0.0003**	0.000	152.9	ug/L	2	Standard
⌊>	**Bi**	209	407431.8	2.5				ug/L	470592	Standard

Sample ID: L1211025103
Report Date/Time: Sunday, November 18, 2012 14:48:52
Page 1

Approved: November 19, 2012



⌈	**Na**	23	3.3	86.6	**0.4375**	0.375	85.6	mg/L	2	Standard
|	**Mg**	24	3795.5	8.1	**-0.0003**	0.000	80.8	mg/L	5586	Standard
|	**K**	39	5.0	100.0	**0.0536**	0.096	179.5	mg/L	5	Standard
|	**Ca**	43	43.3	26.6	**0.3580**	0.634	177.0	mg/L	45	Standard
|	**Fe**	54	109.0	21.3	**-0.0945**	0.012	13.1	mg/L	350	Standard
|	**Fe**	57	96.7	23.9	**0.0870**	0.057	65.5	mg/L	102	Standard
⌊>	**Sc-1**	45	37603.3	3.4				mg/L	53004	Standard
	Cl	35	1.7	69.3				ug/L	2	Standard
	Kr	83	121.4	5.3				ug/L	157	Standard
	Br	81	8.3	62.4				ug/L	3	Standard
	P	31	36849.8	0.3				ug/L	91588	Standard
	S	34	30888.1	1.7				ug/L	32556	Standard
	Sr	88	80.0	10.8				ug/L	62	Standard
	C	12	98.3	24.0				mg/L	133	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	6.7	114.6				mg/L	7	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		76.670	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: L1211025103
Report Date/Time: Sunday, November 18, 2012 14:48:52
Page 2

Approved: November 19, 2012

⌈	Mo	98		
|	Ag	107		
|	Cd	111		
|	Cd	114		
|>	In	115		79.502
|	Sn	118		
|	Sb	123		
⌊	Ba	135		
⌈	Ce	140		
⌊>	Tb	159		
⌈	Ho	165		
|	Tl	203		
|	Tl	205		
|	Pb	206		
|	Pb	207		
|	Pb	208		
|	U	238		
⌊>	Bi	209		86.579
⌈	Na	23		
|	Mg	24		
|	K	39		
|	Ca	43		
|	Fe	54		
|	Fe	57		
⌊>	Sc-1	45		
	Cl	35		
	Kr	83		
	Br	81		
	P	31		
	S	34		
	Sr	88		
	C	12		
	N	14		
	Hg	202		

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: L1211025103
Report Date/Time: Sunday, November 18, 2012 14:48:52
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

Sample ID: QC Std 6
Sample Date/Time: Sunday, November 18, 2012 14:49:34
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	8500.7	5.2	**-621.7410**	80.488	12.9	ug/L	8369	Standard
|	**Be**	9	103750.6	8.1	**56.0867**	1.912	3.4	ug/L	18	Standard
|	**Al**	27	6522199.6	7.9	**59.7307**	1.928	3.2	ug/L	215	Standard
⌊>	**Sc**	45	47093.3	6.7				ug/L	53004	Standard
⌈	**Ti**	47	45933.5	7.6	**93.8515**	3.706	3.9	ug/L	26	Standard
|	**V**	51	544119.8	6.3	**47.9781**	1.127	2.3	ug/L	3223	Standard
|	**Cr**	52	518016.1	7.9	**48.6534**	2.132	4.4	ug/L	10379	Standard
|	**Cr**	53	61674.2	8.2	**46.9593**	2.140	4.6	ug/L	192	Standard
|	**Mn**	55	804194.4	7.4	**48.6458**	1.813	3.7	ug/L	1840	Standard
|	**Co**	59	621509.7	7.9	**48.9595**	2.037	4.2	ug/L	115	Standard
|	**Ni**	60	131140.7	8.3	**48.0129**	2.176	4.5	ug/L	75	Standard
|	**Cu**	65	130521.6	6.4	**49.5117**	1.435	2.9	ug/L	155	Standard
|	**Zn**	66	65017.2	6.4	**49.7136**	1.554	3.1	ug/L	237	Standard
| >	**Ge**	72	393199.1	4.0				ug/L	413856	Standard
|	**As**	75	67968.3	6.3	**49.3936**	1.283	2.6	ug/L	-197	Standard
|	**Se**	82	6012.1	6.4	**48.8046**	1.262	2.6	ug/L	-5	Standard
⌊	**Se-1**	77	4656.4	5.2	**48.9556**	0.973	2.0	ug/L	105	Standard
⌈>	**Ga**	71	208.3	15.6				mg/L	225	Standard
⌊	**Rb**	85	1443.4	5.7				ug/L	28	Standard
⌈	**Y**	89	298132.4	2.5				ug/L	322845	Standard
⌊>	**Rh**	103	113.3	19.9				ug/L	92	Standard
⌈	**Mo**	98	411998.3	5.6	**97.3126**	1.631	1.7	ug/L	18	Standard
|	**Ag**	107	376061.2	4.4	**50.5076**	0.360	0.7	ug/L	63	Standard
|	**Cd**	111	163573.3	5.6	**50.7335**	0.815	1.6	mg/L	20	Standard
|	**Cd**	114	425998.8	6.6	**50.1886**	1.224	2.4	ug/L	56	Standard
| >	**In**	115	617502.0	4.2				ug/L	657102	Standard
|	**Sn**	118	481412.4	6.9	**51.3898**	1.446	2.8	ug/L	555	Standard
|	**Sb**	123	377573.9	5.9	**51.2795**	1.027	2.0	ug/L	62	Standard
⌊	**Ba**	135	163792.8	6.7	**51.1465**	1.321	2.6	ug/L	19	Standard
⌈	**Ce**	140	522.0	9.6				ug/L	24	Standard
⌊>	**Tb**	159	883984.7	3.9				ug/L	910514	Standard
⌈	**Ho**	165	436.3	2.6				ug/L	7	Standard
|	**Tl**	203	621901.9	5.3	**50.0871**	0.878	1.8	ug/L	13	Standard
|	**Tl**	205	19179.5	4.7	**50.6424**	0.845	1.7	ug/L	1	Standard
|	**Pb**	206	501251.6	5.9	**50.3503**	1.195	2.4	ug/L	342	Standard
|	**Pb**	207	425721.0	6.3	**50.2920**	1.374	2.7	ug/L	284	Standard
|	**Pb**	208	1966740.9	6.3	**50.0441**	1.371	2.7	ug/L	1363	Standard
|	**U**	238	498934.4	7.6	**51.2851**	2.057	4.0	ug/L	2	Standard
⌊>	**Bi**	209	455696.7	3.6				ug/L	470592	Standard

Sample ID: QC Std 6
Report Date/Time: Sunday, November 18, 2012 14:52:06
Page 1

Approved: November 19, 2012

⌈	**Na**	23	1.7	173.2	**0.1631**	0.274	167.9	mg/L	2	Standard
|	**Mg**	24	301544.9	1.6	**0.1640**	0.009	5.2	mg/L	5586	Standard
|	**K**	39	380.0	8.6	**5.8073**	0.800	13.8	mg/L	5	Standard
|	**Ca**	43	130.0	23.1	**4.0788**	1.847	45.3	mg/L	45	Standard
|	**Fe**	54	12833.0	7.8	**5.3969**	0.280	5.2	mg/L	350	Standard
|	**Fe**	57	3242.0	9.0	**5.6017**	0.352	6.3	mg/L	102	Standard
⌊>	**Sc-1**	45	47093.3	6.7				mg/L	53004	Standard
	Cl	35	3.0	57.7				ug/L	2	Standard
	Kr	83	142.3	1.6				ug/L	157	Standard
	Br	81	6.7	57.3				ug/L	3	Standard
	P	31	121191.2	2.1				ug/L	91588	Standard
	S	34	36067.0	1.3				ug/L	32556	Standard
	Sr	88	71.7	4.0				ug/L	62	Standard
	C	12	110.0	24.1				mg/L	133	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	5.0	100.0				mg/L	7	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈	Li	7			
|	Be	9	112.173		
|	Al	27	119.461		
⌊>	Sc	45			
⌈	Ti	47	93.851		
|	V	51	95.956		
|	Cr	52	97.307		
|	Cr	53			
|	Mn	55	97.292		
|	Co	59	97.919		
|	Ni	60	96.026		
|	Cu	65	99.023		
|	Zn	66	99.427		
|>	Ge	72		95.009	
|	As	75	98.787		
|	Se	82	97.609		
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: QC Std 6
Report Date/Time: Sunday, November 18, 2012 14:52:06
Page 2

Approved: November 19, 2012

⌈	Mo	98	97.313	
|	Ag	107	101.015	
|	Cd	111	101.467	
|	Cd	114		
|>	In	115		93.974
|	Sn	118	102.780	
|	Sb	123	102.559	
⌊	Ba	135	102.293	
⌈	Ce	140		
⌊>	Tb	159		
⌈	Ho	165		
|	Tl	203	100.174	
|	Tl	205		
|	Pb	206	100.701	
|	Pb	207	100.584	
|	Pb	208	100.088	
|	U	238	102.570	
⌊>	Bi	209		96.835
⌈	Na	23		
|	Mg	24		
|	K	39		
|	Ca	43		
|	Fe	54		
|	Fe	57		
⌊>	Sc-1	45		
	Cl	35		
	Kr	83		
	Br	81		
	P	31		
	S	34		
	Sr	88		
	C	12		
	N	14		
	Hg	202		

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 6	Be	9	
QC Std 6	Al	27	

Sample ID: QC Std 6
Report Date/Time: Sunday, November 18, 2012 14:52:06
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

Sample ID: QC Std 7
Sample Date/Time: Sunday, November 18, 2012 14:52:46
Number of Replicates: 3
Autosampler Position: 102
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	8190.6	6.7	**-804.8823**	231.362	28.7	ug/L	8369	Standard
|	**Be**	9	15.0	33.3	**-0.0007**	0.003	414.4	ug/L	18	Standard
|	**Al**	27	403.3	53.2	**0.0018**	0.002	112.1	ug/L	215	Standard
⌊>	**Sc**	45	43806.6	3.5				ug/L	53004	Standard
⌈	**Ti**	47	18.7	21.7	**-0.0198**	0.009	44.6	ug/L	26	Standard
|	**V**	51	2596.3	4.7	**-0.0276**	0.014	51.9	ug/L	3223	Standard
|	**Cr**	52	8124.2	3.5	**-0.1053**	0.037	35.0	ug/L	10379	Standard
|	**Cr**	53	168.3	6.0	**0.0241**	0.006	25.7	ug/L	192	Standard
|	**Mn**	55	1329.1	1.6	**-0.0050**	0.003	58.9	ug/L	1840	Standard
|	**Co**	59	108.7	24.4	**-0.0066**	0.002	35.4	ug/L	115	Standard
|	**Ni**	60	65.3	6.2	**-0.0106**	0.002	15.1	ug/L	75	Standard
|	**Cu**	65	183.3	5.1	**0.0150**	0.005	31.6	ug/L	155	Standard
|	**Zn**	66	203.7	10.0	**-0.0365**	0.018	48.1	ug/L	237	Standard
|>	**Ge**	72	377693.2	2.1				ug/L	413856	Standard
|	**As**	75	-158.0	24.9	**0.0209**	0.028	136.2	ug/L	-197	Standard
|	**Se**	82	6.7	237.4	**0.0624**	0.136	217.6	ug/L	-5	Standard
⌊	**Se-1**	77	118.3	9.3	**0.3441**	0.141	41.1	ug/L	105	Standard
⌈>	**Ga**	71	183.3	19.2				mg/L	225	Standard
⌊	**Rb**	85	21.7	58.1				ug/L	28	Standard
⌈	**Y**	89	279542.8	2.4				ug/L	322845	Standard
⌊>	**Rh**	103	90.0	11.1				ug/L	92	Standard
⌈	**Mo**	98	122.7	95.5	**0.0208**	0.028	134.1	ug/L	18	Standard
|	**Ag**	107	132.7	84.1	**0.0102**	0.015	147.4	ug/L	63	Standard
|	**Cd**	111	42.9	71.2	**0.0023**	0.010	407.0	mg/L	20	Standard
|	**Cd**	114	131.3	62.1	**0.0062**	0.010	156.4	ug/L	56	Standard
|>	**In**	115	605923.2	1.8				ug/L	657102	Standard
|	**Sn**	118	375.7	17.9	**-0.0085**	0.007	82.1	ug/L	555	Standard
|	**Sb**	123	314.1	37.8	**0.0404**	0.016	39.4	ug/L	62	Standard
⌊	**Ba**	135	32.0	46.0	**-0.0097**	0.005	47.6	ug/L	19	Standard
⌈	**Ce**	140	27.7	5.5				ug/L	24	Standard
⌊>	**Tb**	159	852800.7	2.0				ug/L	910514	Standard
⌈	**Ho**	165	7.7	49.4				ug/L	7	Standard
|	**Tl**	203	74.3	77.7	**0.0024**	0.005	189.4	ug/L	13	Standard
|	**Tl**	205	0.7	86.6	**0.0031**	0.002	50.7	ug/L	1	Standard
|	**Pb**	206	340.0	11.2	**0.0020**	0.003	161.2	ug/L	342	Standard
|	**Pb**	207	262.7	11.9	**-0.0044**	0.003	71.2	ug/L	284	Standard
|	**Pb**	208	1287.0	12.1	**-0.0010**	0.003	336.4	ug/L	1363	Standard
|	**U**	238	24.0	98.0	**0.0010**	0.002	247.7	ug/L	2	Standard
⌊>	**Bi**	209	446005.4	2.1				ug/L	470592	Standard

Sample ID: QC Std 7
Report Date/Time: Sunday, November 18, 2012 14:55:19
Page 1

Approved: November 19, 2012

⌈	**Na**	23	0.0		**0.0050**	0.000	0.0	mg/L	2	Standard
|	**Mg**	24	1008.4	8.2	**-0.0023**	0.000	2.6	mg/L	5586	Standard
|	**K**	39	6.7	43.3	**0.0682**	0.046	68.1	mg/L	5	Standard
|	**Ca**	43	50.0	17.3	**0.3565**	0.544	152.6	mg/L	45	Standard
|	**Fe**	54	352.3	4.2	**0.0104**	0.008	75.2	mg/L	350	Standard
|	**Fe**	57	100.0	8.7	**0.0617**	0.012	19.7	mg/L	102	Standard
⌊>	**Sc-1**	45	43806.6	3.5				mg/L	53004	Standard
	Cl	35	2.3	24.7				ug/L	2	Standard
	Kr	83	146.1	6.8				ug/L	157	Standard
	Br	81	2.5	0.0				ug/L	3	Standard
	P	31	111988.5	6.4				ug/L	91588	Standard
	S	34	34541.0	2.4				ug/L	32556	Standard
	Sr	88	73.3	20.8				ug/L	62	Standard
	C	12	113.3	27.0				mg/L	133	Standard
	N	14	3.3	86.6				mg/L	0	Standard
	Hg	202	1.7	173.2				mg/L	7	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		91.262	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: QC Std 7
Report Date/Time: Sunday, November 18, 2012 14:55:19
Page 2

Approved: November 19, 2012

	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	92.211
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	94.775
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: QC Std 7
Report Date/Time: Sunday, November 18, 2012 14:55:19
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

Sample ID: L1211025101 WG414119-02
Sample Date/Time: Sunday, November 18, 2012 14:56:02
Number of Replicates: 3
Autosampler Position: 310
Sample Description: 5
Method File: C:\NexION Data\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
	Li	7	13624.5	4.6	**-4984.3026**	257.567	5.2	ug/L	8369	Standard
	Be	9	13.3	57.3	**-0.0013**	0.005	348.0	ug/L	18	Standard
	Al	27	11292337.9	2.9	**117.9032**	1.846	1.6	ug/L	215	Standard
>	Sc	45	41319.6	2.4				ug/L	53004	Standard
	Ti	47	76.7	18.5	**0.1149**	0.026	22.8	ug/L	26	Standard
	V	51	3770.7	0.7	**0.1060**	0.012	11.1	ug/L	3223	Standard
	Cr	52	9218.8	1.5	**0.0705**	0.046	65.6	ug/L	10379	Standard
	Cr	53	280.0	11.4	**0.1285**	0.019	15.0	ug/L	192	Standard
	Mn	55	539424.6	2.7	**36.4273**	0.795	2.2	ug/L	1840	Standard
	Co	59	981.7	4.6	**0.0709**	0.004	5.5	ug/L	115	Standard
	Ni	60	30212.5	4.7	**12.3283**	0.359	2.9	ug/L	75	Standard
	Cu	65	688.7	0.7	**0.2347**	0.009	3.9	ug/L	155	Standard
	Zn	66	5785.8	4.5	**4.7581**	0.078	1.6	ug/L	237	Standard
>	Ge	72	352394.0	3.3				ug/L	413856	Standard
	As	75	9.9	600.5	**0.1477**	0.049	32.9	ug/L	-197	Standard
	Se	82	531.1	7.5	**4.8143**	0.207	4.3	ug/L	-5	Standard
	Se-1	77	491.7	6.0	**4.9035**	0.216	4.4	ug/L	105	Standard
>	Ga	71	176.7	30.3				mg/L	225	Standard
	Rb	85	1716.8	8.2				ug/L	28	Standard
	Y	89	265165.2	3.3				ug/L	322845	Standard
>	Rh	103	95.0	13.9				ug/L	92	Standard
	Mo	98	1080.8	6.1	**0.2630**	0.012	4.5	ug/L	18	Standard
	Ag	107	58.7	12.9	**0.0005**	0.001	204.9	ug/L	63	Standard
	Cd	111	31.0	7.9	**-0.0009**	0.001	65.1	mg/L	20	Standard
	Cd	114	95.0	9.2	**0.0024**	0.001	46.9	ug/L	56	Standard
>	In	115	580284.4	1.9				ug/L	657102	Standard
	Sn	118	321.3	12.0	**-0.0128**	0.005	37.1	ug/L	555	Standard
	Sb	123	147.5	4.0	**0.0184**	0.000	2.4	ug/L	62	Standard
	Ba	135	14030.2	1.9	**4.6472**	0.012	0.3	ug/L	19	Standard
	Ce	140	351.3	8.5				ug/L	24	Standard
>	Tb	159	833608.8	3.1				ug/L	910514	Standard
	Ho	165	26.3	9.6				ug/L	7	Standard
	Tl	203	181.3	1.8	**0.0117**	0.001	6.0	ug/L	13	Standard
	Tl	205	6.7	17.3	**0.0199**	0.004	18.8	ug/L	1	Standard
	Pb	206	423.7	7.0	**0.0118**	0.002	17.4	ug/L	342	Standard
	Pb	207	353.0	11.0	**0.0077**	0.004	51.5	ug/L	284	Standard
	Pb	208	1636.7	6.6	**0.0094**	0.002	21.7	ug/L	1363	Standard
	U	238	2545.2	2.4	**0.2738**	0.006	2.3	ug/L	2	Standard
>	Bi	209	433622.0	2.9				ug/L	470592	Standard

Sample ID: L1211025101 WG414119-02
Report Date/Time: Sunday, November 18, 2012 14:58:33
Page 1

Approved: November 19, 2012

⌈	**Na**	23	6.7	114.6	**0.7665**	0.871	113.7	mg/L	2	Standard
|	**Mg**	24	156622.2	1.7	**0.0957**	0.002	2.2	mg/L	5586	Standard
|	**K**	39	25.0	40.0	**0.3972**	0.185	46.5	mg/L	5	Standard
|	**Ca**	43	515.0	6.1	**25.8740**	1.100	4.3	mg/L	45	Standard
|	**Fe**	54	179.2	7.2	**-0.0652**	0.006	8.9	mg/L	350	Standard
|	**Fe**	57	266.7	9.4	**0.4084**	0.039	9.6	mg/L	102	Standard
⌊>	**Sc-1**	45	41319.6	2.4				mg/L	53004	Standard
	Cl	35	4.0	66.1				ug/L	2	Standard
	Kr	83	135.8	3.4				ug/L	157	Standard
	Br	81	5.0	50.0				ug/L	3	Standard
	P	31	52154.7	3.0				ug/L	91588	Standard
	S	34	31880.2	0.8				ug/L	32556	Standard
	Sr	88	220.0	8.2				ug/L	62	Standard
	C	12	183.3	15.5				mg/L	133	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	3.3	86.6				mg/L	7	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		85.149	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: L1211025101 WG414119-02
Report Date/Time: Sunday, November 18, 2012 14:58:33
Page 2

Approved: November 19, 2012

	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	88.310
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	92.144
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: L1211025101 WG414119-02
Report Date/Time: Sunday, November 18, 2012 14:58:33
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

Sample ID: L1211025101S WG414119-07
Sample Date/Time: Sunday, November 18, 2012 14:59:14
Number of Replicates: 3
Autosampler Position: 311
Sample Description: 5
Method File: C:\NexION Data\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
	Li	7	14812.3	9.7	**-5478.1855**	673.967	12.3	ug/L	8369	Standard
	Be	9	10538.7	6.4	**6.2750**	0.232	3.7	ug/L	18	Standard
	Al	27	12255155.8	4.3	**123.8229**	2.365	1.9	ug/L	215	Standard
>	**Sc**	45	42695.1	3.4				ug/L	53004	Standard
	Ti	47	85.3	10.9	**0.1335**	0.022	16.6	ug/L	26	Standard
	V	51	53255.8	4.7	**4.9547**	0.102	2.1	ug/L	3223	Standard
	Cr	52	56770.6	4.3	**5.0953**	0.144	2.8	ug/L	10379	Standard
	Cr	53	6222.9	5.3	**5.1462**	0.214	4.2	ug/L	192	Standard
	Mn	55	668073.1	4.9	**44.6949**	0.837	1.9	ug/L	1840	Standard
	Co	59	58743.2	5.2	**5.1049**	0.082	1.6	ug/L	115	Standard
	Ni	60	46186.0	3.6	**18.7000**	0.666	3.6	ug/L	75	Standard
	Cu	65	13329.5	5.5	**5.5392**	0.105	1.9	ug/L	155	Standard
	Zn	66	13217.8	4.8	**11.0215**	0.214	1.9	ug/L	237	Standard
>	**Ge**	72	356069.0	6.8				ug/L	413856	Standard
	As	75	7263.0	7.1	**5.9553**	0.129	2.2	ug/L	-197	Standard
	Se	82	1283.6	4.7	**11.5284**	0.237	2.1	ug/L	-5	Standard
	Se-1	77	1068.0	7.1	**11.6719**	0.249	2.1	ug/L	105	Standard
>	**Ga**	71	188.3	4.1				mg/L	225	Standard
	Rb	85	1993.5	6.0				ug/L	28	Standard
	Y	89	265398.0	6.0				ug/L	322845	Standard
>	**Rh**	103	135.0	12.8				ug/L	92	Standard
	Mo	98	1183.7	2.6	**0.2890**	0.007	2.4	ug/L	18	Standard
	Ag	107	36934.0	4.2	**5.2707**	0.103	2.0	ug/L	63	Standard
	Cd	111	17264.8	3.6	**5.6898**	0.081	1.4	mg/L	20	Standard
	Cd	114	45075.0	3.9	**5.6452**	0.076	1.3	ug/L	56	Standard
>	**In**	115	580626.6	5.0				ug/L	657102	Standard
	Sn	118	350.0	2.3	**-0.0095**	0.001	14.1	ug/L	555	Standard
	Sb	123	39369.2	3.8	**5.6886**	0.070	1.2	ug/L	62	Standard
	Ba	135	31016.4	3.7	**10.2963**	0.140	1.4	ug/L	19	Standard
	Ce	140	653.3	7.6				ug/L	24	Standard
>	**Tb**	159	831510.4	4.1				ug/L	910514	Standard
	Ho	165	28.7	26.4				ug/L	7	Standard
	Tl	203	63208.4	4.5	**5.2135**	0.073	1.4	ug/L	13	Standard
	Tl	205	1996.1	1.6	**5.4048**	0.114	2.1	ug/L	1	Standard
	Pb	206	50830.2	4.3	**5.2036**	0.059	1.1	ug/L	342	Standard
	Pb	207	43813.0	3.6	**5.2741**	0.045	0.9	ug/L	284	Standard
	Pb	208	201727.9	3.7	**5.2314**	0.029	0.6	ug/L	1363	Standard
	U	238	51288.7	3.9	**5.4050**	0.074	1.4	ug/L	2	Standard
>	**Bi**	209	444746.6	3.2				ug/L	470592	Standard

Sample ID: L1211025101S WG414119-07
Report Date/Time: Sunday, November 18, 2012 15:01:47
Page 1

Approved: November 19, 2012

⌈	**Na**	23	1.7	173.2	**0.1897**	0.320	168.6	mg/L	2	Standard
|	**Mg**	24	166836.9	0.7	**0.0988**	0.003	2.9	mg/L	5586	Standard
|	**K**	39	20.0	25.0	**0.2970**	0.086	28.9	mg/L	5	Standard
|	**Ca**	43	530.0	9.6	**25.7454**	1.962	7.6	mg/L	45	Standard
|	**Fe**	54	169.6	26.5	**-0.0720**	0.024	34.0	mg/L	350	Standard
|	**Fe**	57	286.7	2.0	**0.4312**	0.026	5.9	mg/L	102	Standard
⌊>	**Sc-1**	45	42695.1	3.4				mg/L	53004	Standard
	Cl	35	5.0	20.0				ug/L	2	Standard
	Kr	83	147.9	3.5				ug/L	157	Standard
	Br	81	3.3	43.3				ug/L	3	Standard
	P	31	54312.2	3.4				ug/L	91588	Standard
	S	34	33457.7	2.2				ug/L	32556	Standard
	Sr	88	180.0	12.7				ug/L	62	Standard
	C	12	225.0	8.0				mg/L	133	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	6.7	43.3				mg/L	7	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		86.037	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: L1211025101S WG414119-07
Report Date/Time: Sunday, November 18, 2012 15:01:47
Page 2

Approved: November 19, 2012

⌈	Mo	98	
|	Ag	107	
|	Cd	111	
|	Cd	114	
|>	In	115	88.362
|	Sn	118	
|	Sb	123	
⌊	Ba	135	
⌈	Ce	140	
⌊>	Tb	159	
⌈	Ho	165	
|	Tl	203	
|	Tl	205	
|	Pb	206	
|	Pb	207	
|	Pb	208	
|	U	238	
⌊>	Bi	209	94.508
⌈	Na	23	
|	Mg	24	
|	K	39	
|	Ca	43	
|	Fe	54	
|	Fe	57	
⌊>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: L1211025101S WG414119-07
Report Date/Time: Sunday, November 18, 2012 15:01:47
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

Sample ID: L1211025101SD WG414119-08
Sample Date/Time: Sunday, November 18, 2012 15:02:27
Number of Replicates: 3
Autosampler Position: 312
Sample Description: 5
Method File: C:\NexION Data\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
	Li	7	15125.9	7.3	**-6188.2310**	543.048	8.8	ug/L	8369	Standard
	Be	9	10415.2	3.3	**6.4973**	0.045	0.7	ug/L	18	Standard
	Al	27	11988941.9	2.5	**126.9147**	4.117	3.2	ug/L	215	Standard
>	**Sc**	45	40776.5	3.5				ug/L	53004	Standard
	Ti	47	82.3	8.6	**0.1313**	0.010	7.5	ug/L	26	Standard
	V	51	51370.5	2.7	**4.9045**	0.105	2.1	ug/L	3223	Standard
	Cr	52	55446.3	2.3	**5.1121**	0.176	3.4	ug/L	10379	Standard
	Cr	53	5837.8	5.5	**4.9482**	0.123	2.5	ug/L	192	Standard
	Mn	55	655278.2	3.5	**45.0084**	0.998	2.2	ug/L	1840	Standard
	Co	59	58503.1	1.9	**5.2217**	0.082	1.6	ug/L	115	Standard
	Ni	60	45072.6	2.5	**18.7245**	0.200	1.1	ug/L	75	Standard
	Cu	65	12966.5	2.4	**5.5341**	0.102	1.8	ug/L	155	Standard
	Zn	66	13048.6	1.2	**11.1788**	0.360	3.2	ug/L	237	Standard
>	**Ge**	72	346593.8	3.5				ug/L	413856	Standard
	As	75	7021.2	4.5	**5.9170**	0.233	3.9	ug/L	-197	Standard
	Se	82	1236.9	5.6	**11.4014**	0.466	4.1	ug/L	-5	Standard
	Se-1	77	1043.0	4.8	**11.7178**	0.562	4.8	ug/L	105	Standard
>	**Ga**	71	185.0	18.7				mg/L	225	Standard
	Rb	85	1973.5	9.1				ug/L	28	Standard
	Y	89	259318.7	3.5				ug/L	322845	Standard
>	**Rh**	103	106.7	17.7				ug/L	92	Standard
	Mo	98	1101.8	2.9	**0.2694**	0.008	2.8	ug/L	18	Standard
	Ag	107	36736.8	1.3	**5.2637**	0.068	1.3	ug/L	63	Standard
	Cd	111	17165.4	2.8	**5.6784**	0.099	1.7	mg/L	20	Standard
	Cd	114	44201.2	3.1	**5.5563**	0.065	1.2	ug/L	56	Standard
>	**In**	115	578159.5	2.0				ug/L	657102	Standard
	Sn	118	345.0	7.0	**-0.0100**	0.003	27.4	ug/L	555	Standard
	Sb	123	39058.2	2.6	**5.6655**	0.091	1.6	ug/L	62	Standard
	Ba	135	30998.0	2.8	**10.3288**	0.120	1.2	ug/L	19	Standard
	Ce	140	386.0	3.7				ug/L	24	Standard
>	**Tb**	159	830563.2	1.7				ug/L	910514	Standard
	Ho	165	29.0	35.0				ug/L	7	Standard
	Tl	203	63859.7	1.9	**5.3642**	0.018	0.3	ug/L	13	Standard
	Tl	205	1996.5	4.0	**5.5002**	0.131	2.4	ug/L	1	Standard
	Pb	206	50828.8	2.0	**5.2997**	0.010	0.2	ug/L	342	Standard
	Pb	207	43016.0	2.4	**5.2723**	0.071	1.4	ug/L	284	Standard
	Pb	208	199917.9	1.9	**5.2794**	0.033	0.6	ug/L	1363	Standard
	U	238	50350.9	2.8	**5.4027**	0.084	1.6	ug/L	2	Standard
>	**Bi**	209	436821.3	1.8				ug/L	470592	Standard

Approved: November 19, 2012

⌈	**Na**	23	0.0		**0.0050**	0.000	0.0	mg/L	2	Standard
|	**Mg**	24	167465.4	0.7	**0.1040**	0.003	3.2	mg/L	5586	Standard
|	**K**	39	23.3	24.7	**0.3738**	0.118	31.7	mg/L	5	Standard
|	**Ca**	43	493.3	2.1	**25.0994**	1.511	6.0	mg/L	45	Standard
|	**Fe**	54	192.0	27.2	**-0.0581**	0.023	39.6	mg/L	350	Standard
|	**Fe**	57	296.7	2.6	**0.4777**	0.018	3.7	mg/L	102	Standard
⌊>	**Sc-1**	45	40776.5	3.5				mg/L	53004	Standard
	Cl	35	4.0	66.1				ug/L	2	Standard
	Kr	83	150.3	11.0				ug/L	157	Standard
	Br	81	5.0	50.0				ug/L	3	Standard
	P	31	52035.0	1.4				ug/L	91588	Standard
	S	34	33077.7	2.4				ug/L	32556	Standard
	Sr	88	208.3	7.7				ug/L	62	Standard
	C	12	181.7	18.3				mg/L	133	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	1.7	173.2				mg/L	7	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		83.748	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: L1211025101SD WG414119-08
Report Date/Time: Sunday, November 18, 2012 15:04:59
Page 2

Approved: November 19, 2012

	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	87.986
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	92.824
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: L1211025101SD WG414119-08
Report Date/Time: Sunday, November 18, 2012 15:04:59
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

Sample ID: L1211025102
Sample Date/Time: Sunday, November 18, 2012 15:05:39
Number of Replicates: 3
Autosampler Position: 313
Sample Description: 1
Method File: C:\NexION Data\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
⌈	**Li**	7	50592.9	7.0	**-29051.4565**	1586.181	5.5	ug/L	8369	Standard
|	**Be**	9	18.3	68.6	**0.0013**	0.008	565.7	ug/L	18	Standard
|	**Al**	27	64714926.0	5.1	**636.0635**	31.372	4.9	ug/L	215	Standard
⌊>	**Sc**	45	43906.9	3.4				ug/L	53004	Standard
⌈	**Ti**	47	156.0	15.9	**0.2896**	0.055	18.8	ug/L	26	Standard
|	**V**	51	7036.8	4.2	**0.4154**	0.021	5.0	ug/L	3223	Standard
|	**Cr**	52	11083.1	3.0	**0.2456**	0.022	8.8	ug/L	10379	Standard
|	**Cr**	53	385.8	8.8	**0.2128**	0.028	13.1	ug/L	192	Standard
|	**Mn**	55	3285339.4	5.1	**217.8782**	8.568	3.9	ug/L	1840	Standard
|	**Co**	59	5207.2	4.3	**0.4338**	0.016	3.7	ug/L	115	Standard
|	**Ni**	60	169967.6	6.5	**68.1522**	3.666	5.4	ug/L	75	Standard
|	**Cu**	65	2845.3	6.4	**1.1251**	0.066	5.8	ug/L	155	Standard
|	**Zn**	66	21966.3	5.9	**18.2553**	0.877	4.8	ug/L	237	Standard
|>	**Ge**	72	359360.0	1.2				ug/L	413856	Standard
|	**As**	75	471.7	4.8	**0.5141**	0.014	2.8	ug/L	-197	Standard
|	**Se**	82	2681.3	3.8	**23.8285**	0.617	2.6	ug/L	-5	Standard
⌊	**Se-1**	77	2136.5	4.3	**24.0941**	0.943	3.9	ug/L	105	Standard
⌈>	**Ga**	71	191.7	10.9				mg/L	225	Standard
⌊	**Rb**	85	10051.7	3.4				ug/L	28	Standard
⌈	**Y**	89	272134.0	4.7				ug/L	322845	Standard
⌊>	**Rh**	103	190.0	21.5				ug/L	92	Standard
⌈	**Mo**	98	5160.0	4.5	**1.2456**	0.044	3.5	ug/L	18	Standard
|	**Ag**	107	72.7	32.4	**0.0021**	0.003	150.4	ug/L	63	Standard
|	**Cd**	111	72.8	19.2	**0.0121**	0.004	36.6	mg/L	20	Standard
|	**Cd**	114	220.0	15.2	**0.0171**	0.004	24.0	ug/L	56	Standard
|>	**In**	115	600140.1	1.1				ug/L	657102	Standard
|	**Sn**	118	635.0	5.5	**0.0205**	0.003	16.4	ug/L	555	Standard
|	**Sb**	123	525.3	12.0	**0.0705**	0.008	11.3	ug/L	62	Standard
⌊	**Ba**	135	76727.4	4.7	**24.6533**	0.915	3.7	ug/L	19	Standard
⌈	**Ce**	140	121.7	5.0				ug/L	24	Standard
⌊>	**Tb**	159	864561.7	1.8				ug/L	910514	Standard
⌈	**Ho**	165	18.3	25.8				ug/L	7	Standard
|	**Tl**	203	372.3	6.1	**0.0281**	0.002	6.1	ug/L	13	Standard
|	**Tl**	205	12.0	33.3	**0.0347**	0.011	31.3	ug/L	1	Standard
|	**Pb**	206	449.3	5.1	**0.0148**	0.002	16.6	ug/L	342	Standard
|	**Pb**	207	379.0	3.8	**0.0113**	0.002	16.2	ug/L	284	Standard
|	**Pb**	208	1731.4	1.8	**0.0122**	0.001	6.9	ug/L	1363	Standard
|	**U**	238	14340.5	5.4	**1.5573**	0.077	5.0	ug/L	2	Standard
⌊>	**Bi**	209	431271.4	0.9				ug/L	470592	Standard

Sample ID: L1211025102
Report Date/Time: Sunday, November 18, 2012 15:08:11
Page 1

Approved: November 19, 2012

⌈	**Na**	23	8.3	91.7	**0.8997**	0.809	89.9	mg/L	2	Standard
|	**Mg**	24	357292.8	1.7	**0.2088**	0.005	2.4	mg/L	5586	Standard
|	**K**	39	83.3	34.1	**1.3293**	0.483	36.4	mg/L	5	Standard
|	**Ca**	43	2241.8	6.5	**112.9674**	6.633	5.9	mg/L	45	Standard
|	**Fe**	54	346.6	7.9	**0.0075**	0.016	212.3	mg/L	350	Standard
|	**Fe**	57	990.0	11.5	**1.7479**	0.198	11.3	mg/L	102	Standard
⌊>	**Sc-1**	45	43906.9	3.4				mg/L	53004	Standard
	Cl	35	9.7	58.8				ug/L	2	Standard
	Kr	83	176.3	0.8				ug/L	157	Standard
	Br	81	4.2	69.3				ug/L	3	Standard
	P	31	132056.7	5.7				ug/L	91588	Standard
	S	34	33735.0	3.6				ug/L	32556	Standard
	Sr	88	1000.0	7.8				ug/L	62	Standard
	C	12	501.7	7.6				mg/L	133	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	0.0					mg/L	7	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		86.832	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: L1211025102
Report Date/Time: Sunday, November 18, 2012 15:08:11
Page 2

Approved: November 19, 2012

	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	91.331
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	91.644
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Mn 55 Upper, S, EEE	Mn	55	

Sample ID: L1211025102
Report Date/Time: Sunday, November 18, 2012 15:08:11
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

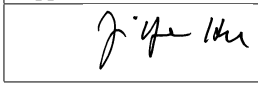
Sample ID: L1211025102
Sample Date/Time: Sunday, November 18, 2012 15:08:52
Number of Replicates: 3
Autosampler Position: 314
Sample Description: 5
Method File: C:\NexION Data\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
	Li	7	14618.7	1.1	**-6451.7569**	547.079	8.5	ug/L	8369	Standard
	Be	9	10.0	100.0	**-0.0027**	0.007	243.0	ug/L	18	Standard
	Al	27	12098335.7	3.4	**135.4737**	4.258	3.1	ug/L	215	Standard
>	**Sc**	45	38547.4	4.2				ug/L	53004	Standard
	Ti	47	39.3	2.9	**0.0335**	0.002	7.1	ug/L	26	Standard
	V	51	3385.4	2.5	**0.0800**	0.014	16.9	ug/L	3223	Standard
	Cr	52	8747.5	1.8	**0.0543**	0.050	92.8	ug/L	10379	Standard
	Cr	53	218.3	17.3	**0.0830**	0.032	38.3	ug/L	192	Standard
	Mn	55	537009.6	1.1	**37.5978**	0.938	2.5	ug/L	1840	Standard
	Co	59	998.7	2.4	**0.0756**	0.003	3.9	ug/L	115	Standard
	Ni	60	31329.4	2.3	**13.2587**	0.316	2.4	ug/L	75	Standard
	Cu	65	709.7	8.4	**0.2540**	0.015	6.0	ug/L	155	Standard
	Zn	66	15562.3	23.3	**13.5613**	2.756	20.3	ug/L	237	Standard
>	**Ge**	72	340037.6	3.6				ug/L	413856	Standard
	As	75	75.2	70.7	**0.2020**	0.043	21.1	ug/L	-197	Standard
	Se	82	551.1	6.7	**5.1796**	0.248	4.8	ug/L	-5	Standard
	Se-1	77	511.7	2.0	**5.3754**	0.320	6.0	ug/L	105	Standard
>	**Ga**	71	170.0	18.4				mg/L	225	Standard
	Rb	85	1893.5	2.8				ug/L	28	Standard
	Y	89	255876.4	4.0				ug/L	322845	Standard
>	**Rh**	103	111.7	13.7				ug/L	92	Standard
	Mo	98	982.3	0.5	**0.2420**	0.004	1.7	ug/L	18	Standard
	Ag	107	41.7	14.1	**-0.0018**	0.001	47.8	ug/L	63	Standard
	Cd	111	28.2	10.3	**-0.0017**	0.001	65.4	mg/L	20	Standard
	Cd	114	80.9	11.1	**0.0007**	0.001	154.0	ug/L	56	Standard
>	**In**	115	571814.9	2.1				ug/L	657102	Standard
	Sn	118	339.3	11.2	**-0.0102**	0.005	46.1	ug/L	555	Standard
	Sb	123	119.3	13.5	**0.0146**	0.002	13.8	ug/L	62	Standard
	Ba	135	14834.9	3.4	**4.9877**	0.121	2.4	ug/L	19	Standard
	Ce	140	49.0	2.0				ug/L	24	Standard
>	**Tb**	159	823460.0	1.2				ug/L	910514	Standard
	Ho	165	10.3	14.8				ug/L	7	Standard
	Tl	203	164.3	10.6	**0.0100**	0.001	12.3	ug/L	13	Standard
	Tl	205	3.0	57.7	**0.0095**	0.005	50.6	ug/L	1	Standard
	Pb	206	348.3	7.3	**0.0033**	0.002	73.3	ug/L	342	Standard
	Pb	207	287.3	4.1	**-0.0010**	0.001	143.3	ug/L	284	Standard
	Pb	208	1300.4	3.8	**-0.0002**	0.001	701.8	ug/L	1363	Standard
	U	238	2758.3	4.4	**0.2917**	0.008	2.6	ug/L	2	Standard
>	**Bi**	209	440959.3	1.8				ug/L	470592	Standard

Sample ID: L1211025102
Report Date/Time: Sunday, November 18, 2012 15:11:23
Page 1

Approved: November 19, 2012



⌈	**Na**	23	3.3	173.2	**0.4218**	0.722	171.2	mg/L	2	Standard
|	**Mg**	24	167957.7	2.1	**0.1105**	0.002	2.3	mg/L	5586	Standard
|	**K**	39	33.3	31.2	**0.5861**	0.217	37.0	mg/L	5	Standard
|	**Ca**	43	546.7	6.6	**29.8569**	3.357	11.2	mg/L	45	Standard
|	**Fe**	54	165.0	10.6	**-0.0664**	0.007	10.9	mg/L	350	Standard
|	**Fe**	57	228.3	5.5	**0.3656**	0.039	10.7	mg/L	102	Standard
⌊>	**Sc-1**	45	38547.4	4.2				mg/L	53004	Standard
	Cl	35	5.0	52.9				ug/L	2	Standard
	Kr	83	147.7	4.5				ug/L	157	Standard
	Br	81	0.8	173.2				ug/L	3	Standard
	P	31	49968.1	2.9				ug/L	91588	Standard
	S	34	29569.7	0.9				ug/L	32556	Standard
	Sr	88	213.3	4.9				ug/L	62	Standard
	C	12	216.7	8.1				mg/L	133	Standard
	N	14	3.3	86.6				mg/L	0	Standard
	Hg	202	1.7	173.2				mg/L	7	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		82.163	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: L1211025102
Report Date/Time: Sunday, November 18, 2012 15:11:23
Page 2

Approved: November 19, 2012

⌈	Mo	98		
|	Ag	107		
|	Cd	111		
|	Cd	114		
|>	In	115		87.021
|	Sn	118		
|	Sb	123		
⌊	Ba	135		
⌈	Ce	140		
⌊>	Tb	159		
⌈	Ho	165		
|	Tl	203		
|	Tl	205		
|	Pb	206		
|	Pb	207		
|	Pb	208		
|	U	238		
⌊>	Bi	209		93.703
⌈	Na	23		
|	Mg	24		
|	K	39		
|	Ca	43		
|	Fe	54		
|	Fe	57		
⌊>	Sc-1	45		
	Cl	35		
	Kr	83		
	Br	81		
	P	31		
	S	34		
	Sr	88		
	C	12		
	N	14		
	Hg	202		

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: L1211025102
Report Date/Time: Sunday, November 18, 2012 15:11:23
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

Sample ID: L1211025104
Sample Date/Time: Sunday, November 18, 2012 15:12:04
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	11476.0	3.9	**-2873.3403**	305.473	10.6	ug/L	8369	Standard
	Be	9	10.0	86.6	**-0.0036**	0.005	148.0	ug/L	18	Standard
	Al	27	772097.0	5.2	**7.4692**	0.265	3.5	ug/L	215	Standard
>	**Sc**	45	44599.0	4.9				ug/L	53004	Standard
	Ti	47	250.3	3.1	**0.4664**	0.038	8.2	ug/L	26	Standard
	V	51	3910.5	3.1	**0.0881**	0.006	7.1	ug/L	3223	Standard
	Cr	52	11959.4	3.5	**0.2584**	0.018	6.8	ug/L	10379	Standard
	Cr	53	345.8	3.4	**0.1611**	0.010	6.1	ug/L	192	Standard
	Mn	55	57803.6	8.6	**3.4991**	0.145	4.1	ug/L	1840	Standard
	Co	59	313.0	11.7	**0.0097**	0.002	18.2	ug/L	115	Standard
	Ni	60	4116.9	7.5	**1.5106**	0.059	3.9	ug/L	75	Standard
	Cu	65	842.7	6.2	**0.2705**	0.011	4.1	ug/L	155	Standard
	Zn	66	6081.2	6.4	**4.5837**	0.073	1.6	ug/L	237	Standard
>	**Ge**	72	383801.0	4.9				ug/L	413856	Standard
	As	75	-95.8	58.7	**0.0694**	0.041	58.5	ug/L	-197	Standard
	Se	82	69.9	14.0	**0.5883**	0.091	15.5	ug/L	-5	Standard
	Se-1	77	170.7	5.4	**0.9020**	0.177	19.6	ug/L	105	Standard
>	**Ga**	71	218.3	25.2				mg/L	225	Standard
	Rb	85	1050.0	15.0				ug/L	28	Standard
	Y	89	291146.1	6.9				ug/L	322845	Standard
>	**Rh**	103	86.7	27.3				ug/L	92	Standard
	Mo	98	313.9	5.0	**0.0650**	0.003	4.1	ug/L	18	Standard
	Ag	107	94.0	15.7	**0.0047**	0.002	47.0	ug/L	63	Standard
	Cd	111	68.0	8.9	**0.0097**	0.001	14.4	mg/L	20	Standard
	Cd	114	168.0	11.1	**0.0101**	0.001	14.4	ug/L	56	Standard
>	**In**	115	621769.0	3.7				ug/L	657102	Standard
	Sn	118	570.7	2.0	**0.0113**	0.002	20.6	ug/L	555	Standard
	Sb	123	155.4	11.7	**0.0180**	0.002	9.6	ug/L	62	Standard
	Ba	135	1639.1	6.7	**0.4886**	0.016	3.2	ug/L	19	Standard
	Ce	140	401.3	11.4				ug/L	24	Standard
>	**Tb**	159	887224.9	4.4				ug/L	910514	Standard
	Ho	165	19.3	11.9				ug/L	7	Standard
	Tl	203	66.3	6.3	**0.0016**	0.000	10.5	ug/L	13	Standard
	Tl	205	1.7	173.2	**0.0054**	0.007	132.0	ug/L	1	Standard
	Pb	206	979.0	7.7	**0.0629**	0.004	6.6	ug/L	342	Standard
	Pb	207	797.4	7.5	**0.0557**	0.004	7.1	ug/L	284	Standard
	Pb	208	3743.2	5.6	**0.0584**	0.003	4.3	ug/L	1363	Standard
	U	238	134.3	17.4	**0.0119**	0.002	15.8	ug/L	2	Standard
>	**Bi**	209	467813.9	3.3				ug/L	470592	Standard

Sample ID: L1211025104
Report Date/Time: Sunday, November 18, 2012 15:14:36
Page 1

Approved: November 19, 2012

	Na	23	0.0		**0.0050**	0.000	0.0	mg/L	2	Standard
	Mg	24	92966.5	4.9	**0.0513**	0.003	5.0	mg/L	5586	Standard
	K	39	23.3	49.5	**0.3365**	0.189	56.1	mg/L	5	Standard
	Ca	43	53.3	10.8	**0.4713**	0.316	67.0	mg/L	45	Standard
	Fe	54	418.7	13.8	**0.0379**	0.026	69.1	mg/L	350	Standard
	Fe	57	115.0	32.8	**0.0859**	0.066	76.8	mg/L	102	Standard
>	**Sc-1**	45	44599.0	4.9				mg/L	53004	Standard
	Cl	35	4.7	44.6				ug/L	2	Standard
	Kr	83	168.6	7.1				ug/L	157	Standard
	Br	81	5.0	100.0				ug/L	3	Standard
	P	31	104386.8	1.9				ug/L	91588	Standard
	S	34	30889.8	1.0				ug/L	32556	Standard
	Sr	88	90.0	9.6				ug/L	62	Standard
	C	12	215.0	27.4				mg/L	133	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	10.0	86.6				mg/L	7	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		92.738	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			
	Y	89			
>	Rh	103			

Sample ID: L1211025104
Report Date/Time: Sunday, November 18, 2012 15:14:36
Page 2

Approved: November 19, 2012

	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	94.623
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	99.410
	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	
	C	12	
	N	14	
	Hg	202	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: L1211025104
Report Date/Time: Sunday, November 18, 2012 15:14:36
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

Sample ID: L1211025105
Sample Date/Time: Sunday, November 18, 2012 15:15:16
Number of Replicates: 3
Autosampler Position: 316
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	63077.7	2.3	**-37312.6569**	554.656	1.5	ug/L	8369	Standard
	Be	9	25.0	60.0	**0.0050**	0.009	175.3	ug/L	18	Standard
	Al	27	81415249.3	5.1	**798.4572**	39.882	5.0	ug/L	215	Standard
>	Sc	45	43993.8	2.0				ug/L	53004	Standard
	Ti	47	521.3	3.8	**1.0849**	0.042	3.8	ug/L	26	Standard
	V	51	10236.4	1.6	**0.7069**	0.024	3.4	ug/L	3223	Standard
	Cr	52	13886.7	2.2	**0.5111**	0.018	3.6	ug/L	10379	Standard
	Cr	53	855.0	6.3	**0.5911**	0.045	7.6	ug/L	192	Standard
	Mn	55	4172483.0	3.1	**271.4096**	7.697	2.8	ug/L	1840	Standard
	Co	59	6396.0	0.3	**0.5258**	0.007	1.3	ug/L	115	Standard
	Ni	60	211537.0	1.4	**83.2081**	1.231	1.5	ug/L	75	Standard
	Cu	65	4140.6	0.7	**1.6306**	0.029	1.7	ug/L	155	Standard
	Zn	66	26934.9	3.4	**21.9938**	0.638	2.9	ug/L	237	Standard
>	Ge	72	366517.7	1.0				ug/L	413856	Standard
	As	75	828.6	9.4	**0.7849**	0.067	8.6	ug/L	-197	Standard
	Se	82	3431.4	0.5	**29.9049**	0.236	0.8	ug/L	-5	Standard
	Se-1	77	2637.6	3.2	**29.3701**	0.743	2.5	ug/L	105	Standard
>	Ga	71	361.7	10.5				mg/L	225	Standard
	Rb	85	13334.2	3.9				ug/L	28	Standard
	Y	89	283183.8	1.2				ug/L	322845	Standard
>	Rh	103	238.3	6.4				ug/L	92	Standard
	Mo	98	6187.8	4.1	**1.4859**	0.055	3.7	ug/L	18	Standard
	Ag	107	98.0	19.4	**0.0056**	0.003	45.6	ug/L	63	Standard
	Cd	111	132.6	16.3	**0.0308**	0.006	21.0	mg/L	20	Standard
	Cd	114	381.6	2.8	**0.0364**	0.002	4.4	ug/L	56	Standard
>	In	115	604089.4	1.0				ug/L	657102	Standard
	Sn	118	721.7	4.5	**0.0295**	0.003	10.2	ug/L	555	Standard
	Sb	123	545.8	7.3	**0.0729**	0.006	8.1	ug/L	62	Standard
	Ba	135	93361.9	3.1	**29.8116**	0.783	2.6	ug/L	19	Standard
	Ce	140	3774.1	3.6				ug/L	24	Standard
>	Tb	159	877146.9	1.5				ug/L	910514	Standard
	Ho	165	143.7	16.5				ug/L	7	Standard
	Tl	203	358.7	11.9	**0.0267**	0.004	14.6	ug/L	13	Standard
	Tl	205	12.3	16.9	**0.0354**	0.005	15.1	ug/L	1	Standard
	Pb	206	1209.7	2.0	**0.0945**	0.002	2.0	ug/L	342	Standard
	Pb	207	1010.4	5.0	**0.0891**	0.005	6.0	ug/L	284	Standard
	Pb	208	4744.0	2.6	**0.0922**	0.004	4.1	ug/L	1363	Standard
	U	238	17970.3	3.1	**1.9358**	0.077	4.0	ug/L	2	Standard
>	Bi	209	435039.2	1.3				ug/L	470592	Standard

Sample ID: L1211025105
Report Date/Time: Sunday, November 18, 2012 15:17:48
Page 1

Approved: November 19, 2012

	Na	23	11.7	24.7	**1.2774**	0.329	25.7	mg/L	2	Standard
	Mg	24	392837.6	0.7	**0.2294**	0.005	2.1	mg/L	5586	Standard
	K	39	106.7	17.7	**1.7052**	0.302	17.7	mg/L	5	Standard
	Ca	43	2845.3	5.9	**143.6666**	7.824	5.4	mg/L	45	Standard
	Fe	54	543.7	5.6	**0.0984**	0.017	17.6	mg/L	350	Standard
	Fe	57	1168.4	6.9	**2.0813**	0.113	5.4	mg/L	102	Standard
>	**Sc-1**	45	43993.8	2.0				mg/L	53004	Standard
	Cl	35	6.3	32.9				ug/L	2	Standard
	Kr	83	184.7	1.6				ug/L	157	Standard
	Br	81	8.3	45.8				ug/L	3	Standard
	P	31	138020.8	0.4				ug/L	91588	Standard
	S	34	34394.0	4.1				ug/L	32556	Standard
	Sr	88	1166.7	2.6				ug/L	62	Standard
	C	12	440.0	2.3				mg/L	133	Standard
	N	14	1.7	173.2				mg/L	0	Standard
	Hg	202	6.7	86.6				mg/L	7	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		88.562	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			
	Y	89			
>	Rh	103			

Sample ID: L1211025105
Report Date/Time: Sunday, November 18, 2012 15:17:48
Page 2

Approved: November 19, 2012

⌈	Mo	98		
|	Ag	107		
|	Cd	111		
|	Cd	114		
| >	In	115		91.932
|	Sn	118		
|	Sb	123		
⌊	Ba	135		
⌈	Ce	140		
⌊ >	Tb	159		
⌈	Ho	165		
|	Tl	203		
|	Tl	205		
|	Pb	206		
|	Pb	207		
|	Pb	208		
|	U	238		
⌊ >	Bi	209		92.445
⌈	Na	23		
|	Mg	24		
|	K	39		
|	Ca	43		
|	Fe	54		
|	Fe	57		
⌊ >	Sc-1	45		
	Cl	35		
	Kr	83		
	Br	81		
	P	31		
	S	34		
	Sr	88		
	C	12		
	N	14		
	Hg	202		

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Mn 55 Upper, S, EEE	Mn	55	

Sample ID: L1211025105
Report Date/Time: Sunday, November 18, 2012 15:17:48
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

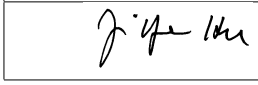
Sample ID: L1211025104
Sample Date/Time: Sunday, November 18, 2012 15:18:28
Number of Replicates: 3
Autosampler Position: 317
Sample Description: 50
Method File: C:\NexION Data\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
	Li	7	7510.2	5.4	**-1328.1281**	369.027	27.8	ug/L	8369	Standard
	Be	9	11.7	107.9	**-0.0012**	0.009	743.9	ug/L	18	Standard
	Al	27	35248.3	45.8	**0.4188**	0.205	48.9	ug/L	215	Standard
>	Sc	45	36719.5	5.1				ug/L	53004	Standard
	Ti	47	17.7	16.3	**-0.0162**	0.007	43.9	ug/L	26	Standard
	V	51	2914.5	2.5	**0.0428**	0.005	10.6	ug/L	3223	Standard
	Cr	52	8924.6	3.2	**0.1102**	0.027	24.8	ug/L	10379	Standard
	Cr	53	145.0	11.3	**0.0233**	0.016	67.9	ug/L	192	Standard
	Mn	55	2685.9	26.6	**0.1064**	0.050	47.1	ug/L	1840	Standard
	Co	59	81.7	29.4	**-0.0078**	0.002	30.6	ug/L	115	Standard
	Ni	60	296.0	13.0	**0.0947**	0.015	16.2	ug/L	75	Standard
	Cu	65	188.0	7.0	**0.0282**	0.006	21.1	ug/L	155	Standard
	Zn	66	1267.4	4.3	**0.9692**	0.057	5.9	ug/L	237	Standard
>	Ge	72	327603.3	1.5				ug/L	413856	Standard
	As	75	-170.8	29.7	**-0.0083**	0.042	508.4	ug/L	-197	Standard
	Se	82	-4.2	479.1	**-0.0335**	0.195	581.3	ug/L	-5	Standard
	Se-1	77	103.0	8.5	**0.3485**	0.131	37.6	ug/L	105	Standard
>	Ga	71	126.7	9.1				mg/L	225	Standard
	Rb	85	48.3	48.9				ug/L	28	Standard
	Y	89	242612.1	0.9				ug/L	322845	Standard
>	Rh	103	76.7	10.0				ug/L	92	Standard
	Mo	98	15.7	11.8	**-0.0045**	0.001	12.7	ug/L	18	Standard
	Ag	107	47.0	2.1	**-0.0008**	0.000	18.2	ug/L	63	Standard
	Cd	111	18.3	41.7	**-0.0048**	0.003	56.5	mg/L	20	Standard
	Cd	114	46.2	7.7	**-0.0035**	0.000	10.9	ug/L	56	Standard
>	In	115	551655.5	2.0				ug/L	657102	Standard
	Sn	118	290.7	3.4	**-0.0146**	0.002	11.6	ug/L	555	Standard
	Sb	123	23.4	48.1	**0.0006**	0.002	266.9	ug/L	62	Standard
	Ba	135	68.3	57.9	**0.0040**	0.014	347.4	ug/L	19	Standard
	Ce	140	25.3	36.7				ug/L	24	Standard
>	Tb	159	787730.7	0.5				ug/L	910514	Standard
	Ho	165	7.0	24.7				ug/L	7	Standard
	Tl	203	35.0	13.1	**-0.0007**	0.000	59.9	ug/L	13	Standard
	Tl	205	1.0	173.2	**0.0041**	0.005	118.8	ug/L	1	Standard
	Pb	206	320.0	2.8	**0.0012**	0.001	82.3	ug/L	342	Standard
	Pb	207	255.3	4.5	**-0.0041**	0.002	36.9	ug/L	284	Standard
	Pb	208	1224.0	1.4	**-0.0014**	0.001	40.6	ug/L	1363	Standard
	U	238	11.3	91.8	**-0.0003**	0.001	402.6	ug/L	2	Standard
>	Bi	209	429736.8	0.5				ug/L	470592	Standard

Sample ID: L1211025104
Report Date/Time: Sunday, November 18, 2012 15:21:00
Page 1

Approved: November 19, 2012



⌈	**Na**	23	1.7	173.2	**0.2107**	0.356	169.1	mg/L	2	Standard
|	**Mg**	24	3165.3	8.7	**-0.0007**	0.000	41.0	mg/L	5586	Standard
|	**K**	39	5.0	100.0	**0.0548**	0.093	169.9	mg/L	5	Standard
|	**Ca**	43	45.0	19.2	**0.5519**	0.653	118.3	mg/L	45	Standard
|	**Fe**	54	145.6	22.4	**-0.0732**	0.014	19.1	mg/L	350	Standard
|	**Fe**	57	108.3	2.7	**0.1177**	0.013	11.0	mg/L	102	Standard
⌊>	**Sc-1**	45	36719.5	5.1				mg/L	53004	Standard
	Cl	35	2.7	57.3				ug/L	2	Standard
	Kr	83	167.4	9.6				ug/L	157	Standard
	Br	81	6.7	108.3				ug/L	3	Standard
	P	31	36532.4	4.1				ug/L	91588	Standard
	S	34	30010.6	6.2				ug/L	32556	Standard
	Sr	88	75.0	24.0				ug/L	62	Standard
	C	12	180.0	5.6				mg/L	133	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	5.0	0.0				mg/L	7	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		79.159	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: L1211025104
Report Date/Time: Sunday, November 18, 2012 15:21:00
Page 2

Approved: November 19, 2012

⌈	Mo	98		
|	Ag	107		
|	Cd	111		
|	Cd	114		
|>	In	115		83.953
|	Sn	118		
|	Sb	123		
⌊	Ba	135		
⌈	Ce	140		
⌊>	Tb	159		
⌈	Ho	165		
|	Tl	203		
|	Tl	205		
|	Pb	206		
|	Pb	207		
|	Pb	208		
|	U	238		
⌊>	Bi	209		91.318
⌈	Na	23		
|	Mg	24		
|	K	39		
|	Ca	43		
|	Fe	54		
|	Fe	57		
⌊>	Sc-1	45		
	Cl	35		
	Kr	83		
	Br	81		
	P	31		
	S	34		
	Sr	88		
	C	12		
	N	14		
	Hg	202		

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: L1211025104
Report Date/Time: Sunday, November 18, 2012 15:21:00
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

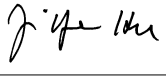
Sample ID: L1211025105
Sample Date/Time: Sunday, November 18, 2012 15:21:40
Number of Replicates: 3
Autosampler Position: 318
Sample Description: 50
Method File: C:\NexION Data\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
	Li	7	8213.9	2.2	**-1413.6492**	146.267	10.3	ug/L	8369	Standard
	Be	9	15.0	88.2	**0.0003**	0.009	3270.2	ug/L	18	Standard
	Al	27	1514369.2	1.5	**16.5149**	0.019	0.1	ug/L	215	Standard
>	**Sc**	45	39554.9	1.4				ug/L	53004	Standard
	Ti	47	27.0	35.3	**0.0049**	0.024	489.0	ug/L	26	Standard
	V	51	3000.1	4.4	**0.0420**	0.011	25.9	ug/L	3223	Standard
	Cr	52	9024.4	3.6	**0.0895**	0.036	40.4	ug/L	10379	Standard
	Cr	53	177.5	17.1	**0.0476**	0.023	48.7	ug/L	192	Standard
	Mn	55	76443.4	2.7	**5.3034**	0.147	2.8	ug/L	1840	Standard
	Co	59	221.3	10.4	**0.0048**	0.002	50.9	ug/L	115	Standard
	Ni	60	4489.0	5.5	**1.8792**	0.100	5.3	ug/L	75	Standard
	Cu	65	279.7	5.8	**0.0660**	0.005	7.1	ug/L	155	Standard
	Zn	66	2191.5	3.1	**1.7584**	0.070	4.0	ug/L	237	Standard
>	**Ge**	72	338153.9	2.4				ug/L	413856	Standard
	As	75	-133.2	44.9	**0.0284**	0.048	167.8	ug/L	-197	Standard
	Se	82	76.6	11.4	**0.7299**	0.098	13.4	ug/L	-5	Standard
	Se-1	77	158.0	4.4	**0.9940**	0.130	13.1	ug/L	105	Standard
>	**Ga**	71	180.0	12.1				mg/L	225	Standard
	Rb	85	260.0	3.3				ug/L	28	Standard
	Y	89	251416.6	3.0				ug/L	322845	Standard
>	**Rh**	103	85.0	15.6				ug/L	92	Standard
	Mo	98	122.3	9.6	**0.0232**	0.003	11.9	ug/L	18	Standard
	Ag	107	51.7	14.8	**-0.0002**	0.001	433.8	ug/L	63	Standard
	Cd	111	19.2	25.7	**-0.0046**	0.002	36.9	mg/L	20	Standard
	Cd	114	58.8	10.2	**-0.0019**	0.001	39.8	ug/L	56	Standard
>	**In**	115	559956.8	1.1				ug/L	657102	Standard
	Sn	118	281.0	6.3	**-0.0162**	0.002	13.4	ug/L	555	Standard
	Sb	123	32.1	26.0	**0.0019**	0.001	68.3	ug/L	62	Standard
	Ba	135	2032.5	4.1	**0.6810**	0.036	5.3	ug/L	19	Standard
	Ce	140	96.0	8.9				ug/L	24	Standard
>	**Tb**	159	812257.1	1.0				ug/L	910514	Standard
	Ho	165	10.0	43.6				ug/L	7	Standard
	Tl	203	56.0	4.7	**0.0010**	0.000	23.3	ug/L	13	Standard
	Tl	205	2.0	50.0	**0.0068**	0.003	41.0	ug/L	1	Standard
	Pb	206	425.3	5.6	**0.0112**	0.002	22.2	ug/L	342	Standard
	Pb	207	388.3	6.0	**0.0113**	0.003	22.7	ug/L	284	Standard
	Pb	208	1750.4	2.1	**0.0116**	0.001	4.9	ug/L	1363	Standard
	U	238	365.0	2.2	**0.0372**	0.001	3.3	ug/L	2	Standard
>	**Bi**	209	441601.7	0.9				ug/L	470592	Standard

Sample ID: L1211025105
Report Date/Time: Sunday, November 18, 2012 15:24:12
Page 1

Approved: November 19, 2012



⌈	**Na**	23	0.0		**0.0050**	0.000	0.0	mg/L	2	Standard
|	**Mg**	24	35521.6	2.5	**0.0204**	0.001	4.2	mg/L	5586	Standard
|	**K**	39	8.3	124.9	**0.1094**	0.187	170.8	mg/L	5	Standard
|	**Ca**	43	121.7	16.6	**4.7083**	1.143	24.3	mg/L	45	Standard
|	**Fe**	54	143.6	15.3	**-0.0796**	0.010	13.0	mg/L	350	Standard
|	**Fe**	57	126.7	4.6	**0.1384**	0.013	9.5	mg/L	102	Standard
⌊>	**Sc-1**	45	39554.9	1.4				mg/L	53004	Standard
	Cl	35	2.7	21.7				ug/L	2	Standard
	Kr	83	159.4	3.2				ug/L	157	Standard
	Br	81	5.0	50.0				ug/L	3	Standard
	P	31	36547.4	1.4				ug/L	91588	Standard
	S	34	32809.7	1.0				ug/L	32556	Standard
	Sr	88	73.3	37.6				ug/L	62	Standard
	C	12	138.3	7.5				mg/L	133	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	3.3	86.6				mg/L	7	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		81.708	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: L1211025105
Report Date/Time: Sunday, November 18, 2012 15:24:12
Page 2

Approved: November 19, 2012

	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	85.216
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	93.840
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: L1211025105
Report Date/Time: Sunday, November 18, 2012 15:24:12
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

Sample ID: QC Std 6
Sample Date/Time: Sunday, November 18, 2012 15:24:55
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	9256.2	8.7	**-1132.4981**	350.666	31.0	ug/L	8369	Standard
|	**Be**	9	107290.8	4.9	**58.5045**	0.928	1.6	ug/L	18	Standard
|	**Al**	27	6738711.7	3.5	**62.2643**	0.633	1.0	ug/L	215	Standard
⌊>	**Sc**	45	46690.2	3.3				ug/L	53004	Standard
⌈	**Ti**	47	45185.0	3.4	**92.9266**	4.119	4.4	ug/L	26	Standard
|	**V**	51	529471.8	1.8	**46.9731**	1.627	3.5	ug/L	3223	Standard
|	**Cr**	52	508713.8	3.2	**48.0849**	2.112	4.4	ug/L	10379	Standard
|	**Cr**	53	62974.8	1.7	**48.2641**	1.021	2.1	ug/L	192	Standard
|	**Mn**	55	805091.3	2.1	**49.0129**	1.490	3.0	ug/L	1840	Standard
|	**Co**	59	622546.0	2.9	**49.4049**	3.105	6.3	ug/L	115	Standard
|	**Ni**	60	133084.3	1.4	**49.0584**	1.719	3.5	ug/L	75	Standard
|	**Cu**	65	131479.4	1.7	**50.1928**	1.981	3.9	ug/L	155	Standard
|	**Zn**	66	65777.6	3.1	**50.6080**	2.068	4.1	ug/L	237	Standard
| >	**Ge**	72	391276.7	3.6				ug/L	413856	Standard
|	**As**	75	68200.0	2.7	**49.8637**	1.784	3.6	ug/L	-197	Standard
|	**Se**	82	5928.6	4.1	**48.4006**	1.400	2.9	ug/L	-5	Standard
⌊	**Se-1**	77	4652.4	3.5	**49.2033**	2.115	4.3	ug/L	105	Standard
⌈>	**Ga**	71	196.7	22.2				mg/L	225	Standard
⌊	**Rb**	85	1571.7	9.6				ug/L	28	Standard
⌈	**Y**	89	294009.6	3.9				ug/L	322845	Standard
⌊>	**Rh**	103	115.0	7.5				ug/L	92	Standard
⌈	**Mo**	98	405933.4	2.5	**93.8951**	3.050	3.2	ug/L	18	Standard
|	**Ag**	107	385089.9	3.1	**50.6277**	1.619	3.2	ug/L	63	Standard
|	**Cd**	111	165218.1	2.4	**50.1823**	1.564	3.1	mg/L	20	Standard
|	**Cd**	114	433089.6	2.9	**49.9822**	1.765	3.5	ug/L	56	Standard
| >	**In**	115	630961.7	1.9				ug/L	657102	Standard
|	**Sn**	118	489610.5	4.9	**51.1982**	2.583	5.0	ug/L	555	Standard
|	**Sb**	123	380543.8	2.2	**50.6203**	1.681	3.3	ug/L	62	Standard
⌊	**Ba**	135	162245.4	3.4	**49.6364**	2.193	4.4	ug/L	19	Standard
⌈	**Ce**	140	492.3	4.8				ug/L	24	Standard
⌊>	**Tb**	159	895766.3	2.2				ug/L	910514	Standard
⌈	**Ho**	165	436.7	4.8				ug/L	7	Standard
|	**Tl**	203	634836.6	2.2	**49.8725**	0.948	1.9	ug/L	13	Standard
|	**Tl**	205	19704.1	1.5	**50.7435**	0.959	1.9	ug/L	1	Standard
|	**Pb**	206	510550.4	3.0	**50.0401**	1.789	3.6	ug/L	342	Standard
|	**Pb**	207	435772.8	2.7	**50.2315**	1.462	2.9	ug/L	284	Standard
|	**Pb**	208	2007945.4	3.1	**49.8573**	1.787	3.6	ug/L	1363	Standard
|	**U**	238	507427.9	3.5	**50.9127**	1.977	3.9	ug/L	2	Standard
⌊>	**Bi**	209	467362.9	1.1				ug/L	470592	Standard

Sample ID: QC Std 6
Report Date/Time: Sunday, November 18, 2012 15:27:26
Page 1

Approved: November 19, 2012

⌈	**Na**	23	1.7	173.2	**0.1807**	0.304	168.4	mg/L	2	Standard
|	**Mg**	24	303083.8	2.1	**0.1660**	0.002	1.3	mg/L	5586	Standard
|	**K**	39	323.3	2.4	**4.9563**	0.281	5.7	mg/L	5	Standard
|	**Ca**	43	126.7	12.7	**3.8959**	0.826	21.2	mg/L	45	Standard
|	**Fe**	54	12301.6	4.4	**5.2130**	0.213	4.1	mg/L	350	Standard
|	**Fe**	57	2970.3	5.3	**5.1675**	0.232	4.5	mg/L	102	Standard
⌊>	**Sc-1**	45	46690.2	3.3				mg/L	53004	Standard
	Cl	35	2.7	57.3				ug/L	2	Standard
	Kr	83	184.2	5.1				ug/L	157	Standard
	Br	81	4.2	69.3				ug/L	3	Standard
	P	31	113844.5	1.1				ug/L	91588	Standard
	S	34	35010.4	2.2				ug/L	32556	Standard
	Sr	88	75.0	26.7				ug/L	62	Standard
	C	12	161.7	3.6				mg/L	133	Standard
	N	14	1.7	173.2				mg/L	0	Standard
	Hg	202	5.0	0.0				mg/L	7	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈	Li	7			
|	Be	9	117.009		
|	Al	27	124.529		
⌊>	Sc	45			
⌈	Ti	47	92.927		
|	V	51	93.946		
|	Cr	52	96.170		
|	Cr	53			
|	Mn	55	98.026		
|	Co	59	98.810		
|	Ni	60	98.117		
|	Cu	65	100.386		
|	Zn	66	101.216		
\>	Ge	72		94.544	
|	As	75	99.727		
|	Se	82	96.801		
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: QC Std 6
Report Date/Time: Sunday, November 18, 2012 15:27:26
Page 2

Approved: November 19, 2012

	Mo	98	93.895	
	Ag	107	101.255	
	Cd	111	100.365	
	Cd	114		
>	In	115		96.022
	Sn	118	102.396	
	Sb	123	101.241	
	Ba	135	99.273	
	Ce	140		
>	Tb	159		
	Ho	165		
	Tl	203	99.745	
	Tl	205		
	Pb	206	100.080	
	Pb	207	100.463	
	Pb	208	99.715	
	U	238	101.825	
>	Bi	209		99.314
	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		
	C	12		
	N	14		
	Hg	202		

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 6	Be	9	
QC Std 6	Al	27	

Sample ID: QC Std 6
Report Date/Time: Sunday, November 18, 2012 15:27:26
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

Sample ID: QC Std 7
Sample Date/Time: Sunday, November 18, 2012 15:28:07
Number of Replicates: 3
Autosampler Position: 102
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	8150.5	5.6	**-732.0396**	447.940	61.2	ug/L	8369	Standard
|	**Be**	9	16.7	91.7	**0.0000**	0.009795	866.2	ug/L	18	Standard
|	**Al**	27	1650.2	139.9	**0.0134**	0.021	160.3	ug/L	215	Standard
⌊>	**Sc**	45	44276.3	3.9				ug/L	53004	Standard
⌈	**Ti**	47	15.7	54.3	**-0.0266**	0.017	64.5	ug/L	26	Standard
|	**V**	51	2610.6	1.3	**-0.0276**	0.004	15.0	ug/L	3223	Standard
|	**Cr**	52	8229.9	2.2	**-0.0994**	0.006	6.3	ug/L	10379	Standard
|	**Cr**	53	128.3	27.7	**-0.0085**	0.027	315.3	ug/L	192	Standard
|	**Mn**	55	1391.1	7.3	**-0.0016**	0.004	230.8	ug/L	1840	Standard
|	**Co**	59	95.7	36.6	**-0.0078**	0.003	33.4	ug/L	115	Standard
|	**Ni**	60	83.0	48.4	**-0.0042**	0.014	333.1	ug/L	75	Standard
|	**Cu**	65	244.7	21.2	**0.0384**	0.017	45.1	ug/L	155	Standard
|	**Zn**	66	256.3	12.4	**0.0040**	0.019	474.3	ug/L	237	Standard
|>	**Ge**	72	379751.4	2.9				ug/L	413856	Standard
|	**As**	75	-164.9	8.6	**0.0163**	0.008	50.9	ug/L	-197	Standard
|	**Se**	82	2.9	305.4	**0.0309**	0.074	240.7	ug/L	-5	Standard
⌊	**Se-1**	77	107.0	4.7	**0.2111**	0.083	39.5	ug/L	105	Standard
⌈>	**Ga**	71	190.0	20.9				mg/L	225	Standard
⌊	**Rb**	85	30.0	76.4				ug/L	28	Standard
⌈	**Y**	89	281341.1	2.9				ug/L	322845	Standard
⌊>	**Rh**	103	106.7	10.8				ug/L	92	Standard
⌈	**Mo**	98	65.5	94.2	**0.0070**	0.014	207.4	ug/L	18	Standard
|	**Ag**	107	118.7	90.9	**0.0082**	0.014	173.8	ug/L	63	Standard
|	**Cd**	111	55.6	125.0	**0.0062**	0.021	347.2	mg/L	20	Standard
|	**Cd**	114	123.4	100.0	**0.0051**	0.014	281.3	ug/L	56	Standard
|>	**In**	115	602931.3	2.1				ug/L	657102	Standard
|	**Sn**	118	432.3	34.6	**-0.0023**	0.015	673.8	ug/L	555	Standard
|	**Sb**	123	309.6	60.6	**0.0398**	0.025	62.6	ug/L	62	Standard
⌊	**Ba**	135	35.0	94.1	**-0.0089**	0.010	114.8	ug/L	19	Standard
⌈	**Ce**	140	24.7	12.4				ug/L	24	Standard
⌊>	**Tb**	159	856401.5	2.1				ug/L	910514	Standard
⌈	**Ho**	165	8.7	6.7				ug/L	7	Standard
|	**Tl**	203	78.0	127.8	**0.0025**	0.008	307.0	ug/L	13	Standard
|	**Tl**	205	3.7	78.7	**0.0109**	0.007	67.1	ug/L	1	Standard
|	**Pb**	206	366.0	20.1	**0.0039**	0.007	168.0	ug/L	342	Standard
|	**Pb**	207	303.3	18.4	**-0.0002**	0.006	3429.7	ug/L	284	Standard
|	**Pb**	208	1394.7	18.1	**0.0011**	0.005	480.5	ug/L	1363	Standard
|	**U**	238	29.3	134.9	**0.0014**	0.004	274.9	ug/L	2	Standard
⌊>	**Bi**	209	453918.1	2.5				ug/L	470592	Standard

Sample ID: QC Std 7
Report Date/Time: Sunday, November 18, 2012 15:30:39
Page 1

Approved: November 19, 2012

⌈	**Na**	23	0.0		**0.0050**	0.000	0.0	mg/L	2	Standard
|	**Mg**	24	861.7	17.8	**-0.0024**	0.000	2.9	mg/L	5586	Standard
|	**K**	39	6.7	173.2	**0.0626**	0.180	287.6	mg/L	5	Standard
|	**Ca**	43	33.3	45.8	**-0.5231**	0.823	157.3	mg/L	45	Standard
|	**Fe**	54	347.2	13.1	**0.0067**	0.025	379.9	mg/L	350	Standard
|	**Fe**	57	103.3	14.8	**0.0662**	0.030	45.3	mg/L	102	Standard
⌊>	**Sc-1**	45	44276.3	3.9				mg/L	53004	Standard
	Cl	35	3.3	69.3				ug/L	2	Standard
	Kr	83	182.4	2.4				ug/L	157	Standard
	Br	81	7.5	33.3				ug/L	3	Standard
	P	31	106792.0	3.2				ug/L	91588	Standard
	S	34	32926.6	1.2				ug/L	32556	Standard
	Sr	88	61.7	16.9				ug/L	62	Standard
	C	12	130.0	17.6				mg/L	133	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	1.7	173.2				mg/L	7	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		91.759	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: QC Std 7
Report Date/Time: Sunday, November 18, 2012 15:30:39
Page 2

Approved: November 19, 2012

	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	91.756
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	96.457
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: QC Std 7
Report Date/Time: Sunday, November 18, 2012 15:30:39
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

Sample ID: L1211025106
Sample Date/Time: Sunday, November 18, 2012 15:31:21
Number of Replicates: 3
Autosampler Position: 319
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	59177.0	1.9	**-35566.7951**	1457.241	4.1	ug/L	8369	Standard
	Be	9	23.3	137.8	**0.0044**	0.019	432.3	ug/L	18	Standard
	Al	27	79422674.5	2.5	**795.8967**	38.663	4.9	ug/L	215	Standard
>	**Sc**	45	43086.2	2.5				ug/L	53004	Standard
	Ti	47	229.7	16.4	**0.4620**	0.072	15.7	ug/L	26	Standard
	V	51	8058.0	1.5	**0.5282**	0.022	4.1	ug/L	3223	Standard
	Cr	52	11188.5	2.5	**0.2770**	0.037	13.3	ug/L	10379	Standard
	Cr	53	466.7	4.8	**0.2869**	0.015	5.2	ug/L	192	Standard
	Mn	55	3908596.6	2.5	**263.7359**	6.967	2.6	ug/L	1840	Standard
	Co	59	6167.3	1.5	**0.5259**	0.010	1.9	ug/L	115	Standard
	Ni	60	204622.7	3.1	**83.4670**	1.311	1.6	ug/L	75	Standard
	Cu	65	3176.3	0.9	**1.2859**	0.033	2.6	ug/L	155	Standard
	Zn	66	23108.3	2.8	**19.5477**	0.078	0.4	ug/L	237	Standard
>	**Ge**	72	353421.3	2.7				ug/L	413856	Standard
	As	75	771.4	5.8	**0.7619**	0.022	2.9	ug/L	-197	Standard
	Se	82	3281.8	2.6	**29.6601**	0.119	0.4	ug/L	-5	Standard
	Se-1	77	2532.5	2.2	**29.2474**	0.158	0.5	ug/L	105	Standard
>	**Ga**	71	255.0	17.1				mg/L	225	Standard
	Rb	85	12094.8	1.4				ug/L	28	Standard
	Y	89	267321.0	0.6				ug/L	322845	Standard
>	**Rh**	103	203.3	30.5				ug/L	92	Standard
	Mo	98	5570.3	2.2	**1.3757**	0.021	1.5	ug/L	18	Standard
	Ag	107	48.7	8.3	**-0.0010**	0.001	51.0	ug/L	63	Standard
	Cd	111	68.0	19.0	**0.0110**	0.004	36.9	mg/L	20	Standard
	Cd	114	196.1	7.4	**0.0147**	0.002	11.5	ug/L	56	Standard
>	**In**	115	587073.8	0.8				ug/L	657102	Standard
	Sn	118	383.0	8.4	**-0.0063**	0.003	52.5	ug/L	555	Standard
	Sb	123	585.5	7.8	**0.0807**	0.006	7.4	ug/L	62	Standard
	Ba	135	92694.1	1.6	**30.4570**	0.251	0.8	ug/L	19	Standard
	Ce	140	1348.7	1.1				ug/L	24	Standard
>	**Tb**	159	859437.3	1.8				ug/L	910514	Standard
	Ho	165	34.0	17.6				ug/L	7	Standard
	Tl	203	519.7	35.9	**0.0421**	0.017	39.6	ug/L	13	Standard
	Tl	205	13.0	15.4	**0.0388**	0.006	15.8	ug/L	1	Standard
	Pb	206	1584.1	12.3	**0.1411**	0.022	15.9	ug/L	342	Standard
	Pb	207	1321.4	9.6	**0.1346**	0.017	12.7	ug/L	284	Standard
	Pb	208	6142.2	10.1	**0.1365**	0.018	13.2	ug/L	1363	Standard
	U	238	17319.9	2.3	**1.9437**	0.020	1.1	ug/L	2	Standard
>	**Bi**	209	417439.9	1.3				ug/L	470592	Standard

Sample ID: L1211025106
Report Date/Time: Sunday, November 18, 2012 15:33:52
Page 1

Approved: November 19, 2012

⌈	**Na**	23	6.7	43.3	**0.7417**	0.301	40.6	mg/L	2	Standard
|	**Mg**	24	387622.3	0.2	**0.2312**	0.006	2.7	mg/L	5586	Standard
|	**K**	39	85.0	11.8	**1.3784**	0.132	9.6	mg/L	5	Standard
|	**Ca**	43	2957.0	9.7	**152.9122**	18.754	12.3	mg/L	45	Standard
|	**Fe**	54	365.0	1.5	**0.0191**	0.005	25.4	mg/L	350	Standard
|	**Fe**	57	1218.4	6.9	**2.2258**	0.155	7.0	mg/L	102	Standard
⌊>	**Sc-1**	45	43086.2	2.5				mg/L	53004	Standard
	Cl	35	6.0	16.7				ug/L	2	Standard
	Kr	83	187.4	4.1				ug/L	157	Standard
	Br	81	4.2	34.6				ug/L	3	Standard
	P	31	131675.7	2.0				ug/L	91588	Standard
	S	34	33365.9	2.1				ug/L	32556	Standard
	Sr	88	1290.1	4.4				ug/L	62	Standard
	C	12	598.3	8.4				mg/L	133	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	5.0	0.0				mg/L	7	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		85.397	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: L1211025106
Report Date/Time: Sunday, November 18, 2012 15:33:52
Page 2

Approved: November 19, 2012

	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	89.343
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	88.705
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Mn 55 Upper, S, EEE	Mn	55	

Sample ID: L1211025106
Report Date/Time: Sunday, November 18, 2012 15:33:52
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

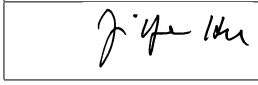
Sample ID: L1211025107
Sample Date/Time: Sunday, November 18, 2012 15:34:33
Number of Replicates: 3
Autosampler Position: 320
Sample Description: 1
Method File: C:\NexION Data\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
	Li	7	48877.3	7.6	**-28820.0119**	2071.856	7.2	ug/L	8369	Standard
	Be	9	28.3	10.2	**0.0074**	0.002	23.0	ug/L	18	Standard
	Al	27	62712407.7	8.9	**632.4966**	34.831	5.5	ug/L	215	Standard
>	**Sc**	45	42805.7	8.6				ug/L	53004	Standard
	Ti	47	641.0	7.2	**1.3335**	0.058	4.3	ug/L	26	Standard
	V	51	11368.1	7.6	**0.8036**	0.050	6.2	ug/L	3223	Standard
	Cr	52	14123.6	4.6	**0.5220**	0.040	7.6	ug/L	10379	Standard
	Cr	53	676.7	12.3	**0.4385**	0.046	10.5	ug/L	192	Standard
	Mn	55	3152010.3	7.2	**202.9343**	7.587	3.7	ug/L	1840	Standard
	Co	59	5233.9	7.9	**0.4229**	0.021	5.1	ug/L	115	Standard
	Ni	60	163525.1	7.7	**63.6566**	2.854	4.5	ug/L	75	Standard
	Cu	65	5549.4	7.4	**2.1820**	0.103	4.7	ug/L	155	Standard
	Zn	66	36733.3	6.1	**29.7744**	0.998	3.4	ug/L	237	Standard
>	**Ge**	72	369979.9	3.8				ug/L	413856	Standard
	As	75	656.2	21.1	**0.6448**	0.102	15.8	ug/L	-197	Standard
	Se	82	2554.3	7.8	**22.0359**	1.071	4.9	ug/L	-5	Standard
	Se-1	77	2073.5	5.6	**22.6483**	0.429	1.9	ug/L	105	Standard
>	**Ga**	71	313.3	11.3				mg/L	225	Standard
	Rb	85	10535.4	9.8				ug/L	28	Standard
	Y	89	284037.7	0.6				ug/L	322845	Standard
>	**Rh**	103	183.3	10.3				ug/L	92	Standard
	Mo	98	3373.8	8.8	**0.8150**	0.045	5.5	ug/L	18	Standard
	Ag	107	1100.7	1.0	**0.1452**	0.004	2.9	ug/L	63	Standard
	Cd	111	267.3	5.7	**0.0747**	0.006	8.6	mg/L	20	Standard
	Cd	114	718.0	10.1	**0.0779**	0.006	7.9	ug/L	56	Standard
>	**In**	115	597012.3	3.7				ug/L	657102	Standard
	Sn	118	573.7	3.2	**0.0141**	0.002	12.0	ug/L	555	Standard
	Sb	123	611.1	10.6	**0.0828**	0.006	7.4	ug/L	62	Standard
	Ba	135	60292.0	5.4	**19.4661**	0.339	1.7	ug/L	19	Standard
	Ce	140	4979.2	6.2				ug/L	24	Standard
>	**Tb**	159	875432.6	2.5				ug/L	910514	Standard
	Ho	165	300.0	0.9				ug/L	7	Standard
	Tl	203	354.3	5.9	**0.0262**	0.002	5.8	ug/L	13	Standard
	Tl	205	14.7	10.4	**0.0417**	0.004	8.9	ug/L	1	Standard
	Pb	206	2616.9	3.8	**0.2418**	0.006	2.3	ug/L	342	Standard
	Pb	207	2180.8	2.8	**0.2333**	0.008	3.3	ug/L	284	Standard
	Pb	208	10144.7	3.6	**0.2354**	0.005	2.0	ug/L	1363	Standard
	U	238	14179.0	7.2	**1.5210**	0.082	5.4	ug/L	2	Standard
>	**Bi**	209	436371.0	1.9				ug/L	470592	Standard

Sample ID: L1211025107
Report Date/Time: Sunday, November 18, 2012 15:37:06
Page 1

Approved: November 19, 2012



⌈	**Na**	23	11.7	89.2	**1.3779**	1.224	88.8	mg/L	2	Standard
|	**Mg**	24	348325.7	3.0	**0.2094**	0.012	5.7	mg/L	5586	Standard
|	**K**	39	66.7	4.3	**1.0879**	0.125	11.5	mg/L	5	Standard
|	**Ca**	43	2223.5	4.4	**115.2659**	5.935	5.1	mg/L	45	Standard
|	**Fe**	54	985.0	8.7	**0.3176**	0.061	19.2	mg/L	350	Standard
|	**Fe**	57	1113.4	3.2	**2.0506**	0.241	11.7	mg/L	102	Standard
⌊>	**Sc-1**	45	42805.7	8.6				mg/L	53004	Standard
	Cl	35	6.0	16.7				ug/L	2	Standard
	Kr	83	200.7	2.6				ug/L	157	Standard
	Br	81	3.3	114.6				ug/L	3	Standard
	P	31	123339.9	4.9				ug/L	91588	Standard
	S	34	31677.3	3.5				ug/L	32556	Standard
	Sr	88	906.7	8.6				ug/L	62	Standard
	C	12	665.0	7.3				mg/L	133	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	3.3	173.2				mg/L	7	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		89.398	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: L1211025107
Report Date/Time: Sunday, November 18, 2012 15:37:06
Page 2

Approved: November 19, 2012

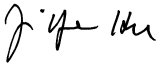
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	90.855
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	92.728
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Mn 55 Upper, S, EEE	Mn	55	

Sample ID: L1211025107
Report Date/Time: Sunday, November 18, 2012 15:37:06
Page 3

Approved: November 19, 2012



Method 6020 - Summary Report

Sample ID: L1211025108
Sample Date/Time: Sunday, November 18, 2012 15:37:46
Number of Replicates: 3
Autosampler Position: 321
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	56016.9	5.1	**-31319.0274**	2615.663	8.4	ug/L	8369	Standard
	Be	9	21.7	26.6	**0.0026**	0.003	118.1	ug/L	18	Standard
	Al	27	70406378.2	2.1	**666.4858**	36.501	5.5	ug/L	215	Standard
>	**Sc**	45	45652.1	5.1				ug/L	53004	Standard
	Ti	47	225.0	8.0	**0.4204**	0.032	7.6	ug/L	26	Standard
	V	51	8421.4	2.3	**0.5120**	0.026	5.1	ug/L	3223	Standard
	Cr	52	11291.9	2.4	**0.2124**	0.026	12.0	ug/L	10379	Standard
	Cr	53	420.8	6.2	**0.2257**	0.023	10.4	ug/L	192	Standard
	Mn	55	3352533.1	2.1	**212.0560**	6.761	3.2	ug/L	1840	Standard
	Co	59	6685.8	3.4	**0.5347**	0.023	4.3	ug/L	115	Standard
	Ni	60	185169.6	2.9	**70.8186**	2.444	3.5	ug/L	75	Standard
	Cu	65	3150.3	2.8	**1.1912**	0.038	3.2	ug/L	155	Standard
	Zn	66	19061.7	2.0	**15.0752**	0.462	3.1	ug/L	237	Standard
>	**Ge**	72	376983.8	1.3				ug/L	413856	Standard
	As	75	613.2	20.5	**0.6030**	0.089	14.8	ug/L	-197	Standard
	Se	82	2961.1	2.3	**25.0918**	0.666	2.7	ug/L	-5	Standard
	Se-1	77	2321.5	3.6	**24.9974**	0.994	4.0	ug/L	105	Standard
>	**Ga**	71	251.7	18.0				mg/L	225	Standard
	Rb	85	10743.8	3.5				ug/L	28	Standard
	Y	89	282489.6	1.8				ug/L	322845	Standard
>	**Rh**	103	220.0	8.2				ug/L	92	Standard
	Mo	98	3733.2	2.3	**0.8909**	0.031	3.4	ug/L	18	Standard
	Ag	107	74.3	4.7	**0.0023**	0.000	19.4	ug/L	63	Standard
	Cd	111	61.9	11.1	**0.0084**	0.002	24.1	mg/L	20	Standard
	Cd	114	192.8	13.4	**0.0136**	0.003	23.9	ug/L	56	Standard
>	**In**	115	605688.0	1.2				ug/L	657102	Standard
	Sn	118	552.7	5.7	**0.0109**	0.004	35.0	ug/L	555	Standard
	Sb	123	490.0	4.9	**0.0650**	0.004	5.4	ug/L	62	Standard
	Ba	135	62638.9	2.8	**19.9488**	0.775	3.9	ug/L	19	Standard
	Ce	140	160.0	7.4				ug/L	24	Standard
>	**Tb**	159	881939.3	1.6				ug/L	910514	Standard
	Ho	165	19.0	27.9				ug/L	7	Standard
	Tl	203	331.7	8.5	**0.0243**	0.003	12.4	ug/L	13	Standard
	Tl	205	11.7	30.1	**0.0333**	0.009	27.6	ug/L	1	Standard
	Pb	206	404.7	6.8	**0.0095**	0.002	22.1	ug/L	342	Standard
	Pb	207	339.7	4.2	**0.0058**	0.002	27.9	ug/L	284	Standard
	Pb	208	1558.7	5.4	**0.0069**	0.001	17.6	ug/L	1363	Standard
	U	238	15823.3	1.8	**1.6970**	0.068	4.0	ug/L	2	Standard
>	**Bi**	209	437070.9	2.5				ug/L	470592	Standard

Sample ID: L1211025108
Report Date/Time: Sunday, November 18, 2012 15:40:18
Page 1

Approved: November 19, 2012

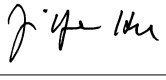
⌈	**Na**	23	11.7	49.5	**1.2224**	0.592	48.5	mg/L	2	Standard
|	**Mg**	24	371759.2	1.1	**0.2093**	0.012	5.9	mg/L	5586	Standard
|	**K**	39	96.7	21.5	**1.4896**	0.358	24.1	mg/L	5	Standard
|	**Ca**	43	2553.5	2.3	**124.0974**	4.298	3.5	mg/L	45	Standard
|	**Fe**	54	330.4	6.1	**-0.0061**	0.006	101.3	mg/L	350	Standard
|	**Fe**	57	998.4	8.0	**1.6975**	0.207	12.2	mg/L	102	Standard
⌊>	**Sc-1**	45	45652.1	5.1				mg/L	53004	Standard
	Cl	35	8.3	34.6				ug/L	2	Standard
	Kr	83	201.2	11.0				ug/L	157	Standard
	Br	81	6.7	108.3				ug/L	3	Standard
	P	31	133320.8	2.2				ug/L	91588	Standard
	S	34	33686.6	1.2				ug/L	32556	Standard
	Sr	88	1015.0	14.3				ug/L	62	Standard
	C	12	496.7	7.8				mg/L	133	Standard
	N	14	1.7	173.2				mg/L	0	Standard
	Hg	202	1.7	173.2				mg/L	7	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		91.091	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: L1211025108
Report Date/Time: Sunday, November 18, 2012 15:40:18
Page 2

Approved: November 19, 2012



⌈	Mo	98		
|	Ag	107		
|	Cd	111		
|	Cd	114		
|>	In	115		92.176
|	Sn	118		
|	Sb	123		
⌊	Ba	135		
⌈	Ce	140		
⌊>	Tb	159		
⌈	Ho	165		
|	Tl	203		
|	Tl	205		
|	Pb	206		
|	Pb	207		
|	Pb	208		
|	U	238		
⌊>	Bi	209		92.877
⌈	Na	23		
|	Mg	24		
|	K	39		
|	Ca	43		
|	Fe	54		
|	Fe	57		
⌊>	Sc-1	45		
	Cl	35		
	Kr	83		
	Br	81		
	P	31		
	S	34		
	Sr	88		
	C	12		
	N	14		
	Hg	202		

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Mn 55 Upper, S, EEE	Mn	55	

Sample ID: L1211025108
Report Date/Time: Sunday, November 18, 2012 15:40:18
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

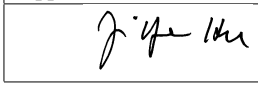
Sample ID: L1211025109
Sample Date/Time: Sunday, November 18, 2012 15:40:58
Number of Replicates: 3
Autosampler Position: 322
Sample Description: 1
Method File: C:\NexION Data\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
	Li	7	12229.9	2.3	**-2907.6309**	112.680	3.9	ug/L	8369	Standard
	Be	9	11.7	107.9	**-0.0031**	0.007	220.1	ug/L	18	Standard
	Al	27	1172055.0	7.2	**10.6924**	0.709	6.6	ug/L	215	Standard
>	Sc	45	47272.0	1.5				ug/L	53004	Standard
	Ti	47	145.3	13.5	**0.2292**	0.032	14.0	ug/L	26	Standard
	V	51	4251.6	5.0	**0.0991**	0.006	6.4	ug/L	3223	Standard
	Cr	52	12995.6	3.8	**0.2944**	0.007	2.3	ug/L	10379	Standard
	Cr	53	488.3	5.9	**0.2529**	0.015	5.8	ug/L	192	Standard
	Mn	55	72643.2	6.6	**4.1922**	0.155	3.7	ug/L	1840	Standard
	Co	59	327.3	11.4	**0.0095**	0.002	22.3	ug/L	115	Standard
	Ni	60	3733.8	5.1	**1.2956**	0.025	2.0	ug/L	75	Standard
	Cu	65	1108.7	6.5	**0.3519**	0.015	4.3	ug/L	155	Standard
	Zn	66	5464.7	5.0	**3.8812**	0.136	3.5	ug/L	237	Standard
>	Ge	72	404396.6	3.3				ug/L	413856	Standard
	As	75	-157.0	16.1	**0.0288**	0.021	73.4	ug/L	-197	Standard
	Se	82	86.7	6.7	**0.6914**	0.063	9.1	ug/L	-5	Standard
	Se-1	77	181.0	1.5	**0.9108**	0.084	9.3	ug/L	105	Standard
>	Ga	71	213.3	22.3				mg/L	225	Standard
	Rb	85	1211.7	6.4				ug/L	28	Standard
	Y	89	296664.6	4.3				ug/L	322845	Standard
>	Rh	103	95.0	22.9				ug/L	92	Standard
	Mo	98	244.4	15.6	**0.0465**	0.008	17.0	ug/L	18	Standard
	Ag	107	876.7	6.6	**0.1047**	0.006	6.0	ug/L	63	Standard
	Cd	111	59.4	27.7	**0.0064**	0.005	74.0	mg/L	20	Standard
	Cd	114	129.8	19.6	**0.0050**	0.003	53.8	ug/L	56	Standard
>	In	115	645972.6	2.0				ug/L	657102	Standard
	Sn	118	714.0	4.0	**0.0236**	0.003	13.7	ug/L	555	Standard
	Sb	123	94.8	18.8	**0.0094**	0.002	24.6	ug/L	62	Standard
	Ba	135	1870.8	6.5	**0.5388**	0.026	4.8	ug/L	19	Standard
	Ce	140	979.4	6.5				ug/L	24	Standard
>	Tb	159	924682.2	2.5				ug/L	910514	Standard
	Ho	165	36.3	22.2				ug/L	7	Standard
	Tl	203	134.0	12.7	**0.0065**	0.001	17.9	ug/L	13	Standard
	Tl	205	6.3	32.9	**0.0169**	0.005	28.9	ug/L	1	Standard
	Pb	206	699.0	5.0	**0.0330**	0.002	7.3	ug/L	342	Standard
	Pb	207	546.7	3.0	**0.0245**	0.001	4.5	ug/L	284	Standard
	Pb	208	2655.1	4.4	**0.0290**	0.002	5.3	ug/L	1363	Standard
	U	238	288.0	10.8	**0.0262**	0.002	9.4	ug/L	2	Standard
>	Bi	209	485967.5	2.0				ug/L	470592	Standard

Sample ID: L1211025109
Report Date/Time: Sunday, November 18, 2012 15:43:30
Page 1

Approved: November 19, 2012



⌈	**Na**	23	1.7	173.2	**0.1757**	0.296	168.3	mg/L	2	Standard
|	**Mg**	24	98358.4	9.4	**0.0512**	0.005	9.4	mg/L	5586	Standard
|	**K**	39	20.0	25.0	**0.2644**	0.080	30.3	mg/L	5	Standard
|	**Ca**	43	93.3	34.9	**2.2367**	1.598	71.4	mg/L	45	Standard
|	**Fe**	54	403.5	3.4	**0.0203**	0.004	21.6	mg/L	350	Standard
|	**Fe**	57	135.0	9.8	**0.1097**	0.025	23.1	mg/L	102	Standard
⌊>	**Sc-1**	45	47272.0	1.5				mg/L	53004	Standard
	Cl	35	1.3	114.6				ug/L	2	Standard
	Kr	83	190.9	5.0				ug/L	157	Standard
	Br	81	3.3	86.6				ug/L	3	Standard
	P	31	117337.2	4.0				ug/L	91588	Standard
	S	34	32776.3	1.7				ug/L	32556	Standard
	Sr	88	86.7	12.0				ug/L	62	Standard
	C	12	235.0	3.7				mg/L	133	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	3.3	86.6				mg/L	7	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		97.714	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: L1211025109
Report Date/Time: Sunday, November 18, 2012 15:43:30
Page 2

Approved: November 19, 2012

	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	98.306
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	103.267
	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	
	C	12	
	N	14	
	Hg	202	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: L1211025109
Report Date/Time: Sunday, November 18, 2012 15:43:30
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

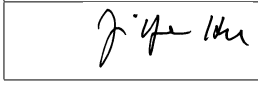
Sample ID: L1211025110
Sample Date/Time: Sunday, November 18, 2012 15:44:10
Number of Replicates: 3
Autosampler Position: 323
Sample Description: 1
Method File: C:\NexION Data\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
	Li	7	12223.3	9.2	**-2937.5838**	342.136	11.6	ug/L	8369	Standard
	Be	9	13.3	108.3	**-0.0025**	0.007	298.5	ug/L	18	Standard
	Al	27	1479387.2	5.5	**13.5743**	0.126	0.9	ug/L	215	Standard
>	**Sc**	45	46997.9	4.6				ug/L	53004	Standard
	Ti	47	220.3	6.3	**0.3944**	0.016	4.0	ug/L	26	Standard
	V	51	3883.9	4.3	**0.0796**	0.006	7.5	ug/L	3223	Standard
	Cr	52	12175.6	2.4	**0.2593**	0.010	4.0	ug/L	10379	Standard
	Cr	53	356.7	6.7	**0.1652**	0.025	14.9	ug/L	192	Standard
	Mn	55	82211.0	6.4	**4.9310**	0.156	3.2	ug/L	1840	Standard
	Co	59	656.7	2.9	**0.0367**	0.001	2.5	ug/L	115	Standard
	Ni	60	4880.5	8.7	**1.7658**	0.100	5.7	ug/L	75	Standard
	Cu	65	907.4	5.7	**0.2899**	0.019	6.5	ug/L	155	Standard
	Zn	66	4993.8	4.1	**3.6646**	0.095	2.6	ug/L	237	Standard
>	**Ge**	72	390311.5	3.3				ug/L	413856	Standard
	As	75	-178.7	5.0	**0.0094**	0.004	37.1	ug/L	-197	Standard
	Se	82	80.0	7.4	**0.6596**	0.029	4.4	ug/L	-5	Standard
	Se-1	77	184.0	10.4	**1.0066**	0.140	13.9	ug/L	105	Standard
>	**Ga**	71	170.0	20.6				mg/L	225	Standard
	Rb	85	1090.0	13.5				ug/L	28	Standard
	Y	89	288630.2	4.5				ug/L	322845	Standard
>	**Rh**	103	120.0	35.6				ug/L	92	Standard
	Mo	98	334.4	5.1	**0.0682**	0.002	2.4	ug/L	18	Standard
	Ag	107	152.7	7.3	**0.0121**	0.001	9.6	ug/L	63	Standard
	Cd	111	38.3	28.7	**0.0004**	0.004	861.9	mg/L	20	Standard
	Cd	114	100.4	13.4	**0.0019**	0.001	74.1	ug/L	56	Standard
>	**In**	115	634391.1	4.0				ug/L	657102	Standard
	Sn	118	692.3	6.3	**0.0226**	0.002	7.9	ug/L	555	Standard
	Sb	123	134.1	17.3	**0.0148**	0.003	21.8	ug/L	62	Standard
	Ba	135	1833.1	7.2	**0.5374**	0.021	3.9	ug/L	19	Standard
	Ce	140	113.0	14.9				ug/L	24	Standard
>	**Tb**	159	894937.6	2.9				ug/L	910514	Standard
	Ho	165	12.0	14.4				ug/L	7	Standard
	Tl	203	68.7	22.8	**0.0018**	0.001	64.8	ug/L	13	Standard
	Tl	205	2.0	100.0	**0.0065**	0.005	79.5	ug/L	1	Standard
	Pb	206	416.7	8.3	**0.0080**	0.002	29.3	ug/L	342	Standard
	Pb	207	336.0	9.5	**0.0028**	0.003	120.8	ug/L	284	Standard
	Pb	208	1611.0	2.9	**0.0057**	0.001	21.2	ug/L	1363	Standard
	U	238	235.3	3.5	**0.0222**	0.001	3.2	ug/L	2	Standard
>	**Bi**	209	465760.9	3.5				ug/L	470592	Standard

Sample ID: L1211025110
Report Date/Time: Sunday, November 18, 2012 15:46:42
Page 1

Approved: November 19, 2012



⌈	**Na**	23	3.3	86.6	**0.3390**	0.290	85.5	mg/L	2	Standard
|	**Mg**	24	106968.6	5.3	**0.0563**	0.001	1.7	mg/L	5586	Standard
|	**K**	39	46.7	48.3	**0.6786**	0.367	54.0	mg/L	5	Standard
|	**Ca**	43	98.3	7.8	**2.5052**	0.548	21.9	mg/L	45	Standard
|	**Fe**	54	423.5	14.8	**0.0295**	0.020	66.5	mg/L	350	Standard
|	**Fe**	57	133.3	17.7	**0.1070**	0.030	28.4	mg/L	102	Standard
⌊>	**Sc-1**	45	46997.9	4.6				mg/L	53004	Standard
	Cl	35	3.0	33.3				ug/L	2	Standard
	Kr	83	193.2	6.4				ug/L	157	Standard
	Br	81	6.7	94.4				ug/L	3	Standard
	P	31	113970.4	0.1				ug/L	91588	Standard
	S	34	33828.6	2.0				ug/L	32556	Standard
	Sr	88	105.0	14.3				ug/L	62	Standard
	C	12	213.3	19.5				mg/L	133	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	1.7	173.2				mg/L	7	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		94.311	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: L1211025110
Report Date/Time: Sunday, November 18, 2012 15:46:42
Page 2

Approved: November 19, 2012

⌈	Mo	98		
|	Ag	107		
|	Cd	111		
|	Cd	114		
|>	In	115		96.544
|	Sn	118		
|	Sb	123		
⌊	Ba	135		
⌈	Ce	140		
⌊>	Tb	159		
⌈	Ho	165		
|	Tl	203		
|	Tl	205		
|	Pb	206		
|	Pb	207		
|	Pb	208		
|	U	238		
⌊>	Bi	209		98.973
⌈	Na	23		
|	Mg	24		
|	K	39		
|	Ca	43		
|	Fe	54		
|	Fe	57		
⌊>	Sc-1	45		
	Cl	35		
	Kr	83		
	Br	81		
	P	31		
	S	34		
	Sr	88		
	C	12		
	N	14		
	Hg	202		

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: L1211025110
Report Date/Time: Sunday, November 18, 2012 15:46:42
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

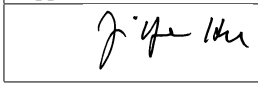
Sample ID: L1211025111
Sample Date/Time: Sunday, November 18, 2012 15:47:23
Number of Replicates: 3
Autosampler Position: 324
Sample Description: 1
Method File: C:\NexION Data\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
	Li	7	67238.9	1.7	**-39898.1767**	1456.342	3.7	ug/L	8369	Standard
	Be	9	41.7	42.1	**0.0145**	0.010	66.9	ug/L	18	Standard
	Al	27	93267398.4	1.2	**911.2589**	42.543	4.7	ug/L	215	Standard
>	**Sc**	45	44207.8	3.8				ug/L	53004	Standard
	Ti	47	1628.4	0.6	**3.7592**	0.076	2.0	ug/L	26	Standard
	V	51	20943.4	2.7	**1.8611**	0.023	1.2	ug/L	3223	Standard
	Cr	52	20019.2	3.6	**1.2806**	0.036	2.8	ug/L	10379	Standard
	Cr	53	1647.6	5.2	**1.3320**	0.055	4.1	ug/L	192	Standard
	Mn	55	5207200.1	4.7	**361.6299**	9.984	2.8	ug/L	1840	Standard
	Co	59	8651.5	3.9	**0.7662**	0.021	2.7	ug/L	115	Standard
	Ni	60	256560.7	4.7	**107.7448**	3.074	2.9	ug/L	75	Standard
	Cu	65	16610.1	4.1	**7.1720**	0.169	2.4	ug/L	155	Standard
	Zn	66	85895.9	2.7	**75.3893**	1.427	1.9	ug/L	237	Standard
>	**Ge**	72	343202.1	2.0				ug/L	413856	Standard
	As	75	1187.1	19.6	**1.1285**	0.212	18.8	ug/L	-197	Standard
	Se	82	3735.0	1.4	**34.7617**	0.212	0.6	ug/L	-5	Standard
	Se-1	77	2940.3	2.4	**35.1547**	0.390	1.1	ug/L	105	Standard
>	**Ga**	71	430.0	16.1				mg/L	225	Standard
	Rb	85	17022.9	4.6				ug/L	28	Standard
	Y	89	283019.1	1.3				ug/L	322845	Standard
>	**Rh**	103	265.0	1.9				ug/L	92	Standard
	Mo	98	4857.9	3.9	**1.2275**	0.036	2.9	ug/L	18	Standard
	Ag	107	1651.4	3.5	**0.2310**	0.006	2.6	ug/L	63	Standard
	Cd	111	866.2	4.7	**0.2783**	0.011	3.9	mg/L	20	Standard
	Cd	114	2186.7	3.1	**0.2681**	0.006	2.3	ug/L	56	Standard
>	**In**	115	573320.6	1.0				ug/L	657102	Standard
	Sn	118	1035.7	2.1	**0.0699**	0.001	1.8	ug/L	555	Standard
	Sb	123	813.8	8.3	**0.1161**	0.009	7.6	ug/L	62	Standard
	Ba	135	100052.4	2.4	**33.6640**	0.505	1.5	ug/L	19	Standard
	Ce	140	12140.5	2.8				ug/L	24	Standard
>	**Tb**	159	837500.1	0.6				ug/L	910514	Standard
	Ho	165	718.7	1.8				ug/L	7	Standard
	Tl	203	517.0	3.8	**0.0426**	0.002	3.7	ug/L	13	Standard
	Tl	205	17.0	29.4	**0.0513**	0.015	29.5	ug/L	1	Standard
	Pb	206	7559.6	2.0	**0.8116**	0.022	2.7	ug/L	342	Standard
	Pb	207	6317.3	2.4	**0.7940**	0.020	2.6	ug/L	284	Standard
	Pb	208	29265.7	1.4	**0.7939**	0.013	1.7	ug/L	1363	Standard
	U	238	21420.8	3.1	**2.4464**	0.061	2.5	ug/L	2	Standard
>	**Bi**	209	410257.1	1.0				ug/L	470592	Standard

Sample ID: L1211025111
Report Date/Time: Sunday, November 18, 2012 15:49:54
Page 1

Approved: November 19, 2012



	Na	23	10.0		**1.0894**	0.042	3.9	mg/L	2	Standard
	Mg	24	419780.7	2.1	**0.2442**	0.004	1.8	mg/L	5586	Standard
	K	39	111.7	31.4	**1.7849**	0.583	32.6	mg/L	5	Standard
	Ca	43	3285.4	5.5	**165.3719**	3.509	2.1	mg/L	45	Standard
	Fe	54	2626.5	6.7	**1.0556**	0.041	3.9	mg/L	350	Standard
	Fe	57	1918.5	4.5	**3.4843**	0.093	2.7	mg/L	102	Standard
>	**Sc-1**	45	44207.8	3.8				mg/L	53004	Standard
	Cl	35	7.3	20.8				ug/L	2	Standard
	Kr	83	195.2	4.5				ug/L	157	Standard
	Br	81	9.2	41.7				ug/L	3	Standard
	P	31	134428.9	2.0				ug/L	91588	Standard
	S	34	35199.2	2.0				ug/L	32556	Standard
	Sr	88	1343.4	2.5				ug/L	62	Standard
	C	12	748.4	5.2				mg/L	133	Standard
	N	14	1.7	173.2				mg/L	0	Standard
	Hg	202	15.0	33.3				mg/L	7	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		82.928	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			
	Y	89			
>	Rh	103			

Sample ID: L1211025111
Report Date/Time: Sunday, November 18, 2012 15:49:54
Page 2

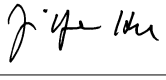
Approved: November 19, 2012

	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	87.250
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	87.179
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Mn 55 Upper, S, EEE	Mn	55	
Ni 60 Upper, S, EEE	Ni	60	

Approved: November 19, 2012



Method 6020 - Summary Report

Sample ID: L1211025112
Sample Date/Time: Sunday, November 18, 2012 15:50:35
Number of Replicates: 3
Autosampler Position: 325
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	54317.4	5.7	**-31666.5059**	1483.246	4.7	ug/L	8369	Standard
	Be	9	20.0	43.3	**0.0021**	0.005	221.0	ug/L	18	Standard
	Al	27	72462946.6	4.8	**714.1330**	10.291	1.4	ug/L	215	Standard
>	Sc	45	43764.8	3.6				ug/L	53004	Standard
	Ti	47	194.0	6.9	**0.3652**	0.025	6.9	ug/L	26	Standard
	V	51	8145.9	3.0	**0.5062**	0.026	5.2	ug/L	3223	Standard
	Cr	52	11193.5	2.2	**0.2322**	0.035	14.9	ug/L	10379	Standard
	Cr	53	451.7	11.9	**0.2591**	0.035	13.6	ug/L	192	Standard
	Mn	55	3435273.9	3.6	**222.9287**	6.003	2.7	ug/L	1840	Standard
	Co	59	6706.8	4.1	**0.5507**	0.016	2.9	ug/L	115	Standard
	Ni	60	192536.3	5.4	**75.5563**	3.756	5.0	ug/L	75	Standard
	Cu	65	3035.0	3.6	**1.1768**	0.026	2.2	ug/L	155	Standard
	Zn	66	14383.2	3.7	**11.6249**	0.292	2.5	ug/L	237	Standard
>	Ge	72	367349.7	2.3				ug/L	413856	Standard
	As	75	642.5	30.6	**0.6374**	0.146	23.0	ug/L	-197	Standard
	Se	82	3095.3	5.4	**26.9094**	1.172	4.4	ug/L	-5	Standard
	Se-1	77	2449.5	5.1	**27.1369**	0.958	3.5	ug/L	105	Standard
>	Ga	71	243.3	6.6				mg/L	225	Standard
	Rb	85	11199.1	3.1				ug/L	28	Standard
	Y	89	282493.1	1.9				ug/L	322845	Standard
>	Rh	103	221.7	7.3				ug/L	92	Standard
	Mo	98	3693.3	2.9	**0.8789**	0.008	0.9	ug/L	18	Standard
	Ag	107	75.7	7.3	**0.0025**	0.001	27.1	ug/L	63	Standard
	Cd	111	45.6	13.5	**0.0032**	0.002	65.3	mg/L	20	Standard
	Cd	114	142.0	7.0	**0.0074**	0.001	12.6	ug/L	56	Standard
>	In	115	607091.3	2.2				ug/L	657102	Standard
	Sn	118	660.3	4.3	**0.0224**	0.003	13.3	ug/L	555	Standard
	Sb	123	547.3	7.3	**0.0727**	0.005	6.6	ug/L	62	Standard
	Ba	135	66925.3	3.8	**21.2559**	0.423	2.0	ug/L	19	Standard
	Ce	140	216.7	15.0				ug/L	24	Standard
>	Tb	159	879193.9	1.7				ug/L	910514	Standard
	Ho	165	16.3	12.7				ug/L	7	Standard
	Tl	203	372.0	27.0	**0.0277**	0.008	30.5	ug/L	13	Standard
	Tl	205	13.3	48.8	**0.0381**	0.018	47.4	ug/L	1	Standard
	Pb	206	433.0	15.8	**0.0125**	0.007	56.8	ug/L	342	Standard
	Pb	207	356.0	9.0	**0.0079**	0.004	50.6	ug/L	284	Standard
	Pb	208	1681.4	11.1	**0.0103**	0.005	48.0	ug/L	1363	Standard
	U	238	16440.3	4.5	**1.7653**	0.082	4.6	ug/L	2	Standard
>	Bi	209	436312.7	0.3				ug/L	470592	Standard

Sample ID: L1211025112
Report Date/Time: Sunday, November 18, 2012 15:53:07
Page 1

Approved: November 19, 2012

⌈	**Na**	23	8.3	69.3	**0.9160**	0.627	68.5	mg/L	2	Standard
|	**Mg**	24	375064.6	1.6	**0.2201**	0.005	2.1	mg/L	5586	Standard
|	**K**	39	83.3	15.1	**1.3348**	0.240	18.0	mg/L	5	Standard
|	**Ca**	43	2675.2	12.7	**135.5084**	14.834	10.9	mg/L	45	Standard
|	**Fe**	54	421.3	6.1	**0.0429**	0.018	42.0	mg/L	350	Standard
|	**Fe**	57	1078.4	8.6	**1.9214**	0.124	6.5	mg/L	102	Standard
⌊>	**Sc-1**	45	43764.8	3.6				mg/L	53004	Standard
	Cl	35	5.7	10.2				ug/L	2	Standard
	Kr	83	205.4	3.1				ug/L	157	Standard
	Br	81	5.8	107.9				ug/L	3	Standard
	P	31	127976.8	2.6				ug/L	91588	Standard
	S	34	34313.8	1.5				ug/L	32556	Standard
	Sr	88	1083.4	9.4				ug/L	62	Standard
	C	12	536.7	10.3				mg/L	133	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	1.7	173.2				mg/L	7	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		88.763	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: L1211025112
Report Date/Time: Sunday, November 18, 2012 15:53:07
Page 2

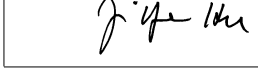
Approved: November 19, 2012

⌈	Mo	98		
|	Ag	107		
|	Cd	111		
|	Cd	114		
|>	In	115		92.389
|	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		92.716
⌈	Na	23		
|	Mg	24		
|	K	39		
|	Ca	43		
|	Fe	54		
|	Fe	57		
⌊>	Sc-1	45		
	Cl	35		
	Kr	83		
	Br	81		
	P	31		
	S	34		
	Sr	88		
	C	12		
	N	14		
	Hg	202		

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Mn 55 Upper, S, EEE	Mn	55	

Approved: November 19, 2012



Method 6020 - Summary Report

Sample ID: L1211033218
Sample Date/Time: Sunday, November 18, 2012 15:53:47
Number of Replicates: 3
Autosampler Position: 326
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	8399.0	8.4	**-1036.5904**	580.124	56.0	ug/L	8369	Standard
|	**Be**	9	10.0	100.0	**-0.0035**	0.006	170.4	ug/L	18	Standard
|	**Al**	27	15758.8	34.2	**0.1562**	0.058	36.9	ug/L	215	Standard
⌊>	**Sc**	45	43171.4	2.7				ug/L	53004	Standard
⌈	**Ti**	47	80.0	22.7	**0.1157**	0.043	37.3	ug/L	26	Standard
|	**V**	51	3716.0	1.6	**0.0845**	0.007	8.9	ug/L	3223	Standard
|	**Cr**	52	11626.8	3.1	**0.2728**	0.008	2.9	ug/L	10379	Standard
|	**Cr**	53	263.3	6.3	**0.1052**	0.018	17.2	ug/L	192	Standard
|	**Mn**	55	7322.1	4.0	**0.3850**	0.010	2.5	ug/L	1840	Standard
|	**Co**	59	154.0	4.5	**-0.0025**	0.001	34.1	ug/L	115	Standard
|	**Ni**	60	237.3	11.9	**0.0572**	0.009	14.9	ug/L	75	Standard
|	**Cu**	65	1011.7	1.7	**0.3530**	0.011	3.2	ug/L	155	Standard
|	**Zn**	66	2449.5	6.0	**1.8075**	0.065	3.6	ug/L	237	Standard
|>	**Ge**	72	368471.7	3.8				ug/L	413856	Standard
|	**As**	75	-178.2	20.1	**0.0021**	0.028	1316.6	ug/L	-197	Standard
|	**Se**	82	1.9	660.2	**0.0227**	0.110	483.8	ug/L	-5	Standard
⌊	**Se-1**	77	115.3	19.7	**0.3414**	0.261	76.4	ug/L	105	Standard
⌈>	**Ga**	71	208.3	23.1				mg/L	225	Standard
⌊	**Rb**	85	256.7	20.8				ug/L	28	Standard
⌈	**Y**	89	276049.5	2.2				ug/L	322845	Standard
⌊>	**Rh**	103	91.7	22.0				ug/L	92	Standard
⌈	**Mo**	98	387.8	5.7	**0.0855**	0.003	4.0	ug/L	18	Standard
|	**Ag**	107	68.0	11.1	**0.0015**	0.001	66.3	ug/L	63	Standard
|	**Cd**	111	23.9	20.8	**-0.0036**	0.002	48.3	mg/L	20	Standard
|	**Cd**	114	70.0	14.2	**-0.0011**	0.001	98.7	ug/L	56	Standard
|>	**In**	115	600682.9	2.0				ug/L	657102	Standard
|	**Sn**	118	458.7	4.6	**0.0010**	0.002	187.2	ug/L	555	Standard
|	**Sb**	123	393.8	7.4	**0.0520**	0.003	5.9	ug/L	62	Standard
⌊	**Ba**	135	358.3	13.6	**0.0951**	0.013	14.2	ug/L	19	Standard
⌈	**Ce**	140	415.7	5.3				ug/L	24	Standard
⌊>	**Tb**	159	864677.2	2.1				ug/L	910514	Standard
⌈	**Ho**	165	15.3	27.2				ug/L	7	Standard
|	**Tl**	203	40.7	17.4	**-0.0003**	0.001	187.0	ug/L	13	Standard
|	**Tl**	205	1.7	91.7	**0.0058**	0.004	71.0	ug/L	1	Standard
|	**Pb**	206	1149.4	5.0	**0.0841**	0.004	4.9	ug/L	342	Standard
|	**Pb**	207	980.0	5.4	**0.0813**	0.006	7.2	ug/L	284	Standard
|	**Pb**	208	4463.9	4.5	**0.0808**	0.004	4.4	ug/L	1363	Standard
|	**U**	238	21.3	15.1	**0.0007**	0.000	43.6	ug/L	2	Standard
⌊>	**Bi**	209	449769.0	1.5				ug/L	470592	Standard

Sample ID: L1211033218
Report Date/Time: Sunday, November 18, 2012 15:56:19
Page 1

Approved: November 19, 2012

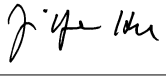
⌈	**Na**	23	0.0		**0.0050**	0.000	0.0	mg/L	2	Standard
|	**Mg**	24	20145.1	9.7	**0.0092**	0.001	16.0	mg/L	5586	Standard
|	**K**	39	11.7	89.2	**0.1519**	0.174	114.4	mg/L	5	Standard
|	**Ca**	43	41.7	61.6	**-0.0541**	1.353	2500.3	mg/L	45	Standard
|	**Fe**	54	390.8	3.9	**0.0311**	0.011	36.7	mg/L	350	Standard
|	**Fe**	57	155.0	11.6	**0.1705**	0.032	18.8	mg/L	102	Standard
⌊>	**Sc-1**	45	43171.4	2.7				mg/L	53004	Standard
	Cl	35	3.0	33.3				ug/L	2	Standard
	Kr	83	197.0	4.4				ug/L	157	Standard
	Br	81	8.3	34.6				ug/L	3	Standard
	P	31	104333.9	1.7				ug/L	91588	Standard
	S	34	30756.2	0.8				ug/L	32556	Standard
	Sr	88	66.7	11.5				ug/L	62	Standard
	C	12	183.3	18.2				mg/L	133	Standard
	N	14	1.7	173.2				mg/L	0	Standard
	Hg	202	5.0	100.0				mg/L	7	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		89.034	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: L1211033218
Report Date/Time: Sunday, November 18, 2012 15:56:19
Page 2

Approved: November 19, 2012



⌈	Mo	98	
|	Ag	107	
|	Cd	111	
|	Cd	114	
|>	In	115	91.414
|	Sn	118	
|	Sb	123	
⌊	Ba	135	
⌈	Ce	140	
⌊>	Tb	159	
⌈	Ho	165	
|	Tl	203	
|	Tl	205	
|	Pb	206	
|	Pb	207	
|	Pb	208	
|	U	238	
⌊>	Bi	209	95.575
⌈	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	
	C	12	
	N	14	
	Hg	202	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: L1211033218
Report Date/Time: Sunday, November 18, 2012 15:56:19
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

Sample ID: L1211033219
Sample Date/Time: Sunday, November 18, 2012 15:56:59
Number of Replicates: 3
Autosampler Position: 327
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	8757.5	2.6	**-857.0957**	66.062	7.7	ug/L	8369	Standard
	Be	9	10.0	132.3	**-0.0041**	0.007	175.8	ug/L	18	Standard
	Al	27	37986.1	8.3	**0.3505**	0.020	5.6	ug/L	215	Standard
>	**Sc**	45	46431.1	3.7				ug/L	53004	Standard
	Ti	47	115.7	8.4	**0.1876**	0.027	14.3	ug/L	26	Standard
	V	51	3692.8	6.4	**0.0738**	0.014	19.1	ug/L	3223	Standard
	Cr	52	11873.3	2.5	**0.2700**	0.014	5.1	ug/L	10379	Standard
	Cr	53	285.0	8.4	**0.1171**	0.016	13.7	ug/L	192	Standard
	Mn	55	6270.0	4.3	**0.3074**	0.006	2.1	ug/L	1840	Standard
	Co	59	135.0	11.1	**-0.0044**	0.001	19.6	ug/L	115	Standard
	Ni	60	393.0	5.3	**0.1147**	0.004	3.3	ug/L	75	Standard
	Cu	65	1750.4	5.1	**0.6356**	0.018	2.8	ug/L	155	Standard
	Zn	66	2991.0	6.5	**2.1938**	0.079	3.6	ug/L	237	Standard
>	**Ge**	72	377188.6	3.2				ug/L	413856	Standard
	As	75	-170.5	5.6	**0.0110**	0.008	68.5	ug/L	-197	Standard
	Se	82	8.0	158.8	**0.0708**	0.106	149.2	ug/L	-5	Standard
	Se-1	77	107.7	18.1	**0.2305**	0.255	110.6	ug/L	105	Standard
>	**Ga**	71	166.7	9.6				mg/L	225	Standard
	Rb	85	341.7	14.7				ug/L	28	Standard
	Y	89	288899.8	5.2				ug/L	322845	Standard
>	**Rh**	103	83.3	34.1				ug/L	92	Standard
	Mo	98	285.0	6.0	**0.0591**	0.004	6.8	ug/L	18	Standard
	Ag	107	73.7	11.5	**0.0021**	0.001	40.2	ug/L	63	Standard
	Cd	111	26.7	13.5	**-0.0029**	0.001	30.1	mg/L	20	Standard
	Cd	114	63.1	12.1	**-0.0021**	0.001	30.7	ug/L	56	Standard
>	**In**	115	613187.7	3.6				ug/L	657102	Standard
	Sn	118	743.7	11.2	**0.0307**	0.009	28.6	ug/L	555	Standard
	Sb	123	340.9	8.4	**0.0437**	0.004	8.9	ug/L	62	Standard
	Ba	135	559.3	8.2	**0.1560**	0.008	5.4	ug/L	19	Standard
	Ce	140	126.0	9.2				ug/L	24	Standard
>	**Tb**	159	880743.0	4.2				ug/L	910514	Standard
	Ho	165	9.3	22.3				ug/L	7	Standard
	Tl	203	24.0	20.8	**-0.0017**	0.000	20.1	ug/L	13	Standard
	Tl	205	1.3	173.2	**0.0049**	0.006	127.9	ug/L	1	Standard
	Pb	206	517.7	6.8	**0.0189**	0.002	10.9	ug/L	342	Standard
	Pb	207	448.7	9.6	**0.0168**	0.004	23.4	ug/L	284	Standard
	Pb	208	2060.4	5.0	**0.0179**	0.001	3.6	ug/L	1363	Standard
	U	238	4.0	50.0	**-0.0011**	0.000	19.2	ug/L	2	Standard
>	**Bi**	209	457253.0	4.3				ug/L	470592	Standard

Sample ID: L1211033219
Report Date/Time: Sunday, November 18, 2012 15:59:31
Page 1

Approved: November 19, 2012

	Na	23	0.0		**0.0050**	0.000	0.0	mg/L	2	Standard
	Mg	24	32184.2	5.8	**0.0151**	0.001	4.2	mg/L	5586	Standard
	K	39	10.0	100.0	**0.1171**	0.162	138.5	mg/L	5	Standard
	Ca	43	41.7	38.6	**-0.1855**	0.873	470.6	mg/L	45	Standard
	Fe	54	371.6	1.7	**0.0096**	0.005	50.6	mg/L	350	Standard
	Fe	57	105.0	40.7	**0.0583**	0.071	121.2	mg/L	102	Standard
>	**Sc-1**	45	46431.1	3.7				mg/L	53004	Standard
	Cl	35	4.0	50.0				ug/L	2	Standard
	Kr	83	199.6	3.9				ug/L	157	Standard
	Br	81	2.5	100.0				ug/L	3	Standard
	P	31	108780.5	4.6				ug/L	91588	Standard
	S	34	32357.9	1.2				ug/L	32556	Standard
	Sr	88	85.0	38.6				ug/L	62	Standard
	C	12	183.3	9.6				mg/L	133	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	0.0					mg/L	7	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		91.140	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			
	Y	89			
>	Rh	103			

Sample ID: L1211033219
Report Date/Time: Sunday, November 18, 2012 15:59:31
Page 2

Approved: November 19, 2012

⌈	Mo	98		
|	Ag	107		
|	Cd	111		
|	Cd	114		
|>	In	115		93.317
|	Sn	118		
|	Sb	123		
⌊	Ba	135		
⌈	Ce	140		
⌊>	Tb	159		
⌈	Ho	165		
|	Tl	203		
|	Tl	205		
|	Pb	206		
|	Pb	207		
|	Pb	208		
|	U	238		
⌊>	Bi	209		97.166
⌈	Na	23		
|	Mg	24		
|	K	39		
|	Ca	43		
|	Fe	54		
|	Fe	57		
⌊>	Sc-1	45		
	Cl	35		
	Kr	83		
	Br	81		
	P	31		
	S	34		
	Sr	88		
	C	12		
	N	14		
	Hg	202		

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: L1211033219
Report Date/Time: Sunday, November 18, 2012 15:59:31
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

Sample ID: L1211033220
Sample Date/Time: Sunday, November 18, 2012 16:00:11
Number of Replicates: 3
Autosampler Position: 328
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	8939.3	6.5	**-890.8538**	276.295	31.0	ug/L	8369	Standard
	Be	9	15.0	66.7	**-0.0013**	0.005	421.4	ug/L	18	Standard
	Al	27	59132.7	10.4	**0.5393**	0.048	8.9	ug/L	215	Standard
>	Sc	45	47069.7	1.6				ug/L	53004	Standard
	Ti	47	354.3	3.0	**0.6870**	0.044	6.4	ug/L	26	Standard
	V	51	4160.5	1.8	**0.1123**	0.012	10.3	ug/L	3223	Standard
	Cr	52	18660.5	4.6	**0.9223**	0.066	7.2	ug/L	10379	Standard
	Cr	53	1153.4	4.8	**0.7978**	0.070	8.8	ug/L	192	Standard
	Mn	55	22444.6	4.1	**1.3109**	0.034	2.6	ug/L	1840	Standard
	Co	59	362.7	3.2	**0.0139**	0.002	11.5	ug/L	115	Standard
	Ni	60	774.0	8.3	**0.2561**	0.015	5.9	ug/L	75	Standard
	Cu	65	982.0	9.2	**0.3259**	0.028	8.6	ug/L	155	Standard
	Zn	66	3470.1	4.0	**2.5421**	0.104	4.1	ug/L	237	Standard
>	Ge	72	382364.3	3.1				ug/L	413856	Standard
	As	75	-164.2	15.7	**0.0175**	0.020	113.4	ug/L	-197	Standard
	Se	82	12.0	80.7	**0.1045**	0.078	74.6	ug/L	-5	Standard
	Se-1	77	117.0	3.7	**0.3117**	0.014	4.6	ug/L	105	Standard
>	Ga	71	251.7	3.0				mg/L	225	Standard
	Rb	85	926.7	0.6				ug/L	28	Standard
	Y	89	283440.1	1.1				ug/L	322845	Standard
>	Rh	103	101.7	5.7				ug/L	92	Standard
	Mo	98	1605.5	5.0	**0.3660**	0.007	2.0	ug/L	18	Standard
	Ag	107	57.7	24.9	**-0.0003**	0.002	623.4	ug/L	63	Standard
	Cd	111	44.1	20.4	**0.0024**	0.003	126.7	mg/L	20	Standard
	Cd	114	121.6	6.5	**0.0046**	0.001	14.3	ug/L	56	Standard
>	In	115	625014.4	3.4				ug/L	657102	Standard
	Sn	118	573.7	7.2	**0.0112**	0.003	28.2	ug/L	555	Standard
	Sb	123	49.8	18.1	**0.0038**	0.001	35.7	ug/L	62	Standard
	Ba	135	1244.4	7.2	**0.3641**	0.015	4.0	ug/L	19	Standard
	Ce	140	9429.3	8.3				ug/L	24	Standard
>	Tb	159	877370.4	2.8				ug/L	910514	Standard
	Ho	165	47.0	12.9				ug/L	7	Standard
	Tl	203	48.0	7.5	**0.0002**	0.000	215.9	ug/L	13	Standard
	Tl	205	1.7	69.3	**0.0056**	0.003	51.1	ug/L	1	Standard
	Pb	206	2616.2	4.2	**0.2249**	0.009	4.2	ug/L	342	Standard
	Pb	207	2210.8	7.1	**0.2201**	0.013	6.1	ug/L	284	Standard
	Pb	208	10252.4	4.3	**0.2215**	0.006	2.5	ug/L	1363	Standard
	U	238	26.0	23.4	**0.0011**	0.001	55.6	ug/L	2	Standard
>	Bi	209	464998.2	2.8				ug/L	470592	Standard

Sample ID: L1211033220
Report Date/Time: Sunday, November 18, 2012 16:02:43
Page 1

Approved: November 19, 2012

⌈	**Na**	23	0.0		**0.0050**	0.000	0.0	mg/L	2	Standard
|	**Mg**	24	8865.9	4.8	**0.0020**	0.000	8.1	mg/L	5586	Standard
|	**K**	39	6.7	114.6	**0.0615**	0.118	191.2	mg/L	5	Standard
|	**Ca**	43	30.0	28.9	**-0.7955**	0.403	50.7	mg/L	45	Standard
|	**Fe**	54	547.7	14.6	**0.0838**	0.038	45.3	mg/L	350	Standard
|	**Fe**	57	133.3	13.2	**0.1077**	0.032	29.7	mg/L	102	Standard
⌊>	**Sc-1**	45	47069.7	1.6				mg/L	53004	Standard
	Cl	35	2.0	0.0				ug/L	2	Standard
	Kr	83	195.1	4.6				ug/L	157	Standard
	Br	81	3.3	114.6				ug/L	3	Standard
	P	31	110505.9	2.8				ug/L	91588	Standard
	S	34	33425.2	1.6				ug/L	32556	Standard
	Sr	88	66.7	11.5				ug/L	62	Standard
	C	12	173.3	28.5				mg/L	133	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	6.7	114.6				mg/L	7	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		92.391	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: L1211033220
Report Date/Time: Sunday, November 18, 2012 16:02:43
Page 2

Approved: November 19, 2012

⌈	Mo	98	
|	Ag	107	
|	Cd	111	
|	Cd	114	
|>	In	115	95.117
|	Sn	118	
|	Sb	123	
⌊	Ba	135	
⌈	Ce	140	
⌊>	Tb	159	
⌈	Ho	165	
|	Tl	203	
|	Tl	205	
|	Pb	206	
|	Pb	207	
|	Pb	208	
|	U	238	
⌊>	Bi	209	98.811
⌈	Na	23	
|	Mg	24	
|	K	39	
|	Ca	43	
|	Fe	54	
|	Fe	57	
⌊>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: L1211033220
Report Date/Time: Sunday, November 18, 2012 16:02:43
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

Sample ID: QC Std 6
Sample Date/Time: Sunday, November 18, 2012 16:03:25
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	8394.0	2.1	**-358.4798**	28.977	8.1	ug/L	8369	Standard
|	**Be**	9	105596.1	6.5	**54.9767**	3.009	5.5	ug/L	18	Standard
|	**Al**	27	6777269.9	4.5	**59.7736**	1.902	3.2	ug/L	215	Standard
⌊>	**Sc**	45	48907.2	2.4				ug/L	53004	Standard
⌈	**Ti**	47	47682.1	5.6	**97.0135**	2.493	2.6	ug/L	26	Standard
|	**V**	51	544912.9	4.1	**47.8462**	0.720	1.5	ug/L	3223	Standard
|	**Cr**	52	518796.0	4.9	**48.5274**	0.890	1.8	ug/L	10379	Standard
|	**Cr**	53	65523.1	2.9	**49.7270**	0.942	1.9	ug/L	192	Standard
|	**Mn**	55	822960.2	5.2	**49.5733**	1.035	2.1	ug/L	1840	Standard
|	**Co**	59	629979.7	5.0	**49.4272**	0.777	1.6	ug/L	115	Standard
|	**Ni**	60	133702.6	2.8	**48.7856**	0.711	1.5	ug/L	75	Standard
|	**Cu**	65	133542.1	5.5	**50.4275**	1.151	2.3	ug/L	155	Standard
|	**Zn**	66	65949.8	5.3	**50.2039**	1.350	2.7	ug/L	237	Standard
|>	**Ge**	72	395057.9	3.4				ug/L	413856	Standard
|	**As**	75	68779.7	4.2	**49.7697**	0.724	1.5	ug/L	-197	Standard
|	**Se**	82	6068.4	3.6	**49.0576**	0.121	0.2	ug/L	-5	Standard
⌊	**Se-1**	77	4824.8	1.2	**50.5585**	1.222	2.4	ug/L	105	Standard
⌈>	**Ga**	71	220.0	8.2				mg/L	225	Standard
⌊	**Rb**	85	1540.1	8.5				ug/L	28	Standard
⌈	**Y**	89	295766.5	3.8				ug/L	322845	Standard
⌊>	**Rh**	103	101.7	30.0				ug/L	92	Standard
⌈	**Mo**	98	413817.5	4.4	**95.3655**	2.756	2.9	ug/L	18	Standard
|	**Ag**	107	384648.1	3.5	**50.3940**	1.119	2.2	ug/L	63	Standard
|	**Cd**	111	168626.6	4.3	**51.0292**	1.456	2.9	mg/L	20	Standard
|	**Cd**	114	434761.1	3.2	**49.9947**	0.741	1.5	ug/L	56	Standard
|>	**In**	115	632965.4	1.7				ug/L	657102	Standard
|	**Sn**	118	487576.0	4.4	**50.7986**	1.401	2.8	ug/L	555	Standard
|	**Sb**	123	385006.4	3.7	**51.0231**	1.028	2.0	ug/L	62	Standard
⌊	**Ba**	135	166819.3	4.0	**50.8422**	1.280	2.5	ug/L	19	Standard
⌈	**Ce**	140	511.0	3.9				ug/L	24	Standard
⌊>	**Tb**	159	912480.9	2.0				ug/L	910514	Standard
⌈	**Ho**	165	447.3	6.6				ug/L	7	Standard
|	**Tl**	203	641154.4	3.3	**50.8129**	0.213	0.4	ug/L	13	Standard
|	**Tl**	205	19982.5	2.8	**51.9161**	0.324	0.6	ug/L	1	Standard
|	**Pb**	206	515221.1	4.1	**50.9276**	0.623	1.2	ug/L	342	Standard
|	**Pb**	207	442927.2	4.0	**51.4976**	0.680	1.3	ug/L	284	Standard
|	**Pb**	208	2032235.1	4.3	**50.8900**	0.808	1.6	ug/L	1363	Standard
|	**U**	238	511193.2	4.2	**51.7275**	0.642	1.2	ug/L	2	Standard
⌊>	**Bi**	209	463237.7	2.9				ug/L	470592	Standard

Sample ID: QC Std 6
Report Date/Time: Sunday, November 18, 2012 16:05:58
Page 1

Approved: November 19, 2012

⌈	**Na**	23	1.7	173.2	**0.1642**	0.276	167.9	mg/L	2	Standard
|	**Mg**	24	304192.1	1.6	**0.1589**	0.001	0.8	mg/L	5586	Standard
|	**K**	39	368.3	17.1	**5.3745**	0.795	14.8	mg/L	5	Standard
|	**Ca**	43	138.3	27.1	**4.1260**	1.583	38.4	mg/L	45	Standard
|	**Fe**	54	12713.0	5.6	**5.1392**	0.245	4.8	mg/L	350	Standard
|	**Fe**	57	3285.4	3.6	**5.4634**	0.144	2.6	mg/L	102	Standard
⌊>	**Sc-1**	45	48907.2	2.4				mg/L	53004	Standard
	Cl	35	1.3	114.6				ug/L	2	Standard
	Kr	83	210.0	2.4				ug/L	157	Standard
	Br	81	3.3	43.3				ug/L	3	Standard
	P	31	114852.1	1.7				ug/L	91588	Standard
	S	34	36243.3	2.4				ug/L	32556	Standard
	Sr	88	73.3	14.2				ug/L	62	Standard
	C	12	155.0	19.6				mg/L	133	Standard
	N	14	1.7	173.2				mg/L	0	Standard
	Hg	202	11.7	65.5				mg/L	7	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈	Li	7			
|	Be	9	109.953		
|	Al	27	119.547		
⌊>	Sc	45			
⌈	Ti	47	97.014		
|	V	51	95.692		
|	Cr	52	97.055		
|	Cr	53			
|	Mn	55	99.147		
|	Co	59	98.854		
|	Ni	60	97.571		
|	Cu	65	100.855		
|	Zn	66	100.408		
|>	Ge	72		95.458	
|	As	75	99.539		
|	Se	82	98.115		
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: QC Std 6
Report Date/Time: Sunday, November 18, 2012 16:05:58
Page 2

Approved: November 19, 2012

	Mo	98	95.366	
	Ag	107	100.788	
	Cd	111	102.058	
	Cd	114		
>	In	115		96.327
	Sn	118	101.597	
	Sb	123	102.046	
	Ba	135	101.684	
	Ce	140		
>	Tb	159		
	Ho	165		
	Tl	203	101.626	
	Tl	205		
	Pb	206	101.855	
	Pb	207	102.995	
	Pb	208	101.780	
	U	238	103.455	
>	Bi	209		98.437
	Na	23		
	Mg	24		
	K	39		
	Ca	43		
	Fe	54		
	Fe	57		
>	Sc-1	45		
	Cl	35		
	Kr	83		
	Br	81		
	P	31		
	S	34		
	Sr	88		
	C	12		
	N	14		
	Hg	202		

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 6	Al	27	

Sample ID: QC Std 6
Report Date/Time: Sunday, November 18, 2012 16:05:58
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

Sample ID: QC Std 7
Sample Date/Time: Sunday, November 18, 2012 16:06:38
Number of Replicates: 3
Autosampler Position: 102
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	7842.0	9.0	**-274.5793**	289.964	105.6	ug/L	8369	Standard
|	**Be**	9	15.0	115.5	**-0.0014**	0.009	651.7	ug/L	18	Standard
|	**Al**	27	1890.2	80.8	**0.0152**	0.013	88.9	ug/L	215	Standard
⌊>	**Sc**	45	46412.7	3.5				ug/L	53004	Standard
⌈	**Ti**	47	22.7	39.8	**-0.0115**	0.017	151.4	ug/L	26	Standard
|	**V**	51	2727.9	7.9	**-0.0147**	0.010	70.9	ug/L	3223	Standard
|	**Cr**	52	8545.4	4.5	**-0.0600**	0.011	18.7	ug/L	10379	Standard
|	**Cr**	53	157.5	20.8	**0.0155**	0.020	130.3	ug/L	192	Standard
|	**Mn**	55	1545.4	7.7	**0.0090**	0.004	43.1	ug/L	1840	Standard
|	**Co**	59	123.0	49.3	**-0.0055**	0.004	79.9	ug/L	115	Standard
|	**Ni**	60	69.7	28.1	**-0.0090**	0.006	68.3	ug/L	75	Standard
|	**Cu**	65	225.3	13.8	**0.0318**	0.009	28.8	ug/L	155	Standard
|	**Zn**	66	245.0	11.0	**-0.0031**	0.012	391.1	ug/L	237	Standard
| >	**Ge**	72	376149.9	5.0				ug/L	413856	Standard
|	**As**	75	-163.7	33.7	**0.0170**	0.035	205.7	ug/L	-197	Standard
|	**Se**	82	10.4	102.3	**0.0966**	0.094	96.8	ug/L	-5	Standard
⌊	**Se-1**	77	109.3	10.1	**0.2495**	0.141	56.5	ug/L	105	Standard
⌈>	**Ga**	71	168.3	20.9				mg/L	225	Standard
⌊	**Rb**	85	8.3	69.3				ug/L	28	Standard
⌈	**Y**	89	286376.5	5.6				ug/L	322845	Standard
⌊>	**Rh**	103	70.0	12.4				ug/L	92	Standard
⌈	**Mo**	98	39.4	55.9	**0.0005**	0.005	1039.0	ug/L	18	Standard
|	**Ag**	107	95.7	54.6	**0.0048**	0.006	133.9	ug/L	63	Standard
|	**Cd**	111	43.0	91.6	**0.0018**	0.012	632.6	mg/L	20	Standard
|	**Cd**	114	131.9	88.2	**0.0057**	0.013	227.7	ug/L	56	Standard
| >	**In**	115	618357.2	5.1				ug/L	657102	Standard
|	**Sn**	118	450.3	40.2	**-0.0017**	0.017	1016.6	ug/L	555	Standard
|	**Sb**	123	312.6	73.0	**0.0387**	0.029	74.7	ug/L	62	Standard
⌊	**Ba**	135	44.7	103.6	**-0.0063**	0.014	217.6	ug/L	19	Standard
⌈	**Ce**	140	22.3	22.5				ug/L	24	Standard
⌊>	**Tb**	159	876370.3	3.6				ug/L	910514	Standard
⌈	**Ho**	165	8.3	36.7				ug/L	7	Standard
|	**Tl**	203	90.7	117.1	**0.0035**	0.008	233.2	ug/L	13	Standard
|	**Tl**	205	3.0	173.2	**0.0089**	0.013	148.2	ug/L	1	Standard
|	**Pb**	206	383.0	26.3	**0.0056**	0.009	151.8	ug/L	342	Standard
|	**Pb**	207	299.3	26.5	**-0.0006**	0.008	1270.3	ug/L	284	Standard
|	**Pb**	208	1463.0	29.2	**0.0029**	0.009	326.8	ug/L	1363	Standard
|	**U**	238	91.0	165.6	**0.0075**	0.015	198.4	ug/L	2	Standard
⌊>	**Bi**	209	452559.6	4.3				ug/L	470592	Standard

Sample ID: QC Std 7
Report Date/Time: Sunday, November 18, 2012 16:09:10
Page 1

Approved: November 19, 2012

⌈	**Na**	23	0.0		**0.0050**	0.000	0.0	mg/L	2	Standard
|	**Mg**	24	796.7	34.8	**-0.0025**	0.000	5.7	mg/L	5586	Standard
|	**K**	39	3.3	173.2	**0.0102**	0.089	874.0	mg/L	5	Standard
|	**Ca**	43	31.7	48.2	**-0.6738**	0.791	117.4	mg/L	45	Standard
|	**Fe**	54	317.2	15.7	**-0.0146**	0.018	124.9	mg/L	350	Standard
|	**Fe**	57	105.0	37.2	**0.0589**	0.064	108.0	mg/L	102	Standard
⌊>	**Sc-1**	45	46412.7	3.5				mg/L	53004	Standard
	Cl	35	4.0	43.3				ug/L	2	Standard
	Kr	83	203.6	1.4				ug/L	157	Standard
	Br	81	7.5	33.3				ug/L	3	Standard
	P	31	109701.3	4.6				ug/L	91588	Standard
	S	34	35238.4	2.5				ug/L	32556	Standard
	Sr	88	68.3	18.4				ug/L	62	Standard
	C	12	128.3	12.5				mg/L	133	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	3.3	173.2				mg/L	7	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		90.889	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: QC Std 7
Report Date/Time: Sunday, November 18, 2012 16:09:10
Page 2

Approved: November 19, 2012

	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	94.104
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	96.168
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: QC Std 7
Report Date/Time: Sunday, November 18, 2012 16:09:10
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

Sample ID: QC Std 8
Sample Date/Time: Sunday, November 18, 2012 16:09:52
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	7847.1	13.1	**-464.6233**	429.164	92.4	ug/L	8369	Standard
|	**Be**	9	398.3	4.8	**0.2181**	0.016	7.2	ug/L	18	Standard
|	**Al**	27	1115.1	58.2	**0.0086**	0.006	74.5	ug/L	215	Standard
⌊>	**Sc**	45	44660.8	4.6				ug/L	53004	Standard
⌈	**Ti**	47	17.7	14.2	**-0.0216**	0.004	20.5	ug/L	26	Standard
|	**V**	51	6345.9	5.9	**0.3259**	0.026	8.0	ug/L	3223	Standard
|	**Cr**	52	15739.5	2.4	**0.6741**	0.027	4.1	ug/L	10379	Standard
|	**Cr**	53	1010.9	5.8	**0.7042**	0.028	3.9	ug/L	192	Standard
|	**Mn**	55	8716.5	6.8	**0.4680**	0.019	4.0	ug/L	1840	Standard
|	**Co**	59	4552.0	5.8	**0.3628**	0.010	2.8	ug/L	115	Standard
|	**Ni**	60	3873.8	6.2	**1.4618**	0.053	3.6	ug/L	75	Standard
|	**Cu**	65	2115.8	6.0	**0.7899**	0.037	4.6	ug/L	155	Standard
|	**Zn**	66	7506.5	3.6	**5.8790**	0.034	0.6	ug/L	237	Standard
|>	**Ge**	72	372953.9	3.3				ug/L	413856	Standard
|	**As**	75	284.5	27.1	**0.3564**	0.052	14.6	ug/L	-197	Standard
|	**Se**	82	40.5	33.6	**0.3496**	0.105	30.0	ug/L	-5	Standard
⌊	**Se-1**	77	144.0	3.0	**0.6504**	0.054	8.2	ug/L	105	Standard
⌈>	**Ga**	71	188.3	16.0				mg/L	225	Standard
⌊	**Rb**	85	18.3	31.5				ug/L	28	Standard
⌈	**Y**	89	281091.6	3.0				ug/L	322845	Standard
⌊>	**Rh**	103	70.0	44.6				ug/L	92	Standard
⌈	**Mo**	98	20.8	8.4	**-0.0037**	0.000	7.7	ug/L	18	Standard
|	**Ag**	107	2750.2	4.7	**0.3677**	0.005	1.4	ug/L	63	Standard
|	**Cd**	111	727.3	2.1	**0.2185**	0.009	4.2	mg/L	20	Standard
|	**Cd**	114	1975.1	4.9	**0.2273**	0.011	4.7	ug/L	56	Standard
|>	**In**	115	607295.8	3.7				ug/L	657102	Standard
|	**Sn**	118	374.3	25.9	**-0.0088**	0.009	107.8	ug/L	555	Standard
|	**Sb**	123	2954.7	8.8	**0.4050**	0.026	6.4	ug/L	62	Standard
⌊	**Ba**	135	2248.2	8.1	**0.6947**	0.052	7.4	ug/L	19	Standard
⌈	**Ce**	140	22.0	43.8				ug/L	24	Standard
⌊>	**Tb**	159	858896.8	3.6				ug/L	910514	Standard
⌈	**Ho**	165	6.0	60.1				ug/L	7	Standard
|	**Tl**	203	1023.0	10.6	**0.0803**	0.007	8.5	ug/L	13	Standard
|	**Tl**	205	34.0	20.6	**0.0930**	0.021	22.2	ug/L	1	Standard
|	**Pb**	206	2330.5	7.5	**0.2058**	0.014	6.7	ug/L	342	Standard
|	**Pb**	207	1864.1	9.3	**0.1885**	0.019	9.9	ug/L	284	Standard
|	**Pb**	208	8918.4	7.9	**0.1970**	0.016	8.1	ug/L	1363	Standard
|	**U**	238	3710.1	7.9	**0.3873**	0.026	6.7	ug/L	2	Standard
⌊>	**Bi**	209	447204.6	2.6				ug/L	470592	Standard

Sample ID: QC Std 8
Report Date/Time: Sunday, November 18, 2012 16:12:24
Page 1

Approved: November 19, 2012

⌈	**Na**	23	0.0		**0.0050**	0.000	0.0	mg/L	2	Standard
|	**Mg**	24	758.4	20.4	**-0.0025**	0.000	4.2	mg/L	5586	Standard
|	**K**	39	10.0	100.0	**0.1169**	0.154	131.5	mg/L	5	Standard
|	**Ca**	43	53.3	37.9	**0.4801**	1.106	230.4	mg/L	45	Standard
|	**Fe**	54	311.9	20.8	**-0.0102**	0.036	351.2	mg/L	350	Standard
|	**Fe**	57	93.3	24.7	**0.0447**	0.034	77.0	mg/L	102	Standard
⌊>	**Sc-1**	45	44660.8	4.6				mg/L	53004	Standard
	Cl	35	2.0	0.0				ug/L	2	Standard
	Kr	83	207.8	4.6				ug/L	157	Standard
	Br	81	2.5	100.0				ug/L	3	Standard
	P	31	104127.2	5.2				ug/L	91588	Standard
	S	34	33062.7	3.8				ug/L	32556	Standard
	Sr	88	76.7	33.5				ug/L	62	Standard
	C	12	135.0	13.4				mg/L	133	Standard
	N	14	1.7	173.2				mg/L	0	Standard
	Hg	202	3.3	173.2				mg/L	7	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈	Li	7			
|	Be	9	109.045		
|	Al	27			
⌊>	Sc	45			
⌈	Ti	47			
|	V	51	81.487		
|	Cr	52	84.262		
|	Cr	53			
|	Mn	55	93.610		
|	Co	59	90.711		
|	Ni	60	91.364		
|	Cu	65	98.739		
|	Zn	66	94.064		
\>	Ge	72		90.117	
|	As	75	89.092		
|	Se	82	87.410		
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: QC Std 8
Report Date/Time: Sunday, November 18, 2012 16:12:24
Page 2

Approved: November 19, 2012

⌈	Mo	98			
|	Ag	107	91.926		
|	Cd	111	91.052		
|	Cd	114			
|>	In	115			92.420
|	Sn	118			
|	Sb	123	101.253		
⌊	Ba	135	92.629		
⌈	Ce	140			
⌊>	Tb	159			
⌈	Ho	165			
|	Tl	203	100.316		
|	Tl	205			
|	Pb	206			
|	Pb	207			
|	Pb	208	98.524		
|	U	238	96.828		
⌊>	Bi	209			95.030
⌈	Na	23			
|	Mg	24			
|	K	39			
|	Ca	43			
|	Fe	54			
|	Fe	57			
⌊>	Sc-1	45			
	Cl	35			
	Kr	83			
	Br	81			
	P	31			
	S	34			
	Sr	88			
	C	12			
	N	14			
	Hg	202			

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: QC Std 8
Report Date/Time: Sunday, November 18, 2012 16:12:24
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

Sample ID: L1211045613
Sample Date/Time: Sunday, November 18, 2012 16:13:06
Number of Replicates: 3
Autosampler Position: 329
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	8502.4	4.0	**-636.2479**	100.244	15.8	ug/L	8369	Standard
	Be	9	25.0	72.1	**0.0040**	0.010	237.2	ug/L	18	Standard
	Al	27	58882.5	1.4	**0.5394**	0.018	3.3	ug/L	215	Standard
>	**Sc**	45	46934.3	2.8				ug/L	53004	Standard
	Ti	47	449.7	25.3	**0.8893**	0.253	28.5	ug/L	26	Standard
	V	51	4173.4	2.3	**0.1134**	0.009	8.3	ug/L	3223	Standard
	Cr	52	10237.1	1.6	**0.0932**	0.031	33.6	ug/L	10379	Standard
	Cr	53	338.3	10.8	**0.1558**	0.024	15.4	ug/L	192	Standard
	Mn	55	24574.9	1.3	**1.4447**	0.041	2.9	ug/L	1840	Standard
	Co	59	498.0	2.7	**0.0249**	0.001	2.8	ug/L	115	Standard
	Ni	60	536.7	3.6	**0.1669**	0.004	2.5	ug/L	75	Standard
	Cu	65	1094.0	2.5	**0.3701**	0.010	2.6	ug/L	155	Standard
	Zn	66	3528.1	0.9	**2.5889**	0.075	2.9	ug/L	237	Standard
>	**Ge**	72	382260.3	1.8				ug/L	413856	Standard
	As	75	-160.2	29.3	**0.0203**	0.036	176.8	ug/L	-197	Standard
	Se	82	7.0	122.8	**0.0639**	0.071	111.6	ug/L	-5	Standard
	Se-1	77	115.3	8.7	**0.2953**	0.133	45.0	ug/L	105	Standard
>	**Ga**	71	323.3	11.4				mg/L	225	Standard
	Rb	85	1365.1	8.4				ug/L	28	Standard
	Y	89	291685.3	3.9				ug/L	322845	Standard
>	**Rh**	103	93.3	67.8				ug/L	92	Standard
	Mo	98	1340.1	2.9	**0.3048**	0.013	4.3	ug/L	18	Standard
	Ag	107	221.7	2.3	**0.0216**	0.001	2.9	ug/L	63	Standard
	Cd	111	48.1	7.8	**0.0036**	0.001	37.3	mg/L	20	Standard
	Cd	114	131.5	0.8	**0.0058**	0.000	4.7	ug/L	56	Standard
>	**In**	115	624006.5	1.4				ug/L	657102	Standard
	Sn	118	479.3	3.9	**0.0013**	0.002	132.4	ug/L	555	Standard
	Sb	123	420.8	4.9	**0.0537**	0.003	5.6	ug/L	62	Standard
	Ba	135	4298.9	0.6	**1.3101**	0.024	1.8	ug/L	19	Standard
	Ce	140	6203.3	4.7				ug/L	24	Standard
>	**Tb**	159	887203.2	1.7				ug/L	910514	Standard
	Ho	165	101.7	4.0				ug/L	7	Standard
	Tl	203	125.3	2.4	**0.0064**	0.000	2.9	ug/L	13	Standard
	Tl	205	4.7	32.7	**0.0135**	0.004	29.2	ug/L	1	Standard
	Pb	206	1004.4	0.9	**0.0671**	0.002	2.9	ug/L	342	Standard
	Pb	207	817.7	3.6	**0.0597**	0.002	4.1	ug/L	284	Standard
	Pb	208	3870.9	0.4	**0.0633**	0.001	1.6	ug/L	1363	Standard
	U	238	122.7	4.1	**0.0110**	0.001	5.9	ug/L	2	Standard
>	**Bi**	209	460068.6	1.1				ug/L	470592	Standard

Sample ID: L1211045613
Report Date/Time: Sunday, November 18, 2012 16:15:38
Page 1

Approved: November 19, 2012

⌈	**Na**	23	1.7	173.2	**0.1701**	0.286	168.1	mg/L	2	Standard
|	**Mg**	24	11067.4	6.7	**0.0032**	0.000	9.1	mg/L	5586	Standard
|	**K**	39	3.3	86.6	**0.0092**	0.044	474.6	mg/L	5	Standard
|	**Ca**	43	45.0	19.2	**-0.0727**	0.377	518.7	mg/L	45	Standard
|	**Fe**	54	425.3	11.1	**0.0315**	0.025	80.8	mg/L	350	Standard
|	**Fe**	57	165.0	13.2	**0.1646**	0.040	24.2	mg/L	102	Standard
⌊>	**Sc-1**	45	46934.3	2.8				mg/L	53004	Standard
	Cl	35	0.7	86.6				ug/L	2	Standard
	Kr	83	208.1	2.8				ug/L	157	Standard
	Br	81	9.2	78.7				ug/L	3	Standard
	P	31	105793.2	2.1				ug/L	91588	Standard
	S	34	31947.0	1.9				ug/L	32556	Standard
	Sr	88	71.7	21.3				ug/L	62	Standard
	C	12	160.0	11.3				mg/L	133	Standard
	N	14	1.7	173.2				mg/L	0	Standard
	Hg	202	6.7	114.6				mg/L	7	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		92.366	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: L1211045613
Report Date/Time: Sunday, November 18, 2012 16:15:38
Page 2

Approved: November 19, 2012

	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	94.963
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	97.764
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: L1211045613
Report Date/Time: Sunday, November 18, 2012 16:15:38
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

Sample ID: L1211045803
Sample Date/Time: Sunday, November 18, 2012 16:16:18
Number of Replicates: 3
Autosampler Position: 330
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	212954.7	7.4	**-92570.4929**	6113.551	6.6	ug/L	8369	Standard
	Be	9	2603.6	9.9	**1.0222**	0.039	3.8	ug/L	18	Standard
	Al	27	72817623.0	6.0	**489.6348**	11.249	2.3	ug/L	215	Standard
>	**Sc**	45	64211.3	7.4				ug/L	53004	Standard
	Ti	47	32814.0	8.8	**73.0788**	3.456	4.7	ug/L	26	Standard
	V	51	393330.3	7.4	**37.7563**	1.263	3.3	ug/L	3223	Standard
	Cr	52	110354.4	7.0	**10.6029**	0.328	3.1	ug/L	10379	Standard
	Cr	53	12206.6	5.8	**10.0570**	0.191	1.9	ug/L	192	Standard
	Mn	55	32689703.2	6.8	**2160.7478**	57.636	2.7	ug/L	1840	Standard
	Co	59	124302.2	7.1	**10.6691**	0.325	3.0	ug/L	115	Standard
	Ni	60	60216.5	6.9	**24.0354**	0.697	2.9	ug/L	75	Standard
	Cu	65	32524.3	6.4	**13.4129**	0.302	2.3	ug/L	155	Standard
	Zn	66	296945.9	6.9	**248.3614**	6.892	2.8	ug/L	237	Standard
>	**Ge**	72	360534.7	4.2				ug/L	413856	Standard
	As	75	8584.7	6.9	**6.9232**	0.185	2.7	ug/L	-197	Standard
	Se	82	134.7	6.4	**1.1985**	0.062	5.2	ug/L	-5	Standard
	Se-1	77	263.0	11.2	**2.0920**	0.226	10.8	ug/L	105	Standard
>	**Ga**	71	15312.8	6.8				mg/L	225	Standard
	Rb	85	170760.4	5.4				ug/L	28	Standard
	Y	89	604231.2	6.7				ug/L	322845	Standard
>	**Rh**	103	320.0	8.3				ug/L	92	Standard
	Mo	98	4273.5	7.2	**1.0490**	0.039	3.7	ug/L	18	Standard
	Ag	107	281.3	3.7	**0.0318**	0.002	6.5	ug/L	63	Standard
	Cd	111	1317.6	7.9	**0.4170**	0.018	4.4	mg/L	20	Standard
	Cd	114	3497.4	4.1	**0.4227**	0.003	0.7	ug/L	56	Standard
>	**In**	115	589104.3	3.7				ug/L	657102	Standard
	Sn	118	4699.7	7.6	**0.4769**	0.021	4.4	ug/L	555	Standard
	Sb	123	822.4	8.4	**0.1141**	0.006	5.0	ug/L	62	Standard
	Ba	135	1569403.9	5.2	**514.0529**	9.173	1.8	ug/L	19	Standard
	Ce	140	2212173.6	11.3				ug/L	24	Standard
>	**Tb**	159	901083.1	2.4				ug/L	910514	Standard
	Ho	165	38918.0	4.8				ug/L	7	Standard
	Tl	203	1239.1	7.1	**0.1105**	0.006	5.0	ug/L	13	Standard
	Tl	205	40.7	8.6	**0.1244**	0.013	10.7	ug/L	1	Standard
	Pb	206	90214.9	5.3	**10.3436**	0.326	3.2	ug/L	342	Standard
	Pb	207	71945.8	5.5	**9.6975**	0.337	3.5	ug/L	284	Standard
	Pb	208	343714.2	5.5	**9.9812**	0.330	3.3	ug/L	1363	Standard
	U	238	13742.2	5.9	**1.6155**	0.061	3.8	ug/L	2	Standard
>	**Bi**	209	398265.8	2.2				ug/L	470592	Standard

Sample ID: L1211045803
Report Date/Time: Sunday, November 18, 2012 16:18:50
Page 1

Approved: November 19, 2012

⌈	**Na**	23	20.0	0.0	**1.5024**	0.114	7.6	mg/L	2	Standard
|	**Mg**	24	428150.5	2.3	**0.1710**	0.010	6.0	mg/L	5586	Standard
|	**K**	39	160.0	25.6	**1.7412**	0.366	21.0	mg/L	5	Standard
|	**Ca**	43	5487.7	1.6	**191.1600**	11.805	6.2	mg/L	45	Standard
|	**Fe**	54	20749.5	6.7	**6.4373**	0.388	6.0	mg/L	350	Standard
|	**Fe**	57	6958.3	7.1	**8.9015**	0.458	5.1	mg/L	102	Standard
⌊>	**Sc-1**	45	64211.3	7.4				mg/L	53004	Standard
	Cl	35	4.3	81.0				ug/L	2	Standard
	Kr	83	257.1	3.0				ug/L	157	Standard
	Br	81	8.3	34.6				ug/L	3	Standard
	P	31	273800.3	4.1				ug/L	91588	Standard
	S	34	29525.4	2.4				ug/L	32556	Standard
	Sr	88	1840.1	11.6				ug/L	62	Standard
	C	12	1340.1	11.3				mg/L	133	Standard
	N	14	1.7	173.2				mg/L	0	Standard
	Hg	202	43.3	26.6				mg/L	7	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		87.116	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: L1211045803
Report Date/Time: Sunday, November 18, 2012 16:18:50
Page 2

Approved: November 19, 2012

⌈	Mo	98	
|	Ag	107	
|	Cd	111	
|	Cd	114	
|>	In	115	89.652
|	Sn	118	
|	Sb	123	
⌊	Ba	135	
⌈	Ce	140	
⌊>	Tb	159	
⌈	Ho	165	
|	Tl	203	
|	Tl	205	
|	Pb	206	
|	Pb	207	
|	Pb	208	
|	U	238	
⌊>	Bi	209	84.631
⌈	Na	23	
|	Mg	24	
|	K	39	
|	Ca	43	
|	Fe	54	
|	Fe	57	
⌊>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Mn 55 Upper, S, EEE	Mn	55	
Zn 66 Upper, S, EEE	Zn	66	
Ba 135 Upper, S, EEE	Ba	135	

Approved: November 19, 2012

Method 6020 - Summary Report

Sample ID: L1211045804
Sample Date/Time: Sunday, November 18, 2012 16:19:31
Number of Replicates: 3
Autosampler Position: 331
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	82062.2	6.2	**-43429.1073**	2434.736	5.6	ug/L	8369	Standard
	Be	9	26.7	57.3	**0.0041**	0.008	187.0	ug/L	18	Standard
	Al	27	36999263.5	5.4	**319.5938**	14.839	4.6	ug/L	215	Standard
>	**Sc**	45	49938.8	1.7				ug/L	53004	Standard
	Ti	47	410.3	11.9	**0.8241**	0.126	15.2	ug/L	26	Standard
	V	51	19570.5	2.8	**1.5556**	0.039	2.5	ug/L	3223	Standard
	Cr	52	14880.3	1.9	**0.5809**	0.029	4.9	ug/L	10379	Standard
	Cr	53	367.5	9.9	**0.1859**	0.039	21.0	ug/L	192	Standard
	Mn	55	4935455.2	5.5	**313.9848**	6.514	2.1	ug/L	1840	Standard
	Co	59	8348.6	4.3	**0.6756**	0.006	0.8	ug/L	115	Standard
	Ni	60	7951.1	4.5	**3.0250**	0.029	1.0	ug/L	75	Standard
	Cu	65	1264.7	4.0	**0.4469**	0.010	2.2	ug/L	155	Standard
	Zn	66	3999.9	6.3	**3.0233**	0.086	2.8	ug/L	237	Standard
>	**Ge**	72	374604.1	3.6				ug/L	413856	Standard
	As	75	228.6	15.7	**0.3134**	0.021	6.6	ug/L	-197	Standard
	Se	82	77.0	17.3	**0.6596**	0.090	13.6	ug/L	-5	Standard
	Se-1	77	134.0	7.8	**0.5287**	0.067	12.7	ug/L	105	Standard
>	**Ga**	71	250.0	10.6				mg/L	225	Standard
	Rb	85	4277.3	3.8				ug/L	28	Standard
	Y	89	283295.3	2.9				ug/L	322845	Standard
>	**Rh**	103	175.0	8.6				ug/L	92	Standard
	Mo	98	17629.9	6.8	**4.2300**	0.165	3.9	ug/L	18	Standard
	Ag	107	50.7	8.9	**-0.0009**	0.001	88.2	ug/L	63	Standard
	Cd	111	39.5	12.7	**0.0013**	0.001	111.0	mg/L	20	Standard
	Cd	114	149.1	14.0	**0.0083**	0.003	30.2	ug/L	56	Standard
>	**In**	115	606492.8	3.3				ug/L	657102	Standard
	Sn	118	1700.1	8.8	**0.1355**	0.010	7.6	ug/L	555	Standard
	Sb	123	580.2	10.2	**0.0772**	0.006	7.2	ug/L	62	Standard
	Ba	135	193335.4	4.6	**61.5005**	1.280	2.1	ug/L	19	Standard
	Ce	140	3892.5	2.3				ug/L	24	Standard
>	**Tb**	159	883734.3	4.0				ug/L	910514	Standard
	Ho	165	94.0	18.1				ug/L	7	Standard
	Tl	203	232.7	1.6	**0.0160**	0.000	1.2	ug/L	13	Standard
	Tl	205	8.7	24.0	**0.0253**	0.006	23.6	ug/L	1	Standard
	Pb	206	687.3	6.4	**0.0394**	0.003	7.7	ug/L	342	Standard
	Pb	207	567.0	7.3	**0.0341**	0.004	11.3	ug/L	284	Standard
	Pb	208	2640.1	2.5	**0.0360**	0.001	1.5	ug/L	1363	Standard
	U	238	11501.0	5.2	**1.2375**	0.048	3.9	ug/L	2	Standard
>	**Bi**	209	435120.9	2.1				ug/L	470592	Standard

Sample ID: L1211045804
Report Date/Time: Sunday, November 18, 2012 16:22:02
Page 1

Approved: November 19, 2012

⌈	**Na**	23	5.0	100.0	**0.4828**	0.481	99.7	mg/L	2	Standard
|	**Mg**	24	426979.9	2.4	**0.2195**	0.005	2.1	mg/L	5586	Standard
|	**K**	39	26.7	21.7	**0.3434**	0.083	24.1	mg/L	5	Standard
|	**Ca**	43	741.7	4.3	**31.2977**	1.964	6.3	mg/L	45	Standard
|	**Fe**	54	385.0	19.3	**0.0034**	0.029	854.3	mg/L	350	Standard
|	**Fe**	57	396.7	16.7	**0.5329**	0.109	20.5	mg/L	102	Standard
⌊>	**Sc-1**	45	49938.8	1.7				mg/L	53004	Standard
	Cl	35	3.7	56.8				ug/L	2	Standard
	Kr	83	199.8	1.4				ug/L	157	Standard
	Br	81	5.0	50.0				ug/L	3	Standard
	P	31	152773.2	1.9				ug/L	91588	Standard
	S	34	31558.7	3.4				ug/L	32556	Standard
	Sr	88	651.7	9.7				ug/L	62	Standard
	C	12	1163.4	8.8				mg/L	133	Standard
	N	14	1.7	173.2				mg/L	0	Standard
	Hg	202	5.0	0.0				mg/L	7	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		90.516	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: L1211045804
Report Date/Time: Sunday, November 18, 2012 16:22:02
Page 2

Approved: November 19, 2012

⌈	Mo	98		
|	Ag	107		
|	Cd	111		
|	Cd	114		
|>	In	115		92.298
|	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		92.463
⌈	Na	23		
|	Mg	24		
|	K	39		
|	Ca	43		
|	Fe	54		
|	Fe	57		
⌊>	Sc-1	45		
	Cl	35		
	Kr	83		
	Br	81		
	P	31		
	S	34		
	Sr	88		
	C	12		
	N	14		
	Hg	202		

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Mn 55 Upper, S, EEE	Mn	55	

Sample ID: L1211045804
Report Date/Time: Sunday, November 18, 2012 16:22:02
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

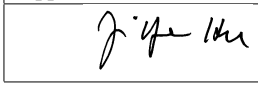
Sample ID: L1211045824
Sample Date/Time: Sunday, November 18, 2012 16:22:43
Number of Replicates: 3
Autosampler Position: 332
Sample Description: 1
Method File: C:\NexION Data\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
⌈	**Li**	7	8405.7	8.4	**-327.6484**	263.146	80.3	ug/L	8369	Standard
|	**Be**	9	15.0	33.3	**-0.0018**	0.002	128.5	ug/L	18	Standard
|	**Al**	27	75291.5	11.4	**0.6562**	0.046	7.0	ug/L	215	Standard
⌊>	**Sc**	45	49260.1	5.7				ug/L	53004	Standard
⌈	**Ti**	47	117.0	9.5	**0.1867**	0.016	8.3	ug/L	26	Standard
|	**V**	51	3854.7	4.6	**0.0847**	0.011	12.7	ug/L	3223	Standard
|	**Cr**	52	12428.1	4.0	**0.3103**	0.024	7.9	ug/L	10379	Standard
|	**Cr**	53	605.8	8.0	**0.3677**	0.048	13.0	ug/L	192	Standard
|	**Mn**	55	19770.8	18.4	**1.1417**	0.179	15.6	ug/L	1840	Standard
|	**Co**	59	408.0	12.5	**0.0175**	0.003	16.3	ug/L	115	Standard
|	**Ni**	60	469.0	17.5	**0.1411**	0.024	17.1	ug/L	75	Standard
|	**Cu**	65	730.0	13.1	**0.2275**	0.027	11.8	ug/L	155	Standard
|	**Zn**	66	3841.2	10.6	**2.8341**	0.207	7.3	ug/L	237	Standard
|>	**Ge**	72	381786.2	3.7				ug/L	413856	Standard
|	**As**	75	-167.7	14.4	**0.0142**	0.023	158.7	ug/L	-197	Standard
|	**Se**	82	5.7	90.1	**0.0524**	0.041	78.9	ug/L	-5	Standard
⌊	**Se-1**	77	134.3	1.1	**0.5068**	0.065	12.7	ug/L	105	Standard
⌈>	**Ga**	71	270.0	27.3				mg/L	225	Standard
⌊	**Rb**	85	755.0	10.2				ug/L	28	Standard
⌈	**Y**	89	289699.8	5.2				ug/L	322845	Standard
⌊>	**Rh**	103	95.0	19.0				ug/L	92	Standard
⌈	**Mo**	98	367.5	9.5	**0.0784**	0.005	5.9	ug/L	18	Standard
|	**Ag**	107	58.7	27.1	**-0.0000**	0.002	8891.3	ug/L	63	Standard
|	**Cd**	111	28.6	19.4	**-0.0023**	0.001	61.5	mg/L	20	Standard
|	**Cd**	114	84.9	23.1	**0.0004**	0.002	438.4	ug/L	56	Standard
|>	**In**	115	614962.0	4.2				ug/L	657102	Standard
|	**Sn**	118	885.4	8.2	**0.0456**	0.004	8.6	ug/L	555	Standard
|	**Sb**	123	85.7	17.5	**0.0087**	0.002	17.6	ug/L	62	Standard
⌊	**Ba**	135	1603.1	9.2	**0.4826**	0.026	5.4	ug/L	19	Standard
⌈	**Ce**	140	4115.6	7.0				ug/L	24	Standard
⌊>	**Tb**	159	897206.1	3.0				ug/L	910514	Standard
⌈	**Ho**	165	64.3	20.5				ug/L	7	Standard
|	**Tl**	203	194.3	15.1	**0.0116**	0.002	16.3	ug/L	13	Standard
|	**Tl**	205	8.0	33.1	**0.0219**	0.007	30.0	ug/L	1	Standard
|	**Pb**	206	1761.1	6.4	**0.1403**	0.008	6.0	ug/L	342	Standard
|	**Pb**	207	1424.1	6.4	**0.1286**	0.007	5.1	ug/L	284	Standard
|	**Pb**	208	6693.6	4.1	**0.1324**	0.004	2.9	ug/L	1363	Standard
|	**U**	238	30.7	21.0	**0.0016**	0.001	36.2	ug/L	2	Standard
⌊>	**Bi**	209	465750.3	2.5				ug/L	470592	Standard

Sample ID: L1211045824
Report Date/Time: Sunday, November 18, 2012 16:25:15
Page 1

Approved: November 19, 2012



	Na	23	0.0		**0.0050**	0.000	0.0	mg/L	2	Standard
	Mg	24	12743.7	5.4	**0.0038**	0.000	6.1	mg/L	5586	Standard
	K	39	8.3	34.6	**0.0797**	0.039	48.8	mg/L	5	Standard
	Ca	43	63.3	19.9	**0.6679**	0.556	83.3	mg/L	45	Standard
	Fe	54	461.9	10.5	**0.0375**	0.017	45.0	mg/L	350	Standard
	Fe	57	160.0	13.6	**0.1440**	0.050	34.8	mg/L	102	Standard
>	**Sc-1**	45	49260.1	5.7				mg/L	53004	Standard
	Cl	35	3.3	75.5				ug/L	2	Standard
	Kr	83	204.7	4.7				ug/L	157	Standard
	Br	81	4.2	34.6				ug/L	3	Standard
	P	31	110445.3	1.0				ug/L	91588	Standard
	S	34	35348.7	1.4				ug/L	32556	Standard
	Sr	88	75.0	13.3				ug/L	62	Standard
	C	12	185.0	31.9				mg/L	133	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	1.7	173.2				mg/L	7	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		92.251	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			
	Y	89			
>	Rh	103			

Approved: November 19, 2012

	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	93.587
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	98.971
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: L1211045824
Report Date/Time: Sunday, November 18, 2012 16:25:15
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

Sample ID: L1211044714
Sample Date/Time: Sunday, November 18, 2012 16:25:55
Number of Replicates: 3
Autosampler Position: 333
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	11541.1	5.1	**-2106.5664**	241.819	11.5	ug/L	8369	Standard
|	**Be**	9	26.7	57.3	**0.0041**	0.008	192.1	ug/L	18	Standard
|	**Al**	27	519141.7	7.2	**4.4828**	0.125	2.8	ug/L	215	Standard
⌊>	**Sc**	45	49920.6	5.9				ug/L	53004	Standard
⌈	**Ti**	47	797.7	15.1	**1.6522**	0.211	12.8	ug/L	26	Standard
|	**V**	51	4682.4	9.9	**0.1685**	0.030	17.9	ug/L	3223	Standard
|	**Cr**	52	11349.9	6.0	**0.2262**	0.034	15.1	ug/L	10379	Standard
|	**Cr**	53	589.2	10.3	**0.3629**	0.041	11.2	ug/L	192	Standard
|	**Mn**	55	98294.7	6.6	**6.1727**	0.221	3.6	ug/L	1840	Standard
|	**Co**	59	928.0	8.1	**0.0614**	0.005	8.4	ug/L	115	Standard
|	**Ni**	60	910.0	13.0	**0.3148**	0.037	11.8	ug/L	75	Standard
|	**Cu**	65	1070.7	3.2	**0.3703**	0.017	4.6	ug/L	155	Standard
|	**Zn**	66	4119.9	4.1	**3.1269**	0.116	3.7	ug/L	237	Standard
|>	**Ge**	72	374169.8	3.7				ug/L	413856	Standard
|	**As**	75	-139.0	28.6	**0.0337**	0.032	96.2	ug/L	-197	Standard
|	**Se**	82	-1.6	1244.7	**-0.0118**	0.167	1418.8	ug/L	-5	Standard
⌊	**Se-1**	77	121.7	12.6	**0.3967**	0.208	52.5	ug/L	105	Standard
⌈>	**Ga**	71	333.3	28.8				mg/L	225	Standard
⌊	**Rb**	85	4685.7	7.0				ug/L	28	Standard
⌈	**Y**	89	282360.6	3.6				ug/L	322845	Standard
⌊>	**Rh**	103	83.3	15.1				ug/L	92	Standard
⌈	**Mo**	98	59.5	12.9	**0.0057**	0.002	29.1	ug/L	18	Standard
|	**Ag**	107	54.7	26.5	**-0.0004**	0.002	534.8	ug/L	63	Standard
|	**Cd**	111	25.6	23.9	**-0.0030**	0.002	71.4	mg/L	20	Standard
|	**Cd**	114	58.9	11.6	**-0.0025**	0.001	40.8	ug/L	56	Standard
|>	**In**	115	603166.4	3.4				ug/L	657102	Standard
|	**Sn**	118	1048.7	8.1	**0.0653**	0.006	8.9	ug/L	555	Standard
|	**Sb**	123	77.7	20.0	**0.0079**	0.002	30.5	ug/L	62	Standard
⌊	**Ba**	135	14498.3	5.8	**4.6193**	0.195	4.2	ug/L	19	Standard
⌈	**Ce**	140	11482.7	5.0				ug/L	24	Standard
⌊>	**Tb**	159	876519.8	3.1				ug/L	910514	Standard
⌈	**Ho**	165	201.7	4.0				ug/L	7	Standard
|	**Tl**	203	132.0	5.7	**0.0070**	0.001	10.4	ug/L	13	Standard
|	**Tl**	205	5.3	65.8	**0.0152**	0.009	58.8	ug/L	1	Standard
|	**Pb**	206	1006.7	4.3	**0.0680**	0.003	4.8	ug/L	342	Standard
|	**Pb**	207	844.0	3.2	**0.0635**	0.002	3.8	ug/L	284	Standard
|	**Pb**	208	3986.2	2.6	**0.0669**	0.001	1.4	ug/L	1363	Standard
|	**U**	238	60.7	1.0	**0.0047**	0.000	2.6	ug/L	2	Standard
⌊>	**Bi**	209	456865.5	1.9				ug/L	470592	Standard

Sample ID: L1211044714
Report Date/Time: Sunday, November 18, 2012 16:28:28
Page 1

Approved: November 19, 2012

⌈	**Na**	23	0.0		**0.0050**	0.000	0.0	mg/L	2	Standard
|	**Mg**	24	114640.9	4.1	**0.0569**	0.002	2.9	mg/L	5586	Standard
|	**K**	39	36.7	20.8	**0.4891**	0.116	23.8	mg/L	5	Standard
|	**Ca**	43	50.0	10.0	**0.0275**	0.156	568.2	mg/L	45	Standard
|	**Fe**	54	716.9	3.9	**0.1399**	0.026	18.9	mg/L	350	Standard
|	**Fe**	57	221.7	10.2	**0.2408**	0.018	7.4	mg/L	102	Standard
⌊>	**Sc-1**	45	49920.6	5.9				mg/L	53004	Standard
	Cl	35	3.0	0.0				ug/L	2	Standard
	Kr	83	200.6	1.9				ug/L	157	Standard
	Br	81	4.2	124.9				ug/L	3	Standard
	P	31	125139.7	5.1				ug/L	91588	Standard
	S	34	34091.7	2.5				ug/L	32556	Standard
	Sr	88	73.3	28.4				ug/L	62	Standard
	C	12	218.3	4.8				mg/L	133	Standard
	N	14	1.7	173.2				mg/L	0	Standard
	Hg	202	3.3	86.6				mg/L	7	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		90.411	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: L1211044714
Report Date/Time: Sunday, November 18, 2012 16:28:28
Page 2

Approved: November 19, 2012

	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	91.792
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	97.083
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: L1211044714
Report Date/Time: Sunday, November 18, 2012 16:28:28
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

Sample ID: L1211044717
Sample Date/Time: Sunday, November 18, 2012 16:29:08
Number of Replicates: 3
Autosampler Position: 334
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	11744.6	3.3	**-2729.3821**	294.040	10.8	ug/L	8369	Standard
|	**Be**	9	36.7	20.8	**0.0105**	0.003	28.7	ug/L	18	Standard
|	**Al**	27	510554.0	5.7	**4.7302**	0.085	1.8	ug/L	215	Standard
⌊>	**Sc**	45	46580.1	7.3				ug/L	53004	Standard
⌈	**Ti**	47	795.0	9.4	**1.6928**	0.204	12.0	ug/L	26	Standard
|	**V**	51	4260.1	6.2	**0.1385**	0.010	7.2	ug/L	3223	Standard
|	**Cr**	52	10380.2	3.6	**0.1533**	0.028	18.4	ug/L	10379	Standard
|	**Cr**	53	550.8	7.4	**0.3444**	0.056	16.3	ug/L	192	Standard
|	**Mn**	55	95429.3	4.5	**6.1324**	0.109	1.8	ug/L	1840	Standard
|	**Co**	59	901.7	4.3	**0.0609**	0.001	2.4	ug/L	115	Standard
|	**Ni**	60	929.7	9.9	**0.3304**	0.019	5.7	ug/L	75	Standard
|	**Cu**	65	1405.1	4.3	**0.5165**	0.018	3.5	ug/L	155	Standard
|	**Zn**	66	2651.9	2.9	**1.9914**	0.077	3.8	ug/L	237	Standard
|>	**Ge**	72	366017.9	5.7				ug/L	413856	Standard
|	**As**	75	-61.8	52.7	**0.0907**	0.028	30.6	ug/L	-197	Standard
|	**Se**	82	15.4	71.5	**0.1371**	0.093	67.9	ug/L	-5	Standard
⌊	**Se-1**	77	120.7	20.0	**0.4251**	0.353	82.9	ug/L	105	Standard
⌈>	**Ga**	71	318.3	10.5				mg/L	225	Standard
⌊	**Rb**	85	4742.4	4.7				ug/L	28	Standard
⌈	**Y**	89	277907.9	3.8				ug/L	322845	Standard
⌊>	**Rh**	103	106.7	10.8				ug/L	92	Standard
⌈	**Mo**	98	50.5	19.8	**0.0036**	0.002	55.5	ug/L	18	Standard
|	**Ag**	107	56.0	17.0	**-0.0001**	0.001	875.3	ug/L	63	Standard
|	**Cd**	111	22.3	11.3	**-0.0040**	0.001	13.9	mg/L	20	Standard
|	**Cd**	114	59.3	14.0	**-0.0023**	0.001	55.8	ug/L	56	Standard
|>	**In**	115	597225.1	4.3				ug/L	657102	Standard
|	**Sn**	118	411.0	2.7	**-0.0039**	0.001	37.5	ug/L	555	Standard
|	**Sb**	123	66.2	5.8	**0.0064**	0.000	4.8	ug/L	62	Standard
⌊	**Ba**	135	14214.3	2.1	**4.5771**	0.096	2.1	ug/L	19	Standard
⌈	**Ce**	140	11212.5	3.4				ug/L	24	Standard
⌊>	**Tb**	159	871328.6	4.1				ug/L	910514	Standard
⌈	**Ho**	165	207.7	12.0				ug/L	7	Standard
|	**Tl**	203	139.3	7.9	**0.0077**	0.001	8.9	ug/L	13	Standard
|	**Tl**	205	5.7	44.4	**0.0165**	0.007	42.3	ug/L	1	Standard
|	**Pb**	206	916.4	2.3	**0.0601**	0.001	1.3	ug/L	342	Standard
|	**Pb**	207	802.0	3.3	**0.0597**	0.002	4.0	ug/L	284	Standard
|	**Pb**	208	3730.5	2.8	**0.0615**	0.003	5.2	ug/L	1363	Standard
|	**U**	238	63.3	10.3	**0.0050**	0.001	10.5	ug/L	2	Standard
⌊>	**Bi**	209	451482.8	2.7				ug/L	470592	Standard

Sample ID: L1211044717
Report Date/Time: Sunday, November 18, 2012 16:31:41
Page 1

Approved: November 19, 2012

⌈	**Na**	23	0.0		**0.0050**	0.000	0.0	mg/L	2	Standard
|	**Mg**	24	110516.7	1.9	**0.0590**	0.003	5.7	mg/L	5586	Standard
|	**K**	39	28.3	44.4	**0.3899**	0.167	42.9	mg/L	5	Standard
|	**Ca**	43	78.3	24.2	**1.6036**	1.139	71.1	mg/L	45	Standard
|	**Fe**	54	623.6	3.0	**0.1204**	0.026	21.8	mg/L	350	Standard
|	**Fe**	57	223.3	16.8	**0.2715**	0.069	25.2	mg/L	102	Standard
⌊>	**Sc-1**	45	46580.1	7.3				mg/L	53004	Standard
	Cl	35	4.3	13.3				ug/L	2	Standard
	Kr	83	180.0	3.4				ug/L	157	Standard
	Br	81	9.2	41.7				ug/L	3	Standard
	P	31	118395.1	5.7				ug/L	91588	Standard
	S	34	32276.9	3.3				ug/L	32556	Standard
	Sr	88	111.7	9.3				ug/L	62	Standard
	C	12	190.0	13.2				mg/L	133	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	6.7	43.3				mg/L	7	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		88.441	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: L1211044717
Report Date/Time: Sunday, November 18, 2012 16:31:41
Page 2

Approved: November 19, 2012

	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	90.888
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	95.939
	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	
	C	12	
	N	14	
	Hg	202	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: L1211044717
Report Date/Time: Sunday, November 18, 2012 16:31:41
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

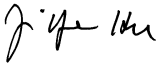
Sample ID: L1211044720
Sample Date/Time: Sunday, November 18, 2012 16:32:21
Number of Replicates: 3
Autosampler Position: 335
Sample Description: 1
Method File: C:\NexION Data\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
⌈	**Li**	7	7720.3	2.2	**-275.2937**	169.350	61.5	ug/L	8369	Standard
|	**Be**	9	20.0	25.0	**0.0017**	0.003	159.0	ug/L	18	Standard
|	**Al**	27	23721.9	5.3	**0.2218**	0.018	8.3	ug/L	215	Standard
⌊>	**Sc**	45	45780.8	4.6				ug/L	53004	Standard
⌈	**Ti**	47	73.7	16.2	**0.1030**	0.026	25.5	ug/L	26	Standard
|	**V**	51	2761.6	4.2	**-0.0033**	0.009	264.7	ug/L	3223	Standard
|	**Cr**	52	9021.7	0.9	**0.0165**	0.015	89.4	ug/L	10379	Standard
|	**Cr**	53	464.2	5.9	**0.2730**	0.028	10.2	ug/L	192	Standard
|	**Mn**	55	5493.6	61.3	**0.2683**	0.213	79.4	ug/L	1840	Standard
|	**Co**	59	110.3	11.7	**-0.0061**	0.001	15.5	ug/L	115	Standard
|	**Ni**	60	292.3	12.3	**0.0802**	0.015	18.1	ug/L	75	Standard
|	**Cu**	65	776.7	1.9	**0.2609**	0.008	2.9	ug/L	155	Standard
|	**Zn**	66	3784.1	2.1	**2.9365**	0.085	2.9	ug/L	237	Standard
|>	**Ge**	72	364508.2	1.6				ug/L	413856	Standard
|	**As**	75	-143.7	40.8	**0.0279**	0.045	160.4	ug/L	-197	Standard
|	**Se**	82	12.7	139.0	**0.1176**	0.156	132.7	ug/L	-5	Standard
⌊	**Se-1**	77	125.7	9.6	**0.4745**	0.122	25.8	ug/L	105	Standard
⌈>	**Ga**	71	181.7	4.2				mg/L	225	Standard
⌊	**Rb**	85	186.7	5.6				ug/L	28	Standard
⌈	**Y**	89	276056.2	5.0				ug/L	322845	Standard
⌊>	**Rh**	103	76.7	43.4				ug/L	92	Standard
⌈	**Mo**	98	25.7	14.1	**-0.0025**	0.001	29.0	ug/L	18	Standard
|	**Ag**	107	61.0	12.8	**0.0005**	0.001	191.0	ug/L	63	Standard
|	**Cd**	111	17.3	18.6	**-0.0057**	0.001	20.3	mg/L	20	Standard
|	**Cd**	114	63.2	23.2	**-0.0020**	0.002	81.5	ug/L	56	Standard
|>	**In**	115	605223.9	2.4				ug/L	657102	Standard
|	**Sn**	118	488.3	6.3	**0.0040**	0.005	114.2	ug/L	555	Standard
|	**Sb**	123	42.4	5.1	**0.0030**	0.000	5.4	ug/L	62	Standard
⌊	**Ba**	135	1063.4	2.1	**0.3192**	0.001	0.4	ug/L	19	Standard
⌈	**Ce**	140	481.3	4.4				ug/L	24	Standard
⌊>	**Tb**	159	874802.4	2.2				ug/L	910514	Standard
⌈	**Ho**	165	16.3	7.1				ug/L	7	Standard
|	**Tl**	203	141.7	10.8	**0.0080**	0.001	16.1	ug/L	13	Standard
|	**Tl**	205	4.0	86.6	**0.0121**	0.010	78.6	ug/L	1	Standard
|	**Pb**	206	447.0	3.1	**0.0127**	0.001	11.2	ug/L	342	Standard
|	**Pb**	207	398.3	2.9	**0.0117**	0.001	8.5	ug/L	284	Standard
|	**Pb**	208	1779.4	1.8	**0.0116**	0.001	5.3	ug/L	1363	Standard
|	**U**	238	5.3	28.6	**-0.0010**	0.000	15.9	ug/L	2	Standard
⌊>	**Bi**	209	448712.5	1.4				ug/L	470592	Standard

Sample ID: L1211044720
Report Date/Time: Sunday, November 18, 2012 16:34:54
Page 1

Approved: November 19, 2012



⌈	**Na**	23	0.0		**0.0050**	0.000	0.0	mg/L	2	Standard
|	**Mg**	24	59725.9	3.7	**0.0310**	0.001	3.2	mg/L	5586	Standard
|	**K**	39	0.0		**-0.0413**	0.000	0.0	mg/L	5	Standard
|	**Ca**	43	51.7	14.8	**0.3195**	0.391	122.3	mg/L	45	Standard
|	**Fe**	54	352.3	7.8	**0.0037**	0.018	495.1	mg/L	350	Standard
|	**Fe**	57	108.3	20.8	**0.0688**	0.040	57.6	mg/L	102	Standard
⌊>	**Sc-1**	45	45780.8	4.6				mg/L	53004	Standard
	Cl	35	3.0	33.3				ug/L	2	Standard
	Kr	83	185.8	6.4				ug/L	157	Standard
	Br	81	7.5	0.0				ug/L	3	Standard
	P	31	107331.6	3.6				ug/L	91588	Standard
	S	34	32596.7	0.8				ug/L	32556	Standard
	Sr	88	68.3	22.4				ug/L	62	Standard
	C	12	166.7	17.1				mg/L	133	Standard
	N	14	3.3	86.6				mg/L	0	Standard
	Hg	202	6.7	114.6				mg/L	7	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		88.076	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: L1211044720
Report Date/Time: Sunday, November 18, 2012 16:34:54
Page 2

Approved: November 19, 2012

	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	92.105
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	95.351
	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	
	C	12	
	N	14	
	Hg	202	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: L1211044720
Report Date/Time: Sunday, November 18, 2012 16:34:54
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

Sample ID: L1211044723
Sample Date/Time: Sunday, November 18, 2012 16:35:35
Number of Replicates: 3
Autosampler Position: 336
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	8098.8	8.7	**-437.4059**	283.759	64.9	ug/L	8369	Standard
|	**Be**	9	20.0	25.0	**0.0015**	0.003	175.2	ug/L	18	Standard
|	**Al**	27	33691.0	9.4	**0.3104**	0.013	4.3	ug/L	215	Standard
⌊>	**Sc**	45	46442.9	5.9				ug/L	53004	Standard
⌈	**Ti**	47	47.3	8.8	**0.0423**	0.010	22.7	ug/L	26	Standard
|	**V**	51	2829.3	4.6	**-0.0038**	0.003	82.5	ug/L	3223	Standard
|	**Cr**	52	12560.9	5.6	**0.3478**	0.012	3.5	ug/L	10379	Standard
|	**Cr**	53	668.3	6.0	**0.4264**	0.006	1.5	ug/L	192	Standard
|	**Mn**	55	8704.2	7.0	**0.4654**	0.019	4.1	ug/L	1840	Standard
|	**Co**	59	107.0	7.3	**-0.0067**	0.000	5.5	ug/L	115	Standard
|	**Ni**	60	291.3	1.7	**0.0769**	0.004	5.2	ug/L	75	Standard
|	**Cu**	65	1234.4	5.8	**0.4351**	0.009	2.0	ug/L	155	Standard
|	**Zn**	66	3232.0	1.0	**2.4124**	0.125	5.2	ug/L	237	Standard
| >	**Ge**	72	374329.0	5.1				ug/L	413856	Standard
|	**As**	75	-158.4	27.5	**0.0200**	0.030	149.1	ug/L	-197	Standard
|	**Se**	82	6.8	226.0	**0.0668**	0.136	203.9	ug/L	-5	Standard
⌊	**Se-1**	77	107.3	19.4	**0.2320**	0.238	102.7	ug/L	105	Standard
⌈>	**Ga**	71	201.7	13.7				mg/L	225	Standard
⌊	**Rb**	85	168.3	21.9				ug/L	28	Standard
⌈	**Y**	89	279878.5	1.8				ug/L	322845	Standard
⌊>	**Rh**	103	88.3	17.3				ug/L	92	Standard
⌈	**Mo**	98	21.1	23.8	**-0.0036**	0.001	37.2	ug/L	18	Standard
|	**Ag**	107	71.7	21.4	**0.0020**	0.002	126.3	ug/L	63	Standard
|	**Cd**	111	17.6	37.8	**-0.0057**	0.002	35.9	mg/L	20	Standard
|	**Cd**	114	60.0	22.0	**-0.0024**	0.001	56.5	ug/L	56	Standard
| >	**In**	115	608907.2	4.6				ug/L	657102	Standard
|	**Sn**	118	621.7	6.2	**0.0180**	0.001	7.5	ug/L	555	Standard
|	**Sb**	123	46.7	15.0	**0.0035**	0.001	24.9	ug/L	62	Standard
⌊	**Ba**	135	1280.7	3.7	**0.3862**	0.004	1.0	ug/L	19	Standard
⌈	**Ce**	140	691.3	13.5				ug/L	24	Standard
⌊>	**Tb**	159	868269.0	3.2				ug/L	910514	Standard
⌈	**Ho**	165	16.3	24.7				ug/L	7	Standard
|	**Tl**	203	44.0	8.2	**-0.0000**	0.000	1028.2	ug/L	13	Standard
|	**Tl**	205	1.3	114.6	**0.0049**	0.004	84.4	ug/L	1	Standard
|	**Pb**	206	456.7	7.7	**0.0135**	0.002	18.0	ug/L	342	Standard
|	**Pb**	207	400.0	1.7	**0.0118**	0.002	20.1	ug/L	284	Standard
|	**Pb**	208	1811.0	4.1	**0.0123**	0.000	2.5	ug/L	1363	Standard
|	**U**	238	6.3	39.7	**-0.0009**	0.000	26.9	ug/L	2	Standard
⌊>	**Bi**	209	450267.6	4.1				ug/L	470592	Standard

Sample ID: L1211044723
Report Date/Time: Sunday, November 18, 2012 16:38:07
Page 1

Approved: November 19, 2012

⌈	**Na**	23	0.0		**0.0050**	0.000	0.0	mg/L	2	Standard
|	**Mg**	24	67006.3	3.3	**0.0346**	0.001	3.3	mg/L	5586	Standard
|	**K**	39	6.7	43.3	**0.0625**	0.046	73.0	mg/L	5	Standard
|	**Ca**	43	36.7	20.8	**-0.4316**	0.477	110.5	mg/L	45	Standard
|	**Fe**	54	358.8	22.9	**0.0041**	0.037	899.3	mg/L	350	Standard
|	**Fe**	57	141.7	14.7	**0.1277**	0.052	40.8	mg/L	102	Standard
⌊>	**Sc-1**	45	46442.9	5.9				mg/L	53004	Standard
	Cl	35	2.3	99.0				ug/L	2	Standard
	Kr	83	174.4	5.1				ug/L	157	Standard
	Br	81	4.2	34.6				ug/L	3	Standard
	P	31	108015.3	5.6				ug/L	91588	Standard
	S	34	32567.5	1.7				ug/L	32556	Standard
	Sr	88	66.7	38.5				ug/L	62	Standard
	C	12	155.0	16.1				mg/L	133	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	5.0	0.0				mg/L	7	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		90.449	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: L1211044723
Report Date/Time: Sunday, November 18, 2012 16:38:07
Page 2

Approved: November 19, 2012

	Mo	98		
	Ag	107		
	Cd	111		
	Cd	114		
>	In	115		92.666
	Sn	118		
	Sb	123		
	Ba	135		
	Ce	140		
>	Tb	159		
	Ho	165		
	Tl	203		
	Tl	205		
	Pb	206		
	Pb	207		
	Pb	208		
	U	238		
>	Bi	209		95.681
	Na	23		
	Mg	24		
	K	39		
	Ca	43		
	Fe	54		
	Fe	57		
>	Sc-1	45		
	Cl	35		
	Kr	83		
	Br	81		
	P	31		
	S	34		
	Sr	88		
	C	12		
	N	14		
	Hg	202		

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: L1211044723
Report Date/Time: Sunday, November 18, 2012 16:38:07
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

Sample ID: QC Std 6
Sample Date/Time: Sunday, November 18, 2012 16:38:48
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	8277.3	2.1	**-41.9122**	70.581	168.4	ug/L	8369	Standard
|	**Be**	9	106800.1	1.6	**52.8513**	0.659	1.2	ug/L	18	Standard
|	**Al**	27	6701213.3	3.0	**56.1698**	1.373	2.4	ug/L	215	Standard
⌊>	**Sc**	45	51463.9	0.6				ug/L	53004	Standard
⌈	**Ti**	47	48454.7	3.3	**98.2887**	1.745	1.8	ug/L	26	Standard
|	**V**	51	555475.8	4.5	**48.6067**	1.426	2.9	ug/L	3223	Standard
|	**Cr**	52	528605.6	4.2	**49.2941**	1.155	2.3	ug/L	10379	Standard
|	**Cr**	53	63761.6	4.5	**48.1975**	1.213	2.5	ug/L	192	Standard
|	**Mn**	55	824487.4	3.9	**49.5063**	0.986	2.0	ug/L	1840	Standard
|	**Co**	59	628452.5	3.9	**49.1475**	0.929	1.9	ug/L	115	Standard
|	**Ni**	60	135027.6	4.9	**49.0759**	1.402	2.9	ug/L	75	Standard
|	**Cu**	65	133071.5	4.1	**50.0931**	1.284	2.6	ug/L	155	Standard
|	**Zn**	66	65928.9	3.6	**50.0243**	0.795	1.6	ug/L	237	Standard
| >	**Ge**	72	396381.4	2.1				ug/L	413856	Standard
|	**As**	75	68544.6	3.2	**49.4333**	0.586	1.2	ug/L	-197	Standard
|	**Se**	82	6094.2	3.2	**49.0968**	0.587	1.2	ug/L	-5	Standard
⌊	**Se-1**	77	4802.4	2.5	**50.1193**	0.417	0.8	ug/L	105	Standard
⌈>	**Ga**	71	168.3	17.9				mg/L	225	Standard
⌊	**Rb**	85	1576.7	7.9				ug/L	28	Standard
⌈	**Y**	89	305152.7	1.5				ug/L	322845	Standard
⌊>	**Rh**	103	125.0	10.6				ug/L	92	Standard
⌈	**Mo**	98	411687.2	4.9	**93.6163**	3.024	3.2	ug/L	18	Standard
|	**Ag**	107	376672.6	3.8	**48.6972**	1.195	2.5	ug/L	63	Standard
|	**Cd**	111	166078.7	4.9	**49.5964**	1.823	3.7	mg/L	20	Standard
|	**Cd**	114	433100.9	4.7	**49.1442**	1.687	3.4	ug/L	56	Standard
| >	**In**	115	641406.0	1.7				ug/L	657102	Standard
|	**Sn**	118	489085.4	4.4	**50.2889**	1.574	3.1	ug/L	555	Standard
|	**Sb**	123	384602.1	4.4	**50.2996**	1.628	3.2	ug/L	62	Standard
⌊	**Ba**	135	167769.7	4.1	**50.4597**	1.385	2.7	ug/L	19	Standard
⌈	**Ce**	140	521.0	4.9				ug/L	24	Standard
⌊>	**Tb**	159	917121.7	1.2				ug/L	910514	Standard
⌈	**Ho**	165	454.7	4.5				ug/L	7	Standard
|	**Tl**	203	635280.4	1.1	**49.7897**	0.518	1.0	ug/L	13	Standard
|	**Tl**	205	19795.6	2.9	**50.8503**	1.202	2.4	ug/L	1	Standard
|	**Pb**	206	512207.1	3.9	**50.0663**	1.549	3.1	ug/L	342	Standard
|	**Pb**	207	433292.1	3.9	**49.8146**	1.522	3.1	ug/L	284	Standard
|	**Pb**	208	2001198.9	3.9	**49.5556**	1.534	3.1	ug/L	1363	Standard
|	**U**	238	498822.0	4.8	**49.9128**	1.985	4.0	ug/L	2	Standard
⌊>	**Bi**	209	468485.2	1.2				ug/L	470592	Standard

Sample ID: QC Std 6
Report Date/Time: Sunday, November 18, 2012 16:41:19
Page 1

Approved: November 19, 2012

⌈	**Na**	23	1.7	173.2	**0.1593**	0.267	167.8	mg/L	2	Standard
|	**Mg**	24	305072.4	0.4	**0.1513**	0.001	0.7	mg/L	5586	Standard
|	**K**	39	393.3	3.7	**5.4670**	0.177	3.2	mg/L	5	Standard
|	**Ca**	43	148.3	15.2	**4.2692**	0.964	22.6	mg/L	45	Standard
|	**Fe**	54	13492.0	5.3	**5.1844**	0.259	5.0	mg/L	350	Standard
|	**Fe**	57	3280.4	7.9	**5.1764**	0.395	7.6	mg/L	102	Standard
⌊>	**Sc-1**	45	51463.9	0.6				mg/L	53004	Standard
	Cl	35	4.0	25.0				ug/L	2	Standard
	Kr	83	181.4	5.0				ug/L	157	Standard
	Br	81	9.2	41.7				ug/L	3	Standard
	P	31	129578.4	0.7				ug/L	91588	Standard
	S	34	38425.3	2.0				ug/L	32556	Standard
	Sr	88	70.0	35.7				ug/L	62	Standard
	C	12	121.7	12.6				mg/L	133	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	6.7	86.6				mg/L	7	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈	Li	7			
|	Be	9	105.703		
|	Al	27	112.340		
⌊>	Sc	45			
⌈	Ti	47	98.289		
|	V	51	97.213		
|	Cr	52	98.588		
|	Cr	53			
|	Mn	55	99.013		
|	Co	59	98.295		
|	Ni	60	98.152		
|	Cu	65	100.186		
|	Zn	66	100.049		
|>	Ge	72		95.778	
|	As	75	98.867		
|	Se	82	98.194		
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: QC Std 6
Report Date/Time: Sunday, November 18, 2012 16:41:19
Page 2

Approved: November 19, 2012

	Mo	98	93.616	
	Ag	107	97.394	
	Cd	111	99.193	
	Cd	114		
>	In	115		97.611
	Sn	118	100.578	
	Sb	123	100.599	
	Ba	135	100.919	
	Ce	140		
>	Tb	159		
	Ho	165		
	Tl	203	99.579	
	Tl	205		
	Pb	206	100.133	
	Pb	207	99.629	
	Pb	208	99.111	
	U	238	99.826	
>	Bi	209		99.552
	Na	23		
	Mg	24		
	K	39		
	Ca	43		
	Fe	54		
	Fe	57		
>	Sc-1	45		
	Cl	35		
	Kr	83		
	Br	81		
	P	31		
	S	34		
	Sr	88		
	C	12		
	N	14		
	Hg	202		

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 6	Al	27	

Sample ID: QC Std 6
Report Date/Time: Sunday, November 18, 2012 16:41:19
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

Sample ID: QC Std 7
Sample Date/Time: Sunday, November 18, 2012 16:42:00
Number of Replicates: 3
Autosampler Position: 102
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	7638.6	6.2	**146.7196**	127.851	87.1	ug/L	8369	Standard
|	**Be**	9	30.0	44.1	**0.0061**	0.007	115.0	ug/L	18	Standard
|	**Al**	27	1421.8	94.1	**0.0102**	0.011	112.5	ug/L	215	Standard
⌊>	**Sc**	45	49452.3	4.0				ug/L	53004	Standard
⌈	**Ti**	47	25.7	44.8	**-0.0066**	0.022	334.3	ug/L	26	Standard
|	**V**	51	2832.8	3.3	**-0.0114**	0.007	62.8	ug/L	3223	Standard
|	**Cr**	52	8779.2	2.6	**-0.0587**	0.030	51.1	ug/L	10379	Standard
|	**Cr**	53	135.0	4.9	**-0.0046**	0.007	141.0	ug/L	192	Standard
|	**Mn**	55	1552.4	8.3	**0.0069**	0.004	65.2	ug/L	1840	Standard
|	**Co**	59	98.3	49.0	**-0.0077**	0.003	44.8	ug/L	115	Standard
|	**Ni**	60	76.0	4.7	**-0.0071**	0.001	8.5	ug/L	75	Standard
|	**Cu**	65	202.0	14.2	**0.0206**	0.010	50.0	ug/L	155	Standard
|	**Zn**	66	238.7	6.6	**-0.0128**	0.008	60.7	ug/L	237	Standard
|>	**Ge**	72	386104.1	4.5				ug/L	413856	Standard
|	**As**	75	-191.3	5.4	**-0.0017**	0.014	793.3	ug/L	-197	Standard
|	**Se**	82	-5.7	68.8	**-0.0412**	0.030	73.6	ug/L	-5	Standard
⌊	**Se-1**	77	101.7	11.0	**0.1367**	0.166	121.2	ug/L	105	Standard
⌈>	**Ga**	71	198.3	14.3				mg/L	225	Standard
⌊	**Rb**	85	21.7	48.0				ug/L	28	Standard
⌈	**Y**	89	284203.3	5.0				ug/L	322845	Standard
⌊>	**Rh**	103	96.7	10.8				ug/L	92	Standard
⌈	**Mo**	98	215.8	89.9	**0.0415**	0.044	106.1	ug/L	18	Standard
|	**Ag**	107	207.3	60.8	**0.0197**	0.016	82.1	ug/L	63	Standard
|	**Cd**	111	76.1	79.8	**0.0121**	0.018	149.2	mg/L	20	Standard
|	**Cd**	114	179.1	66.4	**0.0113**	0.013	118.1	ug/L	56	Standard
|>	**In**	115	616962.8	2.9				ug/L	657102	Standard
|	**Sn**	118	466.7	23.7	**0.0004**	0.010	2832.8	ug/L	555	Standard
|	**Sb**	123	336.4	40.2	**0.0425**	0.017	39.6	ug/L	62	Standard
⌊	**Ba**	135	49.7	52.6	**-0.0045**	0.008	167.7	ug/L	19	Standard
⌈	**Ce**	140	19.7	26.1				ug/L	24	Standard
⌊>	**Tb**	159	891197.0	2.9				ug/L	910514	Standard
⌈	**Ho**	165	8.7	29.0				ug/L	7	Standard
|	**Tl**	203	189.0	112.2	**0.0112**	0.016	146.0	ug/L	13	Standard
|	**Tl**	205	4.7	101.3	**0.0133**	0.012	89.5	ug/L	1	Standard
|	**Pb**	206	425.7	35.9	**0.0093**	0.014	151.5	ug/L	342	Standard
|	**Pb**	207	388.7	28.4	**0.0093**	0.012	126.1	ug/L	284	Standard
|	**Pb**	208	1677.4	31.4	**0.0077**	0.012	157.1	ug/L	1363	Standard
|	**U**	238	85.7	129.3	**0.0070**	0.011	155.2	ug/L	2	Standard
⌊>	**Bi**	209	459795.2	2.6				ug/L	470592	Standard

Sample ID: QC Std 7
Report Date/Time: Sunday, November 18, 2012 16:44:32
Page 1

Approved: November 19, 2012

⌈	**Na**	23	0.0		**0.0050**	0.000	0.0	mg/L	2	Standard
|	**Mg**	24	818.4	19.8	**-0.0025**	0.000	3.2	mg/L	5586	Standard
|	**K**	39	8.3	91.7	**0.0813**	0.111	136.2	mg/L	5	Standard
|	**Ca**	43	28.3	53.9	**-0.9486**	0.671	70.7	mg/L	45	Standard
|	**Fe**	54	342.3	6.0	**-0.0124**	0.010	82.1	mg/L	350	Standard
|	**Fe**	57	116.7	43.1	**0.0677**	0.081	119.4	mg/L	102	Standard
⌊>	**Sc-1**	45	49452.3	4.0				mg/L	53004	Standard
	Cl	35	4.0	43.3				ug/L	2	Standard
	Kr	83	176.9	6.1				ug/L	157	Standard
	Br	81	5.0	86.6				ug/L	3	Standard
	P	31	124416.4	2.1				ug/L	91588	Standard
	S	34	40175.7	2.0				ug/L	32556	Standard
	Sr	88	56.7	45.3				ug/L	62	Standard
	C	12	123.3	4.7				mg/L	133	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	0.0					mg/L	7	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		93.294	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: QC Std 7
Report Date/Time: Sunday, November 18, 2012 16:44:32
Page 2

Approved: November 19, 2012

	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	93.892
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	97.706
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: QC Std 7
Report Date/Time: Sunday, November 18, 2012 16:44:32
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

Sample ID: PBW 44 WG413848-02
Sample Date/Time: Sunday, November 18, 2012 16:45:13
Number of Replicates: 3
Autosampler Position: 337
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	6926.6	10.4	**84.6122**	325.618	384.8	ug/L	8369	Standard
|	**Be**	9	16.7	69.3	**-0.0000**	0.006	35563.5	ug/L	18	Standard
|	**Al**	27	600.0	95.3	**0.0036**	0.005	147.3	ug/L	215	Standard
⌊>	**Sc**	45	44197.8	4.0				ug/L	53004	Standard
⌈	**Ti**	47	17.0	27.0	**-0.0210**	0.009	43.4	ug/L	26	Standard
|	**V**	51	2565.1	3.3	**-0.0136**	0.004	27.3	ug/L	3223	Standard
|	**Cr**	52	7860.4	2.6	**-0.0755**	0.017	23.1	ug/L	10379	Standard
|	**Cr**	53	116.7	6.5	**-0.0102**	0.009	87.4	ug/L	192	Standard
|	**Mn**	55	1296.1	3.6	**-0.0012**	0.002	207.4	ug/L	1840	Standard
|	**Co**	59	89.0	19.2	**-0.0077**	0.001	17.9	ug/L	115	Standard
|	**Ni**	60	836.7	5.6	**0.3067**	0.009	2.9	ug/L	75	Standard
|	**Cu**	65	151.7	14.2	**0.0067**	0.008	126.5	ug/L	155	Standard
|	**Zn**	66	1862.8	6.6	**1.3957**	0.053	3.8	ug/L	237	Standard
|>	**Ge**	72	352439.8	3.3				ug/L	413856	Standard
|	**As**	75	-158.0	48.6	**0.0109**	0.067	613.1	ug/L	-197	Standard
|	**Se**	82	-0.3	5943.0	**0.0015**	0.178	11897.8	ug/L	-5	Standard
⌊	**Se-1**	77	114.0	0.9	**0.3863**	0.039	10.1	ug/L	105	Standard
⌈>	**Ga**	71	175.0	15.9				mg/L	225	Standard
⌊	**Rb**	85	10.0					ug/L	28	Standard
⌈	**Y**	89	259159.0	4.6				ug/L	322845	Standard
⌊>	**Rh**	103	73.3	7.9				ug/L	92	Standard
⌈	**Mo**	98	12.1	27.7	**-0.0056**	0.001	12.9	ug/L	18	Standard
|	**Ag**	107	42.7	7.5	**-0.0017**	0.000	24.8	ug/L	63	Standard
|	**Cd**	111	21.0	4.8	**-0.0041**	0.001	13.6	mg/L	20	Standard
|	**Cd**	114	54.7	20.2	**-0.0026**	0.001	56.8	ug/L	56	Standard
|>	**In**	115	569171.4	3.8				ug/L	657102	Standard
|	**Sn**	118	322.3	12.7	**-0.0121**	0.003	27.5	ug/L	555	Standard
|	**Sb**	123	63.7	1.4	**0.0065**	0.000	5.4	ug/L	62	Standard
⌊	**Ba**	135	15.0	37.1	**-0.0149**	0.002	11.4	ug/L	19	Standard
⌈	**Ce**	140	22.0	20.8				ug/L	24	Standard
⌊>	**Tb**	159	830801.3	3.9				ug/L	910514	Standard
⌈	**Ho**	165	10.3	53.3				ug/L	7	Standard
|	**Tl**	203	69.3	102.0	**0.0022**	0.006	265.5	ug/L	13	Standard
|	**Tl**	205	2.0	132.3	**0.0068**	0.007	106.1	ug/L	1	Standard
|	**Pb**	206	366.3	21.9	**0.0061**	0.008	125.2	ug/L	342	Standard
|	**Pb**	207	289.0	24.1	**0.0001**	0.008	12952.6	ug/L	284	Standard
|	**Pb**	208	1335.7	21.4	**0.0016**	0.007	434.1	ug/L	1363	Standard
|	**U**	238	29.0	155.3	**0.0016**	0.005	304.8	ug/L	2	Standard
⌊>	**Bi**	209	429393.9	2.3				ug/L	470592	Standard

Sample ID: PBW 44 WG413848-02
Report Date/Time: Sunday, November 18, 2012 16:47:45
Page 1

Approved: November 19, 2012

⌈	**Na**	23	0.0		**0.0050**	0.000	0.0	mg/L	2	Standard
|	**Mg**	24	673.3	17.4	**-0.0025**	0.000	2.1	mg/L	5586	Standard
|	**K**	39	5.0	100.0	**0.0401**	0.083	207.6	mg/L	5	Standard
|	**Ca**	43	45.0	38.5	**0.0458**	0.777	1697.6	mg/L	45	Standard
|	**Fe**	54	265.4	4.6	**-0.0312**	0.003	9.4	mg/L	350	Standard
|	**Fe**	57	106.7	16.5	**0.0736**	0.040	54.1	mg/L	102	Standard
⌊>	**Sc-1**	45	44197.8	4.0				mg/L	53004	Standard
	Cl	35	3.0	66.7				ug/L	2	Standard
	Kr	83	135.0	12.3				ug/L	157	Standard
	Br	81	4.2	124.9				ug/L	3	Standard
	P	31	81430.9	3.4				ug/L	91588	Standard
	S	34	36689.4	1.6				ug/L	32556	Standard
	Sr	88	56.7	22.2				ug/L	62	Standard
	C	12	93.3	11.2				mg/L	133	Standard
	N	14	1.7	173.2				mg/L	0	Standard
	Hg	202	3.3	173.2				mg/L	7	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		85.160	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: PBW 44 WG413848-02
Report Date/Time: Sunday, November 18, 2012 16:47:45
Page 2

Approved: November 19, 2012

	Mo	98		
	Ag	107		
	Cd	111		
	Cd	114		
>	In	115		86.618
	Sn	118		
	Sb	123		
	Ba	135		
	Ce	140		
>	Tb	159		
	Ho	165		
	Tl	203		
	Tl	205		
	Pb	206		
	Pb	207		
	Pb	208		
	U	238		
>	Bi	209		91.246
	Na	23		
	Mg	24		
	K	39		
	Ca	43		
	Fe	54		
	Fe	57		
>	Sc-1	45		
	Cl	35		
	Kr	83		
	Br	81		
	P	31		
	S	34		
	Sr	88		
	C	12		
	N	14		
	Hg	202		

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: PBW 44 WG413848-02
Report Date/Time: Sunday, November 18, 2012 16:47:45
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

Sample ID: LCSW 44 WG413848-03
Sample Date/Time: Sunday, November 18, 2012 16:48:25
Number of Replicates: 3
Autosampler Position: 338
Sample Description: 1
Method File: C:\NexION Data\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
⌈	**Li**	7	7546.9	4.4	**22.0002**	110.132	500.6	ug/L	8369	Standard
|	**Be**	9	47758.8	8.1	**25.5351**	1.078	4.2	ug/L	18	Standard
|	**Al**	27	1078.4	13.5	**0.0076**	0.001	12.3	ug/L	215	Standard
⌊>	**Sc**	45	47586.4	4.8				ug/L	53004	Standard
⌈	**Ti**	47	20.0	31.2	**-0.0179**	0.013	73.3	ug/L	26	Standard
|	**V**	51	254801.1	6.9	**22.7451**	0.800	3.5	ug/L	3223	Standard
|	**Cr**	52	251058.8	6.2	**23.5682**	0.755	3.2	ug/L	10379	Standard
|	**Cr**	53	30206.0	7.0	**23.3839**	0.926	4.0	ug/L	192	Standard
|	**Mn**	55	386432.8	6.1	**23.7771**	0.717	3.0	ug/L	1840	Standard
|	**Co**	59	291189.1	5.3	**23.3765**	0.515	2.2	ug/L	115	Standard
|	**Ni**	60	62630.9	6.4	**23.3544**	0.743	3.2	ug/L	75	Standard
|	**Cu**	65	63677.6	6.4	**24.5776**	0.718	2.9	ug/L	155	Standard
|	**Zn**	66	32184.9	5.6	**24.9738**	0.548	2.2	ug/L	237	Standard
|>	**Ge**	72	385956.9	3.5				ug/L	413856	Standard
|	**As**	75	31539.8	4.8	**23.4311**	0.383	1.6	ug/L	-197	Standard
|	**Se**	82	2807.7	5.1	**23.2295**	0.508	2.2	ug/L	-5	Standard
⌊	**Se-1**	77	2278.5	8.4	**23.8930**	1.226	5.1	ug/L	105	Standard
⌈>	**Ga**	71	188.3	15.3				mg/L	225	Standard
⌊	**Rb**	85	25.0	34.6				ug/L	28	Standard
⌈	**Y**	89	292864.2	4.8				ug/L	322845	Standard
⌊>	**Rh**	103	118.3	6.5				ug/L	92	Standard
⌈	**Mo**	98	33.8	13.0	**-0.0008**	0.001	108.1	ug/L	18	Standard
|	**Ag**	107	176564.5	5.4	**23.5955**	0.329	1.4	ug/L	63	Standard
|	**Cd**	111	76165.3	5.7	**23.5117**	0.574	2.4	mg/L	20	Standard
|	**Cd**	114	199288.7	6.4	**23.3735**	0.789	3.4	ug/L	56	Standard
|>	**In**	115	620309.2	4.2				ug/L	657102	Standard
|	**Sn**	118	495.7	4.3	**0.0034**	0.000	5.3	ug/L	555	Standard
|	**Sb**	123	176184.6	5.6	**23.8197**	0.366	1.5	ug/L	62	Standard
⌊	**Ba**	135	78062.9	5.1	**24.2677**	0.443	1.8	ug/L	19	Standard
⌈	**Ce**	140	96.0	9.5				ug/L	24	Standard
⌊>	**Tb**	159	895357.7	4.7				ug/L	910514	Standard
⌈	**Ho**	165	12.3	41.6				ug/L	7	Standard
|	**Tl**	203	300191.8	5.3	**23.9375**	0.320	1.3	ug/L	13	Standard
|	**Tl**	205	9127.4	3.9	**23.8689**	0.174	0.7	ug/L	1	Standard
|	**Pb**	206	238908.4	6.3	**23.7416**	0.534	2.2	ug/L	342	Standard
|	**Pb**	207	205771.5	5.4	**24.0568**	0.399	1.7	ug/L	284	Standard
|	**Pb**	208	948987.8	5.8	**23.8945**	0.439	1.8	ug/L	1363	Standard
|	**U**	238	224277.2	6.7	**22.8332**	0.777	3.4	ug/L	2	Standard
⌊>	**Bi**	209	460276.4	4.3				ug/L	470592	Standard

Sample ID: LCSW 44 WG413848-03
Report Date/Time: Sunday, November 18, 2012 16:50:57
Page 1

Approved: November 19, 2012

	Na	23	1.7	173.2	**0.1695**	0.285	168.1	mg/L	2	Standard
	Mg	24	1533.4	6.4	**-0.0021**	0.000	3.2	mg/L	5586	Standard
	K	39	0.0		**-0.0413**	0.000	0.0	mg/L	5	Standard
	Ca	43	31.7	50.8	**-0.7022**	0.857	122.0	mg/L	45	Standard
	Fe	54	319.4	16.0	**-0.0171**	0.018	103.1	mg/L	350	Standard
	Fe	57	93.3	16.4	**0.0361**	0.035	96.4	mg/L	102	Standard
>	**Sc-1**	45	47586.4	4.8				mg/L	53004	Standard
	Cl	35	2.0	50.0				ug/L	2	Standard
	Kr	83	168.4	20.3				ug/L	157	Standard
	Br	81	2.5	0.0				ug/L	3	Standard
	P	31	115552.2	5.1				ug/L	91588	Standard
	S	34	35330.3	3.7				ug/L	32556	Standard
	Sr	88	73.3	46.4				ug/L	62	Standard
	C	12	126.7	12.1				mg/L	133	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	0.0					mg/L	7	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		93.259	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			
	Y	89			
>	Rh	103			

Sample ID: LCSW 44 WG413848-03
Report Date/Time: Sunday, November 18, 2012 16:50:57
Page 2

Approved: November 19, 2012

	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	94.401
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	97.808
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: LCSW 44 WG413848-03
Report Date/Time: Sunday, November 18, 2012 16:50:57
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

Sample ID: L1211020101 WG413848-01
Sample Date/Time: Sunday, November 18, 2012 16:51:37
Number of Replicates: 3
Autosampler Position: 339
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	772370.5	0.3	**-532130.8314**	8031.191	1.5	ug/L	8369	Standard
	Be	9	16.7	34.6	**0.0007**	0.004	553.9	ug/L	18	Standard
	Al	27	170629358.9	2.7	**1747.2979**	47.714	2.7	ug/L	215	Standard
>	Sc	45	42133.5	1.6				ug/L	53004	Standard
	Ti	47	174.0	15.4	**0.3771**	0.063	16.6	ug/L	26	Standard
	V	51	3294.7	19.9	**0.0919**	0.075	81.9	ug/L	3223	Standard
	Cr	52	13943.4	3.5	**0.7242**	0.074	10.2	ug/L	10379	Standard
	Cr	53	2224.3	14.2	**1.9744**	0.273	13.8	ug/L	192	Standard
	Mn	55	427310.7	3.2	**31.7233**	0.724	2.3	ug/L	1840	Standard
	Co	59	3592.1	4.3	**0.3322**	0.012	3.7	ug/L	115	Standard
	Ni	60	11622.5	3.9	**5.1971**	0.172	3.3	ug/L	75	Standard
	Cu	65	4334.3	4.6	**1.9641**	0.083	4.2	ug/L	155	Standard
	Zn	66	9454.0	3.0	**8.7161**	0.317	3.6	ug/L	237	Standard
>	Ge	72	320314.5	1.3				ug/L	413856	Standard
	As	75	781.7	9.9	**0.8363**	0.078	9.3	ug/L	-197	Standard
	Se	82	554.6	5.3	**5.5374**	0.365	6.6	ug/L	-5	Standard
	Se-1	77	521.7	5.8	**5.8896**	0.368	6.3	ug/L	105	Standard
>	Ga	71	165.0	10.5				mg/L	225	Standard
	Rb	85	11409.3	4.2				ug/L	28	Standard
	Y	89	252476.6	1.8				ug/L	322845	Standard
>	Rh	103	938.4	10.8				ug/L	92	Standard
	Mo	98	1207.8	6.1	**0.3251**	0.017	5.2	ug/L	18	Standard
	Ag	107	105.3	70.1	**0.0087**	0.012	134.3	ug/L	63	Standard
	Cd	111	85.5	45.6	**0.0199**	0.014	71.8	mg/L	20	Standard
	Cd	114	203.4	34.2	**0.0185**	0.010	52.4	ug/L	56	Standard
>	In	115	527787.8	1.2				ug/L	657102	Standard
	Sn	118	384.3	3.4	**-0.0013**	0.001	106.7	ug/L	555	Standard
	Sb	123	317.5	6.7	**0.0475**	0.003	7.1	ug/L	62	Standard
	Ba	135	10639.1	3.3	**3.8707**	0.093	2.4	ug/L	19	Standard
	Ce	140	698.3	4.8				ug/L	24	Standard
>	Tb	159	750917.0	0.2				ug/L	910514	Standard
	Ho	165	53.3	18.8				ug/L	7	Standard
	Tl	203	410.0	26.3	**0.0418**	0.012	28.2	ug/L	13	Standard
	Tl	205	11.0	18.2	**0.0412**	0.007	16.6	ug/L	1	Standard
	Pb	206	473.3	17.2	**0.0325**	0.011	33.3	ug/L	342	Standard
	Pb	207	398.7	23.6	**0.0287**	0.015	51.2	ug/L	284	Standard
	Pb	208	1790.0	19.4	**0.0283**	0.012	41.6	ug/L	1363	Standard
	U	238	193573.3	2.8	**27.4171**	0.998	3.6	ug/L	2	Standard
>	Bi	209	331098.2	1.2				ug/L	470592	Standard

Sample ID: L1211020101 WG413848-01
Report Date/Time: Sunday, November 18, 2012 16:54:10
Page 1

Approved: November 19, 2012

	Na	23	100.0	5.0	**11.3791**	0.723	6.4	mg/L	2	Standard
	Mg	24	19005138.5	1.5	**11.7294**	0.016	0.1	mg/L	5586	Standard
	K	39	165.0	8.0	**2.7794**	0.181	6.5	mg/L	5	Standard
	Ca	43	2113.5	6.2	**110.9731**	7.673	6.9	mg/L	45	Standard
	Fe	54	265.0	4.7	**-0.0253**	0.008	30.4	mg/L	350	Standard
	Fe	57	1093.4	3.1	**2.0320**	0.065	3.2	mg/L	102	Standard
>	**Sc-1**	45	42133.5	1.6				mg/L	53004	Standard
	Cl	35	15.3	13.6				ug/L	2	Standard
	Kr	83	359.8	35.9				ug/L	157	Standard
	Br	81	5.8	65.5				ug/L	3	Standard
	P	31	88419.8	2.4				ug/L	91588	Standard
	S	34	34515.2	4.5				ug/L	32556	Standard
	Sr	88	7495.2	3.0				ug/L	62	Standard
	C	12	1266.7	12.5				mg/L	133	Standard
	N	14	1.7	173.2				mg/L	0	Standard
	Hg	202	5.0	173.2				mg/L	7	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		77.398	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			
	Y	89			
>	Rh	103			

Sample ID: L1211020101 WG413848-01
Report Date/Time: Sunday, November 18, 2012 16:54:10
Page 2

Approved: November 19, 2012

⌈	Mo	98	
|	Ag	107	
|	Cd	111	
|	Cd	114	
|>	In	115	80.321
|	Sn	118	
|	Sb	123	
⌊	Ba	135	
⌈	Ce	140	
⌊>	Tb	159	
⌈	Ho	165	
|	Tl	203	
|	Tl	205	
|	Pb	206	
|	Pb	207	
|	Pb	208	
|	U	238	
⌊>	Bi	209	70.358
⌈	Na	23	
|	Mg	24	
|	K	39	
|	Ca	43	
|	Fe	54	
|	Fe	57	
⌊>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: L1211020101 WG413848-01
Report Date/Time: Sunday, November 18, 2012 16:54:10
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

Sample ID: L1211020101S WG413848-04
Sample Date/Time: Sunday, November 18, 2012 16:54:51
Number of Replicates: 3
Autosampler Position: 340
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	814545.4	1.2	**-555948.6482**	5100.368	0.9	ug/L	8369	Standard
|	**Be**	9	44622.3	4.0	**26.7195**	1.348	5.0	ug/L	18	Standard
|	**Al**	27	185912971.5	3.0	**1885.7953**	68.404	3.6	ug/L	215	Standard
⌊>	**Sc**	45	42541.3	1.3				ug/L	53004	Standard
⌈	**Ti**	47	171.3	4.7	**0.3642**	0.013	3.6	ug/L	26	Standard
|	**V**	51	228801.3	3.5	**24.2733**	0.527	2.2	ug/L	3223	Standard
|	**Cr**	52	218595.1	4.2	**24.3925**	0.603	2.5	ug/L	10379	Standard
|	**Cr**	53	27953.3	5.6	**25.7022**	0.986	3.8	ug/L	192	Standard
|	**Mn**	55	763322.6	2.4	**55.8924**	0.978	1.8	ug/L	1840	Standard
|	**Co**	59	253194.9	4.3	**24.1255**	0.556	2.3	ug/L	115	Standard
|	**Ni**	60	63517.0	3.9	**28.1358**	1.025	3.6	ug/L	75	Standard
|	**Cu**	65	53562.0	4.6	**24.5444**	0.725	3.0	ug/L	155	Standard
|	**Zn**	66	33679.8	4.6	**31.0697**	0.881	2.8	ug/L	237	Standard
|>	**Ge**	72	325226.8	2.5				ug/L	413856	Standard
|	**As**	75	30826.7	3.8	**27.1594**	0.562	2.1	ug/L	-197	Standard
|	**Se**	82	3712.0	4.4	**36.4463**	0.942	2.6	ug/L	-5	Standard
⌊	**Se-1**	77	2744.2	5.4	**34.6041**	1.485	4.3	ug/L	105	Standard
⌈>	**Ga**	71	186.7	5.6				mg/L	225	Standard
⌊	**Rb**	85	11817.9	3.4				ug/L	28	Standard
⌈	**Y**	89	255581.0	0.8				ug/L	322845	Standard
⌊>	**Rh**	103	1046.7	5.7				ug/L	92	Standard
⌈	**Mo**	98	1242.4	5.8	**0.3300**	0.013	3.9	ug/L	18	Standard
|	**Ag**	107	115270.9	1.4	**17.8665**	0.173	1.0	ug/L	63	Standard
|	**Cd**	111	66918.7	3.3	**23.9609**	0.747	3.1	mg/L	20	Standard
|	**Cd**	114	170581.2	2.8	**23.2079**	0.568	2.4	ug/L	56	Standard
|>	**In**	115	535019.5	2.2				ug/L	657102	Standard
|	**Sn**	118	420.0	1.9	**0.0025**	0.001	52.0	ug/L	555	Standard
|	**Sb**	123	160388.2	3.6	**25.1498**	0.663	2.6	ug/L	62	Standard
⌊	**Ba**	135	78444.0	2.7	**28.2856**	0.679	2.4	ug/L	19	Standard
⌈	**Ce**	140	739.4	5.6				ug/L	24	Standard
⌊>	**Tb**	159	763423.6	1.0				ug/L	910514	Standard
⌈	**Ho**	165	50.0	20.3				ug/L	7	Standard
|	**Tl**	203	241662.1	1.8	**26.4758**	0.533	2.0	ug/L	13	Standard
|	**Tl**	205	8421.7	0.3	**30.2457**	0.296	1.0	ug/L	1	Standard
|	**Pb**	206	188795.1	2.5	**25.7879**	0.744	2.9	ug/L	342	Standard
|	**Pb**	207	159226.2	2.1	**25.5784**	0.602	2.4	ug/L	284	Standard
|	**Pb**	208	744624.7	2.5	**25.7669**	0.754	2.9	ug/L	1363	Standard
|	**U**	238	365115.7	2.8	**51.0890**	1.685	3.3	ug/L	2	Standard
⌊>	**Bi**	209	335124.9	1.0				ug/L	470592	Standard

Sample ID: L1211020101S WG413848-04
Report Date/Time: Sunday, November 18, 2012 16:57:22
Page 1

Approved: November 19, 2012

⌈	**Na**	23	103.3	5.6	**11.6355**	0.539	4.6	mg/L	2	Standard
|	**Mg**	24	19583106.4	1.3	**11.9728**	0.308	2.6	mg/L	5586	Standard
|	**K**	39	146.7	7.1	**2.4448**	0.196	8.0	mg/L	5	Standard
|	**Ca**	43	2015.1	3.9	**104.6217**	3.114	3.0	mg/L	45	Standard
|	**Fe**	54	247.7	2.9	**-0.0349**	0.002	5.7	mg/L	350	Standard
|	**Fe**	57	1198.4	5.9	**2.2163**	0.126	5.7	mg/L	102	Standard
⌊>	**Sc-1**	45	42541.3	1.3				mg/L	53004	Standard
	Cl	35	20.3	27.1				ug/L	2	Standard
	Kr	83	270.3	27.8				ug/L	157	Standard
	Br	81	8.3	34.6				ug/L	3	Standard
	P	31	94129.2	2.9				ug/L	91588	Standard
	S	34	34125.9	1.6				ug/L	32556	Standard
	Sr	88	7940.4	3.3				ug/L	62	Standard
	C	12	695.0	16.2				mg/L	133	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	11.7	65.5				mg/L	7	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		78.585	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: L1211020101S WG413848-04
Report Date/Time: Sunday, November 18, 2012 16:57:22
Page 2

Approved: November 19, 2012

	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	81.421
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	71.214
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: L1211020101S WG413848-04
Report Date/Time: Sunday, November 18, 2012 16:57:22
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

Sample ID: L1211020101SD WG413848-05
Sample Date/Time: Sunday, November 18, 2012 16:58:03
Number of Replicates: 3
Autosampler Position: 341
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	829870.0	4.4	**-552438.4841**	8755.496	1.6	ug/L	8369	Standard
	Be	9	45474.9	4.3	**26.5503**	0.265	1.0	ug/L	18	Standard
	Al	27	183328074.4	2.4	**1814.4106**	32.481	1.8	ug/L	215	Standard
>	Sc	45	43612.7	4.1				ug/L	53004	Standard
	Ti	47	167.7	1.2	**0.3493**	0.002	0.6	ug/L	26	Standard
	V	51	226850.4	2.6	**23.7166**	0.621	2.6	ug/L	3223	Standard
	Cr	52	218057.3	3.7	**23.9708**	0.819	3.4	ug/L	10379	Standard
	Cr	53	28031.8	3.8	**25.4137**	1.040	4.1	ug/L	192	Standard
	Mn	55	762042.4	2.2	**54.9952**	1.478	2.7	ug/L	1840	Standard
	Co	59	252621.0	3.9	**23.7274**	0.779	3.3	ug/L	115	Standard
	Ni	60	63750.9	3.4	**27.8259**	0.705	2.5	ug/L	75	Standard
	Cu	65	54654.4	2.7	**24.6888**	0.466	1.9	ug/L	155	Standard
	Zn	66	33953.4	3.2	**30.8793**	1.011	3.3	ug/L	237	Standard
>	Ge	72	329985.6	1.6				ug/L	413856	Standard
	As	75	30799.4	3.4	**26.7518**	0.909	3.4	ug/L	-197	Standard
	Se	82	3717.8	2.1	**35.9875**	0.694	1.9	ug/L	-5	Standard
	Se-1	77	2790.9	4.8	**34.7040**	1.934	5.6	ug/L	105	Standard
>	Ga	71	191.7	4.0				mg/L	225	Standard
	Rb	85	11637.8	5.1				ug/L	28	Standard
	Y	89	263045.7	1.4				ug/L	322845	Standard
>	Rh	103	1000.0	4.0				ug/L	92	Standard
	Mo	98	1231.6	3.8	**0.3218**	0.011	3.4	ug/L	18	Standard
	Ag	107	110940.1	1.8	**16.9165**	0.091	0.5	ug/L	63	Standard
	Cd	111	65969.0	4.0	**23.2352**	0.685	2.9	mg/L	20	Standard
	Cd	114	168743.7	3.6	**22.5840**	0.563	2.5	ug/L	56	Standard
>	In	115	543740.9	1.5				ug/L	657102	Standard
	Sn	118	459.0	5.9	**0.0064**	0.004	57.1	ug/L	555	Standard
	Sb	123	158983.8	3.3	**24.5276**	0.561	2.3	ug/L	62	Standard
	Ba	135	77135.3	3.1	**27.3609**	0.543	2.0	ug/L	19	Standard
	Ce	140	703.3	2.5				ug/L	24	Standard
>	Tb	159	777140.7	0.8				ug/L	910514	Standard
	Ho	165	48.7	17.7				ug/L	7	Standard
	Tl	203	240516.8	1.1	**26.1694**	0.413	1.6	ug/L	13	Standard
	Tl	205	8327.6	2.1	**29.7010**	0.608	2.0	ug/L	1	Standard
	Pb	206	189051.7	2.7	**25.6449**	0.787	3.1	ug/L	342	Standard
	Pb	207	159139.6	2.0	**25.3886**	0.587	2.3	ug/L	284	Standard
	Pb	208	740145.5	2.6	**25.4349**	0.752	3.0	ug/L	1363	Standard
	U	238	360423.0	4.3	**50.0868**	2.398	4.8	ug/L	2	Standard
>	Bi	209	337443.1	0.8				ug/L	470592	Standard

Sample ID: L1211020101SD WG413848-05
Report Date/Time: Sunday, November 18, 2012 17:00:35
Page 1

Approved: November 19, 2012

⌈	**Na**	23	88.3	8.6	**9.7152**	0.901	9.3	mg/L	2	Standard
|	**Mg**	24	19075450.0	1.9	**11.3862**	0.516	4.5	mg/L	5586	Standard
|	**K**	39	170.0	25.1	**2.7519**	0.598	21.7	mg/L	5	Standard
|	**Ca**	43	2070.1	2.9	**104.8960**	1.471	1.4	mg/L	45	Standard
|	**Fe**	54	281.2	17.2	**-0.0218**	0.024	112.2	mg/L	350	Standard
|	**Fe**	57	1213.4	6.5	**2.1875**	0.108	4.9	mg/L	102	Standard
⌊>	**Sc-1**	45	43612.7	4.1				mg/L	53004	Standard
	Cl	35	20.0	8.7				ug/L	2	Standard
	Kr	83	184.7	0.7				ug/L	157	Standard
	Br	81	11.7	12.4				ug/L	3	Standard
	P	31	95545.4	2.3				ug/L	91588	Standard
	S	34	35069.7	1.0				ug/L	32556	Standard
	Sr	88	7860.4	5.2				ug/L	62	Standard
	C	12	1018.4	6.0				mg/L	133	Standard
	N	14	1.7	173.2				mg/L	0	Standard
	Hg	202	6.7	43.3				mg/L	7	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		79.734	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: L1211020101SD WG413848-05
Report Date/Time: Sunday, November 18, 2012 17:00:35
Page 2

Approved: November 19, 2012

	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	82.748
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	71.706
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: L1211020101SD WG413848-05
Report Date/Time: Sunday, November 18, 2012 17:00:35
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

Sample ID: L1211020002
Sample Date/Time: Sunday, November 18, 2012 17:01:15
Number of Replicates: 3
Autosampler Position: 342
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	99761.1	4.4	**-54742.2471**	1088.454	2.0	ug/L	8369	Standard
	Be	9	20.0	50.0	**0.0010**	0.005	547.2	ug/L	18	Standard
	Al	27	7853970.1	4.7	**68.9138**	1.599	2.3	ug/L	215	Standard
>	**Sc**	45	49151.3	2.7				ug/L	53004	Standard
	Ti	47	239.0	11.2	**0.4508**	0.052	11.4	ug/L	26	Standard
	V	51	5373.9	5.9	**0.2303**	0.027	11.7	ug/L	3223	Standard
	Cr	52	16902.8	3.3	**0.7749**	0.044	5.7	ug/L	10379	Standard
	Cr	53	1812.6	0.8	**1.3368**	0.030	2.2	ug/L	192	Standard
	Mn	55	660288.5	4.5	**41.7270**	1.461	3.5	ug/L	1840	Standard
	Co	59	2602.2	4.5	**0.1988**	0.008	3.9	ug/L	115	Standard
	Ni	60	5540.7	5.8	**2.0863**	0.100	4.8	ug/L	75	Standard
	Cu	65	1663.1	7.5	**0.6022**	0.044	7.3	ug/L	155	Standard
	Zn	66	6982.6	6.5	**5.4001**	0.314	5.8	ug/L	237	Standard
>	**Ge**	72	376499.9	1.2				ug/L	413856	Standard
	As	75	2434.4	4.8	**1.9831**	0.076	3.8	ug/L	-197	Standard
	Se	82	154.4	6.3	**1.3148**	0.075	5.7	ug/L	-5	Standard
	Se-1	77	190.3	2.6	**1.1539**	0.071	6.1	ug/L	105	Standard
>	**Ga**	71	215.0	23.6				mg/L	225	Standard
	Rb	85	6471.4	1.4				ug/L	28	Standard
	Y	89	293495.9	1.7				ug/L	322845	Standard
>	**Rh**	103	163.3	8.8				ug/L	92	Standard
	Mo	98	3597.6	4.9	**0.8329**	0.035	4.3	ug/L	18	Standard
	Ag	107	82.0	8.5	**0.0030**	0.001	34.2	ug/L	63	Standard
	Cd	111	31.0	13.3	**-0.0016**	0.001	82.5	mg/L	20	Standard
	Cd	114	151.0	21.7	**0.0081**	0.004	48.6	ug/L	56	Standard
>	**In**	115	623656.1	1.3				ug/L	657102	Standard
	Sn	118	19770.3	5.9	**2.0433**	0.106	5.2	ug/L	555	Standard
	Sb	123	291.2	8.6	**0.0362**	0.003	8.0	ug/L	62	Standard
	Ba	135	191938.1	4.1	**59.3813**	2.027	3.4	ug/L	19	Standard
	Ce	140	259.0	2.7				ug/L	24	Standard
>	**Tb**	159	916661.0	0.8				ug/L	910514	Standard
	Ho	165	17.7	16.3				ug/L	7	Standard
	Tl	203	391.3	7.5	**0.0275**	0.002	7.9	ug/L	13	Standard
	Tl	205	16.3	33.7	**0.0438**	0.014	31.0	ug/L	1	Standard
	Pb	206	627.7	1.3	**0.0295**	0.002	5.4	ug/L	342	Standard
	Pb	207	534.0	5.3	**0.0264**	0.002	8.2	ug/L	284	Standard
	Pb	208	2481.1	1.0	**0.0281**	0.001	2.6	ug/L	1363	Standard
	U	238	4244.6	5.4	**0.4304**	0.017	4.0	ug/L	2	Standard
>	**Bi**	209	460637.7	2.0				ug/L	470592	Standard

Approved: November 19, 2012

⌈	**Na**	23	3.3	173.2	**0.3223**	0.550	170.5	mg/L	2	Standard
|	**Mg**	24	579645.3	2.4	**0.3038**	0.001	0.3	mg/L	5586	Standard
|	**K**	39	85.0	32.8	**1.1999**	0.388	32.3	mg/L	5	Standard
|	**Ca**	43	865.0	10.5	**37.4188**	3.087	8.2	mg/L	45	Standard
|	**Fe**	54	628.1	2.1	**0.1069**	0.011	10.0	mg/L	350	Standard
|	**Fe**	57	490.0	7.4	**0.7015**	0.052	7.4	mg/L	102	Standard
⌊>	**Sc-1**	45	49151.3	2.7				mg/L	53004	Standard
	Cl	35	4.7	44.6				ug/L	2	Standard
	Kr	83	151.7	4.2				ug/L	157	Standard
	Br	81	8.3	17.3				ug/L	3	Standard
	P	31	150896.4	2.7				ug/L	91588	Standard
	S	34	28095.2	2.0				ug/L	32556	Standard
	Sr	88	610.0	2.5				ug/L	62	Standard
	C	12	585.0	14.1				mg/L	133	Standard
	N	14	1.7	173.2				mg/L	0	Standard
	Hg	202	3.3	86.6				mg/L	7	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		90.974	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: L1211020002
Report Date/Time: Sunday, November 18, 2012 17:03:47
Page 2

Approved: November 19, 2012

	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	94.910
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	97.885
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: L1211020002
Report Date/Time: Sunday, November 18, 2012 17:03:47
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

Sample ID: L1211020003
Sample Date/Time: Sunday, November 18, 2012 17:04:27
Number of Replicates: 3
Autosampler Position: 343
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	89404.5	23.7	**-45597.1214**	13346.556	29.3	ug/L	8369	Standard
|	**Be**	9	11.7	49.5	**-0.0037**	0.003	79.8	ug/L	18	Standard
|	**Al**	27	7397084.7	20.9	**61.2656**	14.781	24.1	ug/L	215	Standard
⌊>	**Sc**	45	52422.3	4.2				ug/L	53004	Standard
⌈	**Ti**	47	222.7	22.5	**0.4074**	0.089	21.9	ug/L	26	Standard
|	**V**	51	4507.2	19.2	**0.1427**	0.064	45.0	ug/L	3223	Standard
|	**Cr**	52	14203.4	15.4	**0.4814**	0.167	34.6	ug/L	10379	Standard
|	**Cr**	53	1704.3	21.6	**1.2253**	0.243	19.9	ug/L	192	Standard
|	**Mn**	55	535815.4	25.3	**33.2012**	7.364	22.2	ug/L	1840	Standard
|	**Co**	59	2269.8	25.3	**0.1679**	0.041	24.3	ug/L	115	Standard
|	**Ni**	60	4764.8	25.9	**1.7545**	0.407	23.2	ug/L	75	Standard
|	**Cu**	65	1710.1	23.2	**0.6085**	0.134	21.9	ug/L	155	Standard
|	**Zn**	66	3445.7	25.9	**2.5112**	0.615	24.5	ug/L	237	Standard
| >	**Ge**	72	381725.3	4.0				ug/L	413856	Standard
|	**As**	75	2071.4	31.8	**1.6758**	0.443	26.5	ug/L	-197	Standard
|	**Se**	82	111.1	20.0	**0.9310**	0.157	16.8	ug/L	-5	Standard
⌊	**Se-1**	77	181.0	14.4	**1.0157**	0.215	21.2	ug/L	105	Standard
⌈>	**Ga**	71	195.0	11.2				mg/L	225	Standard
⌊	**Rb**	85	5564.4	30.1				ug/L	28	Standard
⌈	**Y**	89	298264.0	1.1				ug/L	322845	Standard
⌊>	**Rh**	103	168.3	22.5				ug/L	92	Standard
⌈	**Mo**	98	3349.6	25.5	**0.7454**	0.241	32.3	ug/L	18	Standard
|	**Ag**	107	72.7	12.3	**0.0012**	0.000	29.4	ug/L	63	Standard
|	**Cd**	111	27.6	2.3	**-0.0031**	0.001	24.8	mg/L	20	Standard
|	**Cd**	114	175.3	31.7	**0.0102**	0.007	72.7	ug/L	56	Standard
| >	**In**	115	660082.2	8.5				ug/L	657102	Standard
|	**Sn**	118	21672.0	23.1	**2.1557**	0.656	30.4	ug/L	555	Standard
|	**Sb**	123	292.9	18.9	**0.0348**	0.010	27.5	ug/L	62	Standard
⌊	**Ba**	135	176456.1	23.4	**52.4730**	15.754	30.0	ug/L	19	Standard
⌈	**Ce**	140	232.3	27.8				ug/L	24	Standard
⌊>	**Tb**	159	980036.0	10.5				ug/L	910514	Standard
⌈	**Ho**	165	15.7	19.5				ug/L	7	Standard
|	**Tl**	203	354.3	7.9	**0.0230**	0.005	20.2	ug/L	13	Standard
|	**Tl**	205	12.7	25.4	**0.0321**	0.008	23.8	ug/L	1	Standard
|	**Pb**	206	848.7	10.6	**0.0467**	0.016	33.5	ug/L	342	Standard
|	**Pb**	207	699.7	7.3	**0.0409**	0.012	30.3	ug/L	284	Standard
|	**Pb**	208	3222.1	9.3	**0.0421**	0.014	33.4	ug/L	1363	Standard
|	**U**	238	3949.5	22.4	**0.3808**	0.117	30.8	ug/L	2	Standard
⌊>	**Bi**	209	495208.7	10.7				ug/L	470592	Standard

Sample ID: L1211020003
Report Date/Time: Sunday, November 18, 2012 17:06:59
Page 1

Approved: November 19, 2012

⌈	**Na**	23	1.7	173.2	**0.1507**	0.252	167.5	mg/L	2	Standard
|	**Mg**	24	529057.2	19.1	**0.2612**	0.059	22.7	mg/L	5586	Standard
|	**K**	39	56.7	10.2	**0.7407**	0.108	14.6	mg/L	5	Standard
|	**Ca**	43	763.4	9.0	**30.7400**	4.267	13.9	mg/L	45	Standard
|	**Fe**	54	658.2	11.0	**0.1029**	0.034	33.5	mg/L	350	Standard
|	**Fe**	57	443.3	10.7	**0.5779**	0.095	16.4	mg/L	102	Standard
⌊>	**Sc-1**	45	52422.3	4.2				mg/L	53004	Standard
	Cl	35	0.3	173.2				ug/L	2	Standard
	Kr	83	176.2	24.0				ug/L	157	Standard
	Br	81	5.8	99.0				ug/L	3	Standard
	P	31	154753.0	4.2				ug/L	91588	Standard
	S	34	28464.5	12.7				ug/L	32556	Standard
	Sr	88	600.0	29.5				ug/L	62	Standard
	C	12	253.3	14.0				mg/L	133	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	11.7	24.7				mg/L	7	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		92.236	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: L1211020003
Report Date/Time: Sunday, November 18, 2012 17:06:59
Page 2

Approved: November 19, 2012

⌈	Mo	98	
|	Ag	107	
|	Cd	111	
|	Cd	114	
|>	In	115	100.454
|	Sn	118	
|	Sb	123	
⌊	Ba	135	
⌈	Ce	140	
⌊>	Tb	159	
⌈	Ho	165	
|	Tl	203	
|	Tl	205	
|	Pb	206	
|	Pb	207	
|	Pb	208	
|	U	238	
⌊>	Bi	209	105.231
⌈	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	
	C	12	
	N	14	
	Hg	202	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: L1211020003
Report Date/Time: Sunday, November 18, 2012 17:06:59
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

Sample ID: L1211020003PS WG414163-01
Sample Date/Time: Sunday, November 18, 2012 17:07:39
Number of Replicates: 3
Autosampler Position: 344
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	114196.5	9.9	**-55588.5283**	3305.254	5.9	ug/L	8369	Standard
|	**Be**	9	113999.1	8.0	**52.3469**	1.822	3.5	ug/L	18	Standard
|	**Al**	27	8449440.5	6.7	**65.7480**	1.326	2.0	ug/L	215	Standard
⌊>	**Sc**	45	55407.9	4.7				ug/L	53004	Standard
⌈	**Ti**	47	283.3	5.8	**0.4921**	0.030	6.1	ug/L	26	Standard
|	**V**	51	576081.7	7.1	**48.3057**	1.604	3.3	ug/L	3223	Standard
|	**Cr**	52	554374.0	8.4	**49.5305**	2.360	4.8	ug/L	10379	Standard
|	**Cr**	53	69059.2	6.8	**50.0375**	1.611	3.2	ug/L	192	Standard
|	**Mn**	55	1523477.7	6.4	**87.7451**	2.351	2.7	ug/L	1840	Standard
|	**Co**	59	658751.5	7.3	**49.3698**	1.983	4.0	ug/L	115	Standard
|	**Ni**	60	143914.4	6.9	**50.1346**	1.562	3.1	ug/L	75	Standard
|	**Cu**	65	137148.7	6.6	**49.4773**	1.426	2.9	ug/L	155	Standard
|	**Zn**	66	70272.3	6.0	**51.1162**	1.483	2.9	ug/L	237	Standard
| >	**Ge**	72	413394.5	3.8				ug/L	413856	Standard
|	**As**	75	73256.0	6.0	**50.6324**	1.126	2.2	ug/L	-197	Standard
|	**Se**	82	6295.1	5.5	**48.6146**	0.861	1.8	ug/L	-5	Standard
⌊	**Se-1**	77	4825.1	5.3	**48.2331**	0.879	1.8	ug/L	105	Standard
⌈>	**Ga**	71	250.0	8.0				mg/L	225	Standard
⌊	**Rb**	85	7071.7	5.1				ug/L	28	Standard
⌈	**Y**	89	314088.3	3.7				ug/L	322845	Standard
⌊>	**Rh**	103	215.0	8.4				ug/L	92	Standard
⌈	**Mo**	98	4090.1	4.8	**0.8958**	0.024	2.7	ug/L	18	Standard
|	**Ag**	107	355640.7	6.0	**44.6876**	1.427	3.2	ug/L	63	Standard
|	**Cd**	111	168368.0	6.0	**48.8745**	1.615	3.3	mg/L	20	Standard
|	**Cd**	114	434954.3	5.6	**47.9786**	1.529	3.2	ug/L	56	Standard
| >	**In**	115	659871.4	4.2				ug/L	657102	Standard
|	**Sn**	118	25156.9	5.8	**2.4680**	0.105	4.2	ug/L	555	Standard
|	**Sb**	123	387650.3	5.1	**49.3028**	2.007	4.1	ug/L	62	Standard
⌊	**Ba**	135	379601.7	6.2	**110.9971**	3.977	3.6	ug/L	19	Standard
⌈	**Ce**	140	234.7	12.4				ug/L	24	Standard
⌊>	**Tb**	159	967148.1	4.6				ug/L	910514	Standard
⌈	**Ho**	165	82.0	12.9				ug/L	7	Standard
|	**Tl**	203	665622.5	4.6	**51.4147**	0.661	1.3	ug/L	13	Standard
|	**Tl**	205	20721.8	3.8	**52.4824**	1.153	2.2	ug/L	1	Standard
|	**Pb**	206	531240.2	4.9	**51.1879**	1.119	2.2	ug/L	342	Standard
|	**Pb**	207	452668.6	5.6	**51.2968**	1.572	3.1	ug/L	284	Standard
|	**Pb**	208	2086594.7	5.2	**50.9326**	1.336	2.6	ug/L	1363	Standard
|	**U**	238	519570.3	6.5	**51.2359**	1.954	3.8	ug/L	2	Standard
⌊>	**Bi**	209	475201.7	3.4				ug/L	470592	Standard

Sample ID: L1211020003PS WG414163-01
Report Date/Time: Sunday, November 18, 2012 17:10:12
Page 1

Approved: November 19, 2012

⌈	**Na**	23	8.3	34.6	**0.7334**	0.275	37.5	mg/L	2	Standard
|	**Mg**	24	601798.8	3.4	**0.2797**	0.004	1.3	mg/L	5586	Standard
|	**K**	39	85.0	32.8	**1.0722**	0.403	37.6	mg/L	5	Standard
|	**Ca**	43	786.7	10.9	**29.7474**	2.266	7.6	mg/L	45	Standard
|	**Fe**	54	698.8	17.9	**0.1029**	0.042	40.7	mg/L	350	Standard
|	**Fe**	57	476.7	10.5	**0.5879**	0.068	11.6	mg/L	102	Standard
⌊>	**Sc-1**	45	55407.9	4.7				mg/L	53004	Standard
	Cl	35	4.3	35.3				ug/L	2	Standard
	Kr	83	141.8	7.4				ug/L	157	Standard
	Br	81	2.5	173.2				ug/L	3	Standard
	P	31	202814.6	4.8				ug/L	91588	Standard
	S	34	32098.1	1.6				ug/L	32556	Standard
	Sr	88	708.4	11.9				ug/L	62	Standard
	C	12	351.7	12.9				mg/L	133	Standard
	N	14	1.7	173.2				mg/L	0	Standard
	Hg	202	11.7	24.7				mg/L	7	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		99.889	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: L1211020003PS WG414163-01
Report Date/Time: Sunday, November 18, 2012 17:10:12
Page 2

Approved: November 19, 2012

	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	100.422
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	100.980
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Ba 135 Upper, S, EEE	Ba	135	

Sample ID: L1211020003PS WG414163-01
Report Date/Time: Sunday, November 18, 2012 17:10:12
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

Sample ID: L1211020003SDL WG414163-02
Sample Date/Time: Sunday, November 18, 2012 17:10:52
Number of Replicates: 3
Autosampler Position: 345
Sample Description: 5
Method File: C:\NexION Data\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
⌈	**Li**	7	26424.7	3.9	**-10552.9254**	1965.679	18.6	ug/L	8369	Standard
|	**Be**	9	23.3	49.5	**0.0019**	0.005	271.7	ug/L	18	Standard
|	**Al**	27	1408936.1	5.3	**11.9608**	1.649	13.8	ug/L	215	Standard
⌊>	**Sc**	45	51257.1	9.7				ug/L	53004	Standard
⌈	**Ti**	47	74.3	13.2	**0.0871**	0.034	38.8	ug/L	26	Standard
|	**V**	51	3196.3	1.1	**0.0036**	0.032	910.3	ug/L	3223	Standard
|	**Cr**	52	10502.3	3.4	**0.0473**	0.134	283.2	ug/L	10379	Standard
|	**Cr**	53	674.2	8.6	**0.3828**	0.075	19.5	ug/L	192	Standard
|	**Mn**	55	120653.9	8.1	**6.9411**	1.286	18.5	ug/L	1840	Standard
|	**Co**	59	625.0	5.8	**0.0314**	0.004	13.0	ug/L	115	Standard
|	**Ni**	60	1313.1	4.9	**0.4257**	0.067	15.7	ug/L	75	Standard
|	**Cu**	65	655.3	6.3	**0.1808**	0.035	19.3	ug/L	155	Standard
|	**Zn**	66	4140.9	8.3	**2.8569**	0.569	19.9	ug/L	237	Standard
|>	**Ge**	72	415153.1	11.6				ug/L	413856	Standard
|	**As**	75	344.9	15.8	**0.3815**	0.061	16.0	ug/L	-197	Standard
|	**Se**	82	38.6	18.8	**0.3089**	0.085	27.5	ug/L	-5	Standard
⌊	**Se-1**	77	133.0	10.7	**0.3945**	0.286	72.5	ug/L	105	Standard
⌈>	**Ga**	71	185.0	8.1				mg/L	225	Standard
⌊	**Rb**	85	1335.1	3.7				ug/L	28	Standard
⌈	**Y**	89	299838.8	3.7				ug/L	322845	Standard
⌊>	**Rh**	103	123.3	27.0				ug/L	92	Standard
⌈	**Mo**	98	722.6	2.3	**0.1554**	0.008	5.0	ug/L	18	Standard
|	**Ag**	107	334.7	9.7	**0.0353**	0.004	11.2	ug/L	63	Standard
|	**Cd**	111	36.8	31.8	**-0.0003**	0.003	1267.8	mg/L	20	Standard
|	**Cd**	114	111.2	30.8	**0.0030**	0.004	126.6	ug/L	56	Standard
|>	**In**	115	642909.8	2.4				ug/L	657102	Standard
|	**Sn**	118	4963.5	5.9	**0.4607**	0.035	7.5	ug/L	555	Standard
|	**Sb**	123	300.9	27.0	**0.0362**	0.010	27.0	ug/L	62	Standard
⌊	**Ba**	135	38308.9	8.1	**11.4953**	1.105	9.6	ug/L	19	Standard
⌈	**Ce**	140	75.0	34.9				ug/L	24	Standard
⌊>	**Tb**	159	904165.5	2.0				ug/L	910514	Standard
⌈	**Ho**	165	8.3	45.4				ug/L	7	Standard
|	**Tl**	203	214.0	6.9	**0.0131**	0.001	9.0	ug/L	13	Standard
|	**Tl**	205	6.0	50.0	**0.0166**	0.008	46.0	ug/L	1	Standard
|	**Pb**	206	628.3	1.7	**0.0283**	0.001	3.5	ug/L	342	Standard
|	**Pb**	207	506.7	4.4	**0.0220**	0.003	11.9	ug/L	284	Standard
|	**Pb**	208	2334.4	2.6	**0.0232**	0.002	6.6	ug/L	1363	Standard
|	**U**	238	907.0	4.6	**0.0889**	0.004	4.9	ug/L	2	Standard
⌊>	**Bi**	209	470419.1	0.1				ug/L	470592	Standard

Sample ID: L1211020003SDL WG414163-02
Report Date/Time: Sunday, November 18, 2012 17:13:25
Page 1

Approved: November 19, 2012

⌈	**Na**	23	1.7	173.2	**0.1592**	0.267	167.8	mg/L	2	Standard
|	**Mg**	24	269092.5	5.1	**0.1349**	0.019	14.3	mg/L	5586	Standard
|	**K**	39	16.7	45.8	**0.1913**	0.102	53.1	mg/L	5	Standard
|	**Ca**	43	225.0	28.4	**7.8392**	3.315	42.3	mg/L	45	Standard
|	**Fe**	54	432.2	11.8	**0.0182**	0.011	61.9	mg/L	350	Standard
|	**Fe**	57	190.0	7.9	**0.1807**	0.006	3.5	mg/L	102	Standard
⌊>	**Sc-1**	45	51257.1	9.7				mg/L	53004	Standard
	Cl	35	3.0	100.0				ug/L	2	Standard
	Kr	83	153.4	23.2				ug/L	157	Standard
	Br	81	2.5	0.0				ug/L	3	Standard
	P	31	117458.5	0.9				ug/L	91588	Standard
	S	34	33221.5	6.6				ug/L	32556	Standard
	Sr	88	178.3	11.3				ug/L	62	Standard
	C	12	151.7	38.6				mg/L	133	Standard
	N	14	1.7	173.2				mg/L	0	Standard
	Hg	202	10.0					mg/L	7	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		100.314	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: L1211020003SDL WG414163-02
Report Date/Time: Sunday, November 18, 2012 17:13:25
Page 2

Approved: November 19, 2012

⌈	Mo	98		
|	Ag	107		
|	Cd	111		
|	Cd	114		
|>	In	115		97.840
|	Sn	118		
|	Sb	123		
⌊	Ba	135		
⌈	Ce	140		
⌊>	Tb	159		
⌈	Ho	165		
|	Tl	203		
|	Tl	205		
|	Pb	206		
|	Pb	207		
|	Pb	208		
|	U	238		
⌊>	Bi	209		99.963
⌈	Na	23		
|	Mg	24		
|	K	39		
|	Ca	43		
|	Fe	54		
|	Fe	57		
⌊>	Sc-1	45		
	Cl	35		
	Kr	83		
	Br	81		
	P	31		
	S	34		
	Sr	88		
	C	12		
	N	14		
	Hg	202		

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: L1211020003SDL WG414163-02
Report Date/Time: Sunday, November 18, 2012 17:13:25
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

Sample ID: L1211020003
Sample Date/Time: Sunday, November 18, 2012 17:14:05
Number of Replicates: 3
Autosampler Position: 346
Sample Description: 25
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	9613.1	4.3	**-1287.2231**	366.714	28.5	ug/L	8369	Standard
|	**Be**	9	20.0	66.1	**0.0015**	0.007	500.0	ug/L	18	Standard
|	**Al**	27	148755.9	35.6	**1.3677**	0.537	39.3	ug/L	215	Standard
⌊>	**Sc**	45	47327.2	3.9				ug/L	53004	Standard
⌈	**Ti**	47	24.0	11.0	**-0.0082**	0.006	74.1	ug/L	26	Standard
|	**V**	51	3054.7	6.9	**0.0160**	0.017	104.7	ug/L	3223	Standard
|	**Cr**	52	9516.7	7.4	**0.0379**	0.062	165.1	ug/L	10379	Standard
|	**Cr**	53	302.5	12.5	**0.1320**	0.029	21.6	ug/L	192	Standard
|	**Mn**	55	12229.3	9.5	**0.6869**	0.066	9.7	ug/L	1840	Standard
|	**Co**	59	184.3	29.2	**-0.0003**	0.005	1571.2	ug/L	115	Standard
|	**Ni**	60	321.7	11.0	**0.0879**	0.012	14.0	ug/L	75	Standard
|	**Cu**	65	340.7	6.5	**0.0779**	0.007	9.6	ug/L	155	Standard
|	**Zn**	66	2891.9	12.3	**2.1237**	0.267	12.6	ug/L	237	Standard
|>	**Ge**	72	375708.8	1.0				ug/L	413856	Standard
|	**As**	75	-137.2	12.0	**0.0358**	0.013	35.8	ug/L	-197	Standard
|	**Se**	82	-0.8	896.7	**-0.0016**	0.061	3712.6	ug/L	-5	Standard
⌊	**Se-1**	77	117.7	9.1	**0.3415**	0.107	31.4	ug/L	105	Standard
⌈>	**Ga**	71	203.3	10.2				mg/L	225	Standard
⌊	**Rb**	85	136.7	20.1				ug/L	28	Standard
⌈	**Y**	89	309263.3	8.7				ug/L	322845	Standard
⌊>	**Rh**	103	86.7	28.5				ug/L	92	Standard
⌈	**Mo**	98	88.1	15.3	**0.0110**	0.005	44.9	ug/L	18	Standard
|	**Ag**	107	167.3	10.7	**0.0132**	0.004	31.2	ug/L	63	Standard
|	**Cd**	111	32.2	17.1	**-0.0019**	0.002	80.8	mg/L	20	Standard
|	**Cd**	114	94.2	10.3	**0.0008**	0.001	142.0	ug/L	56	Standard
|>	**In**	115	666934.2	11.6				ug/L	657102	Standard
|	**Sn**	118	725.0	3.4	**0.0229**	0.007	30.2	ug/L	555	Standard
|	**Sb**	123	119.0	36.6	**0.0122**	0.006	51.4	ug/L	62	Standard
⌊	**Ba**	135	2818.3	11.4	**0.8088**	0.176	21.8	ug/L	19	Standard
⌈	**Ce**	140	39.0	22.4				ug/L	24	Standard
⌊>	**Tb**	159	918145.9	5.0				ug/L	910514	Standard
⌈	**Ho**	165	9.7	6.0				ug/L	7	Standard
|	**Tl**	203	177.7	93.2	**0.0103**	0.013	127.3	ug/L	13	Standard
|	**Tl**	205	8.7	107.2	**0.0233**	0.023	100.3	ug/L	1	Standard
|	**Pb**	206	816.0	17.6	**0.0467**	0.015	31.5	ug/L	342	Standard
|	**Pb**	207	691.7	17.7	**0.0432**	0.014	32.5	ug/L	284	Standard
|	**Pb**	208	3223.1	14.8	**0.0452**	0.012	26.1	ug/L	1363	Standard
|	**U**	238	286.3	78.8	**0.0269**	0.022	82.1	ug/L	2	Standard
⌊>	**Bi**	209	470172.8	1.3				ug/L	470592	Standard

Sample ID: L1211020003
Report Date/Time: Sunday, November 18, 2012 17:16:37
Page 1

Approved: November 19, 2012

⌈	**Na**	23	0.0		**0.0050**	0.000	0.0	mg/L	2	Standard
|	**Mg**	24	57803.8	7.9	**0.0289**	0.004	12.3	mg/L	5586	Standard
|	**K**	39	8.3	124.9	**0.0885**	0.166	187.2	mg/L	5	Standard
|	**Ca**	43	48.3	11.9	**0.0691**	0.193	279.4	mg/L	45	Standard
|	**Fe**	54	368.6	9.5	**0.0050**	0.011	217.8	mg/L	350	Standard
|	**Fe**	57	123.3	22.3	**0.0883**	0.046	51.9	mg/L	102	Standard
⌊>	**Sc-1**	45	47327.2	3.9				mg/L	53004	Standard
	Cl	35	3.0	115.5				ug/L	2	Standard
	Kr	83	162.3	22.2				ug/L	157	Standard
	Br	81	5.0	50.0				ug/L	3	Standard
	P	31	106989.0	2.1				ug/L	91588	Standard
	S	34	33062.0	7.4				ug/L	32556	Standard
	Sr	88	78.3	55.0				ug/L	62	Standard
	C	12	123.3	13.0				mg/L	133	Standard
	N	14	1.7	173.2				mg/L	0	Standard
	Hg	202	8.3	91.7				mg/L	7	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		90.783	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: L1211020003
Report Date/Time: Sunday, November 18, 2012 17:16:37
Page 2

Approved: November 19, 2012

⌈	Mo	98	
|	Ag	107	
|	Cd	111	
|	Cd	114	
|>	In	115	101.496
|	Sn	118	
|	Sb	123	
⌊	Ba	135	
⌈	Ce	140	
⌊>	Tb	159	
⌈	Ho	165	
|	Tl	203	
|	Tl	205	
|	Pb	206	
|	Pb	207	
|	Pb	208	
|	U	238	
⌊>	Bi	209	99.911
⌈	Na	23	
|	Mg	24	
|	K	39	
|	Ca	43	
|	Fe	54	
|	Fe	57	
⌊>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: L1211020003
Report Date/Time: Sunday, November 18, 2012 17:16:37
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

Sample ID: QC Std 6
Sample Date/Time: Sunday, November 18, 2012 17:17:20
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	8884.3	2.1	**-530.2854**	237.598	44.8	ug/L	8369	Standard
|	**Be**	9	110995.6	4.4	**56.4351**	1.835	3.3	ug/L	18	Standard
|	**Al**	27	7093668.6	5.7	**61.1071**	3.353	5.5	ug/L	215	Standard
⌊>	**Sc**	45	50089.4	2.7				ug/L	53004	Standard
⌈	**Ti**	47	49593.7	3.0	**98.2272**	2.328	2.4	ug/L	26	Standard
|	**V**	51	569908.6	3.3	**48.6996**	1.289	2.6	ug/L	3223	Standard
|	**Cr**	52	536983.6	2.7	**48.8946**	0.961	2.0	ug/L	10379	Standard
|	**Cr**	53	67180.4	4.2	**49.5973**	1.825	3.7	ug/L	192	Standard
|	**Mn**	55	845073.4	2.2	**49.5543**	0.936	1.9	ug/L	1840	Standard
|	**Co**	59	653766.9	3.2	**49.9271**	1.310	2.6	ug/L	115	Standard
|	**Ni**	60	137869.7	2.4	**48.9397**	0.724	1.5	ug/L	75	Standard
|	**Cu**	65	138454.0	2.7	**50.8972**	1.180	2.3	ug/L	155	Standard
|	**Zn**	66	67497.1	2.7	**50.0133**	1.213	2.4	ug/L	237	Standard
|>	**Ge**	72	405972.9	0.9				ug/L	413856	Standard
|	**As**	75	71243.1	1.8	**50.1709**	0.772	1.5	ug/L	-197	Standard
|	**Se**	82	6360.7	0.7	**50.0414**	0.218	0.4	ug/L	-5	Standard
⌊	**Se-1**	77	4882.5	3.6	**49.7501**	1.967	4.0	ug/L	105	Standard
⌈>	**Ga**	71	220.0	18.2				mg/L	225	Standard
⌊	**Rb**	85	1578.4	2.0				ug/L	28	Standard
⌈	**Y**	89	310666.3	3.1				ug/L	322845	Standard
⌊>	**Rh**	103	151.7	6.9				ug/L	92	Standard
⌈	**Mo**	98	430145.9	2.7	**96.3986**	2.034	2.1	ug/L	18	Standard
|	**Ag**	107	389660.8	1.2	**49.6439**	0.652	1.3	ug/L	63	Standard
|	**Cd**	111	171326.9	2.6	**50.4226**	1.286	2.6	mg/L	20	Standard
|	**Cd**	114	446055.0	2.7	**49.8779**	1.163	2.3	ug/L	56	Standard
|>	**In**	115	651035.8	1.3				ug/L	657102	Standard
|	**Sn**	118	499979.9	3.8	**50.6621**	1.892	3.7	ug/L	555	Standard
|	**Sb**	123	392513.5	2.3	**50.5900**	1.279	2.5	ug/L	62	Standard
⌊	**Ba**	135	172755.0	2.6	**51.2048**	1.311	2.6	ug/L	19	Standard
⌈	**Ce**	140	550.0	3.8				ug/L	24	Standard
⌊>	**Tb**	159	943254.8	1.2				ug/L	910514	Standard
⌈	**Ho**	165	473.7	4.7				ug/L	7	Standard
|	**Tl**	203	664391.5	2.0	**50.4098**	0.749	1.5	ug/L	13	Standard
|	**Tl**	205	20785.6	0.9	**51.6997**	0.821	1.6	ug/L	1	Standard
|	**Pb**	206	540199.0	2.8	**51.1286**	1.312	2.6	ug/L	342	Standard
|	**Pb**	207	458119.7	2.5	**51.0002**	1.144	2.2	ug/L	284	Standard
|	**Pb**	208	2109563.3	2.8	**50.5844**	1.327	2.6	ug/L	1363	Standard
|	**U**	238	527156.6	3.8	**51.0828**	2.083	4.1	ug/L	2	Standard
⌊>	**Bi**	209	483899.8	1.2				ug/L	470592	Standard

Sample ID: QC Std 6
Report Date/Time: Sunday, November 18, 2012 17:19:53
Page 1

Approved: November 19, 2012

⌈	**Na**	23	0.0		**0.0050**	0.000	0.0	mg/L	2	Standard
|	**Mg**	24	310818.1	1.9	**0.1585**	0.004	2.4	mg/L	5586	Standard
|	**K**	39	376.7	11.1	**5.3859**	0.677	12.6	mg/L	5	Standard
|	**Ca**	43	165.0	10.9	**5.2128**	0.928	17.8	mg/L	45	Standard
|	**Fe**	54	13176.6	4.1	**5.2080**	0.322	6.2	mg/L	350	Standard
|	**Fe**	57	3160.3	2.8	**5.1250**	0.147	2.9	mg/L	102	Standard
⌊>	**Sc-1**	45	50089.4	2.7				mg/L	53004	Standard
	Cl	35	4.0	66.1				ug/L	2	Standard
	Kr	83	135.1	2.9				ug/L	157	Standard
	Br	81	10.0					ug/L	3	Standard
	P	31	127703.6	2.1				ug/L	91588	Standard
	S	34	38269.1	0.5				ug/L	32556	Standard
	Sr	88	66.7	37.7				ug/L	62	Standard
	C	12	121.7	14.4				mg/L	133	Standard
	N	14	1.7	173.2				mg/L	0	Standard
	Hg	202	5.0	100.0				mg/L	7	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈	Li	7			
|	Be	9	112.870		
|	Al	27	122.214		
⌊>	Sc	45			
⌈	Ti	47	98.227		
|	V	51	97.399		
|	Cr	52	97.789		
|	Cr	53			
|	Mn	55	99.109		
|	Co	59	99.854		
|	Ni	60	97.879		
|	Cu	65	101.794		
|	Zn	66	100.027		
|>	Ge	72		98.095	
|	As	75	100.342		
|	Se	82	100.083		
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: QC Std 6
Report Date/Time: Sunday, November 18, 2012 17:19:53
Page 2

Approved: November 19, 2012

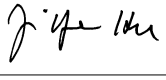
	Mo	98	96.399	
	Ag	107	99.288	
	Cd	111	100.845	
	Cd	114		
>	In	115		99.077
	Sn	118	101.324	
	Sb	123	101.180	
	Ba	135	102.410	
	Ce	140		
>	Tb	159		
	Ho	165		
	Tl	203	100.820	
	Tl	205		
	Pb	206	102.257	
	Pb	207	102.000	
	Pb	208	101.169	
	U	238	102.166	
>	Bi	209		102.828
	Na	23		
	Mg	24		
	K	39		
	Ca	43		
	Fe	54		
	Fe	57		
>	Sc-1	45		
	Cl	35		
	Kr	83		
	Br	81		
	P	31		
	S	34		
	Sr	88		
	C	12		
	N	14		
	Hg	202		

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 6	Be	9	
QC Std 6	Al	27	

Sample ID: QC Std 6
Report Date/Time: Sunday, November 18, 2012 17:19:53
Page 3

Approved: November 19, 2012



Method 6020 - Summary Report

Sample ID: QC Std 7
Sample Date/Time: Sunday, November 18, 2012 17:20:33
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	8697.5	5.2	**-345.7115**	222.313	64.3	ug/L	8369	Standard
|	**Be**	9	20.0	66.1	**0.0004**	0.006	1423.8	ug/L	18	Standard
|	**Al**	27	1275.1	107.2	**0.0084**	0.011	130.5	ug/L	215	Standard
⌊>	**Sc**	45	50816.8	4.2				ug/L	53004	Standard
⌈	**Ti**	47	17.3	17.6	**-0.0252**	0.005	21.4	ug/L	26	Standard
|	**V**	51	2806.7	2.8	**-0.0254**	0.009	35.9	ug/L	3223	Standard
|	**Cr**	52	8973.0	1.1	**-0.0800**	0.023	28.6	ug/L	10379	Standard
|	**Cr**	53	195.0	11.2	**0.0347**	0.011	31.0	ug/L	192	Standard
|	**Mn**	55	1545.4	3.6	**0.0022**	0.000	2.1	ug/L	1840	Standard
|	**Co**	59	91.7	20.9	**-0.0085**	0.001	14.3	ug/L	115	Standard
|	**Ni**	60	66.7	14.6	**-0.0118**	0.003	28.1	ug/L	75	Standard
|	**Cu**	65	257.0	8.0	**0.0373**	0.005	12.4	ug/L	155	Standard
|	**Zn**	66	284.3	2.4	**0.0128**	0.003	19.7	ug/L	237	Standard
| >	**Ge**	72	404633.0	3.6				ug/L	413856	Standard
|	**As**	75	-160.0	31.6	**0.0280**	0.031	112.1	ug/L	-197	Standard
|	**Se**	82	6.0	178.0	**0.0544**	0.086	157.6	ug/L	-5	Standard
⌊	**Se-1**	77	123.7	11.0	**0.3148**	0.185	58.9	ug/L	105	Standard
⌈>	**Ga**	71	180.0	10.0				mg/L	225	Standard
⌊	**Rb**	85	30.0	57.7				ug/L	28	Standard
⌈	**Y**	89	303377.9	3.5				ug/L	322845	Standard
⌊>	**Rh**	103	93.3	31.4				ug/L	92	Standard
⌈	**Mo**	98	83.1	105.8	**0.0096**	0.019	196.5	ug/L	18	Standard
|	**Ag**	107	222.3	32.2	**0.0204**	0.008	40.6	ug/L	63	Standard
|	**Cd**	111	43.6	89.9	**0.0015**	0.011	749.7	mg/L	20	Standard
|	**Cd**	114	113.2	92.3	**0.0029**	0.011	384.2	ug/L	56	Standard
| >	**In**	115	648719.7	2.9				ug/L	657102	Standard
|	**Sn**	118	403.7	14.2	**-0.0084**	0.005	54.4	ug/L	555	Standard
|	**Sb**	123	323.4	55.2	**0.0385**	0.022	56.0	ug/L	62	Standard
⌊	**Ba**	135	42.0	99.0	**-0.0077**	0.012	154.0	ug/L	19	Standard
⌈	**Ce**	140	21.7	14.8				ug/L	24	Standard
⌊>	**Tb**	159	928928.8	3.6				ug/L	910514	Standard
⌈	**Ho**	165	9.7	72.7				ug/L	7	Standard
|	**Tl**	203	60.7	87.0	**0.0009**	0.004	436.7	ug/L	13	Standard
|	**Tl**	205	0.3	173.2	**0.0021**	0.001	68.7	ug/L	1	Standard
|	**Pb**	206	369.0	20.7	**0.0017**	0.006	366.1	ug/L	342	Standard
|	**Pb**	207	318.3	12.2	**-0.0009**	0.003	373.6	ug/L	284	Standard
|	**Pb**	208	1467.4	14.7	**0.0005**	0.004	882.2	ug/L	1363	Standard
|	**U**	238	30.0	68.1	**0.0013**	0.002	140.0	ug/L	2	Standard
⌊>	**Bi**	209	487008.8	2.9				ug/L	470592	Standard

Sample ID: QC Std 7
Report Date/Time: Sunday, November 18, 2012 17:23:05
Page 1

Approved: November 19, 2012

⌈	**Na**	23	0.0		**0.0050**	0.000	0.0	mg/L	2	Standard
|	**Mg**	24	2251.8	23.4	**-0.0018**	0.000	12.3	mg/L	5586	Standard
|	**K**	39	3.3	173.2	**0.0038**	0.078	2077.6	mg/L	5	Standard
|	**Ca**	43	41.7	36.7	**-0.3611**	0.740	204.8	mg/L	45	Standard
|	**Fe**	54	367.2	10.2	**-0.0064**	0.014	215.8	mg/L	350	Standard
|	**Fe**	57	151.7	6.9	**0.1202**	0.013	11.0	mg/L	102	Standard
⌊>	**Sc-1**	45	50816.8	4.2				mg/L	53004	Standard
	Cl	35	1.7	69.3				ug/L	2	Standard
	Kr	83	135.9	4.4				ug/L	157	Standard
	Br	81	4.2	34.6				ug/L	3	Standard
	P	31	123849.7	4.0				ug/L	91588	Standard
	S	34	38459.6	0.8				ug/L	32556	Standard
	Sr	88	65.0	35.3				ug/L	62	Standard
	C	12	108.3	23.7				mg/L	133	Standard
	N	14	5.0	0.0				mg/L	0	Standard
	Hg	202	5.0	100.0				mg/L	7	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		97.772	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: QC Std 7
Report Date/Time: Sunday, November 18, 2012 17:23:05
Page 2

Approved: November 19, 2012

	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	98.724
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	103.489
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: QC Std 7
Report Date/Time: Sunday, November 18, 2012 17:23:05
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

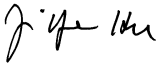
Sample ID: L1211020004
Sample Date/Time: Sunday, November 18, 2012 17:23:47
Number of Replicates: 3
Autosampler Position: 347
Sample Description: 1
Method File: C:\NexION Data\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
⌈	**Li**	7	98387.2	4.8	**-48948.3603**	1430.278	2.9	ug/L	8369	Standard
|	**Be**	9	15.0	120.2	**-0.0025**	0.008	336.5	ug/L	18	Standard
|	**Al**	27	7879997.6	4.1	**63.2738**	0.837	1.3	ug/L	215	Standard
⌊>	**Sc**	45	53716.8	3.1				ug/L	53004	Standard
⌈	**Ti**	47	285.3	7.0	**0.5172**	0.033	6.3	ug/L	26	Standard
|	**V**	51	7252.1	5.6	**0.3681**	0.028	7.5	ug/L	3223	Standard
|	**Cr**	52	17125.3	2.8	**0.7051**	0.027	3.9	ug/L	10379	Standard
|	**Cr**	53	1820.9	6.9	**1.2661**	0.113	8.9	ug/L	192	Standard
|	**Mn**	55	429781.2	4.6	**25.6637**	0.819	3.2	ug/L	1840	Standard
|	**Co**	59	1809.8	6.3	**0.1255**	0.007	5.4	ug/L	115	Standard
|	**Ni**	60	4006.5	1.5	**1.4168**	0.005	0.3	ug/L	75	Standard
|	**Cu**	65	864.4	4.9	**0.2671**	0.016	5.8	ug/L	155	Standard
|	**Zn**	66	5283.6	5.1	**3.8101**	0.164	4.3	ug/L	237	Standard
| >	**Ge**	72	397899.2	1.7				ug/L	413856	Standard
|	**As**	75	2799.5	6.4	**2.1451**	0.105	4.9	ug/L	-197	Standard
|	**Se**	82	132.1	10.1	**1.0653**	0.104	9.8	ug/L	-5	Standard
⌊	**Se-1**	77	193.3	7.3	**1.0697**	0.128	11.9	ug/L	105	Standard
⌈>	**Ga**	71	465.0	13.0				mg/L	225	Standard
⌊	**Rb**	85	8212.2	2.0				ug/L	28	Standard
⌈	**Y**	89	303584.6	0.6				ug/L	322845	Standard
⌊>	**Rh**	103	180.0	10.0				ug/L	92	Standard
⌈	**Mo**	98	5173.8	5.6	**1.1682**	0.059	5.0	ug/L	18	Standard
|	**Ag**	107	213.0	10.5	**0.0197**	0.003	15.6	ug/L	63	Standard
|	**Cd**	111	36.8	9.4	**-0.0002**	0.001	494.7	mg/L	20	Standard
|	**Cd**	114	117.5	25.6	**0.0037**	0.003	88.5	ug/L	56	Standard
| >	**In**	115	641386.0	0.7				ug/L	657102	Standard
|	**Sn**	118	4293.9	6.3	**0.3926**	0.026	6.5	ug/L	555	Standard
|	**Sb**	123	417.6	9.4	**0.0517**	0.005	9.4	ug/L	62	Standard
⌊	**Ba**	135	203510.2	3.8	**61.2213**	1.956	3.2	ug/L	19	Standard
⌈	**Ce**	140	538.3	4.1				ug/L	24	Standard
⌊>	**Tb**	159	925683.1	2.1				ug/L	910514	Standard
⌈	**Ho**	165	25.7	34.9				ug/L	7	Standard
|	**Tl**	203	479.0	6.0	**0.0344**	0.002	5.8	ug/L	13	Standard
|	**Tl**	205	14.0	31.1	**0.0378**	0.012	30.7	ug/L	1	Standard
|	**Pb**	206	509.0	6.4	**0.0175**	0.003	16.4	ug/L	342	Standard
|	**Pb**	207	439.7	1.3	**0.0152**	0.001	3.9	ug/L	284	Standard
|	**Pb**	208	2029.4	4.1	**0.0165**	0.002	10.4	ug/L	1363	Standard
|	**U**	238	3006.0	5.0	**0.3033**	0.013	4.3	ug/L	2	Standard
⌊>	**Bi**	209	462351.4	0.9				ug/L	470592	Standard

Sample ID: L1211020004
Report Date/Time: Sunday, November 18, 2012 17:26:19
Page 1

Approved: November 19, 2012



⌈	**Na**	23	1.7	173.2	**0.1533**	0.257	167.6	mg/L	2	Standard
|	**Mg**	24	579150.6	2.5	**0.2775**	0.002	0.6	mg/L	5586	Standard
|	**K**	39	95.0	10.5	**1.2326**	0.118	9.6	mg/L	5	Standard
|	**Ca**	43	790.0	11.1	**30.8959**	2.668	8.6	mg/L	45	Standard
|	**Fe**	54	371.5	9.6	**-0.0125**	0.016	128.7	mg/L	350	Standard
|	**Fe**	57	400.0	3.3	**0.4921**	0.029	5.9	mg/L	102	Standard
⌊>	**Sc-1**	45	53716.8	3.1				mg/L	53004	Standard
	Cl	35	2.7	94.4				ug/L	2	Standard
	Kr	83	138.3	5.8				ug/L	157	Standard
	Br	81	3.3	43.3				ug/L	3	Standard
	P	31	161610.2	2.6				ug/L	91588	Standard
	S	34	34619.5	2.5				ug/L	32556	Standard
	Sr	88	656.7	4.5				ug/L	62	Standard
	C	12	383.3	6.0				mg/L	133	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	6.7	114.6				mg/L	7	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		96.144	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: L1211020004
Report Date/Time: Sunday, November 18, 2012 17:26:19
Page 2

Approved: November 19, 2012

	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	97.608
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	98.249
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: L1211020004
Report Date/Time: Sunday, November 18, 2012 17:26:19
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

Sample ID: L1211020006
Sample Date/Time: Sunday, November 18, 2012 17:26:59
Number of Replicates: 3
Autosampler Position: 348
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	96193.6	6.5	**-50729.1504**	1195.904	2.4	ug/L	8369	Standard
|	**Be**	9	8.3	69.3	**-0.0052**	0.003	59.6	ug/L	18	Standard
|	**Al**	27	7847486.5	4.6	**66.6261**	0.264	0.4	ug/L	215	Standard
⌊>	**Sc**	45	50813.5	4.6				ug/L	53004	Standard
⌈	**Ti**	47	293.3	3.4	**0.5461**	0.017	3.2	ug/L	26	Standard
|	**V**	51	5794.8	5.2	**0.2514**	0.028	11.1	ug/L	3223	Standard
|	**Cr**	52	13830.3	1.9	**0.4213**	0.031	7.3	ug/L	10379	Standard
|	**Cr**	53	1445.9	5.9	**1.0054**	0.074	7.4	ug/L	192	Standard
|	**Mn**	55	1162855.9	3.6	**71.0919**	2.492	3.5	ug/L	1840	Standard
|	**Co**	59	3032.3	7.0	**0.2258**	0.016	7.2	ug/L	115	Standard
|	**Ni**	60	5693.4	7.1	**2.0723**	0.155	7.5	ug/L	75	Standard
|	**Cu**	65	2002.1	2.2	**0.7103**	0.015	2.1	ug/L	155	Standard
|	**Zn**	66	6594.4	3.3	**4.9122**	0.156	3.2	ug/L	237	Standard
|>	**Ge**	72	389616.0	0.8				ug/L	413856	Standard
|	**As**	75	3017.7	3.6	**2.3481**	0.077	3.3	ug/L	-197	Standard
|	**Se**	82	174.3	2.2	**1.4337**	0.021	1.4	ug/L	-5	Standard
⌊	**Se-1**	77	193.3	1.6	**1.1141**	0.023	2.1	ug/L	105	Standard
⌈>	**Ga**	71	198.3	2.9				mg/L	225	Standard
⌊	**Rb**	85	6559.8	5.9				ug/L	28	Standard
⌈	**Y**	89	299338.0	3.0				ug/L	322845	Standard
⌊>	**Rh**	103	156.7	17.6				ug/L	92	Standard
⌈	**Mo**	98	3616.1	3.2	**0.8327**	0.022	2.7	ug/L	18	Standard
|	**Ag**	107	146.7	25.2	**0.0115**	0.005	43.6	ug/L	63	Standard
|	**Cd**	111	26.7	15.8	**-0.0030**	0.001	41.0	mg/L	20	Standard
|	**Cd**	114	102.7	20.0	**0.0024**	0.002	102.6	ug/L	56	Standard
|>	**In**	115	627090.1	0.7				ug/L	657102	Standard
|	**Sn**	118	681.0	7.3	**0.0223**	0.005	21.4	ug/L	555	Standard
|	**Sb**	123	337.9	5.8	**0.0423**	0.002	5.5	ug/L	62	Standard
⌊	**Ba**	135	210644.5	3.8	**64.8123**	2.020	3.1	ug/L	19	Standard
⌈	**Ce**	140	289.3	14.0				ug/L	24	Standard
⌊>	**Tb**	159	911002.4	1.9				ug/L	910514	Standard
⌈	**Ho**	165	19.0	9.1				ug/L	7	Standard
|	**Tl**	203	445.7	1.9	**0.0325**	0.001	2.9	ug/L	13	Standard
|	**Tl**	205	15.3	16.4	**0.0420**	0.007	16.0	ug/L	1	Standard
|	**Pb**	206	2157.8	3.5	**0.1853**	0.006	3.2	ug/L	342	Standard
|	**Pb**	207	1790.4	3.9	**0.1769**	0.007	3.7	ug/L	284	Standard
|	**Pb**	208	8230.9	4.0	**0.1764**	0.007	3.8	ug/L	1363	Standard
|	**U**	238	4290.6	3.6	**0.4424**	0.013	2.9	ug/L	2	Standard
⌊>	**Bi**	209	453116.9	0.9				ug/L	470592	Standard

Sample ID: L1211020006
Report Date/Time: Sunday, November 18, 2012 17:29:31
Page 1

Approved: November 19, 2012

⌈	**Na**	23	1.7	173.2	**0.1636**	0.275	167.9	mg/L	2	Standard
|	**Mg**	24	582334.4	2.0	**0.2954**	0.008	2.6	mg/L	5586	Standard
|	**K**	39	68.3	36.1	**0.9395**	0.385	41.0	mg/L	5	Standard
|	**Ca**	43	900.0	11.2	**37.7896**	4.871	12.9	mg/L	45	Standard
|	**Fe**	54	845.1	5.7	**0.1862**	0.034	18.5	mg/L	350	Standard
|	**Fe**	57	655.0	6.2	**0.9460**	0.077	8.1	mg/L	102	Standard
⌊>	**Sc-1**	45	50813.5	4.6				mg/L	53004	Standard
	Cl	35	2.3	89.2				ug/L	2	Standard
	Kr	83	140.9	4.1				ug/L	157	Standard
	Br	81	9.2	31.5				ug/L	3	Standard
	P	31	160437.0	4.7				ug/L	91588	Standard
	S	34	34328.0	2.6				ug/L	32556	Standard
	Sr	88	645.0	5.1				ug/L	62	Standard
	C	12	591.7	21.0				mg/L	133	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	15.0	57.7				mg/L	7	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		94.143	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: L1211020006
Report Date/Time: Sunday, November 18, 2012 17:29:31
Page 2

Approved: November 19, 2012

	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	95.433
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	96.287
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: L1211020006
Report Date/Time: Sunday, November 18, 2012 17:29:31
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

Sample ID: QC Std 6
Sample Date/Time: Sunday, November 18, 2012 17:30:12
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	8424.0	4.1	**-254.6335**	217.892	85.6	ug/L	8369	Standard
|	**Be**	9	106736.7	4.0	**54.2541**	2.753	5.1	ug/L	18	Standard
|	**Al**	27	6832426.5	4.3	**58.8294**	3.167	5.4	ug/L	215	Standard
⌊>	**Sc**	45	50124.5	1.4				ug/L	53004	Standard
⌈	**Ti**	47	48262.8	3.9	**97.5225**	4.516	4.6	ug/L	26	Standard
|	**V**	51	558220.4	4.1	**48.6757**	2.667	5.5	ug/L	3223	Standard
|	**Cr**	52	524467.8	1.5	**48.7223**	1.736	3.6	ug/L	10379	Standard
|	**Cr**	53	65026.0	3.7	**48.9942**	2.736	5.6	ug/L	192	Standard
|	**Mn**	55	816930.6	2.7	**48.8809**	2.291	4.7	ug/L	1840	Standard
|	**Co**	59	621211.9	3.0	**48.4025**	2.021	4.2	ug/L	115	Standard
|	**Ni**	60	133536.3	3.4	**48.3580**	1.998	4.1	ug/L	75	Standard
|	**Cu**	65	132434.4	1.7	**49.6783**	2.107	4.2	ug/L	155	Standard
|	**Zn**	66	65175.3	2.5	**49.2621**	1.740	3.5	ug/L	237	Standard
|>	**Ge**	72	398220.1	3.5				ug/L	413856	Standard
|	**As**	75	68934.2	3.2	**49.5295**	2.224	4.5	ug/L	-197	Standard
|	**Se**	82	6080.8	2.8	**48.8000**	1.809	3.7	ug/L	-5	Standard
⌊	**Se-1**	77	4814.1	4.6	**50.0382**	2.545	5.1	ug/L	105	Standard
⌈>	**Ga**	71	175.0	4.9				mg/L	225	Standard
⌊	**Rb**	85	1483.4	5.8				ug/L	28	Standard
⌈	**Y**	89	304838.4	1.9				ug/L	322845	Standard
⌊>	**Rh**	103	116.7	10.8				ug/L	92	Standard
⌈	**Mo**	98	410006.1	3.0	**93.8345**	3.310	3.5	ug/L	18	Standard
|	**Ag**	107	378790.0	2.7	**49.2785**	1.650	3.3	ug/L	63	Standard
|	**Cd**	111	167395.5	2.9	**50.3070**	1.745	3.5	mg/L	20	Standard
|	**Cd**	114	438091.2	3.9	**50.0219**	2.039	4.1	ug/L	56	Standard
|>	**In**	115	637644.7	1.3				ug/L	657102	Standard
|	**Sn**	118	492045.9	4.1	**50.9102**	2.163	4.2	ug/L	555	Standard
|	**Sb**	123	383271.1	2.6	**50.4391**	1.571	3.1	ug/L	62	Standard
⌊	**Ba**	135	167981.7	2.1	**50.8405**	1.381	2.7	ug/L	19	Standard
⌈	**Ce**	140	530.7	4.3				ug/L	24	Standard
⌊>	**Tb**	159	918369.2	1.7				ug/L	910514	Standard
⌈	**Ho**	165	449.3	3.4				ug/L	7	Standard
|	**Tl**	203	645192.5	2.1	**49.8848**	1.462	2.9	ug/L	13	Standard
|	**Tl**	205	20076.0	2.2	**50.8789**	1.486	2.9	ug/L	1	Standard
|	**Pb**	206	521565.8	2.3	**50.3008**	1.430	2.8	ug/L	342	Standard
|	**Pb**	207	445643.7	2.8	**50.5548**	1.779	3.5	ug/L	284	Standard
|	**Pb**	208	2042518.2	2.6	**49.9068**	1.660	3.3	ug/L	1363	Standard
|	**U**	238	519081.9	4.5	**51.2623**	2.814	5.5	ug/L	2	Standard
⌊>	**Bi**	209	474980.2	1.7				ug/L	470592	Standard

Sample ID: QC Std 6
Report Date/Time: Sunday, November 18, 2012 17:32:45
Page 1

Approved: November 19, 2012

	Na	23	3.3	173.2	**0.3285**	0.560	170.6	mg/L	2	Standard
	Mg	24	304279.0	2.0	**0.1550**	0.005	3.2	mg/L	5586	Standard
	K	39	426.7	11.1	**6.1013**	0.771	12.6	mg/L	5	Standard
	Ca	43	141.7	11.3	**4.1440**	0.696	16.8	mg/L	45	Standard
	Fe	54	12727.2	4.1	**5.0181**	0.234	4.7	mg/L	350	Standard
	Fe	57	3105.3	4.6	**5.0300**	0.267	5.3	mg/L	102	Standard
>	**Sc-1**	45	50124.5	1.4				mg/L	53004	Standard
	Cl	35	2.3	89.2				ug/L	2	Standard
	Kr	83	142.9	3.8				ug/L	157	Standard
	Br	81	3.3	86.6				ug/L	3	Standard
	P	31	123681.1	1.0				ug/L	91588	Standard
	S	34	38352.6	0.7				ug/L	32556	Standard
	Sr	88	60.0	22.0				ug/L	62	Standard
	C	12	101.7	31.6				mg/L	133	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	11.7	89.2				mg/L	7	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
	Li	7			
	Be	9	108.508		
	Al	27	117.659		
>	Sc	45			
	Ti	47	97.522		
	V	51	97.351		
	Cr	52	97.445		
	Cr	53			
	Mn	55	97.762		
	Co	59	96.805		
	Ni	60	96.716		
	Cu	65	99.357		
	Zn	66	98.524		
>	Ge	72		96.222	
	As	75	99.059		
	Se	82	97.600		
	Se-1	77			
>	Ga	71			
	Rb	85			
	Y	89			
>	Rh	103			

Sample ID: QC Std 6
Report Date/Time: Sunday, November 18, 2012 17:32:45
Page 2

Approved: November 19, 2012

	Mo	98	93.834	
	Ag	107	98.557	
	Cd	111	100.614	
	Cd	114		
>	In	115		97.039
	Sn	118	101.820	
	Sb	123	100.878	
	Ba	135	101.681	
	Ce	140		
>	Tb	159		
	Ho	165		
	Tl	203	99.770	
	Tl	205		
	Pb	206	100.602	
	Pb	207	101.110	
	Pb	208	99.814	
	U	238	102.525	
>	Bi	209		100.933
	Na	23		
	Mg	24		
	K	39		
	Ca	43		
	Fe	54		
	Fe	57		
>	Sc-1	45		
	Cl	35		
	Kr	83		
	Br	81		
	P	31		
	S	34		
	Sr	88		
	C	12		
	N	14		
	Hg	202		

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 6	Al	27	

Sample ID: QC Std 6
Report Date/Time: Sunday, November 18, 2012 17:32:45
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

Sample ID: QC Std 7
Sample Date/Time: Sunday, November 18, 2012 17:33:26
Number of Replicates: 3
Autosampler Position: 102
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	8033.8	6.2	**-90.4121**	101.197	111.9	ug/L	8369	Standard
|	**Be**	9	23.3	86.6	**0.0025**	0.010	402.2	ug/L	18	Standard
|	**Al**	27	808.4	69.3	**0.0049**	0.005	96.9	ug/L	215	Standard
⌊>	**Sc**	45	49418.9	4.4				ug/L	53004	Standard
⌈	**Ti**	47	24.7	11.7	**-0.0087**	0.005	57.7	ug/L	26	Standard
|	**V**	51	2723.8	1.2	**-0.0234**	0.005	22.8	ug/L	3223	Standard
|	**Cr**	52	8562.8	1.2	**-0.0873**	0.021	23.7	ug/L	10379	Standard
|	**Cr**	53	185.0	15.3	**0.0329**	0.021	65.1	ug/L	192	Standard
|	**Mn**	55	1568.7	2.1	**0.0072**	0.000	4.6	ug/L	1840	Standard
|	**Co**	59	100.7	29.9	**-0.0075**	0.002	30.0	ug/L	115	Standard
|	**Ni**	60	78.7	18.1	**-0.0064**	0.005	73.2	ug/L	75	Standard
|	**Cu**	65	239.0	14.2	**0.0341**	0.012	33.8	ug/L	155	Standard
|	**Zn**	66	273.7	14.0	**0.0126**	0.027	213.9	ug/L	237	Standard
|>	**Ge**	72	389356.6	1.8				ug/L	413856	Standard
|	**As**	75	-145.4	15.0	**0.0334**	0.017	50.1	ug/L	-197	Standard
|	**Se**	82	6.1	20.3	**0.0550**	0.011	19.7	ug/L	-5	Standard
⌊	**Se-1**	77	124.3	6.6	**0.3679**	0.081	22.0	ug/L	105	Standard
⌈>	**Ga**	71	185.0	14.0				mg/L	225	Standard
⌊	**Rb**	85	30.0	76.4				ug/L	28	Standard
⌈	**Y**	89	295981.4	4.3				ug/L	322845	Standard
⌊>	**Rh**	103	106.7	17.7				ug/L	92	Standard
⌈	**Mo**	98	177.4	93.7	**0.0318**	0.038	118.5	ug/L	18	Standard
|	**Ag**	107	259.3	37.3	**0.0258**	0.012	48.0	ug/L	63	Standard
|	**Cd**	111	58.8	89.9	**0.0065**	0.016	243.6	mg/L	20	Standard
|	**Cd**	114	176.0	79.0	**0.0105**	0.016	149.6	ug/L	56	Standard
|>	**In**	115	637072.2	0.9				ug/L	657102	Standard
|	**Sn**	118	459.0	25.5	**-0.0018**	0.012	650.3	ug/L	555	Standard
|	**Sb**	123	332.3	48.2	**0.0408**	0.021	51.1	ug/L	62	Standard
⌊	**Ba**	135	50.3	59.6	**-0.0047**	0.009	190.7	ug/L	19	Standard
⌈	**Ce**	140	20.0	27.8				ug/L	24	Standard
⌊>	**Tb**	159	904530.3	2.0				ug/L	910514	Standard
⌈	**Ho**	165	7.3	39.4				ug/L	7	Standard
|	**Tl**	203	86.3	89.4	**0.0030**	0.006	193.0	ug/L	13	Standard
|	**Tl**	205	0.7	86.6	**0.0030**	0.001	49.0	ug/L	1	Standard
|	**Pb**	206	388.3	19.5	**0.0048**	0.007	146.6	ug/L	342	Standard
|	**Pb**	207	326.0	11.1	**0.0012**	0.004	349.6	ug/L	284	Standard
|	**Pb**	208	1513.0	14.8	**0.0028**	0.005	184.3	ug/L	1363	Standard
|	**U**	238	40.3	98.0	**0.0025**	0.004	156.1	ug/L	2	Standard
⌊>	**Bi**	209	471442.4	2.2				ug/L	470592	Standard

Sample ID: QC Std 7
Report Date/Time: Sunday, November 18, 2012 17:35:57
Page 1

Approved: November 19, 2012

⌈	**Na**	23	0.0		**0.0050**	0.000	0.0	mg/L	2	Standard
|	**Mg**	24	1985.1	8.2	**-0.0019**	0.000	5.2	mg/L	5586	Standard
|	**K**	39	5.0	100.0	**0.0296**	0.071	238.5	mg/L	5	Standard
|	**Ca**	43	36.7	39.4	**-0.5745**	0.602	104.8	mg/L	45	Standard
|	**Fe**	54	320.7	11.9	**-0.0216**	0.010	47.0	mg/L	350	Standard
|	**Fe**	57	131.7	35.3	**0.0917**	0.071	77.6	mg/L	102	Standard
⌊>	**Sc-1**	45	49418.9	4.4				mg/L	53004	Standard
	Cl	35	4.3	13.3				ug/L	2	Standard
	Kr	83	142.4	3.3				ug/L	157	Standard
	Br	81	9.2	87.7				ug/L	3	Standard
	P	31	119273.5	1.3				ug/L	91588	Standard
	S	34	38960.0	1.6				ug/L	32556	Standard
	Sr	88	50.0	50.0				ug/L	62	Standard
	C	12	93.3	56.8				mg/L	133	Standard
	N	14	1.7	173.2				mg/L	0	Standard
	Hg	202	6.7	86.6				mg/L	7	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		94.080	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: QC Std 7
Report Date/Time: Sunday, November 18, 2012 17:35:57
Page 2

Approved: November 19, 2012

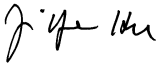
⌈	Mo	98		
|	Ag	107		
|	Cd	111		
|	Cd	114		
|>	In	115		96.952
|	Sn	118		
|	Sb	123		
⌊	Ba	135		
⌈	Ce	140		
⌊>	Tb	159		
⌈	Ho	165		
|	Tl	203		
|	Tl	205		
|	Pb	206		
|	Pb	207		
|	Pb	208		
|	U	238		
⌊>	Bi	209		100.181
⌈	Na	23		
|	Mg	24		
|	K	39		
|	Ca	43		
|	Fe	54		
|	Fe	57		
⌊>	Sc-1	45		
	Cl	35		
	Kr	83		
	Br	81		
	P	31		
	S	34		
	Sr	88		
	C	12		
	N	14		
	Hg	202		

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: QC Std 7
Report Date/Time: Sunday, November 18, 2012 17:35:57
Page 3

Approved: November 19, 2012



Method 6020 - Summary Report

Sample ID: QC Std 8
Sample Date/Time: Sunday, November 18, 2012 17:36:39
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	8123.8	4.5	**2.8296**	161.176	5696.1	ug/L	8369	Standard
|	**Be**	9	423.3	12.6	**0.2021**	0.027	13.3	ug/L	18	Standard
|	**Al**	27	273.3	9.2	**0.0001**	0.000	53.6	ug/L	215	Standard
⌊>	**Sc**	45	51049.4	6.2				ug/L	53004	Standard
⌈	**Ti**	47	18.7	34.4	**-0.0213**	0.014	66.5	ug/L	26	Standard
|	**V**	51	6800.6	4.6	**0.3330**	0.009	2.8	ug/L	3223	Standard
|	**Cr**	52	16923.5	4.3	**0.6976**	0.020	2.9	ug/L	10379	Standard
|	**Cr**	53	1139.2	9.1	**0.7564**	0.069	9.2	ug/L	192	Standard
|	**Mn**	55	9306.5	8.2	**0.4724**	0.029	6.1	ug/L	1840	Standard
|	**Co**	59	4880.1	5.8	**0.3675**	0.012	3.4	ug/L	115	Standard
|	**Ni**	60	4222.6	3.1	**1.5065**	0.018	1.2	ug/L	75	Standard
|	**Cu**	65	2281.5	7.1	**0.8049**	0.036	4.4	ug/L	155	Standard
|	**Zn**	66	8275.9	5.3	**6.1257**	0.109	1.8	ug/L	237	Standard
|>	**Ge**	72	395008.8	3.6				ug/L	413856	Standard
|	**As**	75	401.3	15.8	**0.4291**	0.039	9.2	ug/L	-197	Standard
|	**Se**	82	57.5	17.6	**0.4697**	0.078	16.6	ug/L	-5	Standard
⌊	**Se-1**	77	155.0	3.9	**0.6769**	0.062	9.1	ug/L	105	Standard
⌈>	**Ga**	71	175.0	10.3				mg/L	225	Standard
⌊	**Rb**	85	25.0	52.9				ug/L	28	Standard
⌈	**Y**	89	299101.2	2.5				ug/L	322845	Standard
⌊>	**Rh**	103	95.0	27.3				ug/L	92	Standard
⌈	**Mo**	98	20.1	25.6	**-0.0040**	0.001	31.1	ug/L	18	Standard
|	**Ag**	107	2952.3	1.8	**0.3816**	0.012	3.1	ug/L	63	Standard
|	**Cd**	111	787.7	0.6	**0.2290**	0.009	4.1	mg/L	20	Standard
|	**Cd**	114	2066.9	3.7	**0.2298**	0.008	3.6	ug/L	56	Standard
|>	**In**	115	629053.0	3.4				ug/L	657102	Standard
|	**Sn**	118	367.7	1.1	**-0.0108**	0.001	9.2	ug/L	555	Standard
|	**Sb**	123	3060.3	3.5	**0.4054**	0.010	2.6	ug/L	62	Standard
⌊	**Ba**	135	2427.9	3.7	**0.7252**	0.017	2.4	ug/L	19	Standard
⌈	**Ce**	140	28.3	15.9				ug/L	24	Standard
⌊>	**Tb**	159	905656.7	3.8				ug/L	910514	Standard
⌈	**Ho**	165	9.3	48.3				ug/L	7	Standard
|	**Tl**	203	1028.0	3.9	**0.0765**	0.001	1.7	ug/L	13	Standard
|	**Tl**	205	27.3	11.2	**0.0710**	0.006	8.4	ug/L	1	Standard
|	**Pb**	206	2372.2	6.3	**0.1977**	0.009	4.7	ug/L	342	Standard
|	**Pb**	207	1971.5	2.9	**0.1895**	0.007	3.6	ug/L	284	Standard
|	**Pb**	208	9256.1	4.5	**0.1937**	0.008	4.2	ug/L	1363	Standard
|	**U**	238	3929.8	5.3	**0.3895**	0.017	4.3	ug/L	2	Standard
⌊>	**Bi**	209	471172.3	2.7				ug/L	470592	Standard

Sample ID: QC Std 8
Report Date/Time: Sunday, November 18, 2012 17:39:11
Page 1

Approved: November 19, 2012

⌈	**Na**	23	3.3	86.6	**0.3082**	0.263	85.3	mg/L	2	Standard
|	**Mg**	24	1630.1	2.7	**-0.0021**	0.000	1.7	mg/L	5586	Standard
|	**K**	39	6.7	86.6	**0.0534**	0.083	154.5	mg/L	5	Standard
|	**Ca**	43	46.7	12.4	**-0.1729**	0.156	90.3	mg/L	45	Standard
|	**Fe**	54	329.6	3.0	**-0.0218**	0.004	19.6	mg/L	350	Standard
|	**Fe**	57	121.7	9.5	**0.0706**	0.021	29.6	mg/L	102	Standard
⌊>	**Sc-1**	45	51049.4	6.2				mg/L	53004	Standard
	Cl	35	3.3	45.8				ug/L	2	Standard
	Kr	83	131.4	1.7				ug/L	157	Standard
	Br	81	11.7	68.9				ug/L	3	Standard
	P	31	118753.0	3.1				ug/L	91588	Standard
	S	34	40161.5	0.7				ug/L	32556	Standard
	Sr	88	96.7	15.8				ug/L	62	Standard
	C	12	138.3	19.9				mg/L	133	Standard
	N	14	1.7	173.2				mg/L	0	Standard
	Hg	202	3.3	173.2				mg/L	7	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈	Li	7			
|	Be	9	101.038		
|	Al	27			
⌊>	Sc	45			
⌈	Ti	47			
|	V	51	83.241		
|	Cr	52	87.197		
|	Cr	53			
|	Mn	55	94.486		
|	Co	59	91.881		
|	Ni	60	94.156		
|	Cu	65	100.609		
|	Zn	66	98.011		
|>	Ge	72		95.446	
|	As	75	107.281		
|	Se	82	117.418		
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: QC Std 8
Report Date/Time: Sunday, November 18, 2012 17:39:11
Page 2

Approved: November 19, 2012

⌈	Mo	98			
|	Ag	107	95.412		
|	Cd	111	95.410		
|	Cd	114			
|>	In	115			95.731
|	Sn	118			
|	Sb	123	101.339		
⌊	Ba	135	96.689		
⌈	Ce	140			
⌊>	Tb	159			
⌈	Ho	165			
|	Tl	203	95.572		
|	Tl	205			
|	Pb	206			
|	Pb	207			
|	Pb	208	96.828		
|	U	238	97.381		
⌊>	Bi	209			100.123
⌈	Na	23			
|	Mg	24			
|	K	39			
|	Ca	43			
|	Fe	54			
|	Fe	57			
⌊>	Sc-1	45			
	Cl	35			
	Kr	83			
	Br	81			
	P	31			
	S	34			
	Sr	88			
	C	12			
	N	14			
	Hg	202			

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: QC Std 8
Report Date/Time: Sunday, November 18, 2012 17:39:11
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

Sample ID: PBS 86 WG414134-02
Sample Date/Time: Sunday, November 18, 2012 17:39:53
Number of Replicates: 3
Autosampler Position: 401
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	7845.4	11.4	**108.3935**	342.995	316.4	ug/L	8369	Standard
|	**Be**	9	6.7	114.6	**-0.0062**	0.004	59.9	ug/L	18	Standard
|	**Al**	27	8179.5	126.0	**0.0659**	0.084	127.6	ug/L	215	Standard
⌊>	**Sc**	45	50296.8	3.7				ug/L	53004	Standard
⌈	**Ti**	47	35.3	9.9	**0.0142**	0.004	31.1	ug/L	26	Standard
|	**V**	51	2837.3	4.4	**-0.0101**	0.007	67.9	ug/L	3223	Standard
|	**Cr**	52	9156.8	2.9	**-0.0185**	0.027	145.8	ug/L	10379	Standard
|	**Cr**	53	236.7	11.3	**0.0746**	0.010	13.3	ug/L	192	Standard
|	**Mn**	55	4097.2	8.9	**0.1648**	0.011	6.6	ug/L	1840	Standard
|	**Co**	59	132.7	15.2	**-0.0049**	0.001	23.0	ug/L	115	Standard
|	**Ni**	60	398.3	1.5	**0.1140**	0.007	6.0	ug/L	75	Standard
|	**Cu**	65	524.0	12.5	**0.1455**	0.015	10.2	ug/L	155	Standard
|	**Zn**	66	2491.2	4.0	**1.7575**	0.062	3.5	ug/L	237	Standard
|>	**Ge**	72	384837.9	6.0				ug/L	413856	Standard
|	**As**	75	-165.1	11.8	**0.0176**	0.014	78.8	ug/L	-197	Standard
|	**Se**	82	7.1	96.3	**0.0650**	0.060	92.0	ug/L	-5	Standard
⌊	**Se-1**	77	125.3	23.4	**0.4088**	0.392	95.9	ug/L	105	Standard
⌈>	**Ga**	71	193.3	23.5				mg/L	225	Standard
⌊	**Rb**	85	28.3	10.2				ug/L	28	Standard
⌈	**Y**	89	292964.3	3.6				ug/L	322845	Standard
⌊>	**Rh**	103	63.3	29.9				ug/L	92	Standard
⌈	**Mo**	98	37.2	16.7	**0.0000**	0.002	23353.8	ug/L	18	Standard
|	**Ag**	107	129.7	9.6	**0.0093**	0.002	21.4	ug/L	63	Standard
|	**Cd**	111	42.6	68.4	**0.0017**	0.008	494.8	mg/L	20	Standard
|	**Cd**	114	157.5	105.3	**0.0083**	0.018	219.5	ug/L	56	Standard
|>	**In**	115	625442.6	3.7				ug/L	657102	Standard
|	**Sn**	118	615.3	35.7	**0.0151**	0.020	135.3	ug/L	555	Standard
|	**Sb**	123	173.7	107.2	**0.0198**	0.024	119.5	ug/L	62	Standard
⌊	**Ba**	135	209.3	78.1	**0.0435**	0.047	108.2	ug/L	19	Standard
⌈	**Ce**	140	104.3	37.4				ug/L	24	Standard
⌊>	**Tb**	159	900206.1	3.8				ug/L	910514	Standard
⌈	**Ho**	165	10.7	32.9				ug/L	7	Standard
|	**Tl**	203	116.7	133.1	**0.0052**	0.012	222.2	ug/L	13	Standard
|	**Tl**	205	1.7	124.9	**0.0054**	0.005	93.0	ug/L	1	Standard
|	**Pb**	206	3313.0	10.2	**0.2911**	0.023	8.0	ug/L	342	Standard
|	**Pb**	207	2443.2	6.7	**0.2452**	0.011	4.3	ug/L	284	Standard
|	**Pb**	208	11963.5	9.2	**0.2621**	0.018	7.0	ug/L	1363	Standard
|	**U**	238	50.7	157.8	**0.0033**	0.008	228.5	ug/L	2	Standard
⌊>	**Bi**	209	468091.7	4.4				ug/L	470592	Standard

Approved: November 19, 2012

⌈	**Na**	23	1.7	173.2	**0.1665**	0.280	168.0	mg/L	2	Standard
|	**Mg**	24	3817.3	76.4	**-0.0010**	0.001	143.3	mg/L	5586	Standard
|	**K**	39	3.3	86.6	**0.0059**	0.041	698.0	mg/L	5	Standard
|	**Ca**	43	48.3	51.0	**-0.0748**	1.087	1453.3	mg/L	45	Standard
|	**Fe**	54	359.0	9.2	**-0.0077**	0.018	231.7	mg/L	350	Standard
|	**Fe**	57	120.0	15.0	**0.0705**	0.030	43.2	mg/L	102	Standard
⌊>	**Sc-1**	45	50296.8	3.7				mg/L	53004	Standard
	Cl	35	2.3	49.5				ug/L	2	Standard
	Kr	83	133.9	3.1				ug/L	157	Standard
	Br	81	6.7	21.7				ug/L	3	Standard
	P	31	119380.4	3.2				ug/L	91588	Standard
	S	34	38966.8	4.6				ug/L	32556	Standard
	Sr	88	65.0	33.5				ug/L	62	Standard
	C	12	145.0	3.4				mg/L	133	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	1.7	173.2				mg/L	7	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		92.988	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: PBS 86 WG414134-02
Report Date/Time: Sunday, November 18, 2012 17:42:25
Page 2

Approved: November 19, 2012

	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	95.182
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	99.469
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: PBS 86 WG414134-02
Report Date/Time: Sunday, November 18, 2012 17:42:25
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

Sample ID: LCSS 86 WG414134-03
Sample Date/Time: Sunday, November 18, 2012 17:43:06
Number of Replicates: 3
Autosampler Position: 402
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	8415.7	3.0	**-100.4312**	126.629	126.1	ug/L	8369	Standard
	Be	9	52502.6	4.6	**25.8555**	0.702	2.7	ug/L	18	Standard
	Al	27	1733.4	18.6	**0.0123**	0.003	24.7	ug/L	215	Standard
>	**Sc**	45	51691.4	2.4				ug/L	53004	Standard
	Ti	47	31.3	8.0	**0.0033**	0.004	128.3	ug/L	26	Standard
	V	51	277880.4	4.4	**23.9107**	0.603	2.5	ug/L	3223	Standard
	Cr	52	274272.8	4.9	**24.8458**	0.778	3.1	ug/L	10379	Standard
	Cr	53	33258.2	5.6	**24.8059**	0.916	3.7	ug/L	192	Standard
	Mn	55	428061.3	4.1	**25.3754**	0.574	2.3	ug/L	1840	Standard
	Co	59	323595.4	4.8	**25.0164**	0.710	2.8	ug/L	115	Standard
	Ni	60	69378.6	3.9	**24.9234**	0.484	1.9	ug/L	75	Standard
	Cu	65	69698.9	5.1	**25.9146**	0.813	3.1	ug/L	155	Standard
	Zn	66	35086.3	5.0	**26.2288**	0.810	3.1	ug/L	237	Standard
>	**Ge**	72	400805.4	2.0				ug/L	413856	Standard
	As	75	35170.7	3.2	**25.1535**	0.328	1.3	ug/L	-197	Standard
	Se	82	3113.2	3.6	**24.8047**	0.410	1.7	ug/L	-5	Standard
	Se-1	77	2458.9	2.1	**24.8960**	0.111	0.4	ug/L	105	Standard
>	**Ga**	71	218.3	13.4				mg/L	225	Standard
	Rb	85	38.3	19.9				ug/L	28	Standard
	Y	89	299782.4	2.0				ug/L	322845	Standard
>	**Rh**	103	126.7	6.0				ug/L	92	Standard
	Mo	98	65.3	80.0	**0.0062**	0.012	196.3	ug/L	18	Standard
	Ag	107	189111.5	3.0	**24.2481**	0.313	1.3	ug/L	63	Standard
	Cd	111	83359.7	5.1	**24.6835**	0.846	3.4	mg/L	20	Standard
	Cd	114	217602.2	3.8	**24.4866**	0.508	2.1	ug/L	56	Standard
>	**In**	115	646647.1	1.8				ug/L	657102	Standard
	Sn	118	430.0	6.5	**-0.0054**	0.004	67.2	ug/L	555	Standard
	Sb	123	194898.0	4.2	**25.2799**	0.654	2.6	ug/L	62	Standard
	Ba	135	85537.6	3.5	**25.5096**	0.491	1.9	ug/L	19	Standard
	Ce	140	62.7	6.0				ug/L	24	Standard
>	**Tb**	159	926760.1	2.0				ug/L	910514	Standard
	Ho	165	11.0	24.1				ug/L	7	Standard
	Tl	203	330689.3	3.7	**25.1329**	1.072	4.3	ug/L	13	Standard
	Tl	205	10035.3	1.7	**25.0011**	0.596	2.4	ug/L	1	Standard
	Pb	206	264213.2	5.0	**25.0331**	1.342	5.4	ug/L	342	Standard
	Pb	207	226079.0	3.6	**25.1912**	0.969	3.8	ug/L	284	Standard
	Pb	208	1041422.7	4.3	**24.9956**	1.139	4.6	ug/L	1363	Standard
	U	238	252209.8	5.6	**24.4760**	1.391	5.7	ug/L	2	Standard
>	**Bi**	209	483142.0	1.0				ug/L	470592	Standard

Sample ID: LCSS 86 WG414134-03
Report Date/Time: Sunday, November 18, 2012 17:45:38
Page 1

Approved: November 19, 2012

⌈	**Na**	23	3.3	86.6	**0.3099**	0.264	85.2	mg/L	2	Standard
|	**Mg**	24	2111.8	4.5	**-0.0019**	0.000	3.9	mg/L	5586	Standard
|	**K**	39	5.0	173.2	**0.0281**	0.120	428.4	mg/L	5	Standard
|	**Ca**	43	43.3	17.6	**-0.3363**	0.360	107.2	mg/L	45	Standard
|	**Fe**	54	417.9	13.4	**0.0111**	0.021	190.6	mg/L	350	Standard
|	**Fe**	57	136.7	11.8	**0.0919**	0.026	28.4	mg/L	102	Standard
⌊>	**Sc-1**	45	51691.4	2.4				mg/L	53004	Standard
	Cl	35	4.3	113.8				ug/L	2	Standard
	Kr	83	130.3	1.4				ug/L	157	Standard
	Br	81	5.0	50.0				ug/L	3	Standard
	P	31	121293.6	0.9				ug/L	91588	Standard
	S	34	36678.5	0.3				ug/L	32556	Standard
	Sr	88	76.7	19.9				ug/L	62	Standard
	C	12	393.3	14.8				mg/L	133	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	5.0	173.2				mg/L	7	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		96.847	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: LCSS 86 WG414134-03
Report Date/Time: Sunday, November 18, 2012 17:45:38
Page 2

Approved: November 19, 2012

⌈	Mo	98		
|	Ag	107		
|	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		102.667
⌈	Na	23		
|	Mg	24		
|	K	39		
|	Ca	43		
|	Fe	54		
|	Fe	57		
⌊>	Sc-1	45		
	Cl	35		
	Kr	83		
	Br	81		
	P	31		
	S	34		
	Sr	88		
	C	12		
	N	14		
	Hg	202		

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: LCSS 86 WG414134-03
Report Date/Time: Sunday, November 18, 2012 17:45:38
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

Sample ID: L1211033209S WG414134-04
Sample Date/Time: Sunday, November 18, 2012 17:46:18
Number of Replicates: 3
Autosampler Position: 403
Sample Description: 20
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	14949.0	1.9	**-5137.5025**	306.410	6.0	ug/L	8369	Standard
	Be	9	2501.9	2.7	**1.4186**	0.070	4.9	ug/L	18	Standard
	Al	27	311217.0	2.8	**3.0068**	0.155	5.2	ug/L	215	Standard
>	**Sc**	45	44659.1	2.4				ug/L	53004	Standard
	Ti	47	247.3	7.8	**0.5152**	0.054	10.4	ug/L	26	Standard
	V	51	28529.9	1.3	**2.6046**	0.025	0.9	ug/L	3223	Standard
	Cr	52	24626.7	1.3	**1.7606**	0.013	0.7	ug/L	10379	Standard
	Cr	53	2343.5	1.2	**1.9222**	0.049	2.5	ug/L	192	Standard
	Mn	55	1132499.3	2.4	**77.8434**	0.922	1.2	ug/L	1840	Standard
	Co	59	21584.4	0.4	**1.9165**	0.025	1.3	ug/L	115	Standard
	Ni	60	5853.8	1.6	**2.4007**	0.008	0.3	ug/L	75	Standard
	Cu	65	4410.0	1.3	**1.8441**	0.035	1.9	ug/L	155	Standard
	Zn	66	5744.1	1.7	**4.8075**	0.123	2.6	ug/L	237	Standard
>	**Ge**	72	346549.6	1.5				ug/L	413856	Standard
	As	75	1893.3	1.5	**1.6975**	0.010	0.6	ug/L	-197	Standard
	Se	82	100.7	5.9	**0.9335**	0.066	7.0	ug/L	-5	Standard
	Se-1	77	193.0	6.5	**1.3691**	0.119	8.7	ug/L	105	Standard
>	**Ga**	71	1418.4	1.8				mg/L	225	Standard
	Rb	85	7563.6	4.0				ug/L	28	Standard
	Y	89	282215.9	0.9				ug/L	322845	Standard
>	**Rh**	103	80.0	10.8				ug/L	92	Standard
	Mo	98	42.7	2.7	**0.0022**	0.000	14.1	ug/L	18	Standard
	Ag	107	7355.8	0.5	**1.0597**	0.006	0.6	ug/L	63	Standard
	Cd	111	3712.1	2.0	**1.2334**	0.023	1.9	mg/L	20	Standard
	Cd	114	9722.3	1.1	**1.2290**	0.015	1.2	ug/L	56	Standard
>	**In**	115	571548.2	0.2				ug/L	657102	Standard
	Sn	118	314.7	3.2	**-0.0130**	0.001	8.5	ug/L	555	Standard
	Sb	123	473.3	4.3	**0.0666**	0.003	4.6	ug/L	62	Standard
	Ba	135	37254.4	0.4	**12.5623**	0.057	0.5	ug/L	19	Standard
	Ce	140	226088.8	1.0				ug/L	24	Standard
>	**Tb**	159	842342.5	0.6				ug/L	910514	Standard
	Ho	165	2299.8	1.5				ug/L	7	Standard
	Tl	203	13410.6	2.5	**1.0982**	0.028	2.6	ug/L	13	Standard
	Tl	205	426.0	1.9	**1.1484**	0.015	1.3	ug/L	1	Standard
	Pb	206	20280.2	1.9	**2.0468**	0.041	2.0	ug/L	342	Standard
	Pb	207	17135.0	1.6	**2.0309**	0.039	1.9	ug/L	284	Standard
	Pb	208	79284.7	1.5	**2.0254**	0.027	1.3	ug/L	1363	Standard
	U	238	10777.2	2.0	**1.1291**	0.018	1.6	ug/L	2	Standard
>	**Bi**	209	446901.2	0.7				ug/L	470592	Standard

Sample ID: L1211033209S WG414134-04
Report Date/Time: Sunday, November 18, 2012 17:48:51
Page 1

Approved: November 19, 2012

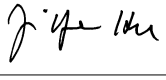
	Na	23	1.7	173.2	**0.1799**	0.303	168.4	mg/L	2	Standard
	Mg	24	2240.2	4.5	**-0.0016**	0.000	4.7	mg/L	5586	Standard
	K	39	11.7	65.5	**0.1485**	0.128	86.5	mg/L	5	Standard
	Ca	43	46.7	48.3	**0.1331**	1.144	859.4	mg/L	45	Standard
	Fe	54	2758.8	3.5	**1.1051**	0.060	5.5	mg/L	350	Standard
	Fe	57	756.7	9.9	**1.2806**	0.110	8.6	mg/L	102	Standard
>	**Sc-1**	45	44659.1	2.4				mg/L	53004	Standard
	Cl	35	2.7	57.3				ug/L	2	Standard
	Kr	83	123.1	4.9				ug/L	157	Standard
	Br	81	5.0	100.0				ug/L	3	Standard
	P	31	41645.5	2.0				ug/L	91588	Standard
	S	34	36298.5	3.6				ug/L	32556	Standard
	Sr	88	90.0	19.2				ug/L	62	Standard
	C	12	103.3	7.4				mg/L	133	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	3.3	86.6				mg/L	7	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		83.737	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			
	Y	89			
>	Rh	103			

Sample ID: L1211033209S WG414134-04
Report Date/Time: Sunday, November 18, 2012 17:48:51
Page 2

Approved: November 19, 2012



	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	86.980
	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	94.966
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: L1211033209S WG414134-04
Report Date/Time: Sunday, November 18, 2012 17:48:51
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

Sample ID: L1211033210SD WG414134-05
Sample Date/Time: Sunday, November 18, 2012 17:49:31
Number of Replicates: 3
Autosampler Position: 404
Sample Description: 20
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	23341.3	6.2	**-10105.1645**	703.901	7.0	ug/L	8369	Standard
|	**Be**	9	2686.9	6.6	**1.4718**	0.119	8.1	ug/L	18	Standard
|	**Al**	27	944249.1	3.8	**8.8080**	0.329	3.7	ug/L	215	Standard
⌊>	**Sc**	45	46242.1	1.5				ug/L	53004	Standard
⌈	**Ti**	47	246.0	8.4	**0.4880**	0.040	8.3	ug/L	26	Standard
|	**V**	51	27694.0	1.3	**2.4065**	0.021	0.9	ug/L	3223	Standard
|	**Cr**	52	31534.5	2.6	**2.3712**	0.060	2.5	ug/L	10379	Standard
|	**Cr**	53	3122.8	1.7	**2.4873**	0.069	2.8	ug/L	192	Standard
|	**Mn**	55	554000.7	2.9	**36.4763**	0.665	1.8	ug/L	1840	Standard
|	**Co**	59	24022.7	1.7	**2.0467**	0.013	0.6	ug/L	115	Standard
|	**Ni**	60	8152.2	3.3	**3.2183**	0.073	2.3	ug/L	75	Standard
|	**Cu**	65	6787.2	3.9	**2.7488**	0.082	3.0	ug/L	155	Standard
|	**Zn**	66	10377.6	2.9	**8.4748**	0.181	2.1	ug/L	237	Standard
|>	**Ge**	72	361291.4	1.1				ug/L	413856	Standard
|	**As**	75	1828.5	2.9	**1.5831**	0.051	3.2	ug/L	-197	Standard
|	**Se**	82	134.7	10.4	**1.1966**	0.131	11.0	ug/L	-5	Standard
⌊	**Se-1**	77	218.3	2.3	**1.5707**	0.084	5.4	ug/L	105	Standard
⌈>	**Ga**	71	2213.5	2.1				mg/L	225	Standard
⌊	**Rb**	85	19494.2	4.1				ug/L	28	Standard
⌈	**Y**	89	288884.9	1.1				ug/L	322845	Standard
⌊>	**Rh**	103	98.3	17.9				ug/L	92	Standard
⌈	**Mo**	98	21.6	15.8	**-0.0032**	0.001	28.0	ug/L	18	Standard
|	**Ag**	107	7780.0	2.4	**1.1091**	0.036	3.2	ug/L	63	Standard
|	**Cd**	111	3961.5	2.1	**1.3027**	0.035	2.7	mg/L	20	Standard
|	**Cd**	114	10443.3	1.9	**1.3066**	0.038	2.9	ug/L	56	Standard
|>	**In**	115	577863.1	1.0				ug/L	657102	Standard
|	**Sn**	118	311.0	10.2	**-0.0139**	0.003	24.9	ug/L	555	Standard
|	**Sb**	123	2671.1	4.7	**0.3850**	0.020	5.3	ug/L	62	Standard
⌊	**Ba**	135	66473.2	2.4	**22.1882**	0.664	3.0	ug/L	19	Standard
⌈	**Ce**	140	179262.9	2.2				ug/L	24	Standard
⌊>	**Tb**	159	853566.4	0.5				ug/L	910514	Standard
⌈	**Ho**	165	2508.2	4.2				ug/L	7	Standard
|	**Tl**	203	14256.7	3.9	**1.1519**	0.052	4.5	ug/L	13	Standard
|	**Tl**	205	445.7	1.3	**1.1850**	0.007	0.6	ug/L	1	Standard
|	**Pb**	206	56135.5	1.4	**5.6455**	0.107	1.9	ug/L	342	Standard
|	**Pb**	207	46193.3	1.8	**5.4601**	0.110	2.0	ug/L	284	Standard
|	**Pb**	208	215707.0	2.4	**5.4938**	0.154	2.8	ug/L	1363	Standard
|	**U**	238	11291.5	1.0	**1.1670**	0.011	1.0	ug/L	2	Standard
⌊>	**Bi**	209	453086.0	0.8				ug/L	470592	Standard

Approved: November 19, 2012

	Na	23	3.3	86.6	**0.3497**	0.299	85.4	mg/L	2	Standard
	Mg	24	3050.3	18.0	**-0.0012**	0.000	25.8	mg/L	5586	Standard
	K	39	15.0	57.7	**0.1938**	0.137	70.8	mg/L	5	Standard
	Ca	43	45.0	11.1	**-0.0367**	0.222	605.2	mg/L	45	Standard
	Fe	54	3179.0	1.4	**1.2465**	0.016	1.3	mg/L	350	Standard
	Fe	57	878.4	4.8	**1.4539**	0.100	6.9	mg/L	102	Standard
>	**Sc-1**	45	46242.1	1.5				mg/L	53004	Standard
	Cl	35	3.7	31.5				ug/L	2	Standard
	Kr	83	118.2	4.7				ug/L	157	Standard
	Br	81	3.3	43.3				ug/L	3	Standard
	P	31	43168.1	3.8				ug/L	91588	Standard
	S	34	36843.1	2.2				ug/L	32556	Standard
	Sr	88	96.7	19.6				ug/L	62	Standard
	C	12	148.3	42.7				mg/L	133	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	13.3	57.3				mg/L	7	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		87.299	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			
	Y	89			
>	Rh	103			

Sample ID: L1211033210SD WG414134-05
Report Date/Time: Sunday, November 18, 2012 17:52:03
Page 2

Approved: November 19, 2012

⌈	Mo	98		
|	Ag	107		
|	Cd	111		
|	Cd	114		
|>	In	115		87.941
|	Sn	118		
|	Sb	123		
⌊	Ba	135		
⌈	Ce	140		
⌊>	Tb	159		
⌈	Ho	165		
|	Tl	203		
|	Tl	205		
|	Pb	206		
|	Pb	207		
|	Pb	208		
|	U	238		
⌊>	Bi	209		96.280
⌈	Na	23		
|	Mg	24		
|	K	39		
|	Ca	43		
|	Fe	54		
|	Fe	57		
⌊>	Sc-1	45		
	Cl	35		
	Kr	83		
	Br	81		
	P	31		
	S	34		
	Sr	88		
	C	12		
	N	14		
	Hg	202		

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: L1211033210SD WG414134-05
Report Date/Time: Sunday, November 18, 2012 17:52:03
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

Sample ID: L1211033221 WG414134-01
Sample Date/Time: Sunday, November 18, 2012 17:52:44
Number of Replicates: 3
Autosampler Position: 405
Sample Description: 20
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	21959.3	4.9	**-9352.6890**	673.042	7.2	ug/L	8369	Standard
|	**Be**	9	145.0	21.0	**0.0711**	0.017	23.6	ug/L	18	Standard
|	**Al**	27	663203.5	1.8	**6.2374**	0.127	2.0	ug/L	215	Standard
⌊>	**Sc**	45	45857.6	0.3				ug/L	53004	Standard
⌈	**Ti**	47	314.0	3.2	**0.6414**	0.026	4.0	ug/L	26	Standard
|	**V**	51	13598.0	2.1	**1.0484**	0.004	0.4	ug/L	3223	Standard
|	**Cr**	52	19071.7	1.1	**1.0773**	0.049	4.6	ug/L	10379	Standard
|	**Cr**	53	1500.9	4.8	**1.1410**	0.058	5.0	ug/L	192	Standard
|	**Mn**	55	346178.6	3.2	**22.8222**	0.976	4.3	ug/L	1840	Standard
|	**Co**	59	7719.0	3.1	**0.6486**	0.017	2.7	ug/L	115	Standard
|	**Ni**	60	4065.2	1.8	**1.5910**	0.020	1.3	ug/L	75	Standard
|	**Cu**	65	2754.3	1.9	**1.0845**	0.039	3.6	ug/L	155	Standard
|	**Zn**	66	7538.2	2.7	**6.1171**	0.184	3.0	ug/L	237	Standard
|>	**Ge**	72	360490.4	1.9				ug/L	413856	Standard
|	**As**	75	216.1	6.3	**0.3109**	0.012	3.9	ug/L	-197	Standard
|	**Se**	82	6.9	76.4	**0.0662**	0.047	71.2	ug/L	-5	Standard
⌊	**Se-1**	77	116.0	4.3	**0.3795**	0.082	21.6	ug/L	105	Standard
⌈>	**Ga**	71	1943.5	4.2				mg/L	225	Standard
⌊	**Rb**	85	15584.7	4.3				ug/L	28	Standard
⌈	**Y**	89	289590.5	2.3				ug/L	322845	Standard
⌊>	**Rh**	103	81.7	25.5				ug/L	92	Standard
⌈	**Mo**	98	20.7	13.6	**-0.0035**	0.001	19.5	ug/L	18	Standard
|	**Ag**	107	127.7	14.8	**0.0104**	0.003	27.1	ug/L	63	Standard
|	**Cd**	111	49.6	10.1	**0.0052**	0.002	32.0	mg/L	20	Standard
|	**Cd**	114	149.1	8.8	**0.0091**	0.002	17.2	ug/L	56	Standard
|>	**In**	115	579611.2	1.0				ug/L	657102	Standard
|	**Sn**	118	370.3	9.7	**-0.0072**	0.004	57.0	ug/L	555	Standard
|	**Sb**	123	43.6	11.0	**0.0034**	0.001	19.3	ug/L	62	Standard
⌊	**Ba**	135	47372.6	2.3	**15.7601**	0.508	3.2	ug/L	19	Standard
⌈	**Ce**	140	141267.0	3.3				ug/L	24	Standard
⌊>	**Tb**	159	848686.4	2.1				ug/L	910514	Standard
⌈	**Ho**	165	2248.5	1.8				ug/L	7	Standard
|	**Tl**	203	145.3	5.6	**0.0082**	0.001	10.7	ug/L	13	Standard
|	**Tl**	205	5.0	40.0	**0.0146**	0.005	36.3	ug/L	1	Standard
|	**Pb**	206	14225.0	1.0	**1.4099**	0.017	1.2	ug/L	342	Standard
|	**Pb**	207	11346.2	2.8	**1.3174**	0.021	1.6	ug/L	284	Standard
|	**Pb**	208	54215.3	2.2	**1.3585**	0.008	0.6	ug/L	1363	Standard
|	**U**	238	638.0	6.4	**0.0646**	0.003	4.6	ug/L	2	Standard
⌊>	**Bi**	209	451888.7	2.0				ug/L	470592	Standard

Sample ID: L1211033221 WG414134-01
Report Date/Time: Sunday, November 18, 2012 17:55:15
Page 1

Approved: November 19, 2012

⌈	**Na**	23	0.0		**0.0050**	0.000	0.0	mg/L	2	Standard
|	**Mg**	24	2540.2	6.1	**-0.0015**	0.000	5.8	mg/L	5586	Standard
|	**K**	39	6.7	114.6	**0.0632**	0.120	189.1	mg/L	5	Standard
|	**Ca**	43	58.3	13.1	**0.6385**	0.370	58.0	mg/L	45	Standard
|	**Fe**	54	2771.4	2.4	**1.0772**	0.026	2.4	mg/L	350	Standard
|	**Fe**	57	833.4	9.3	**1.3843**	0.137	9.9	mg/L	102	Standard
⌊>	**Sc-1**	45	45857.6	0.3				mg/L	53004	Standard
	Cl	35	2.3	65.5				ug/L	2	Standard
	Kr	83	127.1	3.0				ug/L	157	Standard
	Br	81	7.5	57.7				ug/L	3	Standard
	P	31	42530.5	1.8				ug/L	91588	Standard
	S	34	36378.6	1.8				ug/L	32556	Standard
	Sr	88	66.7	31.2				ug/L	62	Standard
	C	12	90.0	11.1				mg/L	133	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	3.3	86.6				mg/L	7	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		87.105	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: L1211033221 WG414134-01
Report Date/Time: Sunday, November 18, 2012 17:55:15
Page 2

Approved: November 19, 2012

	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	88.207
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	96.026
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: L1211033221 WG414134-01
Report Date/Time: Sunday, November 18, 2012 17:55:15
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

Sample ID: L1211033201
Sample Date/Time: Sunday, November 18, 2012 17:55:56
Number of Replicates: 3
Autosampler Position: 406
Sample Description: 20
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	18179.3	5.8	**-7390.7559**	690.708	9.3	ug/L	8369	Standard
	Be	9	118.3	8.8	**0.0588**	0.006	10.1	ug/L	18	Standard
	Al	27	838239.9	3.2	**8.1903**	0.261	3.2	ug/L	215	Standard
>	**Sc**	45	44142.5	0.5				ug/L	53004	Standard
	Ti	47	425.0	11.6	**0.9065**	0.081	9.0	ug/L	26	Standard
	V	51	11656.4	2.9	**0.8833**	0.015	1.7	ug/L	3223	Standard
	Cr	52	14962.4	2.7	**0.6791**	0.017	2.6	ug/L	10379	Standard
	Cr	53	1115.0	4.4	**0.8381**	0.026	3.0	ug/L	192	Standard
	Mn	55	372232.5	5.0	**25.0239**	0.491	2.0	ug/L	1840	Standard
	Co	59	5610.4	3.3	**0.4769**	0.004	0.8	ug/L	115	Standard
	Ni	60	3005.6	3.4	**1.1912**	0.019	1.6	ug/L	75	Standard
	Cu	65	1864.8	5.1	**0.7306**	0.016	2.2	ug/L	155	Standard
	Zn	66	10513.3	4.2	**8.7846**	0.149	1.7	ug/L	237	Standard
>	**Ge**	72	353368.0	3.1				ug/L	413856	Standard
	As	75	175.7	6.4	**0.2818**	0.010	3.4	ug/L	-197	Standard
	Se	82	7.3	141.5	**0.0725**	0.096	132.1	ug/L	-5	Standard
	Se-1	77	128.0	4.3	**0.5510**	0.105	19.1	ug/L	105	Standard
>	**Ga**	71	1326.7	11.0				mg/L	225	Standard
	Rb	85	10425.3	6.3				ug/L	28	Standard
	Y	89	277521.5	4.3				ug/L	322845	Standard
>	**Rh**	103	98.3	24.0				ug/L	92	Standard
	Mo	98	47.7	53.4	**0.0032**	0.006	182.0	ug/L	18	Standard
	Ag	107	106.0	26.1	**0.0073**	0.004	49.5	ug/L	63	Standard
	Cd	111	64.3	14.5	**0.0102**	0.003	27.4	mg/L	20	Standard
	Cd	114	159.0	12.4	**0.0105**	0.002	16.6	ug/L	56	Standard
>	**In**	115	576365.0	4.0				ug/L	657102	Standard
	Sn	118	322.0	6.8	**-0.0125**	0.001	8.3	ug/L	555	Standard
	Sb	123	35.5	37.6	**0.0022**	0.002	79.4	ug/L	62	Standard
	Ba	135	24327.9	3.8	**8.1281**	0.035	0.4	ug/L	19	Standard
	Ce	140	115297.2	2.7				ug/L	24	Standard
>	**Tb**	159	836713.4	1.9				ug/L	910514	Standard
	Ho	165	1634.4	3.5				ug/L	7	Standard
	Tl	203	121.7	9.7	**0.0064**	0.001	14.9	ug/L	13	Standard
	Tl	205	3.7	15.7	**0.0112**	0.001	13.0	ug/L	1	Standard
	Pb	206	128387.4	3.3	**13.2175**	0.171	1.3	ug/L	342	Standard
	Pb	207	103899.2	3.1	**12.5775**	0.140	1.1	ug/L	284	Standard
	Pb	208	488681.6	3.0	**12.7439**	0.126	1.0	ug/L	1363	Standard
	U	238	293.3	4.4	**0.0295**	0.001	3.9	ug/L	2	Standard
>	**Bi**	209	443976.2	2.0				ug/L	470592	Standard

Sample ID: L1211033201
Report Date/Time: Sunday, November 18, 2012 17:58:28
Page 1

Approved: November 19, 2012

⌈	**Na**	23	1.7	173.2	**0.1848**	0.311	168.5	mg/L	2	Standard
|	**Mg**	24	4417.3	11.1	**-0.0003**	0.000	90.3	mg/L	5586	Standard
|	**K**	39	13.3	21.7	**0.1765**	0.048	27.2	mg/L	5	Standard
|	**Ca**	43	63.3	36.5	**1.0022**	1.161	115.8	mg/L	45	Standard
|	**Fe**	54	1898.8	9.1	**0.7226**	0.081	11.2	mg/L	350	Standard
|	**Fe**	57	601.7	12.1	**1.0061**	0.133	13.2	mg/L	102	Standard
⌊>	**Sc-1**	45	44142.5	0.5				mg/L	53004	Standard
	Cl	35	1.3	114.6				ug/L	2	Standard
	Kr	83	123.7	5.8				ug/L	157	Standard
	Br	81	8.3	69.3				ug/L	3	Standard
	P	31	40686.4	6.1				ug/L	91588	Standard
	S	34	34515.1	2.1				ug/L	32556	Standard
	Sr	88	78.3	13.3				ug/L	62	Standard
	C	12	96.7	46.6				mg/L	133	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	3.3	86.6				mg/L	7	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		85.384	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: L1211033201
Report Date/Time: Sunday, November 18, 2012 17:58:28
Page 2

Approved: November 19, 2012

	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	87.713
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	94.344
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: L1211033201
Report Date/Time: Sunday, November 18, 2012 17:58:28
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

Sample ID: L1211033202
Sample Date/Time: Sunday, November 18, 2012 17:59:08
Number of Replicates: 3
Autosampler Position: 407
Sample Description: 20
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	21113.0	2.7	**-8531.3956**	333.684	3.9	ug/L	8369	Standard
|	**Be**	9	138.3	33.4	**0.0653**	0.023	35.9	ug/L	18	Standard
|	**Al**	27	554933.0	0.1	**5.1114**	0.160	3.1	ug/L	215	Standard
⌊>	**Sc**	45	46849.0	3.1				ug/L	53004	Standard
⌈	**Ti**	47	353.3	3.0	**0.7106**	0.030	4.3	ug/L	26	Standard
|	**V**	51	15456.4	2.2	**1.1928**	0.020	1.7	ug/L	3223	Standard
|	**Cr**	52	19507.6	0.6	**1.0743**	0.030	2.8	ug/L	10379	Standard
|	**Cr**	53	1604.3	5.7	**1.1950**	0.058	4.8	ug/L	192	Standard
|	**Mn**	55	498220.4	2.2	**32.0912**	0.419	1.3	ug/L	1840	Standard
|	**Co**	59	8458.4	0.9	**0.6951**	0.007	1.1	ug/L	115	Standard
|	**Ni**	60	3982.2	2.4	**1.5204**	0.051	3.3	ug/L	75	Standard
|	**Cu**	65	3030.0	1.2	**1.1690**	0.035	3.0	ug/L	155	Standard
|	**Zn**	66	8677.5	3.1	**6.8991**	0.221	3.2	ug/L	237	Standard
|>	**Ge**	72	369241.1	1.9				ug/L	413856	Standard
|	**As**	75	310.0	14.0	**0.3791**	0.031	8.2	ug/L	-197	Standard
|	**Se**	82	17.7	21.3	**0.1587**	0.035	22.2	ug/L	-5	Standard
⌊	**Se-1**	77	115.7	1.3	**0.3430**	0.041	11.8	ug/L	105	Standard
⌈>	**Ga**	71	1915.1	6.4				mg/L	225	Standard
⌊	**Rb**	85	16555.7	1.3				ug/L	28	Standard
⌈	**Y**	89	296279.9	3.9				ug/L	322845	Standard
⌊>	**Rh**	103	88.3	46.1				ug/L	92	Standard
⌈	**Mo**	98	73.2	18.6	**0.0094**	0.004	39.6	ug/L	18	Standard
|	**Ag**	107	121.7	17.3	**0.0092**	0.003	35.2	ug/L	63	Standard
|	**Cd**	111	72.9	7.2	**0.0124**	0.002	17.8	mg/L	20	Standard
|	**Cd**	114	232.7	11.8	**0.0189**	0.003	14.3	ug/L	56	Standard
|>	**In**	115	593696.9	2.3				ug/L	657102	Standard
|	**Sn**	118	347.0	2.9	**-0.0108**	0.000	4.5	ug/L	555	Standard
|	**Sb**	123	37.4	16.9	**0.0024**	0.001	40.7	ug/L	62	Standard
⌊	**Ba**	135	53417.3	1.1	**17.3527**	0.357	2.1	ug/L	19	Standard
⌈	**Ce**	140	140290.2	1.1				ug/L	24	Standard
⌊>	**Tb**	159	868066.8	0.9				ug/L	910514	Standard
⌈	**Ho**	165	1822.4	4.5				ug/L	7	Standard
|	**Tl**	203	154.0	6.3	**0.0088**	0.001	9.9	ug/L	13	Standard
|	**Tl**	205	5.7	10.2	**0.0162**	0.002	9.6	ug/L	1	Standard
|	**Pb**	206	65651.3	2.1	**6.5593**	0.163	2.5	ug/L	342	Standard
|	**Pb**	207	53052.7	1.7	**6.2300**	0.126	2.0	ug/L	284	Standard
|	**Pb**	208	249672.1	1.9	**6.3172**	0.148	2.3	ug/L	1363	Standard
|	**U**	238	786.4	2.6	**0.0793**	0.002	2.7	ug/L	2	Standard
⌊>	**Bi**	209	456442.4	0.7				ug/L	470592	Standard

Sample ID: L1211033202
Report Date/Time: Sunday, November 18, 2012 18:01:40
Page 1

Approved: November 19, 2012

⌈	**Na**	23	0.0		**0.0050**	0.000	0.0	mg/L	2	Standard
|	**Mg**	24	2700.2	6.3	**-0.0014**	0.000	5.7	mg/L	5586	Standard
|	**K**	39	26.7	43.3	**0.3689**	0.177	48.0	mg/L	5	Standard
|	**Ca**	43	41.7	13.9	**-0.2282**	0.229	100.4	mg/L	45	Standard
|	**Fe**	54	2779.9	4.3	**1.0546**	0.024	2.3	mg/L	350	Standard
|	**Fe**	57	778.4	8.3	**1.2577**	0.153	12.2	mg/L	102	Standard
⌊>	**Sc-1**	45	46849.0	3.1				mg/L	53004	Standard
	Cl	35	3.0	0.0				ug/L	2	Standard
	Kr	83	121.4	2.4				ug/L	157	Standard
	Br	81	6.7	43.3				ug/L	3	Standard
	P	31	42872.2	0.7				ug/L	91588	Standard
	S	34	34788.2	0.4				ug/L	32556	Standard
	Sr	88	81.7	3.5				ug/L	62	Standard
	C	12	111.7	25.5				mg/L	133	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	16.7	17.3				mg/L	7	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		89.220	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: L1211033202
Report Date/Time: Sunday, November 18, 2012 18:01:40
Page 2

Approved: November 19, 2012

	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	90.351
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	96.993
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: L1211033202
Report Date/Time: Sunday, November 18, 2012 18:01:40
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

Sample ID: L1211033202PS WG414439-01
Sample Date/Time: Sunday, November 18, 2012 18:02:20
Number of Replicates: 3
Autosampler Position: 408
Sample Description: 20
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	25322.9	6.0	**-8817.7488**	275.000	3.1	ug/L	8369	Standard
	Be	9	108476.8	7.8	**50.2074**	1.142	2.3	ug/L	18	Standard
	Al	27	630106.6	9.9	**4.9357**	0.275	5.6	ug/L	215	Standard
>	**Sc**	45	55001.6	6.6				ug/L	53004	Standard
	Ti	47	386.7	16.2	**0.6730**	0.076	11.2	ug/L	26	Standard
	V	51	581550.7	8.4	**47.6461**	1.498	3.1	ug/L	3223	Standard
	Cr	52	565270.4	8.4	**49.3628**	1.594	3.2	ug/L	10379	Standard
	Cr	53	69136.4	8.1	**48.9489**	1.411	2.9	ug/L	192	Standard
	Mn	55	1433024.6	7.3	**80.6555**	1.295	1.6	ug/L	1840	Standard
	Co	59	679110.6	7.5	**49.7471**	1.058	2.1	ug/L	115	Standard
	Ni	60	146347.0	8.0	**49.8195**	1.116	2.2	ug/L	75	Standard
	Cu	65	143859.6	8.0	**50.7168**	1.460	2.9	ug/L	155	Standard
	Zn	66	76895.0	7.2	**54.6734**	1.103	2.0	ug/L	237	Standard
>	**Ge**	72	423025.9	5.8				ug/L	413856	Standard
	As	75	72978.2	6.3	**49.3174**	0.883	1.8	ug/L	-197	Standard
	Se	82	6534.1	6.5	**49.3313**	1.451	2.9	ug/L	-5	Standard
	Se-1	77	5097.5	6.1	**49.8406**	0.506	1.0	ug/L	105	Standard
>	**Ga**	71	2141.8	12.3				mg/L	225	Standard
	Rb	85	18996.9	4.7				ug/L	28	Standard
	Y	89	337913.2	3.7				ug/L	322845	Standard
>	**Rh**	103	140.0	29.2				ug/L	92	Standard
	Mo	98	144.5	3.5	**0.0233**	0.001	3.9	ug/L	18	Standard
	Ag	107	387596.6	6.5	**48.6619**	1.401	2.9	ug/L	63	Standard
	Cd	111	171105.0	7.4	**49.6178**	2.047	4.1	mg/L	20	Standard
	Cd	114	448265.2	8.1	**49.3819**	2.265	4.6	ug/L	56	Standard
>	**In**	115	660386.8	5.0				ug/L	657102	Standard
	Sn	118	1178.0	8.9	**0.0683**	0.006	8.5	ug/L	555	Standard
	Sb	123	389858.2	6.5	**49.5138**	1.352	2.7	ug/L	62	Standard
	Ba	135	228611.8	5.4	**66.8141**	2.147	3.2	ug/L	19	Standard
	Ce	140	147444.6	7.0				ug/L	24	Standard
>	**Tb**	159	938249.9	4.7				ug/L	910514	Standard
	Ho	165	2037.8	6.8				ug/L	7	Standard
	Tl	203	660339.1	4.9	**49.9227**	0.675	1.4	ug/L	13	Standard
	Tl	205	19792.6	3.0	**49.0695**	0.384	0.8	ug/L	1	Standard
	Pb	206	592453.2	6.7	**55.8470**	1.647	2.9	ug/L	342	Standard
	Pb	207	507602.9	6.0	**56.2908**	1.252	2.2	ug/L	284	Standard
	Pb	208	2336126.2	6.5	**55.7935**	1.512	2.7	ug/L	1363	Standard
	U	238	502811.0	7.9	**48.5039**	2.011	4.1	ug/L	2	Standard
>	**Bi**	209	485527.5	3.8				ug/L	470592	Standard

Sample ID: L1211033202PS WG414439-01
Report Date/Time: Sunday, November 18, 2012 18:04:52
Page 1

Approved: November 19, 2012

⌈	**Na**	23	0.0		**0.0050**	0.000	0.0	mg/L	2	Standard
|	**Mg**	24	3905.5	4.2	**-0.0011**	0.000	12.5	mg/L	5586	Standard
|	**K**	39	11.7	65.5	**0.1077**	0.088	82.1	mg/L	5	Standard
|	**Ca**	43	50.0	20.0	**-0.1698**	0.477	281.1	mg/L	45	Standard
|	**Fe**	54	3148.8	4.2	**1.0136**	0.033	3.2	mg/L	350	Standard
|	**Fe**	57	858.4	4.2	**1.1750**	0.108	9.2	mg/L	102	Standard
⌊>	**Sc-1**	45	55001.6	6.6				mg/L	53004	Standard
	Cl	35	4.0	50.0				ug/L	2	Standard
	Kr	83	138.8	1.6				ug/L	157	Standard
	Br	81	4.2	34.6				ug/L	3	Standard
	P	31	119670.4	6.5				ug/L	91588	Standard
	S	34	35149.9	3.0				ug/L	32556	Standard
	Sr	88	93.3	40.2				ug/L	62	Standard
	C	12	123.3	8.4				mg/L	133	Standard
	N	14	3.3	86.6				mg/L	0	Standard
	Hg	202	6.7	43.3				mg/L	7	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		102.216	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: L1211033202PS WG414439-01
Report Date/Time: Sunday, November 18, 2012 18:04:52
Page 2

Approved: November 19, 2012

	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	100.500
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	103.174
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: L1211033202PS WG414439-01
Report Date/Time: Sunday, November 18, 2012 18:04:52
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

Sample ID: L1211033202SDL WG414439-02
Sample Date/Time: Sunday, November 18, 2012 18:05:33
Number of Replicates: 3
Autosampler Position: 409
Sample Description: 100
Method File: C:\NexION Data\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
⌈	**Li**	7	11224.2	2.8	**-1475.1735**	117.174	7.9	ug/L	8369	Standard
|	**Be**	9	56.7	60.1	**0.0178**	0.017	96.6	ug/L	18	Standard
|	**Al**	27	123370.3	1.7	**0.9932**	0.040	4.0	ug/L	215	Standard
⌊>	**Sc**	45	53512.7	3.0				ug/L	53004	Standard
⌈	**Ti**	47	88.7	10.7	**0.1131**	0.015	13.4	ug/L	26	Standard
|	**V**	51	5823.3	2.8	**0.2249**	0.017	7.8	ug/L	3223	Standard
|	**Cr**	52	11764.9	1.9	**0.1586**	0.048	30.2	ug/L	10379	Standard
|	**Cr**	53	497.5	7.6	**0.2526**	0.031	12.2	ug/L	192	Standard
|	**Mn**	55	114019.9	2.0	**6.5012**	0.155	2.4	ug/L	1840	Standard
|	**Co**	59	2042.8	4.4	**0.1381**	0.010	7.3	ug/L	115	Standard
|	**Ni**	60	1121.0	2.0	**0.3565**	0.018	5.0	ug/L	75	Standard
|	**Cu**	65	917.4	6.3	**0.2744**	0.013	4.7	ug/L	155	Standard
|	**Zn**	66	4326.3	0.3	**2.9676**	0.076	2.5	ug/L	237	Standard
|>	**Ge**	72	412743.5	2.7				ug/L	413856	Standard
|	**As**	75	-88.0	40.8	**0.0793**	0.025	31.1	ug/L	-197	Standard
|	**Se**	82	0.4	2102.1	**0.0090**	0.070	785.1	ug/L	-5	Standard
⌊	**Se-1**	77	122.3	4.5	**0.2716**	0.057	20.9	ug/L	105	Standard
⌈>	**Ga**	71	608.3	8.4				mg/L	225	Standard
⌊	**Rb**	85	3577.1	7.6				ug/L	28	Standard
⌈	**Y**	89	305207.2	1.6				ug/L	322845	Standard
⌊>	**Rh**	103	93.3	18.8				ug/L	92	Standard
⌈	**Mo**	98	97.1	5.0	**0.0133**	0.001	9.4	ug/L	18	Standard
|	**Ag**	107	146.0	17.8	**0.0110**	0.004	34.4	ug/L	63	Standard
|	**Cd**	111	37.5	13.7	**-0.0000**	0.001	11189.7	mg/L	20	Standard
|	**Cd**	114	122.9	7.7	**0.0043**	0.001	29.6	ug/L	56	Standard
|>	**In**	115	643678.1	2.3				ug/L	657102	Standard
|	**Sn**	118	997.4	1.9	**0.0529**	0.002	3.3	ug/L	555	Standard
|	**Sb**	123	317.4	23.4	**0.0383**	0.009	23.1	ug/L	62	Standard
⌊	**Ba**	135	11482.7	1.8	**3.4239**	0.019	0.6	ug/L	19	Standard
⌈	**Ce**	140	29624.6	1.2				ug/L	24	Standard
⌊>	**Tb**	159	924029.2	1.2				ug/L	910514	Standard
⌈	**Ho**	165	394.7	6.3				ug/L	7	Standard
|	**Tl**	203	122.7	84.4	**0.0057**	0.008	138.1	ug/L	13	Standard
|	**Tl**	205	6.7	45.8	**0.0179**	0.008	42.4	ug/L	1	Standard
|	**Pb**	206	14222.0	1.7	**1.3205**	0.007	0.5	ug/L	342	Standard
|	**Pb**	207	11518.7	2.9	**1.2531**	0.016	1.3	ug/L	284	Standard
|	**Pb**	208	54486.0	1.8	**1.2792**	0.004	0.3	ug/L	1363	Standard
|	**U**	238	228.0	34.6	**0.0207**	0.008	37.4	ug/L	2	Standard
⌊>	**Bi**	209	481573.9	1.7				ug/L	470592	Standard

Approved: November 19, 2012

⌈	**Na**	23	0.0		**0.0050**	0.000	0.0	mg/L	2	Standard
|	**Mg**	24	2063.5	2.1	**-0.0019**	0.000	0.9	mg/L	5586	Standard
|	**K**	39	6.7	43.3	**0.0479**	0.036	76.1	mg/L	5	Standard
|	**Ca**	43	30.0	57.7	**-0.9513**	0.779	81.9	mg/L	45	Standard
|	**Fe**	54	888.8	7.0	**0.1845**	0.016	8.7	mg/L	350	Standard
|	**Fe**	57	260.0	10.2	**0.2765**	0.043	15.7	mg/L	102	Standard
⌊>	**Sc-1**	45	53512.7	3.0				mg/L	53004	Standard
	Cl	35	5.0	40.0				ug/L	2	Standard
	Kr	83	137.6	2.4				ug/L	157	Standard
	Br	81	6.7	21.7				ug/L	3	Standard
	P	31	99574.5	1.0				ug/L	91588	Standard
	S	34	35642.7	1.4				ug/L	32556	Standard
	Sr	88	76.7	26.4				ug/L	62	Standard
	C	12	100.0	26.5				mg/L	133	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	3.3	86.6				mg/L	7	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		99.731	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: L1211033202SDL WG414439-02
Report Date/Time: Sunday, November 18, 2012 18:08:05
Page 2

Approved: November 19, 2012

⌈	Mo	98		
|	Ag	107		
|	Cd	111		
|	Cd	114		
|>	In	115		97.957
|	Sn	118		
|	Sb	123		
⌊	Ba	135		
⌈	Ce	140		
⌊>	Tb	159		
⌈	Ho	165		
|	Tl	203		
|	Tl	205		
|	Pb	206		
|	Pb	207		
|	Pb	208		
|	U	238		
⌊>	Bi	209		102.334
⌈	Na	23		
|	Mg	24		
|	K	39		
|	Ca	43		
|	Fe	54		
|	Fe	57		
⌊>	Sc-1	45		
	Cl	35		
	Kr	83		
	Br	81		
	P	31		
	S	34		
	Sr	88		
	C	12		
	N	14		
	Hg	202		

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: L1211033202SDL WG414439-02
Report Date/Time: Sunday, November 18, 2012 18:08:05
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

Sample ID: QC Std 6
Sample Date/Time: Sunday, November 18, 2012 18:08:47
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	8010.5	2.8	**-6.8054**	64.785	952.0	ug/L	8369	Standard
|	**Be**	9	105900.7	3.4	**53.7451**	1.149	2.1	ug/L	18	Standard
|	**Al**	27	6924115.3	2.2	**59.5294**	0.325	0.5	ug/L	215	Standard
⌊>	**Sc**	45	50176.3	1.6				ug/L	53004	Standard
⌈	**Ti**	47	49939.9	3.0	**99.8752**	1.541	1.5	ug/L	26	Standard
|	**V**	51	569528.0	2.4	**49.1459**	0.326	0.7	ug/L	3223	Standard
|	**Cr**	52	541859.9	1.9	**49.8439**	0.638	1.3	ug/L	10379	Standard
|	**Cr**	53	66423.7	2.4	**49.5177**	0.178	0.4	ug/L	192	Standard
|	**Mn**	55	848158.0	1.1	**50.2282**	0.536	1.1	ug/L	1840	Standard
|	**Co**	59	654570.4	2.8	**50.4743**	0.342	0.7	ug/L	115	Standard
|	**Ni**	60	138023.3	3.6	**49.4659**	0.805	1.6	ug/L	75	Standard
|	**Cu**	65	136255.7	3.4	**50.5707**	0.855	1.7	ug/L	155	Standard
|	**Zn**	66	68214.6	1.7	**51.0447**	0.245	0.5	ug/L	237	Standard
|>	**Ge**	72	402067.4	2.1				ug/L	413856	Standard
|	**As**	75	71265.7	3.0	**50.6702**	0.798	1.6	ug/L	-197	Standard
|	**Se**	82	6347.3	3.2	**50.4152**	0.821	1.6	ug/L	-5	Standard
⌊	**Se-1**	77	4980.8	1.4	**51.2763**	0.452	0.9	ug/L	105	Standard
⌈>	**Ga**	71	223.3	20.3				mg/L	225	Standard
⌊	**Rb**	85	1651.8	3.5				ug/L	28	Standard
⌈	**Y**	89	299609.8	2.8				ug/L	322845	Standard
⌊>	**Rh**	103	143.3	14.5				ug/L	92	Standard
⌈	**Mo**	98	430658.6	2.3	**98.7942**	1.533	1.6	ug/L	18	Standard
|	**Ag**	107	380873.4	2.1	**49.6666**	0.702	1.4	ug/L	63	Standard
|	**Cd**	111	169467.8	1.2	**51.0536**	0.465	0.9	mg/L	20	Standard
|	**Cd**	114	445782.2	1.0	**51.0311**	0.801	1.6	ug/L	56	Standard
|>	**In**	115	636001.7	1.2				ug/L	657102	Standard
|	**Sn**	118	497107.0	1.0	**51.5622**	0.160	0.3	ug/L	555	Standard
|	**Sb**	123	393215.8	0.5	**51.8778**	0.534	1.0	ug/L	62	Standard
⌊	**Ba**	135	170052.6	0.2	**51.5986**	0.728	1.4	ug/L	19	Standard
⌈	**Ce**	140	577.0	2.6				ug/L	24	Standard
⌊>	**Tb**	159	907520.4	0.5				ug/L	910514	Standard
⌈	**Ho**	165	456.3	3.3				ug/L	7	Standard
|	**Tl**	203	641710.7	0.9	**50.6491**	0.227	0.4	ug/L	13	Standard
|	**Tl**	205	19677.1	1.2	**50.9080**	0.544	1.1	ug/L	1	Standard
|	**Pb**	206	523563.3	1.3	**51.5468**	0.234	0.5	ug/L	342	Standard
|	**Pb**	207	447149.8	1.2	**51.7808**	0.095	0.2	ug/L	284	Standard
|	**Pb**	208	2050035.3	0.8	**51.1349**	0.206	0.4	ug/L	1363	Standard
|	**U**	238	518509.5	1.0	**52.2610**	0.231	0.4	ug/L	2	Standard
⌊>	**Bi**	209	465188.5	1.2				ug/L	470592	Standard

Sample ID: QC Std 6
Report Date/Time: Sunday, November 18, 2012 18:11:19
Page 1

Approved: November 19, 2012

	Na	23	0.0		**0.0050**	0.000	0.0	mg/L	2	Standard
	Mg	24	306662.3	0.1	**0.1561**	0.003	1.7	mg/L	5586	Standard
	K	39	360.0	4.8	**5.1288**	0.191	3.7	mg/L	5	Standard
	Ca	43	186.7	21.7	**6.1443**	1.676	27.3	mg/L	45	Standard
	Fe	54	13538.0	3.1	**5.3399**	0.083	1.5	mg/L	350	Standard
	Fe	57	3312.0	2.2	**5.3662**	0.063	1.2	mg/L	102	Standard
>	**Sc-1**	45	50176.3	1.6				mg/L	53004	Standard
	Cl	35	2.0	50.0				ug/L	2	Standard
	Kr	83	141.9	5.5				ug/L	157	Standard
	Br	81	5.8	65.5				ug/L	3	Standard
	P	31	120389.0	2.2				ug/L	91588	Standard
	S	34	40677.1	2.8				ug/L	32556	Standard
	Sr	88	58.3	26.2				ug/L	62	Standard
	C	12	130.0	30.5				mg/L	133	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	11.7	49.5				mg/L	7	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
	Li	7			
	Be	9	107.490		
	Al	27	119.059		
>	Sc	45			
	Ti	47	99.875		
	V	51	98.292		
	Cr	52	99.688		
	Cr	53			
	Mn	55	100.456		
	Co	59	100.949		
	Ni	60	98.932		
	Cu	65	101.141		
	Zn	66	102.089		
>	Ge	72		97.152	
	As	75	101.340		
	Se	82	100.830		
	Se-1	77			
>	Ga	71			
	Rb	85			
	Y	89			
>	Rh	103			

Sample ID: QC Std 6
Report Date/Time: Sunday, November 18, 2012 18:11:19
Page 2

Approved: November 19, 2012

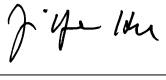
	Mo	98	98.794	
	Ag	107	99.333	
	Cd	111	102.107	
	Cd	114		
>	In	115		96.789
	Sn	118	103.124	
	Sb	123	103.756	
	Ba	135	103.197	
	Ce	140		
>	Tb	159		
	Ho	165		
	Tl	203	101.298	
	Tl	205		
	Pb	206	103.094	
	Pb	207	103.562	
	Pb	208	102.270	
	U	238	104.522	
>	Bi	209		98.852
	Na	23		
	Mg	24		
	K	39		
	Ca	43		
	Fe	54		
	Fe	57		
>	Sc-1	45		
	Cl	35		
	Kr	83		
	Br	81		
	P	31		
	S	34		
	Sr	88		
	C	12		
	N	14		
	Hg	202		

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 6	Al	27	

Sample ID: QC Std 6
Report Date/Time: Sunday, November 18, 2012 18:11:19
Page 3

Approved: November 19, 2012



Method 6020 - Summary Report

Sample ID: QC Std 7
Sample Date/Time: Sunday, November 18, 2012 18:12:00
Number of Replicates: 3
Autosampler Position: 102
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	8113.8	1.0	**11.0987**	211.054	1901.6	ug/L	8369	Standard
	Be	9	20.0	109.0	**0.0004**	0.011	2604.1	ug/L	18	Standard
	Al	27	1561.8	108.4	**0.0107**	0.014	128.9	ug/L	215	Standard
>	**Sc**	45	51099.5	4.9				ug/L	53004	Standard
	Ti	47	23.0	15.1	**-0.0140**	0.007	49.4	ug/L	26	Standard
	V	51	2719.5	6.3	**-0.0332**	0.022	65.9	ug/L	3223	Standard
	Cr	52	8874.9	1.0	**-0.0912**	0.032	35.2	ug/L	10379	Standard
	Cr	53	145.0	9.1	**-0.0025**	0.007	288.3	ug/L	192	Standard
	Mn	55	3928.9	103.7	**0.1373**	0.229	166.5	ug/L	1840	Standard
	Co	59	484.7	122.1	**0.0206**	0.043	210.9	ug/L	115	Standard
	Ni	60	225.7	116.2	**0.0429**	0.089	208.3	ug/L	75	Standard
	Cu	65	313.3	45.7	**0.0568**	0.048	85.2	ug/L	155	Standard
	Zn	66	312.0	23.7	**0.0318**	0.047	147.8	ug/L	237	Standard
>	**Ge**	72	405750.6	3.6				ug/L	413856	Standard
	As	75	-147.2	18.6	**0.0360**	0.023	63.3	ug/L	-197	Standard
	Se	82	7.9	89.9	**0.0660**	0.055	82.8	ug/L	-5	Standard
	Se-1	77	114.0	3.5	**0.2079**	0.076	36.4	ug/L	105	Standard
>	**Ga**	71	196.7	9.6				mg/L	225	Standard
	Rb	85	35.0	37.8				ug/L	28	Standard
	Y	89	302076.6	3.0				ug/L	322845	Standard
>	**Rh**	103	101.7	31.6				ug/L	92	Standard
	Mo	98	102.3	98.4	**0.0142**	0.022	154.9	ug/L	18	Standard
	Ag	107	154.3	46.4	**0.0120**	0.009	72.4	ug/L	63	Standard
	Cd	111	43.5	86.0	**0.0017**	0.011	640.3	mg/L	20	Standard
	Cd	114	115.2	67.3	**0.0034**	0.008	247.4	ug/L	56	Standard
>	**In**	115	640208.7	2.8				ug/L	657102	Standard
	Sn	118	414.0	13.9	**-0.0068**	0.005	69.7	ug/L	555	Standard
	Sb	123	374.8	37.8	**0.0459**	0.017	37.2	ug/L	62	Standard
	Ba	135	65.3	69.8	**-0.0004**	0.014	3493.8	ug/L	19	Standard
	Ce	140	41.3	58.4				ug/L	24	Standard
>	**Tb**	159	902397.2	1.5				ug/L	910514	Standard
	Ho	165	12.3	23.4				ug/L	7	Standard
	Tl	203	129.3	91.6	**0.0064**	0.009	143.5	ug/L	13	Standard
	Tl	205	0.7	86.6	**0.0030**	0.001	49.2	ug/L	1	Standard
	Pb	206	426.3	26.9	**0.0085**	0.011	130.2	ug/L	342	Standard
	Pb	207	341.0	16.8	**0.0029**	0.006	224.3	ug/L	284	Standard
	Pb	208	1638.7	20.8	**0.0059**	0.008	140.8	ug/L	1363	Standard
	U	238	56.7	91.1	**0.0041**	0.005	124.9	ug/L	2	Standard
>	**Bi**	209	471357.3	0.3				ug/L	470592	Standard

Sample ID: QC Std 7
Report Date/Time: Sunday, November 18, 2012 18:14:32
Page 1

Approved: November 19, 2012

⌈	**Na**	23	3.3	173.2	**0.3361**	0.573	170.6	mg/L	2	Standard
|	**Mg**	24	1268.4	19.9	**-0.0023**	0.000	4.6	mg/L	5586	Standard
|	**K**	39	5.0	0.0	**0.0293**	0.004	12.1	mg/L	5	Standard
|	**Ca**	43	50.0	26.5	**-0.0058**	0.667	11408.0	mg/L	45	Standard
|	**Fe**	54	325.7	6.9	**-0.0235**	0.010	42.5	mg/L	350	Standard
|	**Fe**	57	136.7	16.9	**0.0955**	0.045	46.6	mg/L	102	Standard
⌊>	**Sc-1**	45	51099.5	4.9				mg/L	53004	Standard
	Cl	35	3.3	75.5				ug/L	2	Standard
	Kr	83	138.3	4.1				ug/L	157	Standard
	Br	81	5.0	50.0				ug/L	3	Standard
	P	31	119481.0	2.0				ug/L	91588	Standard
	S	34	39316.0	1.5				ug/L	32556	Standard
	Sr	88	71.7	33.0				ug/L	62	Standard
	C	12	106.7	16.5				mg/L	133	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	1.7	173.2				mg/L	7	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		98.042	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: QC Std 7
Report Date/Time: Sunday, November 18, 2012 18:14:32
Page 2

Approved: November 19, 2012

	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	97.429
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	100.163
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: QC Std 7
Report Date/Time: Sunday, November 18, 2012 18:14:32
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

Sample ID: L1211033203
Sample Date/Time: Sunday, November 18, 2012 18:15:14
Number of Replicates: 3
Autosampler Position: 410
Sample Description: 20
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	14496.9	1.2	**-4410.3845**	239.077	5.4	ug/L	8369	Standard
|	**Be**	9	168.3	11.2	**0.0824**	0.012	14.8	ug/L	18	Standard
|	**Al**	27	425972.1	1.1	**3.9273**	0.036	0.9	ug/L	215	Standard
⌊>	**Sc**	45	46773.8	1.9				ug/L	53004	Standard
⌈	**Ti**	47	144.7	8.2	**0.2626**	0.030	11.3	ug/L	26	Standard
|	**V**	51	14806.4	1.5	**1.1617**	0.050	4.3	ug/L	3223	Standard
|	**Cr**	52	19205.5	2.4	**1.0857**	0.081	7.4	ug/L	10379	Standard
|	**Cr**	53	1599.3	2.9	**1.2202**	0.076	6.2	ug/L	192	Standard
|	**Mn**	55	320255.4	1.5	**21.0486**	0.879	4.2	ug/L	1840	Standard
|	**Co**	59	5349.9	1.6	**0.4437**	0.021	4.7	ug/L	115	Standard
|	**Ni**	60	2772.3	2.4	**1.0712**	0.055	5.2	ug/L	75	Standard
|	**Cu**	65	2621.6	1.3	**1.0263**	0.037	3.6	ug/L	155	Standard
|	**Zn**	66	5774.4	3.0	**4.6243**	0.124	2.7	ug/L	237	Standard
|>	**Ge**	72	361627.5	3.0				ug/L	413856	Standard
|	**As**	75	180.4	23.3	**0.2822**	0.033	11.6	ug/L	-197	Standard
|	**Se**	82	11.9	59.6	**0.1105**	0.063	56.7	ug/L	-5	Standard
⌊	**Se-1**	77	120.0	4.2	**0.4229**	0.101	23.8	ug/L	105	Standard
⌈>	**Ga**	71	1165.0	6.0				mg/L	225	Standard
⌊	**Rb**	85	9504.6	1.0				ug/L	28	Standard
⌈	**Y**	89	284361.4	2.5				ug/L	322845	Standard
⌊>	**Rh**	103	86.7	31.8				ug/L	92	Standard
⌈	**Mo**	98	56.4	74.3	**0.0054**	0.011	195.9	ug/L	18	Standard
|	**Ag**	107	177.7	9.4	**0.0173**	0.003	15.2	ug/L	63	Standard
|	**Cd**	111	75.9	19.1	**0.0136**	0.005	35.6	mg/L	20	Standard
|	**Cd**	114	208.1	13.7	**0.0163**	0.004	22.6	ug/L	56	Standard
|>	**In**	115	586258.3	1.1				ug/L	657102	Standard
|	**Sn**	118	369.7	6.5	**-0.0077**	0.003	40.4	ug/L	555	Standard
|	**Sb**	123	90.7	29.5	**0.0101**	0.004	39.3	ug/L	62	Standard
⌊	**Ba**	135	125395.1	1.0	**41.2711**	0.597	1.4	ug/L	19	Standard
⌈	**Ce**	140	118759.0	0.9				ug/L	24	Standard
⌊>	**Tb**	159	855674.1	1.0				ug/L	910514	Standard
⌈	**Ho**	165	1749.4	1.3				ug/L	7	Standard
|	**Tl**	203	112.7	28.5	**0.0054**	0.003	49.7	ug/L	13	Standard
|	**Tl**	205	3.7	87.7	**0.0110**	0.008	77.2	ug/L	1	Standard
|	**Pb**	206	41257.1	0.5	**4.0933**	0.027	0.7	ug/L	342	Standard
|	**Pb**	207	33518.0	1.3	**3.9073**	0.080	2.0	ug/L	284	Standard
|	**Pb**	208	158014.8	0.5	**3.9695**	0.047	1.2	ug/L	1363	Standard
|	**U**	238	657.3	1.8	**0.0657**	0.001	2.1	ug/L	2	Standard
⌊>	**Bi**	209	458251.4	1.1				ug/L	470592	Standard

Sample ID: L1211033203
Report Date/Time: Sunday, November 18, 2012 18:17:46
Page 1

Approved: November 19, 2012

⌈	**Na**	23	1.7	173.2	**0.1739**	0.292	168.2	mg/L	2	Standard
|	**Mg**	24	2273.5	5.7	**-0.0017**	0.000	3.0	mg/L	5586	Standard
|	**K**	39	11.7	24.7	**0.1391**	0.049	34.9	mg/L	5	Standard
|	**Ca**	43	80.0	39.0	**1.6229**	1.471	90.6	mg/L	45	Standard
|	**Fe**	54	1644.5	5.4	**0.5623**	0.029	5.1	mg/L	350	Standard
|	**Fe**	57	555.0	9.0	**0.8608**	0.107	12.4	mg/L	102	Standard
⌊>	**Sc-1**	45	46773.8	1.9				mg/L	53004	Standard
	Cl	35	2.0	86.6				ug/L	2	Standard
	Kr	83	126.2	3.9				ug/L	157	Standard
	Br	81	8.3	96.4				ug/L	3	Standard
	P	31	43423.9	4.1				ug/L	91588	Standard
	S	34	38759.5	3.3				ug/L	32556	Standard
	Sr	88	100.0	18.0				ug/L	62	Standard
	C	12	88.3	22.9				mg/L	133	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	6.7	43.3				mg/L	7	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		87.380	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: L1211033203
Report Date/Time: Sunday, November 18, 2012 18:17:46
Page 2

Approved: November 19, 2012

	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	89.219
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	97.378
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: L1211033203
Report Date/Time: Sunday, November 18, 2012 18:17:46
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

Sample ID: L1211033204
Sample Date/Time: Sunday, November 18, 2012 18:18:26
Number of Replicates: 3
Autosampler Position: 411
Sample Description: 20
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	31731.6	3.8	**-14795.8993**	462.536	3.1	ug/L	8369	Standard
	Be	9	233.3	8.1	**0.1151**	0.009	8.1	ug/L	18	Standard
	Al	27	1121918.4	0.6	**10.1440**	0.317	3.1	ug/L	215	Standard
>	**Sc**	45	47730.1	2.5				ug/L	53004	Standard
	Ti	47	308.0	8.8	**0.5965**	0.055	9.2	ug/L	26	Standard
	V	51	18649.8	0.4	**1.4553**	0.022	1.5	ug/L	3223	Standard
	Cr	52	24268.8	0.6	**1.5046**	0.042	2.8	ug/L	10379	Standard
	Cr	53	2166.0	4.2	**1.6137**	0.092	5.7	ug/L	192	Standard
	Mn	55	682381.8	0.5	**43.0070**	0.751	1.7	ug/L	1840	Standard
	Co	59	12492.5	1.1	**1.0105**	0.013	1.3	ug/L	115	Standard
	Ni	60	6485.7	1.6	**2.4415**	0.054	2.2	ug/L	75	Standard
	Cu	65	4366.6	2.5	**1.6704**	0.061	3.6	ug/L	155	Standard
	Zn	66	11359.9	0.9	**8.8862**	0.185	2.1	ug/L	237	Standard
>	**Ge**	72	377682.5	1.3				ug/L	413856	Standard
	As	75	329.1	2.4	**0.3884**	0.008	2.1	ug/L	-197	Standard
	Se	82	2.2	378.3	**0.0235**	0.070	298.6	ug/L	-5	Standard
	Se-1	77	133.3	5.5	**0.5107**	0.092	18.1	ug/L	105	Standard
>	**Ga**	71	2781.9	6.3				mg/L	225	Standard
	Rb	85	26421.4	3.9				ug/L	28	Standard
	Y	89	298700.3	2.7				ug/L	322845	Standard
>	**Rh**	103	93.3	36.5				ug/L	92	Standard
	Mo	98	25.1	11.3	**-0.0025**	0.001	30.9	ug/L	18	Standard
	Ag	107	122.0	15.2	**0.0092**	0.003	30.1	ug/L	63	Standard
	Cd	111	81.6	3.7	**0.0153**	0.001	4.1	mg/L	20	Standard
	Cd	114	215.5	6.1	**0.0170**	0.001	8.0	ug/L	56	Standard
>	**In**	115	591510.8	1.5				ug/L	657102	Standard
	Sn	118	327.7	3.1	**-0.0128**	0.002	12.6	ug/L	555	Standard
	Sb	123	46.4	17.9	**0.0037**	0.001	34.9	ug/L	62	Standard
	Ba	135	60410.9	1.2	**19.6955**	0.138	0.7	ug/L	19	Standard
	Ce	140	200695.2	0.8				ug/L	24	Standard
>	**Tb**	159	868472.0	1.4				ug/L	910514	Standard
	Ho	165	2727.6	4.3				ug/L	7	Standard
	Tl	203	200.7	3.3	**0.0125**	0.001	5.4	ug/L	13	Standard
	Tl	205	5.7	36.7	**0.0163**	0.006	33.9	ug/L	1	Standard
	Pb	206	22868.9	0.9	**2.2677**	0.035	1.6	ug/L	342	Standard
	Pb	207	18497.3	2.3	**2.1529**	0.068	3.2	ug/L	284	Standard
	Pb	208	87207.1	1.7	**2.1883**	0.056	2.5	ug/L	1363	Standard
	U	238	1327.7	1.7	**0.1351**	0.002	1.6	ug/L	2	Standard
>	**Bi**	209	455598.0	0.9				ug/L	470592	Standard

Sample ID: L1211033204
Report Date/Time: Sunday, November 18, 2012 18:20:59
Page 1

Approved: November 19, 2012

⌈	**Na**	23	0.0		**0.0050**	0.000	0.0	mg/L	2	Standard
|	**Mg**	24	3990.5	2.7	**-0.0007**	0.000	3.2	mg/L	5586	Standard
|	**K**	39	13.3	57.3	**0.1612**	0.119	73.9	mg/L	5	Standard
|	**Ca**	43	50.0	17.3	**0.1354**	0.429	316.8	mg/L	45	Standard
|	**Fe**	54	3716.0	3.9	**1.4322**	0.057	4.0	mg/L	350	Standard
|	**Fe**	57	1040.0	8.1	**1.6850**	0.126	7.5	mg/L	102	Standard
⌊>	**Sc-1**	45	47730.1	2.5				mg/L	53004	Standard
	Cl	35	1.7	69.3				ug/L	2	Standard
	Kr	83	139.2	2.6				ug/L	157	Standard
	Br	81	7.5	33.3				ug/L	3	Standard
	P	31	42995.1	1.2				ug/L	91588	Standard
	S	34	37656.7	1.4				ug/L	32556	Standard
	Sr	88	100.0	21.8				ug/L	62	Standard
	C	12	101.7	15.8				mg/L	133	Standard
	N	14	3.3	173.2				mg/L	0	Standard
	Hg	202	8.3	34.6				mg/L	7	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		91.259	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: L1211033204
Report Date/Time: Sunday, November 18, 2012 18:20:59
Page 2

Approved: November 19, 2012

⌈	Mo	98	
|	Ag	107	
|	Cd	111	
|	Cd	114	
|>	In	115	90.018
|	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	96.814
⌈	Na	23	
|	Mg	24	
|	K	39	
|	Ca	43	
|	Fe	54	
|	Fe	57	
⌊>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: L1211033204
Report Date/Time: Sunday, November 18, 2012 18:20:59
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

Sample ID: L1211033205
Sample Date/Time: Sunday, November 18, 2012 18:21:40
Number of Replicates: 3
Autosampler Position: 412
Sample Description: 20
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	17603.6	0.8	**-6358.1877**	333.060	5.2	ug/L	8369	Standard
|	**Be**	9	150.0	20.8	**0.0720**	0.015	21.1	ug/L	18	Standard
|	**Al**	27	577314.1	2.0	**5.3242**	0.107	2.0	ug/L	215	Standard
⌊>	**Sc**	45	46772.1	2.6				ug/L	53004	Standard
⌈	**Ti**	47	146.3	7.2	**0.2538**	0.027	10.5	ug/L	26	Standard
|	**V**	51	12027.8	3.9	**0.8486**	0.051	6.0	ug/L	3223	Standard
|	**Cr**	52	15677.8	0.9	**0.6548**	0.035	5.4	ug/L	10379	Standard
|	**Cr**	53	1162.5	6.5	**0.8188**	0.054	6.5	ug/L	192	Standard
|	**Mn**	55	302308.8	0.1	**19.0870**	0.236	1.2	ug/L	1840	Standard
|	**Co**	59	5788.8	1.0	**0.4621**	0.011	2.4	ug/L	115	Standard
|	**Ni**	60	3078.6	1.2	**1.1454**	0.010	0.9	ug/L	75	Standard
|	**Cu**	65	2381.9	4.3	**0.8887**	0.029	3.3	ug/L	155	Standard
|	**Zn**	66	6132.2	1.6	**4.7271**	0.137	2.9	ug/L	237	Standard
|>	**Ge**	72	376021.3	1.3				ug/L	413856	Standard
|	**As**	75	158.8	19.4	**0.2602**	0.022	8.5	ug/L	-197	Standard
|	**Se**	82	11.5	54.5	**0.1026**	0.052	50.8	ug/L	-5	Standard
⌊	**Se-1**	77	121.3	10.8	**0.3835**	0.164	42.7	ug/L	105	Standard
⌈>	**Ga**	71	1350.1	7.7				mg/L	225	Standard
⌊	**Rb**	85	10682.1	1.7				ug/L	28	Standard
⌈	**Y**	89	300436.5	3.3				ug/L	322845	Standard
⌊>	**Rh**	103	78.3	7.4				ug/L	92	Standard
⌈	**Mo**	98	17.4	29.9	**-0.0044**	0.001	29.4	ug/L	18	Standard
|	**Ag**	107	102.3	19.6	**0.0063**	0.003	43.4	ug/L	63	Standard
|	**Cd**	111	52.0	11.7	**0.0054**	0.002	34.1	mg/L	20	Standard
|	**Cd**	114	139.1	5.9	**0.0073**	0.001	9.9	ug/L	56	Standard
|>	**In**	115	599759.4	1.8				ug/L	657102	Standard
|	**Sn**	118	380.0	5.8	**-0.0076**	0.002	25.4	ug/L	555	Standard
|	**Sb**	123	48.5	17.0	**0.0039**	0.001	30.8	ug/L	62	Standard
⌊	**Ba**	135	29697.7	1.0	**9.5397**	0.147	1.5	ug/L	19	Standard
⌈	**Ce**	140	119095.3	1.5				ug/L	24	Standard
⌊>	**Tb**	159	865612.8	2.2				ug/L	910514	Standard
⌈	**Ho**	165	1805.8	1.4				ug/L	7	Standard
|	**Tl**	203	130.0	11.9	**0.0067**	0.001	20.5	ug/L	13	Standard
|	**Tl**	205	3.3	45.8	**0.0100**	0.004	38.5	ug/L	1	Standard
|	**Pb**	206	13420.6	1.5	**1.3013**	0.031	2.4	ug/L	342	Standard
|	**Pb**	207	10789.2	0.8	**1.2257**	0.029	2.3	ug/L	284	Standard
|	**Pb**	208	50785.7	1.0	**1.2448**	0.030	2.4	ug/L	1363	Standard
|	**U**	238	864.7	5.9	**0.0864**	0.004	4.9	ug/L	2	Standard
⌊>	**Bi**	209	461054.8	1.6				ug/L	470592	Standard

Approved: November 19, 2012

	Na	23	1.7	173.2	**0.1809**	0.305	168.4	mg/L	2	Standard
	Mg	24	2556.9	8.1	**-0.0015**	0.000	7.9	mg/L	5586	Standard
	K	39	11.7	65.5	**0.1381**	0.115	83.5	mg/L	5	Standard
	Ca	43	55.0	45.5	**0.4416**	1.277	289.2	mg/L	45	Standard
	Fe	54	1969.9	3.9	**0.7045**	0.036	5.1	mg/L	350	Standard
	Fe	57	565.0	13.0	**0.8782**	0.136	15.5	mg/L	102	Standard
>	**Sc-1**	45	46772.1	2.6				mg/L	53004	Standard
	Cl	35	3.3	62.4				ug/L	2	Standard
	Kr	83	130.7	3.3				ug/L	157	Standard
	Br	81	5.0	50.0				ug/L	3	Standard
	P	31	42583.9	1.4				ug/L	91588	Standard
	S	34	36381.1	0.8				ug/L	32556	Standard
	Sr	88	76.7	29.4				ug/L	62	Standard
	C	12	118.3	25.5				mg/L	133	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	16.7	17.3				mg/L	7	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		90.858	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			
	Y	89			
>	Rh	103			

Sample ID: L1211033205
Report Date/Time: Sunday, November 18, 2012 18:24:12
Page 2

Approved: November 19, 2012

⌈	Mo	98		
|	Ag	107		
|	Cd	111		
|	Cd	114		
|>	In	115		91.273
|	Sn	118		
|	Sb	123		
⌊	Ba	135		
⌈	Ce	140		
⌊>	Tb	159		
⌈	Ho	165		
|	Tl	203		
|	Tl	205		
|	Pb	206		
|	Pb	207		
|	Pb	208		
|	U	238		
⌊>	Bi	209		97.973
⌈	Na	23		
|	Mg	24		
|	K	39		
|	Ca	43		
|	Fe	54		
|	Fe	57		
⌊>	Sc-1	45		
	Cl	35		
	Kr	83		
	Br	81		
	P	31		
	S	34		
	Sr	88		
	C	12		
	N	14		
	Hg	202		

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: L1211033205
Report Date/Time: Sunday, November 18, 2012 18:24:12
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

Sample ID: L1211033206
Sample Date/Time: Sunday, November 18, 2012 18:24:52
Number of Replicates: 3
Autosampler Position: 413
Sample Description: 20
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	19140.4	2.3	**-7583.6464**	114.515	1.5	ug/L	8369	Standard
|	**Be**	9	126.7	2.3	**0.0611**	0.001	1.8	ug/L	18	Standard
|	**Al**	27	620058.8	0.9	**5.8483**	0.182	3.1	ug/L	215	Standard
⌊>	**Sc**	45	45745.6	2.2				ug/L	53004	Standard
⌈	**Ti**	47	268.7	5.8	**0.5385**	0.045	8.3	ug/L	26	Standard
|	**V**	51	13296.8	3.5	**1.0144**	0.017	1.6	ug/L	3223	Standard
|	**Cr**	52	17917.6	3.0	**0.9492**	0.015	1.6	ug/L	10379	Standard
|	**Cr**	53	1464.2	12.6	**1.1042**	0.129	11.6	ug/L	192	Standard
|	**Mn**	55	365145.0	2.0	**23.9831**	0.209	0.9	ug/L	1840	Standard
|	**Co**	59	6767.8	5.0	**0.5644**	0.016	2.9	ug/L	115	Standard
|	**Ni**	60	3421.7	1.8	**1.3287**	0.015	1.2	ug/L	75	Standard
|	**Cu**	65	2509.9	2.9	**0.9790**	0.013	1.3	ug/L	155	Standard
|	**Zn**	66	6812.5	0.8	**5.4890**	0.092	1.7	ug/L	237	Standard
|>	**Ge**	72	361785.4	2.2				ug/L	413856	Standard
|	**As**	75	198.0	17.2	**0.2957**	0.024	8.0	ug/L	-197	Standard
|	**Se**	82	5.1	262.5	**0.0492**	0.116	235.7	ug/L	-5	Standard
⌊	**Se-1**	77	126.0	5.2	**0.4901**	0.064	13.1	ug/L	105	Standard
⌈>	**Ga**	71	1610.1	5.1				mg/L	225	Standard
⌊	**Rb**	85	13120.7	2.2				ug/L	28	Standard
⌈	**Y**	89	289853.9	2.4				ug/L	322845	Standard
⌊>	**Rh**	103	85.0	36.7				ug/L	92	Standard
⌈	**Mo**	98	41.4	15.8	**0.0020**	0.002	96.8	ug/L	18	Standard
|	**Ag**	107	89.3	8.4	**0.0052**	0.001	26.7	ug/L	63	Standard
|	**Cd**	111	56.3	25.9	**0.0079**	0.005	68.8	mg/L	20	Standard
|	**Cd**	114	150.0	10.4	**0.0096**	0.002	17.0	ug/L	56	Standard
|>	**In**	115	568518.8	2.3				ug/L	657102	Standard
|	**Sn**	118	323.3	7.0	**-0.0118**	0.003	28.7	ug/L	555	Standard
|	**Sb**	123	33.4	12.1	**0.0020**	0.001	29.1	ug/L	62	Standard
⌊	**Ba**	135	46665.4	2.4	**15.8274**	0.369	2.3	ug/L	19	Standard
⌈	**Ce**	140	125596.3	2.3				ug/L	24	Standard
⌊>	**Tb**	159	836108.4	2.2				ug/L	910514	Standard
⌈	**Ho**	165	1738.4	2.4				ug/L	7	Standard
|	**Tl**	203	122.0	9.3	**0.0065**	0.001	15.3	ug/L	13	Standard
|	**Tl**	205	5.0	0.0	**0.0149**	0.000	0.5	ug/L	1	Standard
|	**Pb**	206	133687.1	2.5	**13.8449**	0.299	2.2	ug/L	342	Standard
|	**Pb**	207	107402.5	2.7	**13.0781**	0.294	2.2	ug/L	284	Standard
|	**Pb**	208	509026.4	2.4	**13.3529**	0.271	2.0	ug/L	1363	Standard
|	**U**	238	518.3	5.0	**0.0535**	0.003	5.2	ug/L	2	Standard
⌊>	**Bi**	209	441460.4	0.5				ug/L	470592	Standard

Sample ID: L1211033206
Report Date/Time: Sunday, November 18, 2012 18:27:25
Page 1

Approved: November 19, 2012

⌈	**Na**	23	1.7	173.2	**0.1838**	0.310	168.5	mg/L	2	Standard
|	**Mg**	24	1981.8	3.6	**-0.0018**	0.000	1.0	mg/L	5586	Standard
|	**K**	39	18.3	31.5	**0.2466**	0.085	34.6	mg/L	5	Standard
|	**Ca**	43	41.7	18.3	**-0.1746**	0.381	218.1	mg/L	45	Standard
|	**Fe**	54	2209.4	3.7	**0.8303**	0.039	4.7	mg/L	350	Standard
|	**Fe**	57	611.7	13.5	**0.9837**	0.136	13.9	mg/L	102	Standard
⌊>	**Sc-1**	45	45745.6	2.2				mg/L	53004	Standard
	Cl	35	2.0	50.0				ug/L	2	Standard
	Kr	83	138.0	4.4				ug/L	157	Standard
	Br	81	1.7	86.6				ug/L	3	Standard
	P	31	41145.9	4.2				ug/L	91588	Standard
	S	34	32815.5	0.5				ug/L	32556	Standard
	Sr	88	75.0	0.0				ug/L	62	Standard
	C	12	98.3	19.3				mg/L	133	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	21.7	58.1				mg/L	7	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		87.418	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: L1211033206
Report Date/Time: Sunday, November 18, 2012 18:27:25
Page 2

Approved: November 19, 2012

	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	86.519
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	93.810
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: L1211033206
Report Date/Time: Sunday, November 18, 2012 18:27:25
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

Sample ID: L1211033207
Sample Date/Time: Sunday, November 18, 2012 18:28:05
Number of Replicates: 3
Autosampler Position: 414
Sample Description: 20
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	16490.6	2.5	**-5590.8222**	540.136	9.7	ug/L	8369	Standard
	Be	9	130.0	17.6	**0.0610**	0.014	23.3	ug/L	18	Standard
	Al	27	467705.3	3.2	**4.2810**	0.101	2.4	ug/L	215	Standard
>	**Sc**	45	47114.8	2.8				ug/L	53004	Standard
	Ti	47	125.3	4.9	**0.2158**	0.013	6.0	ug/L	26	Standard
	V	51	9053.4	2.1	**0.5949**	0.018	2.9	ug/L	3223	Standard
	Cr	52	16848.7	2.0	**0.8170**	0.038	4.7	ug/L	10379	Standard
	Cr	53	1222.5	2.6	**0.8931**	0.028	3.1	ug/L	192	Standard
	Mn	55	178597.5	0.9	**11.5423**	0.138	1.2	ug/L	1840	Standard
	Co	59	4329.3	2.3	**0.3512**	0.010	2.7	ug/L	115	Standard
	Ni	60	2682.2	3.9	**1.0209**	0.045	4.4	ug/L	75	Standard
	Cu	65	1927.5	3.7	**0.7289**	0.032	4.3	ug/L	155	Standard
	Zn	66	5291.3	2.0	**4.1645**	0.095	2.3	ug/L	237	Standard
>	**Ge**	72	366210.8	0.3				ug/L	413856	Standard
	As	75	64.0	82.8	**0.1898**	0.041	21.8	ug/L	-197	Standard
	Se	82	9.6	191.1	**0.0893**	0.160	179.3	ug/L	-5	Standard
	Se-1	77	118.7	4.2	**0.3881**	0.062	16.0	ug/L	105	Standard
>	**Ga**	71	1151.7	6.8				mg/L	225	Standard
	Rb	85	8389.0	5.1				ug/L	28	Standard
	Y	89	289565.5	2.7				ug/L	322845	Standard
>	**Rh**	103	88.3	16.3				ug/L	92	Standard
	Mo	98	18.1	17.1	**-0.0042**	0.001	18.5	ug/L	18	Standard
	Ag	107	93.3	22.6	**0.0053**	0.003	55.5	ug/L	63	Standard
	Cd	111	46.0	26.5	**0.0039**	0.004	100.5	mg/L	20	Standard
	Cd	114	129.5	3.7	**0.0066**	0.001	11.8	ug/L	56	Standard
>	**In**	115	585018.5	1.5				ug/L	657102	Standard
	Sn	118	316.7	2.1	**-0.0136**	0.000	3.2	ug/L	555	Standard
	Sb	123	27.8	3.8	**0.0011**	0.000	15.5	ug/L	62	Standard
	Ba	135	77467.6	1.1	**25.5464**	0.575	2.3	ug/L	19	Standard
	Ce	140	80626.7	1.8				ug/L	24	Standard
>	**Tb**	159	848622.9	1.3				ug/L	910514	Standard
	Ho	165	1387.4	0.2				ug/L	7	Standard
	Tl	203	95.7	4.2	**0.0041**	0.000	8.0	ug/L	13	Standard
	Tl	205	5.3	71.0	**0.0155**	0.010	65.4	ug/L	1	Standard
	Pb	206	17371.0	2.3	**1.7248**	0.027	1.6	ug/L	342	Standard
	Pb	207	14237.0	2.2	**1.6584**	0.027	1.7	ug/L	284	Standard
	Pb	208	66450.0	2.2	**1.6691**	0.029	1.7	ug/L	1363	Standard
	U	238	400.0	1.1	**0.0399**	0.000	1.1	ug/L	2	Standard
>	**Bi**	209	452895.3	1.2				ug/L	470592	Standard

Approved: November 19, 2012

	Na	23	1.7	173.2	**0.1798**	0.303	168.4	mg/L	2	Standard
	Mg	24	1871.8	0.9	**-0.0019**	0.000	1.1	mg/L	5586	Standard
	K	39	10.0	50.0	**0.1127**	0.080	71.4	mg/L	5	Standard
	Ca	43	66.7	31.2	**0.9547**	0.963	100.9	mg/L	45	Standard
	Fe	54	1548.1	2.6	**0.5160**	0.026	5.1	mg/L	350	Standard
	Fe	57	520.0	9.3	**0.7926**	0.112	14.1	mg/L	102	Standard
>	**Sc-1**	45	47114.8	2.8				mg/L	53004	Standard
	Cl	35	2.7	94.4				ug/L	2	Standard
	Kr	83	143.2	10.5				ug/L	157	Standard
	Br	81	4.2	69.3				ug/L	3	Standard
	P	31	41526.9	3.7				ug/L	91588	Standard
	S	34	35819.9	4.8				ug/L	32556	Standard
	Sr	88	131.7	24.4				ug/L	62	Standard
	C	12	121.7	16.6				mg/L	133	Standard
	N	14	1.7	173.2				mg/L	0	Standard
	Hg	202	0.0					mg/L	7	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		88.488	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			
	Y	89			
>	Rh	103			

Sample ID: L1211033207
Report Date/Time: Sunday, November 18, 2012 18:30:37
Page 2

Approved: November 19, 2012

	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	89.030
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	96.240
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: L1211033207
Report Date/Time: Sunday, November 18, 2012 18:30:37
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

Sample ID: L1211033211
Sample Date/Time: Sunday, November 18, 2012 18:31:17
Number of Replicates: 3
Autosampler Position: 415
Sample Description: 20
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	7356.9	29.6	**69.8783**	489.576	700.6	ug/L	8369	Standard
	Be	9	5.0	0.0	**-0.0066**	0.001	7.6	ug/L	18	Standard
	Al	27	496.7	87.9	**0.0029**	0.005	173.6	ug/L	215	Standard
>	**Sc**	45	46300.8	19.7				ug/L	53004	Standard
	Ti	47	13.0	15.4	**-0.0300**	0.010	32.9	ug/L	26	Standard
	V	51	1339.7	16.7	**-0.1372**	0.036	26.6	ug/L	3223	Standard
	Cr	52	4292.3	19.0	**-0.4666**	0.122	26.1	ug/L	10379	Standard
	Cr	53	91.7	27.6	**-0.0355**	0.014	39.0	ug/L	192	Standard
	Mn	55	1390.4	30.6	**0.0001**	0.019	15747.3	ug/L	1840	Standard
	Co	59	88.0	15.9	**-0.0079**	0.002	28.0	ug/L	115	Standard
	Ni	60	69.0	29.3	**-0.0085**	0.006	75.2	ug/L	75	Standard
	Cu	65	111.7	23.9	**-0.0122**	0.009	72.3	ug/L	155	Standard
	Zn	66	202.0	32.8	**-0.0371**	0.023	62.1	ug/L	237	Standard
>	**Ge**	72	387813.6	40.6				ug/L	413856	Standard
	As	75	-217.6	57.8	**-0.0117**	0.031	265.1	ug/L	-197	Standard
	Se	82	-20.8	121.9	**-0.1311**	0.139	105.8	ug/L	-5	Standard
	Se-1	77	86.3	11.4	**0.0519**	0.340	655.7	ug/L	105	Standard
>	**Ga**	71	225.0	42.9				mg/L	225	Standard
	Rb	85	38.3	27.2				ug/L	28	Standard
	Y	89	278509.6	40.5				ug/L	322845	Standard
>	**Rh**	103	66.7	41.3				ug/L	92	Standard
	Mo	98	5.9	36.1	**-0.0069**	0.001	10.1	ug/L	18	Standard
	Ag	107	53.0	42.7	**0.0005**	0.002	377.0	ug/L	63	Standard
	Cd	111	14.3	56.0	**-0.0057**	0.003	51.9	mg/L	20	Standard
	Cd	114	52.7	30.8	**-0.0020**	0.001	62.2	ug/L	56	Standard
>	**In**	115	521645.3	40.7				ug/L	657102	Standard
	Sn	118	248.3	39.3	**-0.0178**	0.001	6.9	ug/L	555	Standard
	Sb	123	35.2	65.8	**0.0025**	0.002	62.6	ug/L	62	Standard
	Ba	135	37.7	8.1	**-0.0048**	0.005	97.3	ug/L	19	Standard
	Ce	140	75.7	47.6				ug/L	24	Standard
>	**Tb**	159	704465.7	36.4				ug/L	910514	Standard
	Ho	165	5.0	20.0				ug/L	7	Standard
	Tl	203	70.3	14.6	**0.0034**	0.003	79.9	ug/L	13	Standard
	Tl	205	3.7	68.6	**0.0145**	0.010	67.2	ug/L	1	Standard
	Pb	206	323.7	36.1	**0.0045**	0.003	76.5	ug/L	342	Standard
	Pb	207	275.0	35.1	**0.0014**	0.002	164.2	ug/L	284	Standard
	Pb	208	1283.7	34.7	**0.0033**	0.003	81.2	ug/L	1363	Standard
	U	238	6.7	62.4	**-0.0008**	0.000	49.6	ug/L	2	Standard
>	**Bi**	209	395257.4	35.0				ug/L	470592	Standard

Sample ID: L1211033211
Report Date/Time: Sunday, November 18, 2012 18:33:49
Page 1

Approved: November 19, 2012

⌈	**Na**	23	0.0		**0.0050**	0.000	0.0	mg/L	2	Standard
|	**Mg**	24	735.0	9.6	**-0.0025**	0.000	1.8	mg/L	5586	Standard
|	**K**	39	3.3	86.6	**0.0172**	0.051	294.9	mg/L	5	Standard
|	**Ca**	43	43.3	29.0	**0.0040**	0.967	24438.3	mg/L	45	Standard
|	**Fe**	54	330.9	58.5	**-0.0129**	0.071	554.9	mg/L	350	Standard
|	**Fe**	57	100.0	0.0	**0.0559**	0.033	58.9	mg/L	102	Standard
⌊>	**Sc-1**	45	46300.8	19.7				mg/L	53004	Standard
	Cl	35	1.3	43.3				ug/L	2	Standard
	Kr	83	326.6	54.0				ug/L	157	Standard
	Br	81	5.8	65.5				ug/L	3	Standard
	P	31	76487.9	58.4				ug/L	91588	Standard
	S	34	13037.4	15.0				ug/L	32556	Standard
	Sr	88	80.0	43.8				ug/L	62	Standard
	C	12	95.0	50.2				mg/L	133	Standard
	N	14	1.7	173.2				mg/L	0	Standard
	Hg	202	1.7	173.2				mg/L	7	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		93.707	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: L1211033211
Report Date/Time: Sunday, November 18, 2012 18:33:49
Page 2

Approved: November 19, 2012

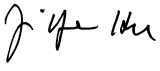
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	79.386
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	83.992
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Cr 52 Lower	Cr	52	

Sample ID: L1211033211
Report Date/Time: Sunday, November 18, 2012 18:33:49
Page 3

Approved: November 19, 2012



Method 6020 - Summary Report

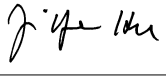
Sample ID: L1211033212
Sample Date/Time: Sunday, November 18, 2012 18:34:30
Number of Replicates: 3
Autosampler Position: 416
Sample Description: 20
Method File: C:\NexION Data\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
⌈	**Li**	7	30006.4	3.3	**-13124.2572**	633.000	4.8	ug/L	8369	Standard
|	**Be**	9	261.7	25.9	**0.1255**	0.035	27.8	ug/L	18	Standard
|	**Al**	27	1151273.4	0.2	**10.0557**	0.050	0.5	ug/L	215	Standard
⌊>	**Sc**	45	49383.7	0.4				ug/L	53004	Standard
⌈	**Ti**	47	220.3	8.9	**0.4181**	0.041	9.7	ug/L	26	Standard
|	**V**	51	18862.7	0.7	**1.5058**	0.017	1.1	ug/L	3223	Standard
|	**Cr**	52	21304.3	1.2	**1.2466**	0.030	2.4	ug/L	10379	Standard
|	**Cr**	53	1788.4	5.6	**1.3381**	0.079	5.9	ug/L	192	Standard
|	**Mn**	55	2081386.4	7.1	**133.6499**	8.747	6.5	ug/L	1840	Standard
|	**Co**	59	17224.1	1.4	**1.4242**	0.019	1.3	ug/L	115	Standard
|	**Ni**	60	6768.5	1.5	**2.5954**	0.054	2.1	ug/L	75	Standard
|	**Cu**	65	5225.9	1.2	**2.0468**	0.028	1.4	ug/L	155	Standard
|	**Zn**	66	7667.6	1.2	**6.0413**	0.071	1.2	ug/L	237	Standard
|>	**Ge**	72	371079.4	1.0				ug/L	413856	Standard
|	**As**	75	1267.4	0.9	**1.1137**	0.005	0.5	ug/L	-197	Standard
|	**Se**	82	10.7	27.3	**0.0969**	0.025	25.4	ug/L	-5	Standard
⌊	**Se-1**	77	126.3	10.5	**0.4580**	0.161	35.1	ug/L	105	Standard
⌈>	**Ga**	71	2253.5	0.3				mg/L	225	Standard
⌊	**Rb**	85	16892.7	2.5				ug/L	28	Standard
⌈	**Y**	89	300570.8	1.5				ug/L	322845	Standard
⌊>	**Rh**	103	86.7	13.3				ug/L	92	Standard
⌈	**Mo**	98	44.1	8.2	**0.0022**	0.001	36.9	ug/L	18	Standard
|	**Ag**	107	92.3	19.4	**0.0051**	0.003	51.7	ug/L	63	Standard
|	**Cd**	111	71.3	3.2	**0.0120**	0.001	8.5	mg/L	20	Standard
|	**Cd**	114	211.9	8.0	**0.0166**	0.002	11.1	ug/L	56	Standard
|>	**In**	115	589118.8	1.3				ug/L	657102	Standard
|	**Sn**	118	340.7	7.7	**-0.0112**	0.002	22.1	ug/L	555	Standard
|	**Sb**	123	28.9	20.9	**0.0012**	0.001	69.1	ug/L	62	Standard
⌊	**Ba**	135	64976.0	1.4	**21.2705**	0.151	0.7	ug/L	19	Standard
⌈	**Ce**	140	192192.1	1.5				ug/L	24	Standard
⌊>	**Tb**	159	856384.2	1.9				ug/L	910514	Standard
⌈	**Ho**	165	2505.5	5.0				ug/L	7	Standard
|	**Tl**	203	161.0	4.1	**0.0092**	0.001	6.7	ug/L	13	Standard
|	**Tl**	205	6.0	44.1	**0.0170**	0.007	41.3	ug/L	1	Standard
|	**Pb**	206	26429.7	2.2	**2.6025**	0.048	1.9	ug/L	342	Standard
|	**Pb**	207	21644.1	0.7	**2.5028**	0.025	1.0	ug/L	284	Standard
|	**Pb**	208	101753.1	1.2	**2.5362**	0.016	0.6	ug/L	1363	Standard
|	**U**	238	996.4	2.0	**0.1001**	0.003	2.7	ug/L	2	Standard
⌊>	**Bi**	209	459579.5	0.8				ug/L	470592	Standard

Sample ID: L1211033212
Report Date/Time: Sunday, November 18, 2012 18:37:02
Page 1

Approved: November 19, 2012



⌈	**Na**	23	1.7	173.2	**0.1674**	0.281	168.0	mg/L	2	Standard
|	**Mg**	24	3105.3	4.4	**-0.0013**	0.000	5.8	mg/L	5586	Standard
|	**K**	39	20.0	75.0	**0.2509**	0.220	87.7	mg/L	5	Standard
|	**Ca**	43	51.7	29.6	**0.1314**	0.707	538.0	mg/L	45	Standard
|	**Fe**	54	4709.7	1.6	**1.7886**	0.029	1.6	mg/L	350	Standard
|	**Fe**	57	1260.1	4.7	**1.9958**	0.101	5.1	mg/L	102	Standard
⌊>	**Sc-1**	45	49383.7	0.4				mg/L	53004	Standard
	Cl	35	3.0	57.7				ug/L	2	Standard
	Kr	83	149.9	1.3				ug/L	157	Standard
	Br	81	3.3	114.6				ug/L	3	Standard
	P	31	43072.8	1.3				ug/L	91588	Standard
	S	34	35876.6	1.2				ug/L	32556	Standard
	Sr	88	90.0	34.7				ug/L	62	Standard
	C	12	90.0	14.7				mg/L	133	Standard
	N	14	1.7	173.2				mg/L	0	Standard
	Hg	202	6.7	43.3				mg/L	7	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		89.664	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: L1211033212
Report Date/Time: Sunday, November 18, 2012 18:37:02
Page 2

Approved: November 19, 2012

	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	89.654
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	97.660
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Mn 55 Upper, S, EEE	Mn	55	

Sample ID: L1211033212
Report Date/Time: Sunday, November 18, 2012 18:37:02
Page 3

Approved: November 19, 2012

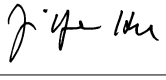
Method 6020 - Summary Report

Sample ID: L1211033213
Sample Date/Time: Sunday, November 18, 2012 18:37:42
Number of Replicates: 3
Autosampler Position: 417
Sample Description: 20
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	18644.8	6.5	**-7161.3024**	866.857	12.1	ug/L	8369	Standard
|	**Be**	9	141.7	13.4	**0.0687**	0.010	14.6	ug/L	18	Standard
|	**Al**	27	445230.5	0.8	**4.1592**	0.101	2.4	ug/L	215	Standard
⌊>	**Sc**	45	46183.7	3.3				ug/L	53004	Standard
⌈	**Ti**	47	267.0	7.3	**0.5271**	0.046	8.8	ug/L	26	Standard
|	**V**	51	12384.5	1.4	**0.9119**	0.009	1.0	ug/L	3223	Standard
|	**Cr**	52	17469.4	1.8	**0.8806**	0.041	4.6	ug/L	10379	Standard
|	**Cr**	53	1307.6	5.2	**0.9630**	0.066	6.9	ug/L	192	Standard
|	**Mn**	55	612182.3	2.8	**39.7682**	0.998	2.5	ug/L	1840	Standard
|	**Co**	59	6442.0	0.3	**0.5300**	0.006	1.1	ug/L	115	Standard
|	**Ni**	60	3447.7	1.3	**1.3220**	0.015	1.1	ug/L	75	Standard
|	**Cu**	65	2482.5	6.3	**0.9547**	0.053	5.6	ug/L	155	Standard
|	**Zn**	66	5209.6	3.0	**4.0954**	0.094	2.3	ug/L	237	Standard
|>	**Ge**	72	366308.3	1.3				ug/L	413856	Standard
|	**As**	75	103.1	34.1	**0.2201**	0.027	12.3	ug/L	-197	Standard
|	**Se**	82	0.2	1067.3	**0.0067**	0.017	247.3	ug/L	-5	Standard
⌊	**Se-1**	77	119.0	16.0	**0.3928**	0.229	58.3	ug/L	105	Standard
⌈>	**Ga**	71	1603.4	5.3				mg/L	225	Standard
⌊	**Rb**	85	11901.3	3.3				ug/L	28	Standard
⌈	**Y**	89	287234.3	3.6				ug/L	322845	Standard
⌊>	**Rh**	103	85.0	27.0				ug/L	92	Standard
⌈	**Mo**	98	26.8	4.1	**-0.0020**	0.000	8.5	ug/L	18	Standard
|	**Ag**	107	75.3	10.7	**0.0028**	0.001	39.9	ug/L	63	Standard
|	**Cd**	111	41.3	17.5	**0.0024**	0.003	106.6	mg/L	20	Standard
|	**Cd**	114	108.3	6.3	**0.0039**	0.001	16.2	ug/L	56	Standard
|>	**In**	115	585469.9	1.9				ug/L	657102	Standard
|	**Sn**	118	312.3	2.9	**-0.0142**	0.000	2.5	ug/L	555	Standard
|	**Sb**	123	26.1	8.9	**0.0008**	0.000	36.1	ug/L	62	Standard
⌊	**Ba**	135	31659.4	2.0	**10.4184**	0.062	0.6	ug/L	19	Standard
⌈	**Ce**	140	122609.7	2.7				ug/L	24	Standard
⌊>	**Tb**	159	853111.3	0.8				ug/L	910514	Standard
⌈	**Ho**	165	1733.8	2.3				ug/L	7	Standard
|	**Tl**	203	124.7	6.7	**0.0064**	0.001	9.7	ug/L	13	Standard
|	**Tl**	205	4.0	25.0	**0.0119**	0.003	22.8	ug/L	1	Standard
|	**Pb**	206	10750.8	1.7	**1.0505**	0.024	2.3	ug/L	342	Standard
|	**Pb**	207	8816.2	2.5	**1.0090**	0.031	3.1	ug/L	284	Standard
|	**Pb**	208	41404.4	1.6	**1.0227**	0.022	2.1	ug/L	1363	Standard
|	**U**	238	418.0	4.9	**0.0416**	0.002	5.4	ug/L	2	Standard
⌊>	**Bi**	209	454787.3	0.6				ug/L	470592	Standard

Approved: November 19, 2012



⌈	**Na**	23	3.3	173.2	**0.3579**	0.611	170.8	mg/L	2	Standard
|	**Mg**	24	2541.9	4.4	**-0.0015**	0.000	3.2	mg/L	5586	Standard
|	**K**	39	15.0	57.7	**0.1900**	0.125	65.9	mg/L	5	Standard
|	**Ca**	43	50.0	10.0	**0.2089**	0.182	87.0	mg/L	45	Standard
|	**Fe**	54	2261.4	8.3	**0.8454**	0.106	12.5	mg/L	350	Standard
|	**Fe**	57	631.7	3.6	**1.0118**	0.073	7.2	mg/L	102	Standard
⌊>	**Sc-1**	45	46183.7	3.3				mg/L	53004	Standard
	Cl	35	2.3	65.5				ug/L	2	Standard
	Kr	83	153.1	2.6				ug/L	157	Standard
	Br	81	5.8	65.5				ug/L	3	Standard
	P	31	41067.2	0.6				ug/L	91588	Standard
	S	34	33162.1	2.6				ug/L	32556	Standard
	Sr	88	88.3	28.5				ug/L	62	Standard
	C	12	110.0	35.5				mg/L	133	Standard
	N	14	3.3	86.6				mg/L	0	Standard
	Hg	202	3.3	86.6				mg/L	7	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		88.511	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: L1211033213
Report Date/Time: Sunday, November 18, 2012 18:40:15
Page 2

Approved: November 19, 2012

	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	89.099
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	96.642
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: L1211033213
Report Date/Time: Sunday, November 18, 2012 18:40:15
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

Sample ID: L1211033214
Sample Date/Time: Sunday, November 18, 2012 18:40:55
Number of Replicates: 3
Autosampler Position: 418
Sample Description: 20
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	20014.9	4.0	**-8157.3065**	383.338	4.7	ug/L	8369	Standard
	Be	9	153.3	10.5	**0.0761**	0.010	13.2	ug/L	18	Standard
	Al	27	509113.5	3.8	**4.8041**	0.107	2.2	ug/L	215	Standard
>	Sc	45	45690.5	2.0				ug/L	53004	Standard
	Ti	47	227.3	8.4	**0.4547**	0.043	9.4	ug/L	26	Standard
	V	51	12685.3	2.7	**0.9766**	0.032	3.3	ug/L	3223	Standard
	Cr	52	18043.7	0.7	**0.9948**	0.014	1.4	ug/L	10379	Standard
	Cr	53	1425.1	3.2	**1.0939**	0.041	3.8	ug/L	192	Standard
	Mn	55	377110.4	1.6	**25.1972**	0.457	1.8	ug/L	1840	Standard
	Co	59	6866.9	1.3	**0.5833**	0.008	1.3	ug/L	115	Standard
	Ni	60	3591.8	0.5	**1.4209**	0.011	0.8	ug/L	75	Standard
	Cu	65	2526.9	1.9	**1.0040**	0.022	2.1	ug/L	155	Standard
	Zn	66	6364.7	1.7	**5.2050**	0.102	2.0	ug/L	237	Standard
>	Ge	72	355688.6	0.2				ug/L	413856	Standard
	As	75	136.0	5.3	**0.2490**	0.006	2.4	ug/L	-197	Standard
	Se	82	7.8	114.9	**0.0757**	0.081	107.0	ug/L	-5	Standard
	Se-1	77	127.0	4.8	**0.5273**	0.074	14.0	ug/L	105	Standard
>	Ga	71	1723.4	7.2				mg/L	225	Standard
	Rb	85	12378.4	2.7				ug/L	28	Standard
	Y	89	285823.3	2.3				ug/L	322845	Standard
>	Rh	103	75.0	13.3				ug/L	92	Standard
	Mo	98	27.5	20.8	**-0.0017**	0.001	82.1	ug/L	18	Standard
	Ag	107	80.3	4.0	**0.0038**	0.001	13.5	ug/L	63	Standard
	Cd	111	40.6	11.1	**0.0025**	0.002	69.6	mg/L	20	Standard
	Cd	114	143.2	8.2	**0.0087**	0.002	20.6	ug/L	56	Standard
>	In	115	570255.3	1.6				ug/L	657102	Standard
	Sn	118	304.3	2.6	**-0.0141**	0.001	6.3	ug/L	555	Standard
	Sb	123	32.8	17.6	**0.0019**	0.001	42.5	ug/L	62	Standard
	Ba	135	38650.9	1.0	**13.0647**	0.143	1.1	ug/L	19	Standard
	Ce	140	121864.9	1.5				ug/L	24	Standard
>	Tb	159	836725.3	1.0				ug/L	910514	Standard
	Ho	165	1886.1	3.3				ug/L	7	Standard
	Tl	203	120.7	12.1	**0.0063**	0.001	16.2	ug/L	13	Standard
	Tl	205	4.0	66.1	**0.0121**	0.007	59.7	ug/L	1	Standard
	Pb	206	29755.2	1.3	**3.0280**	0.018	0.6	ug/L	342	Standard
	Pb	207	24194.6	1.4	**2.8916**	0.032	1.1	ug/L	284	Standard
	Pb	208	113878.5	1.6	**2.9334**	0.021	0.7	ug/L	1363	Standard
	U	238	640.3	2.3	**0.0659**	0.002	2.6	ug/L	2	Standard
>	Bi	209	445532.4	1.9				ug/L	470592	Standard

Sample ID: L1211033214
Report Date/Time: Sunday, November 18, 2012 18:43:28
Page 1

Approved: November 19, 2012

⌈	**Na**	23	1.7	173.2	**0.1776**	0.299	168.3	mg/L	2	Standard
|	**Mg**	24	1918.5	6.8	**-0.0018**	0.000	5.2	mg/L	5586	Standard
|	**K**	39	13.3	43.3	**0.1684**	0.088	52.5	mg/L	5	Standard
|	**Ca**	43	58.3	4.9	**0.6511**	0.176	27.0	mg/L	45	Standard
|	**Fe**	54	2469.5	4.3	**0.9476**	0.057	6.0	mg/L	350	Standard
|	**Fe**	57	670.0	5.4	**1.0919**	0.043	4.0	mg/L	102	Standard
⌊>	**Sc-1**	45	45690.5	2.0				mg/L	53004	Standard
	Cl	35	2.0	86.6				ug/L	2	Standard
	Kr	83	153.8	0.9				ug/L	157	Standard
	Br	81	5.8	24.7				ug/L	3	Standard
	P	31	39754.6	1.9				ug/L	91588	Standard
	S	34	31282.3	1.3				ug/L	32556	Standard
	Sr	88	81.7	31.4				ug/L	62	Standard
	C	12	98.3	34.6				mg/L	133	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	3.3	86.6				mg/L	7	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		85.945	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: L1211033214
Report Date/Time: Sunday, November 18, 2012 18:43:28
Page 2

Approved: November 19, 2012

	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	86.783
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	94.675
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: L1211033214
Report Date/Time: Sunday, November 18, 2012 18:43:28
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

Sample ID: L1211033215
Sample Date/Time: Sunday, November 18, 2012 18:44:08
Number of Replicates: 3
Autosampler Position: 419
Sample Description: 20
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	15232.7	6.2	**-4794.1272**	721.436	15.0	ug/L	8369	Standard
	Be	9	131.7	25.8	**0.0615**	0.018	28.9	ug/L	18	Standard
	Al	27	404624.0	1.5	**3.6983**	0.035	0.9	ug/L	215	Standard
>	Sc	45	47180.0	2.2				ug/L	53004	Standard
	Ti	47	116.0	11.9	**0.1998**	0.028	13.9	ug/L	26	Standard
	V	51	11161.1	1.7	**0.8158**	0.031	3.7	ug/L	3223	Standard
	Cr	52	14504.9	0.2	**0.6042**	0.036	6.0	ug/L	10379	Standard
	Cr	53	977.5	1.4	**0.7072**	0.016	2.3	ug/L	192	Standard
	Mn	55	599789.5	0.9	**39.7138**	1.200	3.0	ug/L	1840	Standard
	Co	59	6419.4	1.5	**0.5383**	0.005	0.9	ug/L	115	Standard
	Ni	60	2922.9	2.7	**1.1374**	0.044	3.9	ug/L	75	Standard
	Cu	65	2124.8	1.8	**0.8258**	0.028	3.3	ug/L	155	Standard
	Zn	66	4261.3	1.3	**3.3814**	0.104	3.1	ug/L	237	Standard
>	Ge	72	359544.0	2.2				ug/L	413856	Standard
	As	75	133.9	1.5	**0.2462**	0.004	1.6	ug/L	-197	Standard
	Se	82	14.2	50.4	**0.1322**	0.066	49.9	ug/L	-5	Standard
	Se-1	77	135.3	15.4	**0.6110**	0.262	42.8	ug/L	105	Standard
>	Ga	71	1148.4	11.8				mg/L	225	Standard
	Rb	85	8005.4	2.5				ug/L	28	Standard
	Y	89	284537.0	0.8				ug/L	322845	Standard
>	Rh	103	108.3	11.6				ug/L	92	Standard
	Mo	98	24.0	14.0	**-0.0026**	0.001	28.4	ug/L	18	Standard
	Ag	107	76.3	6.5	**0.0032**	0.001	25.6	ug/L	63	Standard
	Cd	111	54.0	1.9	**0.0069**	0.001	7.7	mg/L	20	Standard
	Cd	114	139.8	11.6	**0.0083**	0.002	25.6	ug/L	56	Standard
>	In	115	571328.1	2.1				ug/L	657102	Standard
	Sn	118	292.0	5.0	**-0.0156**	0.002	12.2	ug/L	555	Standard
	Sb	123	24.9	35.3	**0.0007**	0.001	180.4	ug/L	62	Standard
	Ba	135	32631.1	1.2	**11.0063**	0.093	0.8	ug/L	19	Standard
	Ce	140	111118.0	0.5				ug/L	24	Standard
>	Tb	159	829907.9	1.9				ug/L	910514	Standard
	Ho	165	1669.8	1.4				ug/L	7	Standard
	Tl	203	88.7	4.7	**0.0037**	0.000	10.7	ug/L	13	Standard
	Tl	205	3.7	68.6	**0.0113**	0.007	61.5	ug/L	1	Standard
	Pb	206	14732.2	1.6	**1.4882**	0.040	2.7	ug/L	342	Standard
	Pb	207	11868.0	0.7	**1.4051**	0.011	0.8	ug/L	284	Standard
	Pb	208	56265.5	0.6	**1.4373**	0.025	1.8	ug/L	1363	Standard
	U	238	662.0	5.1	**0.0684**	0.004	5.5	ug/L	2	Standard
>	Bi	209	443950.1	1.3				ug/L	470592	Standard

Sample ID: L1211033215
Report Date/Time: Sunday, November 18, 2012 18:46:40
Page 1

Approved: November 19, 2012

⌈	**Na**	23	0.0		**0.0050**	0.000	0.0	mg/L	2	Standard
|	**Mg**	24	1671.8	5.2	**-0.0020**	0.000	1.5	mg/L	5586	Standard
|	**K**	39	11.7	65.5	**0.1360**	0.115	84.7	mg/L	5	Standard
|	**Ca**	43	65.0	7.7	**0.8749**	0.172	19.7	mg/L	45	Standard
|	**Fe**	54	1727.7	6.5	**0.5931**	0.064	10.8	mg/L	350	Standard
|	**Fe**	57	513.3	16.5	**0.7777**	0.148	19.1	mg/L	102	Standard
⌊>	**Sc-1**	45	47180.0	2.2				mg/L	53004	Standard
	Cl	35	1.7	34.6				ug/L	2	Standard
	Kr	83	151.9	1.5				ug/L	157	Standard
	Br	81	8.3	17.3				ug/L	3	Standard
	P	31	39946.8	3.0				ug/L	91588	Standard
	S	34	30954.9	2.3				ug/L	32556	Standard
	Sr	88	85.0	10.2				ug/L	62	Standard
	C	12	130.0	17.6				mg/L	133	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	6.7	43.3				mg/L	7	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		86.877	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: L1211033215
Report Date/Time: Sunday, November 18, 2012 18:46:40
Page 2

Approved: November 19, 2012

	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	86.947
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	94.339
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: L1211033215
Report Date/Time: Sunday, November 18, 2012 18:46:40
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

Sample ID: QC Std 6
Sample Date/Time: Sunday, November 18, 2012 18:47:23
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	8640.8	7.8	**128.0500**	139.270	108.8	ug/L	8369	Standard
|	**Be**	9	111973.0	5.2	**51.2718**	3.367	6.6	ug/L	18	Standard
|	**Al**	27	7118309.1	2.5	**55.1900**	1.662	3.0	ug/L	215	Standard
⌊>	**Sc**	45	55695.7	5.1				ug/L	53004	Standard
⌈	**Ti**	47	54152.4	3.8	**101.7896**	4.151	4.1	ug/L	26	Standard
|	**V**	51	613527.8	4.5	**49.7473**	1.855	3.7	ug/L	3223	Standard
|	**Cr**	52	580087.5	5.0	**50.1335**	2.081	4.2	ug/L	10379	Standard
|	**Cr**	53	70430.2	4.0	**49.3295**	1.363	2.8	ug/L	192	Standard
|	**Mn**	55	907561.6	3.7	**50.4845**	0.950	1.9	ug/L	1840	Standard
|	**Co**	59	700713.2	5.5	**50.7507**	1.694	3.3	ug/L	115	Standard
|	**Ni**	60	149556.7	4.2	**50.3666**	1.529	3.0	ug/L	75	Standard
|	**Cu**	65	145744.6	3.8	**50.8315**	1.549	3.0	ug/L	155	Standard
|	**Zn**	66	72986.6	4.1	**51.3082**	1.429	2.8	ug/L	237	Standard
| >	**Ge**	72	427935.7	2.6				ug/L	413856	Standard
|	**As**	75	74962.6	3.2	**50.0892**	1.447	2.9	ug/L	-197	Standard
|	**Se**	82	6758.5	2.7	**50.4445**	0.842	1.7	ug/L	-5	Standard
⌊	**Se-1**	77	5149.2	4.3	**49.7755**	1.905	3.8	ug/L	105	Standard
⌈>	**Ga**	71	205.0	6.5				mg/L	225	Standard
⌊	**Rb**	85	1686.8	4.3				ug/L	28	Standard
⌈	**Y**	89	323949.5	2.4				ug/L	322845	Standard
⌊>	**Rh**	103	118.3	17.1				ug/L	92	Standard
⌈	**Mo**	98	447506.9	3.9	**99.1723**	2.329	2.3	ug/L	18	Standard
|	**Ag**	107	393982.9	3.6	**49.6321**	1.052	2.1	ug/L	63	Standard
|	**Cd**	111	174791.4	4.7	**50.8607**	1.640	3.2	mg/L	20	Standard
|	**Cd**	114	456614.5	4.4	**50.4860**	1.501	3.0	ug/L	56	Standard
| >	**In**	115	658234.1	1.5				ug/L	657102	Standard
|	**Sn**	118	510786.1	4.6	**51.1744**	1.615	3.2	ug/L	555	Standard
|	**Sb**	123	401334.2	4.9	**51.1402**	1.806	3.5	ug/L	62	Standard
⌊	**Ba**	135	174566.7	4.2	**51.1606**	1.418	2.8	ug/L	19	Standard
⌈	**Ce**	140	587.3	6.9				ug/L	24	Standard
⌊>	**Tb**	159	931307.3	1.4				ug/L	910514	Standard
⌈	**Ho**	165	457.0	4.9				ug/L	7	Standard
|	**Tl**	203	662077.3	2.1	**51.1299**	0.563	1.1	ug/L	13	Standard
|	**Tl**	205	19805.9	2.3	**50.1346**	0.532	1.1	ug/L	1	Standard
|	**Pb**	206	529935.7	3.1	**51.0468**	1.016	2.0	ug/L	342	Standard
|	**Pb**	207	455144.0	3.7	**51.5652**	1.354	2.6	ug/L	284	Standard
|	**Pb**	208	2085152.6	3.3	**50.8843**	1.089	2.1	ug/L	1363	Standard
|	**U**	238	522942.4	4.3	**51.5629**	1.657	3.2	ug/L	2	Standard
⌊>	**Bi**	209	475398.7	1.2				ug/L	470592	Standard

Sample ID: QC Std 6
Report Date/Time: Sunday, November 18, 2012 18:49:55
Page 1

Approved: November 19, 2012

⌈	**Na**	23	0.0		**0.0050**	0.000	0.0	mg/L	2	Standard
|	**Mg**	24	310317.5	1.2	**0.1422**	0.007	4.6	mg/L	5586	Standard
|	**K**	39	366.7	10.6	**4.6955**	0.265	5.6	mg/L	5	Standard
|	**Ca**	43	176.7	11.4	**4.9154**	0.571	11.6	mg/L	45	Standard
|	**Fe**	54	13451.9	4.6	**4.7705**	0.269	5.6	mg/L	350	Standard
|	**Fe**	57	3382.0	5.1	**4.9380**	0.421	8.5	mg/L	102	Standard
⌊>	**Sc-1**	45	55695.7	5.1				mg/L	53004	Standard
	Cl	35	1.3	114.6				ug/L	2	Standard
	Kr	83	182.9	3.5				ug/L	157	Standard
	Br	81	5.0	86.6				ug/L	3	Standard
	P	31	129225.5	1.8				ug/L	91588	Standard
	S	34	42133.5	0.8				ug/L	32556	Standard
	Sr	88	95.0	21.1				ug/L	62	Standard
	C	12	125.0	22.3				mg/L	133	Standard
	N	14	1.7	173.2				mg/L	0	Standard
	Hg	202	0.0					mg/L	7	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈	Li	7			
|	Be	9	102.544		
|	Al	27	110.380		
⌊>	Sc	45			
⌈	Ti	47	101.790		
|	V	51	99.495		
|	Cr	52	100.267		
|	Cr	53			
|	Mn	55	100.969		
|	Co	59	101.501		
|	Ni	60	100.733		
|	Cu	65	101.663		
|	Zn	66	102.616		
|>	Ge	72		103.402	
|	As	75	100.178		
|	Se	82	100.889		
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: QC Std 6
Report Date/Time: Sunday, November 18, 2012 18:49:55
Page 2

Approved: November 19, 2012

	Mo	98	99.172	
	Ag	107	99.264	
	Cd	111	101.721	
	Cd	114		
>	In	115		100.172
	Sn	118	102.349	
	Sb	123	102.280	
	Ba	135	102.321	
	Ce	140		
>	Tb	159		
	Ho	165		
	Tl	203	102.260	
	Tl	205		
	Pb	206	102.094	
	Pb	207	103.130	
	Pb	208	101.769	
	U	238	103.126	
>	Bi	209		101.021
	Na	23		
	Mg	24		
	K	39		
	Ca	43		
	Fe	54		
	Fe	57		
>	Sc-1	45		
	Cl	35		
	Kr	83		
	Br	81		
	P	31		
	S	34		
	Sr	88		
	C	12		
	N	14		
	Hg	202		

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 6	Al	27	

Sample ID: QC Std 6
Report Date/Time: Sunday, November 18, 2012 18:49:55
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

Sample ID: QC Std 7
Sample Date/Time: Sunday, November 18, 2012 18:50:35
Number of Replicates: 3
Autosampler Position: 102
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	8402.3	3.4	**49.3778**	33.016	66.9	ug/L	8369	Standard
|	**Be**	9	25.0	40.0	**0.0026**	0.005	198.8	ug/L	18	Standard
|	**Al**	27	491.7	46.5	**0.0018**	0.002	97.5	ug/L	215	Standard
⌊>	**Sc**	45	53276.9	3.2				ug/L	53004	Standard
⌈	**Ti**	47	18.7	8.2	**-0.0237**	0.004	15.7	ug/L	26	Standard
|	**V**	51	3142.8	2.0	**-0.0056**	0.007	123.6	ug/L	3223	Standard
|	**Cr**	52	9651.7	2.2	**-0.0476**	0.018	38.8	ug/L	10379	Standard
|	**Cr**	53	168.3	8.2	**0.0110**	0.010	89.5	ug/L	192	Standard
|	**Mn**	55	1902.5	26.2	**0.0199**	0.031	157.5	ug/L	1840	Standard
|	**Co**	59	169.3	72.8	**-0.0028**	0.010	335.4	ug/L	115	Standard
|	**Ni**	60	92.3	22.3	**-0.0036**	0.008	222.4	ug/L	75	Standard
|	**Cu**	65	220.0	7.1	**0.0210**	0.006	29.3	ug/L	155	Standard
|	**Zn**	66	260.0	4.7	**-0.0117**	0.014	117.7	ug/L	237	Standard
|>	**Ge**	72	418815.0	2.9				ug/L	413856	Standard
|	**As**	75	-181.4	20.8	**0.0169**	0.022	129.3	ug/L	-197	Standard
|	**Se**	82	13.5	117.8	**0.1094**	0.125	113.9	ug/L	-5	Standard
⌊	**Se-1**	77	127.7	1.8	**0.3076**	0.042	13.7	ug/L	105	Standard
⌈>	**Ga**	71	186.7	8.6				mg/L	225	Standard
⌊	**Rb**	85	40.0	12.5				ug/L	28	Standard
⌈	**Y**	89	311049.7	2.2				ug/L	322845	Standard
⌊>	**Rh**	103	85.0	27.0				ug/L	92	Standard
⌈	**Mo**	98	117.0	72.5	**0.0173**	0.018	104.6	ug/L	18	Standard
|	**Ag**	107	147.0	42.9	**0.0108**	0.007	67.9	ug/L	63	Standard
|	**Cd**	111	44.9	68.9	**0.0019**	0.009	444.4	mg/L	20	Standard
|	**Cd**	114	119.3	55.6	**0.0037**	0.007	184.4	ug/L	56	Standard
|>	**In**	115	644744.9	4.1				ug/L	657102	Standard
|	**Sn**	118	434.3	16.6	**-0.0051**	0.006	110.0	ug/L	555	Standard
|	**Sb**	123	326.5	42.3	**0.0391**	0.016	41.3	ug/L	62	Standard
⌊	**Ba**	135	44.7	34.4	**-0.0067**	0.004	63.9	ug/L	19	Standard
⌈	**Ce**	140	34.0	60.8				ug/L	24	Standard
⌊>	**Tb**	159	911885.3	5.0				ug/L	910514	Standard
⌈	**Ho**	165	7.3	20.8				ug/L	7	Standard
|	**Tl**	203	53.3	75.8	**0.0004**	0.003	682.9	ug/L	13	Standard
|	**Tl**	205	0.3	173.2	**0.0021**	0.001	67.6	ug/L	1	Standard
|	**Pb**	206	354.7	14.3	**0.0013**	0.004	304.0	ug/L	342	Standard
|	**Pb**	207	330.3	12.3	**0.0014**	0.004	258.4	ug/L	284	Standard
|	**Pb**	208	1407.7	10.4	**0.0000**	0.003	249284.6	ug/L	1363	Standard
|	**U**	238	23.0	74.2	**0.0007**	0.002	223.9	ug/L	2	Standard
⌊>	**Bi**	209	473875.1	2.8				ug/L	470592	Standard

Sample ID: QC Std 7
Report Date/Time: Sunday, November 18, 2012 18:53:07
Page 1

Approved: November 19, 2012

⌈	**Na**	23	0.0		**0.0050**	0.000	0.0	mg/L	2	Standard
|	**Mg**	24	970.0	20.0	**-0.0024**	0.000	3.2	mg/L	5586	Standard
|	**K**	39	5.0	100.0	**0.0257**	0.066	255.6	mg/L	5	Standard
|	**Ca**	43	31.7	48.2	**-0.8802**	0.663	75.4	mg/L	45	Standard
|	**Fe**	54	325.5	9.3	**-0.0291**	0.009	32.3	mg/L	350	Standard
|	**Fe**	57	120.0	4.2	**0.0596**	0.014	23.3	mg/L	102	Standard
⌊>	**Sc-1**	45	53276.9	3.2				mg/L	53004	Standard
	Cl	35	2.7	43.3				ug/L	2	Standard
	Kr	83	187.3	5.6				ug/L	157	Standard
	Br	81	3.3	114.6				ug/L	3	Standard
	P	31	122406.3	4.0				ug/L	91588	Standard
	S	34	42154.4	1.5				ug/L	32556	Standard
	Sr	88	60.0	14.4				ug/L	62	Standard
	C	12	103.3	24.8				mg/L	133	Standard
	N	14	1.7	173.2				mg/L	0	Standard
	Hg	202	3.3	86.6				mg/L	7	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		101.198	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: QC Std 7
Report Date/Time: Sunday, November 18, 2012 18:53:07
Page 2

Approved: November 19, 2012

	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	98.120
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	100.698
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: QC Std 7
Report Date/Time: Sunday, November 18, 2012 18:53:07
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

Sample ID: L1211033216
Sample Date/Time: Sunday, November 18, 2012 18:53:49
Number of Replicates: 3
Autosampler Position: 420
Sample Description: 20
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	20266.9	6.0	**-8423.3724**	419.341	5.0	ug/L	8369	Standard
|	**Be**	9	138.3	14.6	**0.0688**	0.016	22.5	ug/L	18	Standard
|	**Al**	27	617432.0	1.9	**5.8840**	0.308	5.2	ug/L	215	Standard
⌊>	**Sc**	45	45339.5	5.7				ug/L	53004	Standard
⌈	**Ti**	47	284.0	2.5	**0.5829**	0.042	7.1	ug/L	26	Standard
|	**V**	51	16007.5	1.1	**1.3020**	0.079	6.0	ug/L	3223	Standard
|	**Cr**	52	22192.9	2.2	**1.4314**	0.042	2.9	ug/L	10379	Standard
|	**Cr**	53	2005.1	3.3	**1.5818**	0.049	3.1	ug/L	192	Standard
|	**Mn**	55	520213.5	2.2	**34.7536**	0.732	2.1	ug/L	1840	Standard
|	**Co**	59	7760.3	1.2	**0.6606**	0.022	3.3	ug/L	115	Standard
|	**Ni**	60	3992.9	2.4	**1.5817**	0.034	2.1	ug/L	75	Standard
|	**Cu**	65	3150.3	0.5	**1.2649**	0.046	3.6	ug/L	155	Standard
|	**Zn**	66	8678.8	0.7	**7.1645**	0.246	3.4	ug/L	237	Standard
| >	**Ge**	72	356254.3	3.9				ug/L	413856	Standard
|	**As**	75	246.3	26.4	**0.3379**	0.055	16.3	ug/L	-197	Standard
|	**Se**	82	-3.2	239.7	**-0.0235**	0.068	289.2	ug/L	-5	Standard
⌊	**Se-1**	77	116.3	7.0	**0.4019**	0.142	35.3	ug/L	105	Standard
⌈>	**Ga**	71	1843.4	11.4				mg/L	225	Standard
⌊	**Rb**	85	17261.5	2.3				ug/L	28	Standard
⌈	**Y**	89	281542.6	7.4				ug/L	322845	Standard
⌊>	**Rh**	103	86.7	24.0				ug/L	92	Standard
⌈	**Mo**	98	86.4	5.6	**0.0136**	0.002	13.9	ug/L	18	Standard
|	**Ag**	107	97.7	6.2	**0.0064**	0.001	8.7	ug/L	63	Standard
|	**Cd**	111	63.6	20.5	**0.0102**	0.004	35.4	mg/L	20	Standard
|	**Cd**	114	181.0	11.7	**0.0138**	0.004	25.4	ug/L	56	Standard
| >	**In**	115	565729.1	4.3				ug/L	657102	Standard
|	**Sn**	118	335.7	1.9	**-0.0102**	0.002	18.5	ug/L	555	Standard
|	**Sb**	123	83.7	8.6	**0.0095**	0.001	15.2	ug/L	62	Standard
⌊	**Ba**	135	35786.9	1.9	**12.2033**	0.469	3.8	ug/L	19	Standard
⌈	**Ce**	140	138656.0	1.3				ug/L	24	Standard
⌊>	**Tb**	159	823249.2	4.7				ug/L	910514	Standard
⌈	**Ho**	165	1916.5	2.2				ug/L	7	Standard
|	**Tl**	203	148.3	5.1	**0.0089**	0.001	14.2	ug/L	13	Standard
|	**Tl**	205	3.0	66.7	**0.0095**	0.005	55.8	ug/L	1	Standard
|	**Pb**	206	212726.8	1.6	**22.3337**	1.218	5.5	ug/L	342	Standard
|	**Pb**	207	170929.4	0.5	**21.1020**	1.052	5.0	ug/L	284	Standard
|	**Pb**	208	806713.4	1.1	**21.4570**	1.207	5.6	ug/L	1363	Standard
|	**U**	238	719.7	7.7	**0.0760**	0.009	11.4	ug/L	2	Standard
⌊>	**Bi**	209	436622.1	4.9				ug/L	470592	Standard

Sample ID: L1211033216
Report Date/Time: Sunday, November 18, 2012 18:56:21
Page 1

Approved: November 19, 2012

⌈	**Na**	23	3.3	86.6	**0.3605**	0.309	85.8	mg/L	2	Standard
|	**Mg**	24	2023.5	5.1	**-0.0018**	0.000	7.1	mg/L	5586	Standard
|	**K**	39	16.7	17.3	**0.2229**	0.035	15.7	mg/L	5	Standard
|	**Ca**	43	55.0	18.2	**0.4932**	0.349	70.7	mg/L	45	Standard
|	**Fe**	54	2511.1	5.1	**0.9753**	0.049	5.0	mg/L	350	Standard
|	**Fe**	57	751.7	3.3	**1.2564**	0.124	9.9	mg/L	102	Standard
⌊>	**Sc-1**	45	45339.5	5.7				mg/L	53004	Standard
	Cl	35	1.0	100.0				ug/L	2	Standard
	Kr	83	173.8	3.7				ug/L	157	Standard
	Br	81	7.5	115.5				ug/L	3	Standard
	P	31	40927.7	0.8				ug/L	91588	Standard
	S	34	38238.2	1.9				ug/L	32556	Standard
	Sr	88	81.7	41.7				ug/L	62	Standard
	C	12	161.7	3.6				mg/L	133	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	6.7	114.6				mg/L	7	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		86.082	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: L1211033216
Report Date/Time: Sunday, November 18, 2012 18:56:21
Page 2

Approved: November 19, 2012

⌈	Mo	98		
|	Ag	107		
|	Cd	111		
|	Cd	114		
|>	In	115		86.095
|	Sn	118		
|	Sb	123		
⌊	Ba	135		
⌈	Ce	140		
⌊>	Tb	159		
⌈	Ho	165		
|	Tl	203		
|	Tl	205		
|	Pb	206		
|	Pb	207		
|	Pb	208		
|	U	238		
⌊>	Bi	209		92.782
⌈	Na	23		
|	Mg	24		
|	K	39		
|	Ca	43		
|	Fe	54		
|	Fe	57		
⌊>	Sc-1	45		
	Cl	35		
	Kr	83		
	Br	81		
	P	31		
	S	34		
	Sr	88		
	C	12		
	N	14		
	Hg	202		

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: L1211033216
Report Date/Time: Sunday, November 18, 2012 18:56:21
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

Sample ID: L1211033217
Sample Date/Time: Sunday, November 18, 2012 18:57:02
Number of Replicates: 3
Autosampler Position: 421
Sample Description: 20
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	23294.6	1.6	**-9374.1400**	254.074	2.7	ug/L	8369	Standard
	Be	9	168.3	23.1	**0.0788**	0.020	25.3	ug/L	18	Standard
	Al	27	690190.5	2.7	**6.1276**	0.156	2.5	ug/L	215	Standard
>	**Sc**	45	48577.8	1.2				ug/L	53004	Standard
	Ti	47	261.3	9.8	**0.5075**	0.062	12.3	ug/L	26	Standard
	V	51	13976.3	3.0	**1.0462**	0.042	4.0	ug/L	3223	Standard
	Cr	52	19721.5	3.5	**1.0857**	0.077	7.1	ug/L	10379	Standard
	Cr	53	1638.4	8.0	**1.2170**	0.117	9.6	ug/L	192	Standard
	Mn	55	299864.6	2.3	**19.1816**	0.546	2.8	ug/L	1840	Standard
	Co	59	7408.8	2.7	**0.6037**	0.021	3.5	ug/L	115	Standard
	Ni	60	4214.6	4.6	**1.6027**	0.088	5.5	ug/L	75	Standard
	Cu	65	3369.4	3.6	**1.2994**	0.066	5.0	ug/L	155	Standard
	Zn	66	7040.3	1.9	**5.5298**	0.121	2.2	ug/L	237	Standard
>	**Ge**	72	371178.7	1.7				ug/L	413856	Standard
	As	75	193.3	38.0	**0.2890**	0.058	20.1	ug/L	-197	Standard
	Se	82	1.8	1751.4	**0.0234**	0.272	1159.7	ug/L	-5	Standard
	Se-1	77	133.3	5.7	**0.5363**	0.081	15.1	ug/L	105	Standard
>	**Ga**	71	1941.8	3.5				mg/L	225	Standard
	Rb	85	17596.9	3.5				ug/L	28	Standard
	Y	89	292034.8	1.8				ug/L	322845	Standard
>	**Rh**	103	70.0	25.8				ug/L	92	Standard
	Mo	98	26.2	28.3	**-0.0021**	0.002	90.2	ug/L	18	Standard
	Ag	107	87.7	11.7	**0.0046**	0.002	35.4	ug/L	63	Standard
	Cd	111	51.6	3.0	**0.0058**	0.000	6.3	mg/L	20	Standard
	Cd	114	118.8	13.2	**0.0053**	0.002	37.8	ug/L	56	Standard
>	**In**	115	582648.7	1.3				ug/L	657102	Standard
	Sn	118	319.3	2.5	**-0.0132**	0.001	8.4	ug/L	555	Standard
	Sb	123	59.0	50.9	**0.0056**	0.004	77.2	ug/L	62	Standard
	Ba	135	34374.6	1.4	**11.3685**	0.081	0.7	ug/L	19	Standard
	Ce	140	137427.6	2.0				ug/L	24	Standard
>	**Tb**	159	852374.7	0.2				ug/L	910514	Standard
	Ho	165	2059.5	3.0				ug/L	7	Standard
	Tl	203	211.3	48.7	**0.0135**	0.008	62.2	ug/L	13	Standard
	Tl	205	5.3	28.6	**0.0155**	0.004	26.8	ug/L	1	Standard
	Pb	206	36697.1	1.7	**3.6813**	0.037	1.0	ug/L	342	Standard
	Pb	207	29609.2	1.8	**3.4890**	0.040	1.2	ug/L	284	Standard
	Pb	208	140510.7	2.3	**3.5685**	0.059	1.7	ug/L	1363	Standard
	U	238	967.4	4.2	**0.0987**	0.004	4.5	ug/L	2	Standard
>	**Bi**	209	452778.2	0.7				ug/L	470592	Standard

Sample ID: L1211033217
Report Date/Time: Sunday, November 18, 2012 18:59:34
Page 1

Approved: November 19, 2012

⌈	**Na**	23	0.0		**0.0050**	0.000	0.0	mg/L	2	Standard
|	**Mg**	24	2158.5	9.8	**-0.0018**	0.000	7.1	mg/L	5586	Standard
|	**K**	39	15.0	115.5	**0.1793**	0.253	141.0	mg/L	5	Standard
|	**Ca**	43	60.0	30.0	**0.5506**	0.805	146.2	mg/L	45	Standard
|	**Fe**	54	2806.2	3.1	**1.0227**	0.024	2.3	mg/L	350	Standard
|	**Fe**	57	818.4	8.5	**1.2735**	0.105	8.3	mg/L	102	Standard
⌊>	**Sc-1**	45	48577.8	1.2				mg/L	53004	Standard
	Cl	35	3.0	66.7				ug/L	2	Standard
	Kr	83	156.2	12.1				ug/L	157	Standard
	Br	81	3.3	43.3				ug/L	3	Standard
	P	31	40324.4	1.9				ug/L	91588	Standard
	S	34	33805.2	0.4				ug/L	32556	Standard
	Sr	88	80.0	38.0				ug/L	62	Standard
	C	12	103.3	7.4				mg/L	133	Standard
	N	14	1.7	173.2				mg/L	0	Standard
	Hg	202	11.7	24.7				mg/L	7	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		89.688	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: L1211033217
Report Date/Time: Sunday, November 18, 2012 18:59:34
Page 2

Approved: November 19, 2012

	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	88.670
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	96.215
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: L1211033217
Report Date/Time: Sunday, November 18, 2012 18:59:34
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

Sample ID: L1211033701
Sample Date/Time: Sunday, November 18, 2012 19:00:14
Number of Replicates: 3
Autosampler Position: 422
Sample Description: 20
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	18893.4	0.4	**-6916.2481**	305.878	4.4	ug/L	8369	Standard
|	**Be**	9	130.0	13.3	**0.0597**	0.008	12.8	ug/L	18	Standard
|	**Al**	27	491692.5	1.9	**4.4415**	0.208	4.7	ug/L	215	Standard
⌊>	**Sc**	45	47781.9	3.0				ug/L	53004	Standard
⌈	**Ti**	47	260.0	3.1	**0.5061**	0.017	3.4	ug/L	26	Standard
|	**V**	51	14128.5	2.3	**1.0652**	0.029	2.7	ug/L	3223	Standard
|	**Cr**	52	34703.4	1.8	**2.6184**	0.061	2.3	ug/L	10379	Standard
|	**Cr**	53	3422.1	2.1	**2.6700**	0.052	1.9	ug/L	192	Standard
|	**Mn**	55	307171.2	0.7	**19.7203**	0.142	0.7	ug/L	1840	Standard
|	**Co**	59	7888.7	1.3	**0.6461**	0.008	1.2	ug/L	115	Standard
|	**Ni**	60	3567.1	1.8	**1.3557**	0.028	2.1	ug/L	75	Standard
|	**Cu**	65	2449.2	0.4	**0.9320**	0.002	0.2	ug/L	155	Standard
|	**Zn**	66	8402.7	2.2	**6.6631**	0.168	2.5	ug/L	237	Standard
|>	**Ge**	72	369815.1	0.3				ug/L	413856	Standard
|	**As**	75	74.8	71.7	**0.1977**	0.041	21.0	ug/L	-197	Standard
|	**Se**	82	-0.7	2123.6	**-0.0002**	0.121	58737.6	ug/L	-5	Standard
⌊	**Se-1**	77	120.0	8.8	**0.3900**	0.122	31.3	ug/L	105	Standard
⌈>	**Ga**	71	1558.4	2.3				mg/L	225	Standard
⌊	**Rb**	85	12888.8	1.4				ug/L	28	Standard
⌈	**Y**	89	284599.3	2.7				ug/L	322845	Standard
⌊>	**Rh**	103	101.7	14.2				ug/L	92	Standard
⌈	**Mo**	98	113.1	3.6	**0.0199**	0.001	5.7	ug/L	18	Standard
|	**Ag**	107	70.7	14.2	**0.0023**	0.001	60.8	ug/L	63	Standard
|	**Cd**	111	44.5	14.9	**0.0036**	0.002	58.1	mg/L	20	Standard
|	**Cd**	114	120.1	2.5	**0.0056**	0.000	3.7	ug/L	56	Standard
|>	**In**	115	577109.0	1.2				ug/L	657102	Standard
|	**Sn**	118	344.7	5.6	**-0.0100**	0.002	17.2	ug/L	555	Standard
|	**Sb**	123	45.0	20.1	**0.0036**	0.001	35.4	ug/L	62	Standard
⌊	**Ba**	135	28594.3	0.6	**9.5448**	0.056	0.6	ug/L	19	Standard
⌈	**Ce**	140	126098.6	0.7				ug/L	24	Standard
⌊>	**Tb**	159	844456.2	1.5				ug/L	910514	Standard
⌈	**Ho**	165	1849.1	2.3				ug/L	7	Standard
|	**Tl**	203	129.3	6.2	**0.0070**	0.001	9.0	ug/L	13	Standard
|	**Tl**	205	4.0	66.1	**0.0121**	0.007	58.7	ug/L	1	Standard
|	**Pb**	206	745143.8	0.5	**76.6041**	0.278	0.4	ug/L	342	Standard
|	**Pb**	207	609021.5	1.0	**73.6421**	0.675	0.9	ug/L	284	Standard
|	**Pb**	208	2850582.1	0.6	**74.2429**	0.338	0.5	ug/L	1363	Standard
|	**U**	238	463.3	9.0	**0.0472**	0.004	8.9	ug/L	2	Standard
⌊>	**Bi**	209	445598.2	0.5				ug/L	470592	Standard

Sample ID: L1211033701
Report Date/Time: Sunday, November 18, 2012 19:02:47
Page 1

Approved: November 19, 2012

⌈	**Na**	23	0.0		**0.0050**	0.000	0.0	mg/L	2	Standard
|	**Mg**	24	2545.2	5.3	**-0.0015**	0.000	5.3	mg/L	5586	Standard
|	**K**	39	23.3	81.1	**0.3063**	0.272	89.0	mg/L	5	Standard
|	**Ca**	43	51.7	27.9	**0.2221**	0.737	331.9	mg/L	45	Standard
|	**Fe**	54	2366.3	5.6	**0.8551**	0.050	5.9	mg/L	350	Standard
|	**Fe**	57	621.7	5.4	**0.9543**	0.028	2.9	mg/L	102	Standard
⌊>	**Sc-1**	45	47781.9	3.0				mg/L	53004	Standard
	Cl	35	2.7	114.6				ug/L	2	Standard
	Kr	83	184.7	2.2				ug/L	157	Standard
	Br	81	5.0	50.0				ug/L	3	Standard
	P	31	40115.5	1.9				ug/L	91588	Standard
	S	34	32482.3	2.4				ug/L	32556	Standard
	Sr	88	101.7	20.5				ug/L	62	Standard
	C	12	90.0	20.0				mg/L	133	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	10.0	86.6				mg/L	7	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		89.358	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: L1211033701
Report Date/Time: Sunday, November 18, 2012 19:02:47
Page 2

Approved: November 19, 2012

	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	87.826
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	94.689
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: L1211033701
Report Date/Time: Sunday, November 18, 2012 19:02:47
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

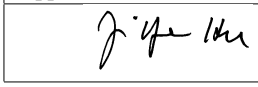
Sample ID: L1211033702
Sample Date/Time: Sunday, November 18, 2012 19:03:27
Number of Replicates: 3
Autosampler Position: 423
Sample Description: 20
Method File: C:\NexION Data\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
⌈	**Li**	7	11554.4	1.8	**-2290.3855**	273.030	11.9	ug/L	8369	Standard
|	**Be**	9	60.0	30.0	**0.0219**	0.009	42.2	ug/L	18	Standard
|	**Al**	27	326358.3	2.1	**2.8938**	0.128	4.4	ug/L	215	Standard
⌊>	**Sc**	45	48653.0	2.4				ug/L	53004	Standard
⌈	**Ti**	47	287.0	2.5	**0.5515**	0.022	4.0	ug/L	26	Standard
|	**V**	51	7807.1	2.8	**0.4530**	0.012	2.7	ug/L	3223	Standard
|	**Cr**	52	12812.7	1.5	**0.3610**	0.013	3.7	ug/L	10379	Standard
|	**Cr**	53	714.2	8.0	**0.4576**	0.039	8.6	ug/L	192	Standard
|	**Mn**	55	119374.4	0.9	**7.4442**	0.126	1.7	ug/L	1840	Standard
|	**Co**	59	2688.6	0.3	**0.2051**	0.002	0.8	ug/L	115	Standard
|	**Ni**	60	1521.1	3.0	**0.5450**	0.023	4.1	ug/L	75	Standard
|	**Cu**	65	850.0	3.2	**0.2785**	0.009	3.2	ug/L	155	Standard
|	**Zn**	66	4307.9	3.3	**3.2439**	0.149	4.6	ug/L	237	Standard
|>	**Ge**	72	377968.0	1.1				ug/L	413856	Standard
|	**As**	75	-59.6	54.7	**0.0950**	0.025	26.0	ug/L	-197	Standard
|	**Se**	82	0.4	2840.1	**0.0091**	0.100	1096.8	ug/L	-5	Standard
⌊	**Se-1**	77	115.7	1.3	**0.3122**	0.029	9.3	ug/L	105	Standard
⌈>	**Ga**	71	731.7	1.7				mg/L	225	Standard
⌊	**Rb**	85	4195.6	4.2				ug/L	28	Standard
⌈	**Y**	89	283835.3	2.8				ug/L	322845	Standard
⌊>	**Rh**	103	78.3	41.5				ug/L	92	Standard
⌈	**Mo**	98	23.8	7.8	**-0.0028**	0.000	15.1	ug/L	18	Standard
|	**Ag**	107	68.7	10.9	**0.0017**	0.001	58.2	ug/L	63	Standard
|	**Cd**	111	34.3	21.1	**-0.0001**	0.002	2455.2	mg/L	20	Standard
|	**Cd**	114	90.9	4.2	**0.0016**	0.001	32.4	ug/L	56	Standard
|>	**In**	115	592222.3	0.5				ug/L	657102	Standard
|	**Sn**	118	327.7	7.6	**-0.0129**	0.003	20.4	ug/L	555	Standard
|	**Sb**	123	26.8	30.8	**0.0009**	0.001	132.9	ug/L	62	Standard
⌊	**Ba**	135	7919.4	2.0	**2.5616**	0.066	2.6	ug/L	19	Standard
⌈	**Ce**	140	53539.8	0.3				ug/L	24	Standard
⌊>	**Tb**	159	859580.5	0.2				ug/L	910514	Standard
⌈	**Ho**	165	773.4	1.2				ug/L	7	Standard
|	**Tl**	203	68.7	9.7	**0.0019**	0.001	28.6	ug/L	13	Standard
|	**Tl**	205	2.0	100.0	**0.0066**	0.005	80.7	ug/L	1	Standard
|	**Pb**	206	60737.9	1.8	**6.0953**	0.082	1.3	ug/L	342	Standard
|	**Pb**	207	48836.3	1.2	**5.7599**	0.044	0.8	ug/L	284	Standard
|	**Pb**	208	231292.4	0.9	**5.8780**	0.029	0.5	ug/L	1363	Standard
|	**U**	238	151.7	10.7	**0.0141**	0.002	11.7	ug/L	2	Standard
⌊>	**Bi**	209	454205.2	0.5				ug/L	470592	Standard

Sample ID: L1211033702
Report Date/Time: Sunday, November 18, 2012 19:05:59
Page 1

Approved: November 19, 2012



⌈	**Na**	23	0.0		**0.0050**	0.000	0.0	mg/L	2	Standard
|	**Mg**	24	1311.7	3.9	**-0.0022**	0.000	2.0	mg/L	5586	Standard
|	**K**	39	8.3	69.3	**0.0816**	0.084	102.8	mg/L	5	Standard
|	**Ca**	43	58.3	32.5	**0.4678**	0.843	180.3	mg/L	45	Standard
|	**Fe**	54	895.7	7.7	**0.2211**	0.020	9.2	mg/L	350	Standard
|	**Fe**	57	295.0	12.8	**0.3776**	0.075	20.0	mg/L	102	Standard
⌊>	**Sc-1**	45	48653.0	2.4				mg/L	53004	Standard
	Cl	35	3.7	41.7				ug/L	2	Standard
	Kr	83	175.8	6.2				ug/L	157	Standard
	Br	81	6.7	86.6				ug/L	3	Standard
	P	31	41034.7	1.8				ug/L	91588	Standard
	S	34	33313.3	1.2				ug/L	32556	Standard
	Sr	88	65.0	40.7				ug/L	62	Standard
	C	12	98.3	12.8				mg/L	133	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	1.7	173.2				mg/L	7	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		91.328	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: L1211033702
Report Date/Time: Sunday, November 18, 2012 19:05:59
Page 2

Approved: November 19, 2012

	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	90.126
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	96.518
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: L1211033702
Report Date/Time: Sunday, November 18, 2012 19:05:59
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

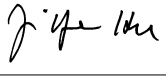
Sample ID: L1211033703
Sample Date/Time: Sunday, November 18, 2012 19:06:39
Number of Replicates: 3
Autosampler Position: 424
Sample Description: 20
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
⌈	**Li**	7	20216.8	2.5	**-7431.5356**	233.426	3.1	ug/L	8369	Standard
|	**Be**	9	130.0	16.8	**0.0582**	0.011	18.6	ug/L	18	Standard
|	**Al**	27	579039.2	0.9	**5.1048**	0.101	2.0	ug/L	215	Standard
⌊>	**Sc**	45	48932.3	2.6				ug/L	53004	Standard
⌈	**Ti**	47	216.7	6.8	**0.4014**	0.035	8.6	ug/L	26	Standard
|	**V**	51	12006.2	2.7	**0.8394**	0.013	1.5	ug/L	3223	Standard
|	**Cr**	52	17214.8	1.4	**0.7979**	0.011	1.4	ug/L	10379	Standard
|	**Cr**	53	1211.7	3.7	**0.8521**	0.019	2.2	ug/L	192	Standard
|	**Mn**	55	570407.8	0.4	**35.8734**	0.676	1.9	ug/L	1840	Standard
|	**Co**	59	7015.3	1.0	**0.5597**	0.015	2.7	ug/L	115	Standard
|	**Ni**	60	3635.8	2.0	**1.3504**	0.004	0.3	ug/L	75	Standard
|	**Cu**	65	2329.8	1.9	**0.8625**	0.006	0.7	ug/L	155	Standard
|	**Zn**	66	5003.8	2.1	**3.7950**	0.073	1.9	ug/L	237	Standard
|>	**Ge**	72	378360.9	1.8				ug/L	413856	Standard
|	**As**	75	192.2	16.0	**0.2850**	0.025	8.7	ug/L	-197	Standard
|	**Se**	82	3.3	175.6	**0.0335**	0.049	146.0	ug/L	-5	Standard
⌊	**Se-1**	77	126.3	10.1	**0.4283**	0.119	27.7	ug/L	105	Standard
⌈>	**Ga**	71	1381.7	9.3				mg/L	225	Standard
⌊	**Rb**	85	8889.3	2.3				ug/L	28	Standard
⌈	**Y**	89	288003.5	1.4				ug/L	322845	Standard
⌊>	**Rh**	103	75.0	24.0				ug/L	92	Standard
⌈	**Mo**	98	32.5	25.7	**-0.0007**	0.002	300.1	ug/L	18	Standard
|	**Ag**	107	74.7	12.9	**0.0026**	0.001	46.8	ug/L	63	Standard
|	**Cd**	111	38.6	23.3	**0.0014**	0.003	228.2	mg/L	20	Standard
|	**Cd**	114	118.2	14.3	**0.0050**	0.002	39.4	ug/L	56	Standard
|>	**In**	115	591702.4	1.5				ug/L	657102	Standard
|	**Sn**	118	327.0	10.3	**-0.0129**	0.004	32.9	ug/L	555	Standard
|	**Sb**	123	26.0	30.3	**0.0008**	0.001	148.8	ug/L	62	Standard
⌊	**Ba**	135	31748.9	1.0	**10.3402**	0.259	2.5	ug/L	19	Standard
⌈	**Ce**	140	112403.1	1.7				ug/L	24	Standard
⌊>	**Tb**	159	868519.6	0.8				ug/L	910514	Standard
⌈	**Ho**	165	1727.1	3.5				ug/L	7	Standard
|	**Tl**	203	113.3	29.1	**0.0054**	0.003	48.2	ug/L	13	Standard
|	**Tl**	205	1.7	34.6	**0.0057**	0.002	27.1	ug/L	1	Standard
|	**Pb**	206	8725.5	3.8	**0.8398**	0.036	4.2	ug/L	342	Standard
|	**Pb**	207	7008.6	4.1	**0.7884**	0.033	4.2	ug/L	284	Standard
|	**Pb**	208	33161.5	3.5	**0.8059**	0.030	3.7	ug/L	1363	Standard
|	**U**	238	579.3	6.3	**0.0577**	0.003	5.2	ug/L	2	Standard
⌊>	**Bi**	209	458239.7	1.3				ug/L	470592	Standard

Sample ID: L1211033703
Report Date/Time: Sunday, November 18, 2012 19:09:11
Page 1

Approved: November 19, 2012



⌈	**Na**	23	0.0		**0.0050**	0.000	0.0	mg/L	2	Standard
|	**Mg**	24	2900.3	4.0	**-0.0014**	0.000	5.4	mg/L	5586	Standard
|	**K**	39	8.3	69.3	**0.0800**	0.081	100.9	mg/L	5	Standard
|	**Ca**	43	51.7	36.6	**0.1404**	0.832	592.7	mg/L	45	Standard
|	**Fe**	54	2560.1	5.9	**0.9133**	0.087	9.5	mg/L	350	Standard
|	**Fe**	57	683.3	15.5	**1.0359**	0.195	18.9	mg/L	102	Standard
⌊>	**Sc-1**	45	48932.3	2.6				mg/L	53004	Standard
	Cl	35	3.0	33.3				ug/L	2	Standard
	Kr	83	179.3	4.4				ug/L	157	Standard
	Br	81	5.8	99.0				ug/L	3	Standard
	P	31	42828.0	2.3				ug/L	91588	Standard
	S	34	34452.5	2.0				ug/L	32556	Standard
	Sr	88	80.0	27.2				ug/L	62	Standard
	C	12	91.7	15.7				mg/L	133	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	5.0	100.0				mg/L	7	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		91.423	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: L1211033703
Report Date/Time: Sunday, November 18, 2012 19:09:11
Page 2

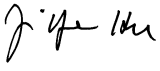
Approved: November 19, 2012

	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	90.047
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	97.375
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Approved: November 19, 2012



Method 6020 - Summary Report

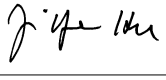
Sample ID: L1211033704
Sample Date/Time: Sunday, November 18, 2012 19:09:52
Number of Replicates: 3
Autosampler Position: 425
Sample Description: 20
Method File: C:\NexION Data\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
⌈	**Li**	7	18801.7	7.9	**-6788.0323**	438.573	6.5	ug/L	8369	Standard
|	**Be**	9	148.3	20.3	**0.0696**	0.019	27.0	ug/L	18	Standard
|	**Al**	27	575066.4	2.1	**5.1706**	0.197	3.8	ug/L	215	Standard
⌊>	**Sc**	45	48012.7	4.6				ug/L	53004	Standard
⌈	**Ti**	47	224.0	4.3	**0.4188**	0.014	3.4	ug/L	26	Standard
|	**V**	51	10876.8	10.3	**0.7405**	0.113	15.2	ug/L	3223	Standard
|	**Cr**	52	73988.0	3.8	**6.4839**	0.324	5.0	ug/L	10379	Standard
|	**Cr**	53	8086.3	3.5	**6.3425**	0.312	4.9	ug/L	192	Standard
|	**Mn**	55	326443.6	2.2	**20.5859**	0.662	3.2	ug/L	1840	Standard
|	**Co**	59	6891.2	3.9	**0.5520**	0.025	4.5	ug/L	115	Standard
|	**Ni**	60	3509.4	2.3	**1.3084**	0.033	2.5	ug/L	75	Standard
|	**Cu**	65	2610.9	1.7	**0.9784**	0.026	2.7	ug/L	155	Standard
|	**Zn**	66	10543.3	1.9	**8.2565**	0.239	2.9	ug/L	237	Standard
|>	**Ge**	72	376654.4	1.3				ug/L	413856	Standard
|	**As**	75	68.7	37.0	**0.1919**	0.019	9.9	ug/L	-197	Standard
|	**Se**	82	5.8	91.6	**0.0546**	0.045	82.3	ug/L	-5	Standard
⌊	**Se-1**	77	118.3	6.6	**0.3461**	0.078	22.6	ug/L	105	Standard
⌈>	**Ga**	71	1503.4	5.8				mg/L	225	Standard
⌊	**Rb**	85	11846.3	1.8				ug/L	28	Standard
⌈	**Y**	89	288140.3	2.7				ug/L	322845	Standard
⌊>	**Rh**	103	113.3	22.2				ug/L	92	Standard
⌈	**Mo**	98	1014.8	5.2	**0.2388**	0.007	3.1	ug/L	18	Standard
|	**Ag**	107	84.3	13.3	**0.0038**	0.001	38.4	ug/L	63	Standard
|	**Cd**	111	71.8	5.6	**0.0118**	0.002	13.8	mg/L	20	Standard
|	**Cd**	114	195.1	8.7	**0.0142**	0.002	14.7	ug/L	56	Standard
|>	**In**	115	598139.8	2.5				ug/L	657102	Standard
|	**Sn**	118	319.3	6.6	**-0.0141**	0.003	22.5	ug/L	555	Standard
|	**Sb**	123	120.3	13.1	**0.0140**	0.002	16.5	ug/L	62	Standard
⌊	**Ba**	135	30105.9	1.5	**9.7022**	0.385	4.0	ug/L	19	Standard
⌈	**Ce**	140	121353.4	0.2				ug/L	24	Standard
⌊>	**Tb**	159	859293.4	1.4				ug/L	910514	Standard
⌈	**Ho**	165	1821.1	1.3				ug/L	7	Standard
|	**Tl**	203	115.3	8.6	**0.0058**	0.001	13.3	ug/L	13	Standard
|	**Tl**	205	2.3	24.7	**0.0075**	0.001	19.9	ug/L	1	Standard
|	**Pb**	206	944580.7	1.7	**96.1514**	1.891	2.0	ug/L	342	Standard
|	**Pb**	207	782028.4	2.3	**93.6354**	2.437	2.6	ug/L	284	Standard
|	**Pb**	208	3622841.1	1.6	**93.4296**	1.849	2.0	ug/L	1363	Standard
|	**U**	238	475.0	5.7	**0.0479**	0.002	5.2	ug/L	2	Standard
⌊>	**Bi**	209	450084.7	0.7				ug/L	470592	Standard

Sample ID: L1211033704
Report Date/Time: Sunday, November 18, 2012 19:12:23
Page 1

Approved: November 19, 2012



⌈	**Na**	23	0.0		**0.0050**	0.000	0.0	mg/L	2	Standard
|	**Mg**	24	2890.3	2.5	**-0.0014**	0.000	8.3	mg/L	5586	Standard
|	**K**	39	16.7	45.8	**0.2069**	0.105	50.5	mg/L	5	Standard
|	**Ca**	43	46.7	49.5	**-0.0638**	1.026	1607.2	mg/L	45	Standard
|	**Fe**	54	2070.5	6.4	**0.7245**	0.033	4.6	mg/L	350	Standard
|	**Fe**	57	628.3	10.7	**0.9599**	0.080	8.3	mg/L	102	Standard
⌊>	**Sc-1**	45	48012.7	4.6				mg/L	53004	Standard
	Cl	35	3.3	69.3				ug/L	2	Standard
	Kr	83	145.8	4.8				ug/L	157	Standard
	Br	81	5.0	86.6				ug/L	3	Standard
	P	31	40848.3	1.5				ug/L	91588	Standard
	S	34	33449.4	2.1				ug/L	32556	Standard
	Sr	88	93.3	8.2				ug/L	62	Standard
	C	12	103.3	10.1				mg/L	133	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	6.7	86.6				mg/L	7	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		91.011	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: L1211033704
Report Date/Time: Sunday, November 18, 2012 19:12:23
Page 2

Approved: November 19, 2012

⌈	Mo	98		
|	Ag	107		
|	Cd	111		
|	Cd	114		
|>	In	115		91.027
|	Sn	118		
|	Sb	123		
⌊	Ba	135		
⌈	Ce	140		
⌊>	Tb	159		
⌈	Ho	165		
|	Tl	203		
|	Tl	205		
|	Pb	206		
|	Pb	207		
|	Pb	208		
|	U	238		
⌊>	Bi	209		95.642
⌈	Na	23		
|	Mg	24		
|	K	39		
|	Ca	43		
|	Fe	54		
|	Fe	57		
⌊>	Sc-1	45		
	Cl	35		
	Kr	83		
	Br	81		
	P	31		
	S	34		
	Sr	88		
	C	12		
	N	14		
	Hg	202		

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: L1211033704
Report Date/Time: Sunday, November 18, 2012 19:12:23
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

Sample ID: L1211033705
Sample Date/Time: Sunday, November 18, 2012 19:13:04
Number of Replicates: 3
Autosampler Position: 426
Sample Description: 20
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	15806.6	0.6	**-5425.1797**	180.090	3.3	ug/L	8369	Standard
	Be	9	151.7	6.9	**0.0748**	0.007	9.2	ug/L	18	Standard
	Al	27	536189.3	2.4	**5.0415**	0.092	1.8	ug/L	215	Standard
>	**Sc**	45	45866.0	1.8				ug/L	53004	Standard
	Ti	47	102.7	15.2	**0.1662**	0.036	21.4	ug/L	26	Standard
	V	51	11428.8	0.8	**0.8217**	0.011	1.4	ug/L	3223	Standard
	Cr	52	15890.3	1.8	**0.7190**	0.017	2.3	ug/L	10379	Standard
	Cr	53	1126.7	1.2	**0.8150**	0.024	2.9	ug/L	192	Standard
	Mn	55	415506.4	2.9	**26.9775**	0.496	1.8	ug/L	1840	Standard
	Co	59	6456.7	4.7	**0.5313**	0.017	3.1	ug/L	115	Standard
	Ni	60	2968.3	3.1	**1.1337**	0.018	1.6	ug/L	75	Standard
	Cu	65	2569.6	3.8	**0.9912**	0.036	3.7	ug/L	155	Standard
	Zn	66	5879.5	4.4	**4.6503**	0.163	3.5	ug/L	237	Standard
>	**Ge**	72	366087.0	1.7				ug/L	413856	Standard
	As	75	73.1	11.3	**0.1968**	0.006	2.8	ug/L	-197	Standard
	Se	82	2.7	310.9	**0.0287**	0.073	253.6	ug/L	-5	Standard
	Se-1	77	128.3	7.7	**0.4994**	0.104	20.8	ug/L	105	Standard
>	**Ga**	71	1223.4	2.7				mg/L	225	Standard
	Rb	85	7910.4	4.1				ug/L	28	Standard
	Y	89	287057.2	0.8				ug/L	322845	Standard
>	**Rh**	103	76.7	3.8				ug/L	92	Standard
	Mo	98	30.4	12.5	**-0.0009**	0.001	100.6	ug/L	18	Standard
	Ag	107	72.7	3.5	**0.0027**	0.000	15.2	ug/L	63	Standard
	Cd	111	61.3	15.2	**0.0094**	0.003	34.0	mg/L	20	Standard
	Cd	114	152.4	8.4	**0.0099**	0.002	17.1	ug/L	56	Standard
>	**In**	115	570559.2	0.9				ug/L	657102	Standard
	Sn	118	308.3	2.8	**-0.0137**	0.001	9.4	ug/L	555	Standard
	Sb	123	22.6	5.4	**0.0004**	0.000	52.8	ug/L	62	Standard
	Ba	135	37423.5	2.2	**12.6409**	0.220	1.7	ug/L	19	Standard
	Ce	140	130451.9	1.6				ug/L	24	Standard
>	**Tb**	159	819930.5	0.8				ug/L	910514	Standard
	Ho	165	2052.1	0.6				ug/L	7	Standard
	Tl	203	96.0	11.6	**0.0045**	0.001	18.9	ug/L	13	Standard
	Tl	205	2.0	0.0	**0.0069**	0.000	1.0	ug/L	1	Standard
	Pb	206	48859.0	1.6	**5.1479**	0.028	0.5	ug/L	342	Standard
	Pb	207	39945.3	2.8	**4.9458**	0.084	1.7	ug/L	284	Standard
	Pb	208	187683.6	2.2	**5.0075**	0.057	1.1	ug/L	1363	Standard
	U	238	911.7	4.1	**0.0974**	0.003	3.4	ug/L	2	Standard
>	**Bi**	209	432183.0	1.2				ug/L	470592	Standard

Sample ID: L1211033705
Report Date/Time: Sunday, November 18, 2012 19:15:36
Page 1

Approved: November 19, 2012

⌈	**Na**	23	0.0		**0.0050**	0.000	0.0	mg/L	2	Standard
|	**Mg**	24	2611.9	8.1	**-0.0014**	0.000	6.5	mg/L	5586	Standard
|	**K**	39	21.7	74.2	**0.2998**	0.253	84.5	mg/L	5	Standard
|	**Ca**	43	65.0	26.6	**0.9587**	0.813	84.8	mg/L	45	Standard
|	**Fe**	54	1694.8	1.0	**0.5991**	0.014	2.4	mg/L	350	Standard
|	**Fe**	57	530.0	10.9	**0.8335**	0.101	12.1	mg/L	102	Standard
⌊>	**Sc-1**	45	45866.0	1.8				mg/L	53004	Standard
	Cl	35	2.3	49.5				ug/L	2	Standard
	Kr	83	173.4	9.8				ug/L	157	Standard
	Br	81	3.3	114.6				ug/L	3	Standard
	P	31	39493.1	3.1				ug/L	91588	Standard
	S	34	31744.1	2.1				ug/L	32556	Standard
	Sr	88	63.3	22.8				ug/L	62	Standard
	C	12	98.3	46.1				mg/L	133	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	8.3	34.6				mg/L	7	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		88.458	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: L1211033705
Report Date/Time: Sunday, November 18, 2012 19:15:36
Page 2

Approved: November 19, 2012

	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	86.830
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	91.838
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: L1211033705
Report Date/Time: Sunday, November 18, 2012 19:15:36
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

Sample ID: QC Std 6
Sample Date/Time: Sunday, November 18, 2012 19:16:18
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	9069.4	4.3	**-32.2642**	51.796	160.5	ug/L	8369	Standard
|	**Be**	9	113492.2	3.6	**51.1588**	0.536	1.0	ug/L	18	Standard
|	**Al**	27	7248166.5	2.8	**55.3537**	0.425	0.8	ug/L	215	Standard
⌊>	**Sc**	45	56495.2	3.2				ug/L	53004	Standard
⌈	**Ti**	47	55314.9	4.7	**102.0657**	4.580	4.5	ug/L	26	Standard
|	**V**	51	636956.9	3.7	**50.7181**	1.787	3.5	ug/L	3223	Standard
|	**Cr**	52	601106.6	3.3	**51.0295**	1.580	3.1	ug/L	10379	Standard
|	**Cr**	53	72656.4	3.1	**49.9735**	1.430	2.9	ug/L	192	Standard
|	**Mn**	55	946433.6	3.8	**51.7026**	1.861	3.6	ug/L	1840	Standard
|	**Co**	59	715041.8	4.7	**50.8715**	2.290	4.5	ug/L	115	Standard
|	**Ni**	60	151983.8	3.6	**50.2610**	1.714	3.4	ug/L	75	Standard
|	**Cu**	65	149961.0	5.0	**51.3543**	2.445	4.8	ug/L	155	Standard
|	**Zn**	66	73980.6	3.2	**51.0697**	1.526	3.0	ug/L	237	Standard
|>	**Ge**	72	435792.7	0.2				ug/L	413856	Standard
|	**As**	75	76710.8	3.9	**50.3218**	1.828	3.6	ug/L	-197	Standard
|	**Se**	82	6939.1	4.3	**50.8516**	2.069	4.1	ug/L	-5	Standard
⌊	**Se-1**	77	5388.3	2.7	**51.1687**	1.311	2.6	ug/L	105	Standard
⌈>	**Ga**	71	231.7	19.9				mg/L	225	Standard
⌊	**Rb**	85	1720.1	1.9				ug/L	28	Standard
⌈	**Y**	89	325712.3	2.9				ug/L	322845	Standard
⌊>	**Rh**	103	158.3	11.1				ug/L	92	Standard
⌈	**Mo**	98	459580.4	4.9	**101.1613**	3.680	3.6	ug/L	18	Standard
|	**Ag**	107	401807.1	2.6	**50.2821**	0.387	0.8	ug/L	63	Standard
|	**Cd**	111	177176.8	3.8	**51.2140**	1.210	2.4	mg/L	20	Standard
|	**Cd**	114	464977.5	3.7	**51.0694**	1.155	2.3	ug/L	56	Standard
|>	**In**	115	662751.5	2.4				ug/L	657102	Standard
|	**Sn**	118	521122.4	4.1	**51.8713**	1.781	3.4	ug/L	555	Standard
|	**Sb**	123	406338.9	3.7	**51.4381**	1.281	2.5	ug/L	62	Standard
⌊	**Ba**	135	176708.8	3.1	**51.4454**	0.829	1.6	ug/L	19	Standard
⌈	**Ce**	140	621.3	17.6				ug/L	24	Standard
⌊>	**Tb**	159	951543.9	1.5				ug/L	910514	Standard
⌈	**Ho**	165	452.3	2.8				ug/L	7	Standard
|	**Tl**	203	665437.5	1.3	**50.8397**	0.650	1.3	ug/L	13	Standard
|	**Tl**	205	19988.9	2.8	**50.0587**	1.474	2.9	ug/L	1	Standard
|	**Pb**	206	534449.6	3.7	**50.9326**	1.812	3.6	ug/L	342	Standard
|	**Pb**	207	458626.6	2.7	**51.4097**	1.369	2.7	ug/L	284	Standard
|	**Pb**	208	2104317.6	3.4	**50.8062**	1.676	3.3	ug/L	1363	Standard
|	**U**	238	526965.7	4.5	**51.4126**	2.307	4.5	ug/L	2	Standard
⌊>	**Bi**	209	480581.0	0.9				ug/L	470592	Standard

Sample ID: QC Std 6
Report Date/Time: Sunday, November 18, 2012 19:18:50
Page 1

Approved: November 19, 2012

	Na	23	1.7	173.2	**0.1419**	0.237	167.1	mg/L	2	Standard
	Mg	24	308882.1	1.5	**0.1393**	0.002	1.8	mg/L	5586	Standard
	K	39	348.3	6.5	**4.4119**	0.429	9.7	mg/L	5	Standard
	Ca	43	170.0	8.8	**4.5559**	0.526	11.5	mg/L	45	Standard
	Fe	54	13965.1	5.2	**4.8782**	0.113	2.3	mg/L	350	Standard
	Fe	57	3485.4	4.1	**5.0080**	0.172	3.4	mg/L	102	Standard
>	**Sc-1**	45	56495.2	3.2				mg/L	53004	Standard
	Cl	35	4.0	66.1				ug/L	2	Standard
	Kr	83	179.1	24.2				ug/L	157	Standard
	Br	81	5.8	99.0				ug/L	3	Standard
	P	31	130815.0	2.1				ug/L	91588	Standard
	S	34	41807.6	1.0				ug/L	32556	Standard
	Sr	88	61.7	24.8				ug/L	62	Standard
	C	12	133.3	9.4				mg/L	133	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	5.0	0.0				mg/L	7	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
	Li	7			
	Be	9	102.318		
	Al	27	110.707		
>	Sc	45			
	Ti	47	102.066		
	V	51	101.436		
	Cr	52	102.059		
	Cr	53			
	Mn	55	103.405		
	Co	59	101.743		
	Ni	60	100.522		
	Cu	65	102.709		
	Zn	66	102.139		
>	Ge	72		105.301	
	As	75	100.644		
	Se	82	101.703		
	Se-1	77			
>	Ga	71			
	Rb	85			
	Y	89			
>	Rh	103			

Sample ID: QC Std 6
Report Date/Time: Sunday, November 18, 2012 19:18:50
Page 2

Approved: November 19, 2012

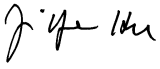
Mo	98	101.161		
Ag	107	100.564		
Cd	111	102.428		
Cd	114			
> In	115			100.860
Sn	118	103.743		
Sb	123	102.876		
Ba	135	102.891		
Ce	140			
> Tb	159			
Ho	165			
Tl	203	101.679		
Tl	205			
Pb	206	101.865		
Pb	207	102.819		
Pb	208	101.612		
U	238	102.825		
> Bi	209			102.123
Na	23			
Mg	24			
K	39			
Ca	43			
Fe	54			
Fe	57			
> Sc-1	45			
Cl	35			
Kr	83			
Br	81			
P	31			
S	34			
Sr	88			
C	12			
N	14			
Hg	202			

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 6	Al	27	

Sample ID: QC Std 6
Report Date/Time: Sunday, November 18, 2012 19:18:50
Page 3

Approved: November 19, 2012



Method 6020 - Summary Report

Sample ID: QC Std 7
Sample Date/Time: Sunday, November 18, 2012 19:19:30
Number of Replicates: 3
Autosampler Position: 102
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	8617.5	5.9	**34.2392**	158.495	462.9	ug/L	8369	Standard
|	**Be**	9	13.3	21.7	**-0.0032**	0.001	41.4	ug/L	18	Standard
|	**Al**	27	535.0	103.6	**0.0021**	0.005	212.0	ug/L	215	Standard
⌊>	**Sc**	45	54432.6	2.4				ug/L	53004	Standard
⌈	**Ti**	47	23.7	27.2	**-0.0159**	0.011	67.6	ug/L	26	Standard
|	**V**	51	3149.9	0.9	**-0.0143**	0.006	42.4	ug/L	3223	Standard
|	**Cr**	52	9899.9	0.7	**-0.0565**	0.022	39.5	ug/L	10379	Standard
|	**Cr**	53	153.3	10.9	**-0.0037**	0.011	313.6	ug/L	192	Standard
|	**Mn**	55	1594.8	1.9	**-0.0013**	0.002	127.3	ug/L	1840	Standard
|	**Co**	59	110.0	11.8	**-0.0077**	0.001	14.4	ug/L	115	Standard
|	**Ni**	60	78.0	21.6	**-0.0097**	0.005	50.2	ug/L	75	Standard
|	**Cu**	65	209.7	7.7	**0.0148**	0.007	50.7	ug/L	155	Standard
|	**Zn**	66	239.7	9.7	**-0.0324**	0.020	60.4	ug/L	237	Standard
| >	**Ge**	72	434181.6	3.1				ug/L	413856	Standard
|	**As**	75	-259.6	20.3	**-0.0311**	0.038	121.7	ug/L	-197	Standard
|	**Se**	82	7.2	217.2	**0.0577**	0.113	196.5	ug/L	-5	Standard
⌊	**Se-1**	77	128.0	6.4	**0.2651**	0.080	30.1	ug/L	105	Standard
⌈>	**Ga**	71	240.0	13.0				mg/L	225	Standard
⌊	**Rb**	85	25.0	40.0				ug/L	28	Standard
⌈	**Y**	89	325145.3	1.0				ug/L	322845	Standard
⌊>	**Rh**	103	100.0	31.2				ug/L	92	Standard
⌈	**Mo**	98	128.6	122.2	**0.0198**	0.035	176.7	ug/L	18	Standard
|	**Ag**	107	151.0	102.3	**0.0111**	0.020	176.5	ug/L	63	Standard
|	**Cd**	111	47.8	88.4	**0.0027**	0.012	459.2	mg/L	20	Standard
|	**Cd**	114	161.1	99.7	**0.0082**	0.018	217.4	ug/L	56	Standard
| >	**In**	115	663588.9	1.9				ug/L	657102	Standard
|	**Sn**	118	469.0	35.6	**-0.0027**	0.017	638.1	ug/L	555	Standard
|	**Sb**	123	348.2	39.0	**0.0410**	0.017	41.4	ug/L	62	Standard
⌊	**Ba**	135	45.3	84.0	**-0.0067**	0.011	168.6	ug/L	19	Standard
⌈	**Ce**	140	31.7	21.5				ug/L	24	Standard
⌊>	**Tb**	159	941516.0	1.9				ug/L	910514	Standard
⌈	**Ho**	165	8.0	43.3				ug/L	7	Standard
|	**Tl**	203	85.0	125.3	**0.0029**	0.008	286.4	ug/L	13	Standard
|	**Tl**	205	1.7	34.6	**0.0054**	0.001	25.2	ug/L	1	Standard
|	**Pb**	206	427.3	12.6	**0.0074**	0.006	81.6	ug/L	342	Standard
|	**Pb**	207	348.7	18.4	**0.0025**	0.008	300.2	ug/L	284	Standard
|	**Pb**	208	1627.4	14.0	**0.0044**	0.006	139.6	ug/L	1363	Standard
|	**U**	238	36.3	142.4	**0.0020**	0.005	250.6	ug/L	2	Standard
⌊>	**Bi**	209	487159.3	3.2				ug/L	470592	Standard

Sample ID: QC Std 7
Report Date/Time: Sunday, November 18, 2012 19:22:02
Page 1

Approved: November 19, 2012

⌈	**Na**	23	5.0	100.0	**0.4473**	0.449	100.5	mg/L	2	Standard
|	**Mg**	24	1060.0	5.8	**-0.0024**	0.000	1.6	mg/L	5586	Standard
|	**K**	39	10.0	50.0	**0.0908**	0.066	72.9	mg/L	5	Standard
|	**Ca**	43	46.7	16.4	**-0.3000**	0.277	92.2	mg/L	45	Standard
|	**Fe**	54	348.7	11.5	**-0.0232**	0.012	50.4	mg/L	350	Standard
|	**Fe**	57	141.7	11.3	**0.0887**	0.027	30.3	mg/L	102	Standard
⌊>	**Sc-1**	45	54432.6	2.4				mg/L	53004	Standard
	Cl	35	3.0	33.3				ug/L	2	Standard
	Kr	83	436.3	14.5				ug/L	157	Standard
	Br	81	4.2	69.3				ug/L	3	Standard
	P	31	125438.1	2.3				ug/L	91588	Standard
	S	34	41724.9	0.7				ug/L	32556	Standard
	Sr	88	66.7	22.9				ug/L	62	Standard
	C	12	113.3	43.3				mg/L	133	Standard
	N	14	3.3	86.6				mg/L	0	Standard
	Hg	202	6.7	114.6				mg/L	7	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		104.911	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: QC Std 7
Report Date/Time: Sunday, November 18, 2012 19:22:02
Page 2

Approved: November 19, 2012

⌈	Mo	98	
|	Ag	107	
|	Cd	111	
|	Cd	114	
|>	In	115	100.987
|	Sn	118	
|	Sb	123	
⌊	Ba	135	
⌈	Ce	140	
⌊>	Tb	159	
⌈	Ho	165	
|	Tl	203	
|	Tl	205	
|	Pb	206	
|	Pb	207	
|	Pb	208	
|	U	238	
⌊>	Bi	209	103.521
⌈	Na	23	
|	Mg	24	
|	K	39	
|	Ca	43	
|	Fe	54	
|	Fe	57	
⌊>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: QC Std 7
Report Date/Time: Sunday, November 18, 2012 19:22:02
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

Sample ID: PBS B5 WG414371-02
Sample Date/Time: Sunday, November 18, 2012 19:22:44
Number of Replicates: 3
Autosampler Position: 427
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	8449.0	11.5	**30.9472**	324.464	1048.4	ug/L	8369	Standard
	Be	9	23.3	12.4	**0.0017**	0.001	76.2	ug/L	18	Standard
	Al	27	2823.7	58.7	**0.0210**	0.014	68.1	ug/L	215	Standard
>	Sc	45	53258.6	4.8				ug/L	53004	Standard
	Ti	47	25.7	22.5	**-0.0099**	0.010	103.0	ug/L	26	Standard
	V	51	3018.6	2.6	**-0.0130**	0.002	17.6	ug/L	3223	Standard
	Cr	52	9941.6	1.7	**-0.0107**	0.015	142.4	ug/L	10379	Standard
	Cr	53	201.7	8.0	**0.0365**	0.008	22.8	ug/L	192	Standard
	Mn	55	2567.2	10.0	**0.0591**	0.015	25.9	ug/L	1840	Standard
	Co	59	155.0	10.4	**-0.0039**	0.001	36.8	ug/L	115	Standard
	Ni	60	267.3	5.8	**0.0576**	0.003	4.5	ug/L	75	Standard
	Cu	65	351.7	5.5	**0.0695**	0.008	11.7	ug/L	155	Standard
	Zn	66	2403.2	3.1	**1.5544**	0.014	0.9	ug/L	237	Standard
>	Ge	72	413834.4	3.0				ug/L	413856	Standard
	As	75	-196.1	15.7	**0.0052**	0.017	332.1	ug/L	-197	Standard
	Se	82	3.8	15.5	**0.0346**	0.005	13.3	ug/L	-5	Standard
	Se-1	77	129.0	3.6	**0.3378**	0.086	25.5	ug/L	105	Standard
>	Ga	71	188.3	9.3				mg/L	225	Standard
	Rb	85	41.7	13.9				ug/L	28	Standard
	Y	89	316763.8	5.7				ug/L	322845	Standard
>	Rh	103	98.3	2.9				ug/L	92	Standard
	Mo	98	25.6	13.0	**-0.0028**	0.001	31.6	ug/L	18	Standard
	Ag	107	66.0	13.5	**0.0007**	0.001	141.6	ug/L	63	Standard
	Cd	111	25.6	19.6	**-0.0035**	0.001	41.2	mg/L	20	Standard
	Cd	114	67.0	12.7	**-0.0019**	0.001	41.9	ug/L	56	Standard
>	In	115	635948.6	2.4				ug/L	657102	Standard
	Sn	118	486.3	31.3	**0.0011**	0.016	1426.1	ug/L	555	Standard
	Sb	123	176.2	84.1	**0.0202**	0.019	95.9	ug/L	62	Standard
	Ba	135	131.3	100.0	**0.0198**	0.040	200.0	ug/L	19	Standard
	Ce	140	202.7	116.0				ug/L	24	Standard
>	Tb	159	914888.8	3.0				ug/L	910514	Standard
	Ho	165	14.0	43.4				ug/L	7	Standard
	Tl	203	137.0	134.2	**0.0071**	0.014	202.8	ug/L	13	Standard
	Tl	205	2.3	107.9	**0.0072**	0.006	89.3	ug/L	1	Standard
	Pb	206	694.0	71.2	**0.0349**	0.048	138.5	ug/L	342	Standard
	Pb	207	539.0	59.0	**0.0258**	0.037	141.7	ug/L	284	Standard
	Pb	208	2476.8	60.4	**0.0269**	0.037	138.1	ug/L	1363	Standard
	U	238	73.3	115.2	**0.0058**	0.008	144.4	ug/L	2	Standard
>	Bi	209	469538.3	2.2				ug/L	470592	Standard

Sample ID: PBS B5 WG414371-02
Report Date/Time: Sunday, November 18, 2012 19:25:16
Page 1

Approved: November 19, 2012

⌈	**Na**	23	1.7	173.2	**0.1599**	0.268	167.8	mg/L	2	Standard
|	**Mg**	24	1428.4	15.9	**-0.0022**	0.000	6.1	mg/L	5586	Standard
|	**K**	39	0.0		**-0.0413**	0.000	0.0	mg/L	5	Standard
|	**Ca**	43	58.3	9.9	**0.2363**	0.124	52.6	mg/L	45	Standard
|	**Fe**	54	388.6	8.1	**-0.0046**	0.015	327.4	mg/L	350	Standard
|	**Fe**	57	140.0	34.1	**0.0917**	0.080	86.8	mg/L	102	Standard
⌊>	**Sc-1**	45	53258.6	4.8				mg/L	53004	Standard
	Cl	35	3.3	75.5				ug/L	2	Standard
	Kr	83	183.4	11.3				ug/L	157	Standard
	Br	81	7.5	33.3				ug/L	3	Standard
	P	31	117305.8	1.9				ug/L	91588	Standard
	S	34	40257.6	0.9				ug/L	32556	Standard
	Sr	88	83.3	19.3				ug/L	62	Standard
	C	12	160.0	16.5				mg/L	133	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	6.7	43.3				mg/L	7	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		99.995	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: PBS B5 WG414371-02
Report Date/Time: Sunday, November 18, 2012 19:25:16
Page 2

Approved: November 19, 2012

	Mo	98		
	Ag	107		
	Cd	111		
	Cd	114		
>	In	115		96.781
	Sn	118		
	Sb	123		
	Ba	135		
	Ce	140		
>	Tb	159		
	Ho	165		
	Tl	203		
	Tl	205		
	Pb	206		
	Pb	207		
	Pb	208		
	U	238		
>	Bi	209		99.776
	Na	23		
	Mg	24		
	K	39		
	Ca	43		
	Fe	54		
	Fe	57		
>	Sc-1	45		
	Cl	35		
	Kr	83		
	Br	81		
	P	31		
	S	34		
	Sr	88		
	C	12		
	N	14		
	Hg	202		

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: PBS B5 WG414371-02
Report Date/Time: Sunday, November 18, 2012 19:25:16
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

Sample ID: LCSS B5 WG414371-03
Sample Date/Time: Sunday, November 18, 2012 19:25:56
Number of Replicates: 3
Autosampler Position: 428
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	8110.5	5.5	**192.4442**	168.572	87.6	ug/L	8369	Standard
|	**Be**	9	50935.5	2.2	**24.4473**	0.120	0.5	ug/L	18	Standard
|	**Al**	27	1530.1	5.9	**0.0103**	0.001	8.2	ug/L	215	Standard
⌊>	**Sc**	45	53054.4	2.5				ug/L	53004	Standard
⌈	**Ti**	47	19.0	9.1	**-0.0223**	0.003	14.4	ug/L	26	Standard
|	**V**	51	279717.8	0.8	**23.5544**	0.398	1.7	ug/L	3223	Standard
|	**Cr**	52	276634.6	2.1	**24.5163**	0.522	2.1	ug/L	10379	Standard
|	**Cr**	53	33729.2	4.2	**24.6144**	0.544	2.2	ug/L	192	Standard
|	**Mn**	55	427088.0	2.8	**24.7730**	0.558	2.3	ug/L	1840	Standard
|	**Co**	59	327246.4	1.5	**24.7624**	0.485	2.0	ug/L	115	Standard
|	**Ni**	60	70576.8	3.0	**24.8091**	0.567	2.3	ug/L	75	Standard
|	**Cu**	65	69572.4	2.0	**25.3174**	0.479	1.9	ug/L	155	Standard
|	**Zn**	66	35100.6	2.8	**25.6727**	0.241	0.9	ug/L	237	Standard
|>	**Ge**	72	409732.6	2.4				ug/L	413856	Standard
|	**As**	75	35396.6	0.9	**24.7775**	0.544	2.2	ug/L	-197	Standard
|	**Se**	82	3176.7	0.5	**24.7762**	0.701	2.8	ug/L	-5	Standard
⌊	**Se-1**	77	2524.5	3.3	**25.0056**	0.343	1.4	ug/L	105	Standard
⌈>	**Ga**	71	186.7	20.5				mg/L	225	Standard
⌊	**Rb**	85	30.0	33.3				ug/L	28	Standard
⌈	**Y**	89	308127.0	4.3				ug/L	322845	Standard
⌊>	**Rh**	103	120.0	22.0				ug/L	92	Standard
⌈	**Mo**	98	33.3	9.9	**-0.0011**	0.001	63.3	ug/L	18	Standard
|	**Ag**	107	187562.9	2.3	**24.3642**	0.135	0.6	ug/L	63	Standard
|	**Cd**	111	83615.1	1.7	**25.0925**	0.333	1.3	mg/L	20	Standard
|	**Cd**	114	215852.7	1.7	**24.6129**	0.237	1.0	ug/L	56	Standard
|>	**In**	115	638409.8	2.5				ug/L	657102	Standard
|	**Sn**	118	475.7	6.0	**-0.0002**	0.002	863.0	ug/L	555	Standard
|	**Sb**	123	189017.2	2.7	**24.8397**	0.219	0.9	ug/L	62	Standard
⌊	**Ba**	135	82241.6	1.2	**24.8527**	0.351	1.4	ug/L	19	Standard
⌈	**Ce**	140	95.7	13.9				ug/L	24	Standard
⌊>	**Tb**	159	899759.2	2.1				ug/L	910514	Standard
⌈	**Ho**	165	13.0	30.8				ug/L	7	Standard
|	**Tl**	203	310801.4	1.3	**24.5022**	0.422	1.7	ug/L	13	Standard
|	**Tl**	205	9502.0	0.6	**24.5610**	0.647	2.6	ug/L	1	Standard
|	**Pb**	206	252333.0	1.8	**24.7983**	0.451	1.8	ug/L	342	Standard
|	**Pb**	207	215790.2	2.0	**24.9395**	0.185	0.7	ug/L	284	Standard
|	**Pb**	208	993000.3	1.6	**24.7216**	0.286	1.2	ug/L	1363	Standard
|	**U**	238	239680.5	1.6	**24.1286**	0.296	1.2	ug/L	2	Standard
⌊>	**Bi**	209	465825.5	2.8				ug/L	470592	Standard

Sample ID: LCSS B5 WG414371-03
Report Date/Time: Sunday, November 18, 2012 19:28:29
Page 1

Approved: November 19, 2012

⌈	**Na**	23	0.0		**0.0050**	0.000	0.0	mg/L	2	Standard
|	**Mg**	24	1255.1	0.4	**-0.0023**	0.000	0.7	mg/L	5586	Standard
|	**K**	39	0.0		**-0.0413**	0.000	0.0	mg/L	5	Standard
|	**Ca**	43	51.7	24.4	**-0.0409**	0.482	1178.7	mg/L	45	Standard
|	**Fe**	54	331.1	8.5	**-0.0263**	0.013	49.2	mg/L	350	Standard
|	**Fe**	57	161.7	11.7	**0.1254**	0.028	22.7	mg/L	102	Standard
⌊>	**Sc-1**	45	53054.4	2.5				mg/L	53004	Standard
	Cl	35	4.7	53.9				ug/L	2	Standard
	Kr	83	158.6	3.5				ug/L	157	Standard
	Br	81	2.5	100.0				ug/L	3	Standard
	P	31	115754.0	2.8				ug/L	91588	Standard
	S	34	38617.5	2.6				ug/L	32556	Standard
	Sr	88	68.3	8.4				ug/L	62	Standard
	C	12	118.3	14.8				mg/L	133	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	6.7	173.2				mg/L	7	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		99.004	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: LCSS B5 WG414371-03
Report Date/Time: Sunday, November 18, 2012 19:28:29
Page 2

Approved: November 19, 2012

⌈	Mo	98		
|	Ag	107		
|	Cd	111		
|	Cd	114		
|>	In	115		97.155
|	Sn	118		
|	Sb	123		
⌊	Ba	135		
⌈	Ce	140		
⌊>	Tb	159		
⌈	Ho	165		
|	Tl	203		
|	Tl	205		
|	Pb	206		
|	Pb	207		
|	Pb	208		
|	U	238		
⌊>	Bi	209		98.987
⌈	Na	23		
|	Mg	24		
|	K	39		
|	Ca	43		
|	Fe	54		
|	Fe	57		
⌊>	Sc-1	45		
	Cl	35		
	Kr	83		
	Br	81		
	P	31		
	S	34		
	Sr	88		
	C	12		
	N	14		
	Hg	202		

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: LCSS B5 WG414371-03
Report Date/Time: Sunday, November 18, 2012 19:28:29
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

Sample ID: L1211033813 WG414371-01
Sample Date/Time: Sunday, November 18, 2012 19:29:09
Number of Replicates: 3
Autosampler Position: 429
Sample Description: 20
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	26686.9	8.4	**-12241.2872**	718.189	5.9	ug/L	8369	Standard
	Be	9	216.7	33.8	**0.1091**	0.035	32.2	ug/L	18	Standard
	Al	27	961111.6	1.1	**8.9888**	0.287	3.2	ug/L	215	Standard
>	**Sc**	45	46158.6	4.2				ug/L	53004	Standard
	Ti	47	209.0	6.6	**0.4050**	0.029	7.1	ug/L	26	Standard
	V	51	15291.4	1.3	**1.2070**	0.049	4.0	ug/L	3223	Standard
	Cr	52	20555.6	0.7	**1.2241**	0.066	5.4	ug/L	10379	Standard
	Cr	53	1854.3	3.8	**1.4295**	0.055	3.9	ug/L	192	Standard
	Mn	55	282941.8	0.6	**18.5605**	0.416	2.2	ug/L	1840	Standard
	Co	59	10482.0	3.1	**0.8831**	0.036	4.1	ug/L	115	Standard
	Ni	60	5414.3	1.2	**2.1226**	0.049	2.3	ug/L	75	Standard
	Cu	65	3290.7	1.9	**1.3011**	0.026	2.0	ug/L	155	Standard
	Zn	66	9230.8	4.4	**7.5005**	0.156	2.1	ug/L	237	Standard
>	**Ge**	72	361981.2	2.8				ug/L	413856	Standard
	As	75	-2.9	1681.9	**0.1384**	0.039	28.0	ug/L	-197	Standard
	Se	82	10.6	51.0	**0.0998**	0.051	51.2	ug/L	-5	Standard
	Se-1	77	126.3	4.0	**0.4931**	0.033	6.6	ug/L	105	Standard
>	**Ga**	71	2113.5	3.1				mg/L	225	Standard
	Rb	85	16695.9	0.4				ug/L	28	Standard
	Y	89	293504.1	3.2				ug/L	322845	Standard
>	**Rh**	103	83.3	15.1				ug/L	92	Standard
	Mo	98	22.0	36.2	**-0.0031**	0.002	61.0	ug/L	18	Standard
	Ag	107	97.7	21.2	**0.0061**	0.002	40.5	ug/L	63	Standard
	Cd	111	65.3	17.4	**0.0104**	0.003	28.3	mg/L	20	Standard
	Cd	114	174.2	22.5	**0.0123**	0.004	32.7	ug/L	56	Standard
>	**In**	115	576763.0	3.8				ug/L	657102	Standard
	Sn	118	317.3	4.9	**-0.0130**	0.002	15.8	ug/L	555	Standard
	Sb	123	57.8	56.9	**0.0054**	0.004	81.4	ug/L	62	Standard
	Ba	135	32373.9	1.1	**10.8232**	0.330	3.1	ug/L	19	Standard
	Ce	140	172649.5	1.0				ug/L	24	Standard
>	**Tb**	159	845157.4	3.8				ug/L	910514	Standard
	Ho	165	2340.8	4.0				ug/L	7	Standard
	Tl	203	244.0	51.3	**0.0164**	0.010	59.2	ug/L	13	Standard
	Tl	205	7.7	27.2	**0.0220**	0.005	22.8	ug/L	1	Standard
	Pb	206	21132.7	2.2	**2.1482**	0.019	0.9	ug/L	342	Standard
	Pb	207	17134.7	2.5	**2.0440**	0.008	0.4	ug/L	284	Standard
	Pb	208	80739.9	1.6	**2.0771**	0.033	1.6	ug/L	1363	Standard
	U	238	1714.4	4.5	**0.1794**	0.004	2.0	ug/L	2	Standard
>	**Bi**	209	444095.6	2.8				ug/L	470592	Standard

Sample ID: L1211033813 WG414371-01
Report Date/Time: Sunday, November 18, 2012 19:31:42
Page 1

Approved: November 19, 2012

⌈	**Na**	23	1.7	173.2	**0.1792**	0.302	168.4	mg/L	2	Standard
|	**Mg**	24	2893.6	9.4	**-0.0013**	0.000	6.6	mg/L	5586	Standard
|	**K**	39	18.3	68.6	**0.2425**	0.188	77.6	mg/L	5	Standard
|	**Ca**	43	46.7	6.2	**0.0491**	0.062	126.7	mg/L	45	Standard
|	**Fe**	54	2485.9	1.4	**0.9449**	0.061	6.4	mg/L	350	Standard
|	**Fe**	57	725.0	4.8	**1.1791**	0.016	1.4	mg/L	102	Standard
⌊>	**Sc-1**	45	46158.6	4.2				mg/L	53004	Standard
	Cl	35	2.0	50.0				ug/L	2	Standard
	Kr	83	142.7	4.9				ug/L	157	Standard
	Br	81	4.2	91.7				ug/L	3	Standard
	P	31	39585.0	2.3				ug/L	91588	Standard
	S	34	34399.9	3.8				ug/L	32556	Standard
	Sr	88	63.3	19.9				ug/L	62	Standard
	C	12	103.3	20.1				mg/L	133	Standard
	N	14	1.7	173.2				mg/L	0	Standard
	Hg	202	10.0					mg/L	7	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		87.466	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: L1211033813 WG414371-01
Report Date/Time: Sunday, November 18, 2012 19:31:42
Page 2

Approved: November 19, 2012

	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	87.774
	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	94.370
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: L1211033813 WG414371-01
Report Date/Time: Sunday, November 18, 2012 19:31:42
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

Sample ID: L1211033814S WG414371-04
Sample Date/Time: Sunday, November 18, 2012 19:32:23
Number of Replicates: 3
Autosampler Position: 430
Sample Description: 20
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	15032.5	1.0	**-4829.6937**	180.069	3.7	ug/L	8369	Standard
	Be	9	2225.2	9.3	**1.2140**	0.122	10.1	ug/L	18	Standard
	Al	27	535910.6	3.2	**4.9866**	0.181	3.6	ug/L	215	Standard
>	Sc	45	46362.5	2.9				ug/L	53004	Standard
	Ti	47	133.3	8.9	**0.2291**	0.022	9.8	ug/L	26	Standard
	V	51	22646.0	2.3	**1.8597**	0.024	1.3	ug/L	3223	Standard
	Cr	52	24265.4	2.2	**1.5450**	0.030	1.9	ug/L	10379	Standard
	Cr	53	2207.7	3.8	**1.6759**	0.053	3.2	ug/L	192	Standard
	Mn	55	439578.9	3.9	**28.1359**	0.771	2.7	ug/L	1840	Standard
	Co	59	17957.3	4.0	**1.4840**	0.043	2.9	ug/L	115	Standard
	Ni	60	5285.3	2.9	**2.0170**	0.044	2.2	ug/L	75	Standard
	Cu	65	4727.1	3.4	**1.8441**	0.044	2.4	ug/L	155	Standard
	Zn	66	9367.9	1.2	**7.4203**	0.146	2.0	ug/L	237	Standard
>	Ge	72	371352.8	1.2				ug/L	413856	Standard
	As	75	1404.0	4.0	**1.2182**	0.054	4.4	ug/L	-197	Standard
	Se	82	136.7	1.8	**1.1811**	0.035	3.0	ug/L	-5	Standard
	Se-1	77	212.0	9.7	**1.4306**	0.252	17.6	ug/L	105	Standard
>	Ga	71	1185.0	7.7				mg/L	225	Standard
	Rb	85	9142.8	3.9				ug/L	28	Standard
	Y	89	291787.7	2.9				ug/L	322845	Standard
>	Rh	103	70.0	46.8				ug/L	92	Standard
	Mo	98	19.3	21.6	**-0.0038**	0.001	28.2	ug/L	18	Standard
	Ag	107	7160.0	5.2	**1.0240**	0.047	4.6	ug/L	63	Standard
	Cd	111	3475.0	5.5	**1.1458**	0.057	5.0	mg/L	20	Standard
	Cd	114	9276.2	5.3	**1.1639**	0.055	4.8	ug/L	56	Standard
>	In	115	575469.2	0.6				ug/L	657102	Standard
	Sn	118	310.7	2.5	**-0.0137**	0.001	7.8	ug/L	555	Standard
	Sb	123	3152.9	2.9	**0.4568**	0.011	2.3	ug/L	62	Standard
	Ba	135	91760.9	3.1	**30.7570**	0.787	2.6	ug/L	19	Standard
	Ce	140	133786.4	3.1				ug/L	24	Standard
>	Tb	159	839412.4	0.6				ug/L	910514	Standard
	Ho	165	1896.8	4.3				ug/L	7	Standard
	Tl	203	12658.0	3.3	**1.0476**	0.028	2.7	ug/L	13	Standard
	Tl	205	395.0	5.7	**1.0767**	0.062	5.8	ug/L	1	Standard
	Pb	206	35082.2	1.7	**3.6039**	0.044	1.2	ug/L	342	Standard
	Pb	207	28958.3	2.0	**3.4949**	0.044	1.3	ug/L	284	Standard
	Pb	208	136130.7	1.9	**3.5408**	0.045	1.3	ug/L	1363	Standard
	U	238	10353.9	1.8	**1.0966**	0.013	1.2	ug/L	2	Standard
>	Bi	209	442068.9	0.8				ug/L	470592	Standard

Approved: November 19, 2012

⌈	**Na**	23	0.0		**0.0050**	0.000	0.0	mg/L	2	Standard
|	**Mg**	24	2026.8	2.7	**-0.0018**	0.000	1.5	mg/L	5586	Standard
|	**K**	39	8.3	34.6	**0.0876**	0.043	48.6	mg/L	5	Standard
|	**Ca**	43	78.3	9.8	**1.5848**	0.418	26.4	mg/L	45	Standard
|	**Fe**	54	1685.1	5.3	**0.5863**	0.019	3.2	mg/L	350	Standard
|	**Fe**	57	561.7	15.3	**0.8814**	0.163	18.4	mg/L	102	Standard
⌊>	**Sc-1**	45	46362.5	2.9				mg/L	53004	Standard
	Cl	35	3.7	15.7				ug/L	2	Standard
	Kr	83	145.1	0.4				ug/L	157	Standard
	Br	81	9.2	63.0				ug/L	3	Standard
	P	31	39891.7	4.1				ug/L	91588	Standard
	S	34	35006.3	5.0				ug/L	32556	Standard
	Sr	88	98.3	5.9				ug/L	62	Standard
	C	12	100.0	21.8				mg/L	133	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	8.3	124.9				mg/L	7	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		89.730	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: L1211033814S WG414371-04
Report Date/Time: Sunday, November 18, 2012 19:34:55
Page 2

Approved: November 19, 2012

	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	87.577
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	93.939
	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	
	C	12	
	N	14	
	Hg	202	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: L1211033814S WG414371-04
Report Date/Time: Sunday, November 18, 2012 19:34:55
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

Sample ID: L1211033815SD WG414371-05
Sample Date/Time: Sunday, November 18, 2012 19:35:36
Number of Replicates: 3
Autosampler Position: 431
Sample Description: 20
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	29189.8	5.4	**-12942.2326**	783.374	6.1	ug/L	8369	Standard
	Be	9	2336.8	0.6	**1.2175**	0.019	1.6	ug/L	18	Standard
	Al	27	1049687.4	1.0	**9.3334**	0.237	2.5	ug/L	215	Standard
>	Sc	45	48522.6	1.7				ug/L	53004	Standard
	Ti	47	268.0	2.6	**0.5186**	0.014	2.7	ug/L	26	Standard
	V	51	29214.1	0.7	**2.4653**	0.008	0.3	ug/L	3223	Standard
	Cr	52	33895.9	2.0	**2.5074**	0.067	2.7	ug/L	10379	Standard
	Cr	53	3327.9	2.2	**2.5710**	0.053	2.1	ug/L	192	Standard
	Mn	55	303177.0	0.8	**19.2998**	0.104	0.5	ug/L	1840	Standard
	Co	59	24968.6	1.3	**2.0611**	0.025	1.2	ug/L	115	Standard
	Ni	60	8962.7	2.4	**3.4306**	0.072	2.1	ug/L	75	Standard
	Cu	65	6171.6	3.2	**2.4150**	0.069	2.9	ug/L	155	Standard
	Zn	66	10001.3	2.9	**7.9001**	0.213	2.7	ug/L	237	Standard
>	Ge	72	372919.2	0.4				ug/L	413856	Standard
	As	75	1496.8	3.8	**1.2843**	0.045	3.5	ug/L	-197	Standard
	Se	82	109.4	3.7	**0.9424**	0.033	3.5	ug/L	-5	Standard
	Se-1	77	202.3	11.1	**1.3098**	0.254	19.4	ug/L	105	Standard
>	Ga	71	2568.6	2.0				mg/L	225	Standard
	Rb	85	20487.2	5.1				ug/L	28	Standard
	Y	89	296694.0	1.8				ug/L	322845	Standard
>	Rh	103	95.0	9.1				ug/L	92	Standard
	Mo	98	37.7	28.4	**0.0008**	0.003	341.0	ug/L	18	Standard
	Ag	107	7533.9	0.8	**1.0689**	0.015	1.4	ug/L	63	Standard
	Cd	111	3679.1	1.4	**1.2036**	0.016	1.4	mg/L	20	Standard
	Cd	114	9675.6	1.5	**1.2044**	0.029	2.4	ug/L	56	Standard
>	In	115	580411.6	0.9				ug/L	657102	Standard
	Sn	118	318.3	7.0	**-0.0132**	0.002	18.9	ug/L	555	Standard
	Sb	123	1470.2	5.6	**0.2096**	0.011	5.5	ug/L	62	Standard
	Ba	135	45883.4	0.3	**15.2407**	0.148	1.0	ug/L	19	Standard
	Ce	140	187907.1	1.1				ug/L	24	Standard
>	Tb	159	845931.7	2.6				ug/L	910514	Standard
	Ho	165	2546.9	2.7				ug/L	7	Standard
	Tl	203	13339.9	2.2	**1.0957**	0.054	4.9	ug/L	13	Standard
	Tl	205	415.3	4.4	**1.1231**	0.068	6.0	ug/L	1	Standard
	Pb	206	33358.0	2.0	**3.3982**	0.162	4.8	ug/L	342	Standard
	Pb	207	27895.3	0.5	**3.3380**	0.105	3.1	ug/L	284	Standard
	Pb	208	129700.6	1.2	**3.3450**	0.132	3.9	ug/L	1363	Standard
	U	238	11385.3	1.7	**1.1960**	0.030	2.5	ug/L	2	Standard
>	Bi	209	445930.4	2.7				ug/L	470592	Standard

Sample ID: L1211033815SD WG414371-05
Report Date/Time: Sunday, November 18, 2012 19:38:08
Page 1

Approved: November 19, 2012

⌈	**Na**	23	0.0		**0.0050**	0.000	0.0	mg/L	2	Standard
|	**Mg**	24	2850.3	2.7	**-0.0014**	0.000	3.2	mg/L	5586	Standard
|	**K**	39	23.3	24.7	**0.3044**	0.079	26.1	mg/L	5	Standard
|	**Ca**	43	61.7	32.8	**0.6370**	0.950	149.1	mg/L	45	Standard
|	**Fe**	54	3319.3	0.8	**1.2399**	0.030	2.4	mg/L	350	Standard
|	**Fe**	57	853.4	1.4	**1.3359**	0.025	1.9	mg/L	102	Standard
⌊>	**Sc-1**	45	48522.6	1.7				mg/L	53004	Standard
	Cl	35	2.7	57.3				ug/L	2	Standard
	Kr	83	137.2	5.5				ug/L	157	Standard
	Br	81	5.0	0.0				ug/L	3	Standard
	P	31	40057.9	0.7				ug/L	91588	Standard
	S	34	34177.7	3.1				ug/L	32556	Standard
	Sr	88	103.3	27.5				ug/L	62	Standard
	C	12	123.3	34.0				mg/L	133	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	6.7	43.3				mg/L	7	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		90.109	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: L1211033815SD WG414371-05
Report Date/Time: Sunday, November 18, 2012 19:38:08
Page 2

Approved: November 19, 2012

⌈	Mo	98		
|	Ag	107		
|	Cd	111		
|	Cd	114		
|>	In	115		88.329
|	Sn	118		
|	Sb	123		
⌊	Ba	135		
⌈	Ce	140		
⌊>	Tb	159		
⌈	Ho	165		
|	Tl	203		
|	Tl	205		
|	Pb	206		
|	Pb	207		
|	Pb	208		
|	U	238		
⌊>	Bi	209		94.760
⌈	Na	23		
|	Mg	24		
|	K	39		
|	Ca	43		
|	Fe	54		
|	Fe	57		
⌊>	Sc-1	45		
	Cl	35		
	Kr	83		
	Br	81		
	P	31		
	S	34		
	Sr	88		
	C	12		
	N	14		
	Hg	202		

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: L1211033815SD WG414371-05
Report Date/Time: Sunday, November 18, 2012 19:38:08
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

Sample ID: L1211033808
Sample Date/Time: Sunday, November 18, 2012 19:38:48
Number of Replicates: 3
Autosampler Position: 432
Sample Description: 20
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	27266.2	2.7	**-11433.1261**	196.542	1.7	ug/L	8369	Standard
|	**Be**	9	223.3	5.2	**0.1054**	0.008	7.4	ug/L	18	Standard
|	**Al**	27	934100.6	2.7	**8.1251**	0.071	0.9	ug/L	215	Standard
⌊>	**Sc**	45	49581.0	2.0				ug/L	53004	Standard
⌈	**Ti**	47	155.7	6.6	**0.2717**	0.018	6.7	ug/L	26	Standard
|	**V**	51	11404.6	2.0	**0.7852**	0.018	2.3	ug/L	3223	Standard
|	**Cr**	52	20515.6	2.2	**1.1290**	0.066	5.8	ug/L	10379	Standard
|	**Cr**	53	1605.9	3.3	**1.1667**	0.039	3.3	ug/L	192	Standard
|	**Mn**	55	544449.9	1.9	**34.2707**	0.807	2.4	ug/L	1840	Standard
|	**Co**	59	9589.4	1.6	**0.7714**	0.008	1.0	ug/L	115	Standard
|	**Ni**	60	5389.6	0.4	**2.0214**	0.031	1.6	ug/L	75	Standard
|	**Cu**	65	4451.7	1.7	**1.7026**	0.042	2.5	ug/L	155	Standard
|	**Zn**	66	10814.9	1.5	**8.4429**	0.102	1.2	ug/L	237	Standard
|>	**Ge**	72	377967.2	1.7				ug/L	413856	Standard
|	**As**	75	192.5	17.4	**0.2849**	0.023	8.0	ug/L	-197	Standard
|	**Se**	82	1.7	634.4	**0.0192**	0.091	474.5	ug/L	-5	Standard
⌊	**Se-1**	77	132.3	4.4	**0.4986**	0.078	15.7	ug/L	105	Standard
⌈>	**Ga**	71	1941.8	6.5				mg/L	225	Standard
⌊	**Rb**	85	16874.4	3.6				ug/L	28	Standard
⌈	**Y**	89	298728.4	1.8				ug/L	322845	Standard
⌊>	**Rh**	103	86.7	14.5				ug/L	92	Standard
⌈	**Mo**	98	24.4	13.0	**-0.0025**	0.001	32.6	ug/L	18	Standard
|	**Ag**	107	84.7	18.7	**0.0042**	0.002	50.5	ug/L	63	Standard
|	**Cd**	111	48.6	19.1	**0.0049**	0.003	61.7	mg/L	20	Standard
|	**Cd**	114	131.1	5.2	**0.0069**	0.001	9.5	ug/L	56	Standard
|>	**In**	115	579136.7	1.5				ug/L	657102	Standard
|	**Sn**	118	381.3	3.8	**-0.0059**	0.001	17.9	ug/L	555	Standard
|	**Sb**	123	24.8	11.2	**0.0007**	0.000	59.8	ug/L	62	Standard
⌊	**Ba**	135	34198.6	1.0	**11.3798**	0.132	1.2	ug/L	19	Standard
⌈	**Ce**	140	153526.7	1.5				ug/L	24	Standard
⌊>	**Tb**	159	848054.3	1.1				ug/L	910514	Standard
⌈	**Ho**	165	2246.2	3.9				ug/L	7	Standard
|	**Tl**	203	161.3	5.3	**0.0094**	0.001	8.3	ug/L	13	Standard
|	**Tl**	205	6.7	60.6	**0.0188**	0.010	55.8	ug/L	1	Standard
|	**Pb**	206	14523.6	1.4	**1.4281**	0.019	1.3	ug/L	342	Standard
|	**Pb**	207	12006.4	3.2	**1.3843**	0.024	1.7	ug/L	284	Standard
|	**Pb**	208	56086.9	2.0	**1.3949**	0.013	1.0	ug/L	1363	Standard
|	**U**	238	949.7	2.2	**0.0962**	0.002	1.6	ug/L	2	Standard
⌊>	**Bi**	209	455617.2	1.7				ug/L	470592	Standard

Sample ID: L1211033808
Report Date/Time: Sunday, November 18, 2012 19:41:21
Page 1

Approved: November 19, 2012

⌈	**Na**	23	0.0		**0.0050**	0.000	0.0	mg/L	2	Standard
|	**Mg**	24	3102.0	7.0	**-0.0013**	0.000	6.4	mg/L	5586	Standard
|	**K**	39	11.7	65.5	**0.1276**	0.110	86.3	mg/L	5	Standard
|	**Ca**	43	60.0	28.9	**0.4919**	0.740	150.4	mg/L	45	Standard
|	**Fe**	54	2769.5	3.7	**0.9840**	0.037	3.8	mg/L	350	Standard
|	**Fe**	57	796.7	3.2	**1.2095**	0.044	3.6	mg/L	102	Standard
⌊>	**Sc-1**	45	49581.0	2.0				mg/L	53004	Standard
	Cl	35	3.0	33.3				ug/L	2	Standard
	Kr	83	145.3	4.1				ug/L	157	Standard
	Br	81	6.7	78.1				ug/L	3	Standard
	P	31	40809.1	2.5				ug/L	91588	Standard
	S	34	33367.5	0.4				ug/L	32556	Standard
	Sr	88	83.3	25.0				ug/L	62	Standard
	C	12	98.3	2.9				mg/L	133	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	3.3	86.6				mg/L	7	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		91.328	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: L1211033808
Report Date/Time: Sunday, November 18, 2012 19:41:21
Page 2

Approved: November 19, 2012

	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	88.135
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	96.818
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: L1211033808
Report Date/Time: Sunday, November 18, 2012 19:41:21
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

Sample ID: L1211033809
Sample Date/Time: Sunday, November 18, 2012 19:42:01
Number of Replicates: 3
Autosampler Position: 433
Sample Description: 20
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	25980.6	1.2	**-11030.1868**	58.538	0.5	ug/L	8369	Standard
|	**Be**	9	268.3	16.1	**0.1314**	0.021	15.7	ug/L	18	Standard
|	**Al**	27	841588.5	1.6	**7.4900**	0.026	0.3	ug/L	215	Standard
⌊>	**Sc**	45	48460.7	1.4				ug/L	53004	Standard
⌈	**Ti**	47	276.0	5.3	**0.5307**	0.033	6.2	ug/L	26	Standard
|	**V**	51	17012.9	0.9	**1.3100**	0.029	2.2	ug/L	3223	Standard
|	**Cr**	52	24274.1	2.0	**1.5142**	0.064	4.2	ug/L	10379	Standard
|	**Cr**	53	2195.2	3.2	**1.6433**	0.075	4.5	ug/L	192	Standard
|	**Mn**	55	543272.5	1.0	**34.3480**	0.527	1.5	ug/L	1840	Standard
|	**Co**	59	10516.6	2.1	**0.8514**	0.021	2.4	ug/L	115	Standard
|	**Ni**	60	5490.7	2.2	**2.0689**	0.026	1.2	ug/L	75	Standard
|	**Cu**	65	3710.5	0.4	**1.4159**	0.013	0.9	ug/L	155	Standard
|	**Zn**	66	10958.6	1.3	**8.5981**	0.208	2.4	ug/L	237	Standard
|>	**Ge**	72	376269.8	1.0				ug/L	413856	Standard
|	**As**	75	214.1	14.0	**0.3020**	0.021	7.0	ug/L	-197	Standard
|	**Se**	82	2.6	300.8	**0.0271**	0.067	247.1	ug/L	-5	Standard
⌊	**Se-1**	77	126.7	8.4	**0.4417**	0.128	29.0	ug/L	105	Standard
⌈>	**Ga**	71	2320.2	2.4				mg/L	225	Standard
⌊	**Rb**	85	20505.5	2.4				ug/L	28	Standard
⌈	**Y**	89	303704.9	2.6				ug/L	322845	Standard
⌊>	**Rh**	103	96.7	43.4				ug/L	92	Standard
⌈	**Mo**	98	35.8	22.0	**0.0002**	0.002	835.3	ug/L	18	Standard
|	**Ag**	107	87.7	7.8	**0.0045**	0.001	21.6	ug/L	63	Standard
|	**Cd**	111	253.6	3.9	**0.0718**	0.002	3.0	mg/L	20	Standard
|	**Cd**	114	738.7	3.0	**0.0823**	0.002	2.8	ug/L	56	Standard
|>	**In**	115	585463.4	1.3				ug/L	657102	Standard
|	**Sn**	118	395.3	4.2	**-0.0048**	0.002	43.3	ug/L	555	Standard
|	**Sb**	123	31.5	30.8	**0.0016**	0.001	86.5	ug/L	62	Standard
⌊	**Ba**	135	62949.5	0.8	**20.7374**	0.322	1.6	ug/L	19	Standard
⌈	**Ce**	140	177334.1	0.9				ug/L	24	Standard
⌊>	**Tb**	159	852699.8	0.9				ug/L	910514	Standard
⌈	**Ho**	165	2513.5	1.8				ug/L	7	Standard
|	**Tl**	203	300.3	5.7	**0.0208**	0.001	6.2	ug/L	13	Standard
|	**Tl**	205	9.0	48.4	**0.0253**	0.012	45.6	ug/L	1	Standard
|	**Pb**	206	75147.9	1.0	**7.5974**	0.106	1.4	ug/L	342	Standard
|	**Pb**	207	60555.8	1.3	**7.1964**	0.119	1.7	ug/L	284	Standard
|	**Pb**	208	285729.8	0.7	**7.3158**	0.084	1.1	ug/L	1363	Standard
|	**U**	238	679.0	2.6	**0.0690**	0.002	2.3	ug/L	2	Standard
⌊>	**Bi**	209	451371.4	0.5				ug/L	470592	Standard

Sample ID: L1211033809
Report Date/Time: Sunday, November 18, 2012 19:44:34
Page 1

Approved: November 19, 2012

⌈	**Na**	23	1.7	173.2	**0.1722**	0.290	168.2	mg/L	2	Standard
|	**Mg**	24	2957.0	5.9	**-0.0013**	0.000	5.9	mg/L	5586	Standard
|	**K**	39	30.0	72.6	**0.4051**	0.324	79.9	mg/L	5	Standard
|	**Ca**	43	41.7	18.3	**-0.2922**	0.347	118.8	mg/L	45	Standard
|	**Fe**	54	3384.6	4.6	**1.2695**	0.085	6.7	mg/L	350	Standard
|	**Fe**	57	1033.4	6.1	**1.6463**	0.094	5.7	mg/L	102	Standard
⌊>	**Sc-1**	45	48460.7	1.4				mg/L	53004	Standard
	Cl	35	3.7	68.6				ug/L	2	Standard
	Kr	83	141.4	6.2				ug/L	157	Standard
	Br	81	4.2	69.3				ug/L	3	Standard
	P	31	41283.7	1.2				ug/L	91588	Standard
	S	34	33338.3	2.1				ug/L	32556	Standard
	Sr	88	88.3	34.1				ug/L	62	Standard
	C	12	113.3	35.7				mg/L	133	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	8.3	69.3				mg/L	7	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		90.918	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: L1211033809
Report Date/Time: Sunday, November 18, 2012 19:44:34
Page 2

Approved: November 19, 2012

⌈	Mo	98		
|	Ag	107		
|	Cd	111		
|	Cd	114		
|>	In	115		89.098
|	Sn	118		
|	Sb	123		
⌊	Ba	135		
⌈	Ce	140		
⌊>	Tb	159		
⌈	Ho	165		
|	Tl	203		
|	Tl	205		
|	Pb	206		
|	Pb	207		
|	Pb	208		
|	U	238		
⌊>	Bi	209		95.916
⌈	Na	23		
|	Mg	24		
|	K	39		
|	Ca	43		
|	Fe	54		
|	Fe	57		
⌊>	Sc-1	45		
	Cl	35		
	Kr	83		
	Br	81		
	P	31		
	S	34		
	Sr	88		
	C	12		
	N	14		
	Hg	202		

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: L1211033809
Report Date/Time: Sunday, November 18, 2012 19:44:34
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

Sample ID: L1211033809PS WG414623-01
Sample Date/Time: Sunday, November 18, 2012 19:45:14
Number of Replicates: 3
Autosampler Position: 434
Sample Description: 20
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	31821.7	1.6	**-12400.6715**	407.335	3.3	ug/L	8369	Standard
	Be	9	110276.7	2.6	**51.4493**	1.601	3.1	ug/L	18	Standard
	Al	27	945110.6	2.6	**7.4677**	0.250	3.3	ug/L	215	Standard
>	Sc	45	54594.9	0.8				ug/L	53004	Standard
	Ti	47	313.7	5.8	**0.5303**	0.030	5.6	ug/L	26	Standard
	V	51	609114.5	2.6	**49.4005**	0.567	1.1	ug/L	3223	Standard
	Cr	52	597141.1	3.2	**51.6477**	0.931	1.8	ug/L	10379	Standard
	Cr	53	73408.6	5.8	**51.4196**	2.157	4.2	ug/L	192	Standard
	Mn	55	1542907.6	3.2	**85.9157**	1.413	1.6	ug/L	1840	Standard
	Co	59	702894.2	3.2	**50.9401**	0.882	1.7	ug/L	115	Standard
	Ni	60	153708.8	3.8	**51.7759**	1.174	2.3	ug/L	75	Standard
	Cu	65	148194.5	2.3	**51.7008**	0.457	0.9	ug/L	155	Standard
	Zn	66	82508.7	4.4	**58.0379**	1.714	3.0	ug/L	237	Standard
>	Ge	72	427775.6	1.6				ug/L	413856	Standard
	As	75	75375.0	3.2	**50.3661**	0.823	1.6	ug/L	-197	Standard
	Se	82	6696.5	3.8	**49.9860**	1.146	2.3	ug/L	-5	Standard
	Se-1	77	5241.2	4.0	**50.6854**	1.251	2.5	ug/L	105	Standard
>	Ga	71	2788.6	4.0				mg/L	225	Standard
	Rb	85	23479.9	5.2				ug/L	28	Standard
	Y	89	342471.5	4.9				ug/L	322845	Standard
>	Rh	103	135.0	9.8				ug/L	92	Standard
	Mo	98	95.7	15.2	**0.0129**	0.003	23.4	ug/L	18	Standard
	Ag	107	382873.3	1.6	**49.0803**	0.211	0.4	ug/L	63	Standard
	Cd	111	170764.6	2.7	**50.5640**	0.810	1.6	mg/L	20	Standard
	Cd	114	447529.5	2.6	**50.3510**	0.689	1.4	ug/L	56	Standard
>	In	115	646980.5	1.2				ug/L	657102	Standard
	Sn	118	1042.0	3.8	**0.0569**	0.003	5.0	ug/L	555	Standard
	Sb	123	388593.1	2.0	**50.3909**	0.461	0.9	ug/L	62	Standard
	Ba	135	239893.9	2.3	**71.5484**	0.840	1.2	ug/L	19	Standard
	Ce	140	189116.4	3.1				ug/L	24	Standard
>	Tb	159	928220.6	0.8				ug/L	910514	Standard
	Ho	165	2753.9	3.3				ug/L	7	Standard
	Tl	203	652508.9	1.9	**50.3605**	0.634	1.3	ug/L	13	Standard
	Tl	205	19717.8	0.6	**49.8900**	0.857	1.7	ug/L	1	Standard
	Pb	206	600281.1	1.9	**57.7988**	0.983	1.7	ug/L	342	Standard
	Pb	207	512147.1	2.0	**57.9980**	0.658	1.1	ug/L	284	Standard
	Pb	208	2362935.2	1.8	**57.6389**	0.771	1.3	ug/L	1363	Standard
	U	238	498484.6	1.7	**49.1331**	0.858	1.7	ug/L	2	Standard
>	Bi	209	475727.3	1.6				ug/L	470592	Standard

Approved: November 19, 2012

⌈	**Na**	23	1.7	173.2	**0.1499**	0.251	167.4	mg/L	2	Standard
|	**Mg**	24	4425.6	5.2	**-0.0008**	0.000	15.1	mg/L	5586	Standard
|	**K**	39	26.7	65.8	**0.3096**	0.229	73.8	mg/L	5	Standard
|	**Ca**	43	41.7	13.9	**-0.5077**	0.251	49.5	mg/L	45	Standard
|	**Fe**	54	4076.8	8.1	**1.3677**	0.132	9.7	mg/L	350	Standard
|	**Fe**	57	1055.0	8.4	**1.4807**	0.140	9.5	mg/L	102	Standard
⌊>	**Sc-1**	45	54594.9	0.8				mg/L	53004	Standard
	Cl	35	1.3	86.6				ug/L	2	Standard
	Kr	83	150.6	1.4				ug/L	157	Standard
	Br	81	2.5	100.0				ug/L	3	Standard
	P	31	115856.4	2.4				ug/L	91588	Standard
	S	34	32107.4	4.1				ug/L	32556	Standard
	Sr	88	80.0	6.3				ug/L	62	Standard
	C	12	133.3	9.4				mg/L	133	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	15.0	88.2				mg/L	7	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		103.363	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: L1211033809PS WG414623-01
Report Date/Time: Sunday, November 18, 2012 19:47:47
Page 2

Approved: November 19, 2012

	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	98.460
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	101.091
	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	
	C	12	
	N	14	
	Hg	202	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: L1211033809PS WG414623-01
Report Date/Time: Sunday, November 18, 2012 19:47:47
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

Sample ID: L1211033809SDL WG414623-02
Sample Date/Time: Sunday, November 18, 2012 19:48:28
Number of Replicates: 3
Autosampler Position: 435
Sample Description: 100
Method File: C:\NexION Data\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
	Li	7	12593.6	4.3	**-2361.8916**	98.860	4.2	ug/L	8369	Standard
	Be	9	58.3	17.8	**0.0189**	0.005	25.7	ug/L	18	Standard
	Al	27	185603.2	4.7	**1.5267**	0.113	7.4	ug/L	215	Standard
>	Sc	45	52450.7	3.4				ug/L	53004	Standard
	Ti	47	72.0	21.0	**0.0765**	0.031	40.3	ug/L	26	Standard
	V	51	6534.9	4.0	**0.2667**	0.024	9.2	ug/L	3223	Standard
	Cr	52	13293.2	1.4	**0.2573**	0.029	11.5	ug/L	10379	Standard
	Cr	53	580.0	15.1	**0.2993**	0.069	23.0	ug/L	192	Standard
	Mn	55	125512.5	4.8	**6.9302**	0.492	7.1	ug/L	1840	Standard
	Co	59	2558.2	2.9	**0.1705**	0.010	5.7	ug/L	115	Standard
	Ni	60	1505.1	2.4	**0.4729**	0.004	0.8	ug/L	75	Standard
	Cu	65	1041.0	2.1	**0.3070**	0.015	5.0	ug/L	155	Standard
	Zn	66	4585.4	3.2	**3.0466**	0.163	5.4	ug/L	237	Standard
>	Ge	72	426979.5	3.0				ug/L	413856	Standard
	As	75	-93.3	48.8	**0.0770**	0.032	41.5	ug/L	-197	Standard
	Se	82	5.9	300.9	**0.0471**	0.132	280.1	ug/L	-5	Standard
	Se-1	77	118.7	5.1	**0.1954**	0.096	48.9	ug/L	105	Standard
>	Ga	71	688.3	1.8				mg/L	225	Standard
	Rb	85	4584.0	3.7				ug/L	28	Standard
	Y	89	328872.1	5.2				ug/L	322845	Standard
>	Rh	103	80.0	22.5				ug/L	92	Standard
	Mo	98	40.0	9.8	**0.0003**	0.001	291.1	ug/L	18	Standard
	Ag	107	85.7	12.3	**0.0031**	0.001	39.0	ug/L	63	Standard
	Cd	111	82.3	1.9	**0.0131**	0.001	5.3	mg/L	20	Standard
	Cd	114	196.6	5.8	**0.0125**	0.001	7.7	ug/L	56	Standard
>	In	115	648890.7	1.4				ug/L	657102	Standard
	Sn	118	523.0	4.4	**0.0038**	0.002	54.1	ug/L	555	Standard
	Sb	123	281.7	28.0	**0.0334**	0.010	29.0	ug/L	62	Standard
	Ba	135	13499.3	2.9	**3.9956**	0.085	2.1	ug/L	19	Standard
	Ce	140	37714.2	3.3				ug/L	24	Standard
>	Tb	159	929365.8	2.3				ug/L	910514	Standard
	Ho	165	546.0	5.2				ug/L	7	Standard
	Tl	203	123.0	2.9	**0.0057**	0.000	3.0	ug/L	13	Standard
	Tl	205	3.7	83.3	**0.0104**	0.007	72.3	ug/L	1	Standard
	Pb	206	16328.8	3.4	**1.5179**	0.047	3.1	ug/L	342	Standard
	Pb	207	13339.2	2.8	**1.4541**	0.035	2.4	ug/L	284	Standard
	Pb	208	62498.6	3.1	**1.4695**	0.045	3.0	ug/L	1363	Standard
	U	238	216.7	50.1	**0.0194**	0.010	52.7	ug/L	2	Standard
>	Bi	209	482545.7	1.7				ug/L	470592	Standard

Sample ID: L1211033809SDL WG414623-02
Report Date/Time: Sunday, November 18, 2012 19:51:00
Page 1

Approved: November 19, 2012

⌈	**Na**	23	0.0		**0.0050**	0.000	0.0	mg/L	2	Standard
|	**Mg**	24	2270.2	9.6	**-0.0018**	0.000	4.3	mg/L	5586	Standard
|	**K**	39	13.3	21.7	**0.1411**	0.034	24.2	mg/L	5	Standard
|	**Ca**	43	41.7	18.3	**-0.4299**	0.394	91.7	mg/L	45	Standard
|	**Fe**	54	1061.8	2.4	**0.2592**	0.022	8.6	mg/L	350	Standard
|	**Fe**	57	311.7	2.5	**0.3671**	0.029	7.9	mg/L	102	Standard
⌊>	**Sc-1**	45	52450.7	3.4				mg/L	53004	Standard
	Cl	35	2.7	57.3				ug/L	2	Standard
	Kr	83	143.6	9.4				ug/L	157	Standard
	Br	81	3.3	114.6				ug/L	3	Standard
	P	31	98204.0	1.7				ug/L	91588	Standard
	S	34	30725.3	1.1				ug/L	32556	Standard
	Sr	88	73.3	34.3				ug/L	62	Standard
	C	12	110.0	18.2				mg/L	133	Standard
	N	14	1.7	173.2				mg/L	0	Standard
	Hg	202	1.7	173.2				mg/L	7	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		103.171	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: L1211033809SDL WG414623-02
Report Date/Time: Sunday, November 18, 2012 19:51:00
Page 2

Approved: November 19, 2012

	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	98.750
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	102.540
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: L1211033809SDL WG414623-02
Report Date/Time: Sunday, November 18, 2012 19:51:00
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

Sample ID: QC Std 6
Sample Date/Time: Sunday, November 18, 2012 19:51:43
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	8899.3	7.2	**-132.2047**	206.160	155.9	ug/L	8369	Standard
|	**Be**	9	110497.4	5.9	**51.8548**	1.925	3.7	ug/L	18	Standard
|	**Al**	27	6927466.2	3.5	**55.0847**	0.601	1.1	ug/L	215	Standard
⌊>	**Sc**	45	54252.0	3.2				ug/L	53004	Standard
⌈	**Ti**	47	54299.9	4.6	**101.6181**	1.909	1.9	ug/L	26	Standard
|	**V**	51	612036.3	5.9	**49.4104**	1.708	3.5	ug/L	3223	Standard
|	**Cr**	52	578603.7	4.3	**49.7981**	0.744	1.5	ug/L	10379	Standard
|	**Cr**	53	72826.5	4.1	**50.8083**	0.780	1.5	ug/L	192	Standard
|	**Mn**	55	906749.6	5.1	**50.2304**	1.145	2.3	ug/L	1840	Standard
|	**Co**	59	697573.1	3.8	**50.3420**	0.458	0.9	ug/L	115	Standard
|	**Ni**	60	149157.5	5.1	**50.0214**	1.133	2.3	ug/L	75	Standard
|	**Cu**	65	146951.1	4.3	**51.0407**	0.764	1.5	ug/L	155	Standard
|	**Zn**	66	72545.8	4.0	**50.7971**	0.786	1.5	ug/L	237	Standard
|>	**Ge**	72	429572.7	2.9				ug/L	413856	Standard
|	**As**	75	76344.8	5.0	**50.7875**	1.079	2.1	ug/L	-197	Standard
|	**Se**	82	6801.2	4.1	**50.5547**	0.617	1.2	ug/L	-5	Standard
⌊	**Se-1**	77	5190.9	6.6	**49.9641**	2.348	4.7	ug/L	105	Standard
⌈>	**Ga**	71	225.0	8.0				mg/L	225	Standard
⌊	**Rb**	85	1695.1	3.2				ug/L	28	Standard
⌈	**Y**	89	317639.8	4.7				ug/L	322845	Standard
⌊>	**Rh**	103	110.0	9.1				ug/L	92	Standard
⌈	**Mo**	98	448973.3	3.8	**101.2299**	1.581	1.6	ug/L	18	Standard
|	**Ag**	107	394355.0	2.9	**50.5495**	0.355	0.7	ug/L	63	Standard
|	**Cd**	111	172373.2	3.8	**51.0354**	0.756	1.5	mg/L	20	Standard
|	**Cd**	114	454564.5	3.7	**51.1385**	0.710	1.4	ug/L	56	Standard
|>	**In**	115	646973.5	2.3				ug/L	657102	Standard
|	**Sn**	118	505690.0	5.2	**51.5385**	1.520	2.9	ug/L	555	Standard
|	**Sb**	123	397913.8	3.4	**51.5948**	0.648	1.3	ug/L	62	Standard
⌊	**Ba**	135	174541.6	3.9	**52.0455**	0.916	1.8	ug/L	19	Standard
⌈	**Ce**	140	552.7	3.2				ug/L	24	Standard
⌊>	**Tb**	159	925792.5	2.1				ug/L	910514	Standard
⌈	**Ho**	165	447.3	5.8				ug/L	7	Standard
|	**Tl**	203	657184.6	3.8	**51.2710**	1.044	2.0	ug/L	13	Standard
|	**Tl**	205	19748.2	3.9	**50.4961**	0.814	1.6	ug/L	1	Standard
|	**Pb**	206	525962.8	4.3	**51.1776**	1.048	2.0	ug/L	342	Standard
|	**Pb**	207	449657.7	4.6	**51.4605**	1.171	2.3	ug/L	284	Standard
|	**Pb**	208	2065180.8	4.4	**50.9082**	1.073	2.1	ug/L	1363	Standard
|	**U**	238	518402.5	4.4	**51.6384**	1.111	2.2	ug/L	2	Standard
⌊>	**Bi**	209	470543.4	2.3				ug/L	470592	Standard

Sample ID: QC Std 6
Report Date/Time: Sunday, November 18, 2012 19:54:16
Page 1

Approved: November 19, 2012

	Na	23	0.0		**0.0050**	0.000	0.0	mg/L	2	Standard
	Mg	24	307926.7	2.1	**0.1447**	0.002	1.3	mg/L	5586	Standard
	K	39	418.3	17.0	**5.5162**	0.914	16.6	mg/L	5	Standard
	Ca	43	176.7	27.5	**5.1032**	1.898	37.2	mg/L	45	Standard
	Fe	54	14041.2	6.6	**5.1130**	0.184	3.6	mg/L	350	Standard
	Fe	57	3372.0	9.3	**5.0404**	0.347	6.9	mg/L	102	Standard
>	**Sc-1**	45	54252.0	3.2				mg/L	53004	Standard
	Cl	35	1.3	114.6				ug/L	2	Standard
	Kr	83	150.2	6.4				ug/L	157	Standard
	Br	81	4.2	91.7				ug/L	3	Standard
	P	31	124462.8	3.2				ug/L	91588	Standard
	S	34	41082.3	0.6				ug/L	32556	Standard
	Sr	88	66.7	11.5				ug/L	62	Standard
	C	12	116.7	17.3				mg/L	133	Standard
	N	14	1.7	173.2				mg/L	0	Standard
	Hg	202	3.3	86.6				mg/L	7	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
	Li	7			
	Be	9	103.710		
	Al	27	110.169		
>	Sc	45			
	Ti	47	101.618		
	V	51	98.821		
	Cr	52	99.596		
	Cr	53			
	Mn	55	100.461		
	Co	59	100.684		
	Ni	60	100.043		
	Cu	65	102.081		
	Zn	66	101.594		
>	Ge	72		103.798	
	As	75	101.575		
	Se	82	101.109		
	Se-1	77			
>	Ga	71			
	Rb	85			
	Y	89			
>	Rh	103			

Sample ID: QC Std 6
Report Date/Time: Sunday, November 18, 2012 19:54:16
Page 2

Approved: November 19, 2012

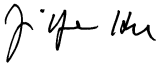
	Mo	98	101.230	
	Ag	107	101.099	
	Cd	111	102.071	
	Cd	114		
>	In	115		98.459
	Sn	118	103.077	
	Sb	123	103.190	
	Ba	135	104.091	
	Ce	140		
>	Tb	159		
	Ho	165		
	Tl	203	102.542	
	Tl	205		
	Pb	206	102.355	
	Pb	207	102.921	
	Pb	208	101.816	
	U	238	103.277	
>	Bi	209		99.990
	Na	23		
	Mg	24		
	K	39		
	Ca	43		
	Fe	54		
	Fe	57		
>	Sc-1	45		
	Cl	35		
	Kr	83		
	Br	81		
	P	31		
	S	34		
	Sr	88		
	C	12		
	N	14		
	Hg	202		

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 6	Al	27	

Sample ID: QC Std 6
Report Date/Time: Sunday, November 18, 2012 19:54:16
Page 3

Approved: November 19, 2012



Method 6020 - Summary Report

Sample ID: QC Std 7
Sample Date/Time: Sunday, November 18, 2012 19:54:56
Number of Replicates: 3
Autosampler Position: 102
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	8202.2	2.0	**294.6668**	93.224	31.6	ug/L	8369	Standard
|	**Be**	9	10.0	50.0	**-0.0048**	0.002	46.9	ug/L	18	Standard
|	**Al**	27	490.0	105.3	**0.0016**	0.004	242.4	ug/L	215	Standard
⌊>	**Sc**	45	54942.8	2.9				ug/L	53004	Standard
⌈	**Ti**	47	21.3	15.1	**-0.0190**	0.008	40.3	ug/L	26	Standard
|	**V**	51	3100.2	0.3	**-0.0126**	0.009	75.2	ug/L	3223	Standard
|	**Cr**	52	9727.1	0.4	**-0.0521**	0.033	63.4	ug/L	10379	Standard
|	**Cr**	53	142.5	18.6	**-0.0093**	0.016	172.3	ug/L	192	Standard
|	**Mn**	55	1799.8	25.2	**0.0122**	0.025	205.2	ug/L	1840	Standard
|	**Co**	59	225.3	94.1	**0.0009**	0.015	1750.7	ug/L	115	Standard
|	**Ni**	60	107.3	53.8	**0.0009**	0.019	2240.9	ug/L	75	Standard
|	**Cu**	65	244.3	18.7	**0.0285**	0.016	55.2	ug/L	155	Standard
|	**Zn**	66	261.0	12.2	**-0.0141**	0.018	129.7	ug/L	237	Standard
|>	**Ge**	72	424572.7	3.6				ug/L	413856	Standard
|	**As**	75	-185.9	20.9	**0.0156**	0.023	147.8	ug/L	-197	Standard
|	**Se**	82	-2.4	875.0	**-0.0108**	0.158	1461.3	ug/L	-5	Standard
⌊	**Se-1**	77	132.7	12.3	**0.3386**	0.147	43.5	ug/L	105	Standard
⌈>	**Ga**	71	170.0	7.8				mg/L	225	Standard
⌊	**Rb**	85	28.3	27.0				ug/L	28	Standard
⌈	**Y**	89	316788.3	3.4				ug/L	322845	Standard
⌊>	**Rh**	103	110.0	13.6				ug/L	92	Standard
⌈	**Mo**	98	120.4	127.5	**0.0184**	0.035	188.1	ug/L	18	Standard
|	**Ag**	107	189.3	123.4	**0.0163**	0.030	182.9	ug/L	63	Standard
|	**Cd**	111	71.5	116.6	**0.0099**	0.025	247.9	mg/L	20	Standard
|	**Cd**	114	185.0	112.6	**0.0112**	0.023	208.4	ug/L	56	Standard
|>	**In**	115	647152.4	4.0				ug/L	657102	Standard
|	**Sn**	118	448.7	26.2	**-0.0036**	0.012	323.6	ug/L	555	Standard
|	**Sb**	123	387.2	24.3	**0.0470**	0.011	22.9	ug/L	62	Standard
⌊	**Ba**	135	62.7	115.2	**-0.0013**	0.022	1698.9	ug/L	19	Standard
⌈	**Ce**	140	67.0	107.3				ug/L	24	Standard
⌊>	**Tb**	159	929424.2	2.6				ug/L	910514	Standard
⌈	**Ho**	165	10.7	32.9				ug/L	7	Standard
|	**Tl**	203	101.0	112.3	**0.0041**	0.009	209.8	ug/L	13	Standard
|	**Tl**	205	2.7	108.3	**0.0080**	0.007	89.6	ug/L	1	Standard
|	**Pb**	206	422.3	23.1	**0.0078**	0.009	111.8	ug/L	342	Standard
|	**Pb**	207	357.3	22.0	**0.0045**	0.008	184.5	ug/L	284	Standard
|	**Pb**	208	1622.0	23.3	**0.0052**	0.009	163.7	ug/L	1363	Standard
|	**U**	238	36.7	130.8	**0.0020**	0.005	226.6	ug/L	2	Standard
⌊>	**Bi**	209	474096.6	3.2				ug/L	470592	Standard

Sample ID: QC Std 7
Report Date/Time: Sunday, November 18, 2012 19:57:28
Page 1

Approved: November 19, 2012

⌈	**Na**	23	1.7	173.2	**0.1486**	0.249	167.4	mg/L	2	Standard
|	**Mg**	24	920.0	5.2	**-0.0025**	0.000	0.5	mg/L	5586	Standard
|	**K**	39	10.0	50.0	**0.0909**	0.069	76.3	mg/L	5	Standard
|	**Ca**	43	35.0	51.5	**-0.7811**	0.775	99.2	mg/L	45	Standard
|	**Fe**	54	368.7	3.5	**-0.0168**	0.005	27.6	mg/L	350	Standard
|	**Fe**	57	143.3	16.1	**0.0888**	0.033	37.1	mg/L	102	Standard
⌊>	**Sc-1**	45	54942.8	2.9				mg/L	53004	Standard
	Cl	35	3.0	33.3				ug/L	2	Standard
	Kr	83	154.0	8.8				ug/L	157	Standard
	Br	81	3.3	86.6				ug/L	3	Standard
	P	31	125075.1	2.4				ug/L	91588	Standard
	S	34	41673.1	0.8				ug/L	32556	Standard
	Sr	88	48.3	23.9				ug/L	62	Standard
	C	12	133.3	12.1				mg/L	133	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	3.3	86.6				mg/L	7	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		102.590	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: QC Std 7
Report Date/Time: Sunday, November 18, 2012 19:57:28
Page 2

Approved: November 19, 2012

	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	98.486
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	100.745
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: QC Std 7
Report Date/Time: Sunday, November 18, 2012 19:57:28
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

Sample ID: L1211033810
Sample Date/Time: Sunday, November 18, 2012 19:58:11
Number of Replicates: 3
Autosampler Position: 436
Sample Description: 20
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	19522.6	2.5	**-7391.0965**	627.267	8.5	ug/L	8369	Standard
|	**Be**	9	183.3	5.7	**0.0891**	0.008	8.6	ug/L	18	Standard
|	**Al**	27	545689.2	2.2	**4.9645**	0.258	5.2	ug/L	215	Standard
⌊>	**Sc**	45	47450.9	3.0				ug/L	53004	Standard
⌈	**Ti**	47	181.7	2.5	**0.3364**	0.013	3.9	ug/L	26	Standard
|	**V**	51	14362.0	0.9	**1.0897**	0.025	2.3	ug/L	3223	Standard
|	**Cr**	52	18135.2	2.6	**0.9346**	0.065	6.9	ug/L	10379	Standard
|	**Cr**	53	1392.6	8.1	**1.0232**	0.087	8.5	ug/L	192	Standard
|	**Mn**	55	327724.9	2.3	**21.0846**	0.629	3.0	ug/L	1840	Standard
|	**Co**	59	7825.7	3.9	**0.6422**	0.035	5.5	ug/L	115	Standard
|	**Ni**	60	3907.8	5.6	**1.4914**	0.093	6.2	ug/L	75	Standard
|	**Cu**	65	2649.9	4.5	**1.0146**	0.035	3.5	ug/L	155	Standard
|	**Zn**	66	6146.6	1.7	**4.8292**	0.107	2.2	ug/L	237	Standard
|>	**Ge**	72	369216.9	1.6				ug/L	413856	Standard
|	**As**	75	154.9	22.7	**0.2593**	0.025	9.8	ug/L	-197	Standard
|	**Se**	82	2.4	431.4	**0.0252**	0.088	349.1	ug/L	-5	Standard
⌊	**Se-1**	77	122.3	3.1	**0.4193**	0.063	14.9	ug/L	105	Standard
⌈>	**Ga**	71	1758.4	1.3				mg/L	225	Standard
⌊	**Rb**	85	14111.6	5.8				ug/L	28	Standard
⌈	**Y**	89	288010.6	1.9				ug/L	322845	Standard
⌊>	**Rh**	103	75.0	6.7				ug/L	92	Standard
⌈	**Mo**	98	30.7	36.1	**-0.0010**	0.003	255.6	ug/L	18	Standard
|	**Ag**	107	86.7	12.1	**0.0045**	0.001	33.3	ug/L	63	Standard
|	**Cd**	111	52.0	13.9	**0.0060**	0.003	45.9	mg/L	20	Standard
|	**Cd**	114	149.6	5.9	**0.0092**	0.001	7.2	ug/L	56	Standard
|>	**In**	115	580878.8	2.6				ug/L	657102	Standard
|	**Sn**	118	387.3	2.9	**-0.0054**	0.001	17.2	ug/L	555	Standard
|	**Sb**	123	61.1	34.8	**0.0058**	0.003	49.1	ug/L	62	Standard
⌊	**Ba**	135	30651.0	3.2	**10.1765**	0.609	6.0	ug/L	19	Standard
⌈	**Ce**	140	137088.3	2.6				ug/L	24	Standard
⌊>	**Tb**	159	845293.6	0.9				ug/L	910514	Standard
⌈	**Ho**	165	2017.1	5.8				ug/L	7	Standard
|	**Tl**	203	154.3	27.3	**0.0092**	0.003	36.6	ug/L	13	Standard
|	**Tl**	205	3.7	41.7	**0.0113**	0.004	37.5	ug/L	1	Standard
|	**Pb**	206	32599.0	2.1	**3.3591**	0.107	3.2	ug/L	342	Standard
|	**Pb**	207	26206.3	2.2	**3.1714**	0.107	3.4	ug/L	284	Standard
|	**Pb**	208	124275.6	3.0	**3.2419**	0.134	4.1	ug/L	1363	Standard
|	**U**	238	359.7	10.4	**0.0367**	0.004	9.8	ug/L	2	Standard
⌊>	**Bi**	209	440543.7	1.1				ug/L	470592	Standard

Sample ID: L1211033810
Report Date/Time: Sunday, November 18, 2012 20:00:44
Page 1

Approved: November 19, 2012

⌈	**Na**	23	0.0		**0.0050**	0.000	0.0	mg/L	2	Standard
|	**Mg**	24	2143.5	2.8	**-0.0017**	0.000	2.6	mg/L	5586	Standard
|	**K**	39	15.0	33.3	**0.1881**	0.082	43.6	mg/L	5	Standard
|	**Ca**	43	56.7	22.2	**0.4645**	0.609	131.2	mg/L	45	Standard
|	**Fe**	54	2734.8	8.4	**1.0219**	0.122	11.9	mg/L	350	Standard
|	**Fe**	57	776.7	0.4	**1.2350**	0.036	2.9	mg/L	102	Standard
⌊>	**Sc-1**	45	47450.9	3.0				mg/L	53004	Standard
	Cl	35	0.3	173.2				ug/L	2	Standard
	Kr	83	131.1	4.1				ug/L	157	Standard
	Br	81	4.2	69.3				ug/L	3	Standard
	P	31	42047.5	2.7				ug/L	91588	Standard
	S	34	37951.6	0.7				ug/L	32556	Standard
	Sr	88	95.0	32.9				ug/L	62	Standard
	C	12	68.3	30.5				mg/L	133	Standard
	N	14	1.7	173.2				mg/L	0	Standard
	Hg	202	3.3	86.6				mg/L	7	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		89.214	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: L1211033810
Report Date/Time: Sunday, November 18, 2012 20:00:44
Page 2

Approved: November 19, 2012

	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	88.400
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	93.615
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Approved: November 19, 2012

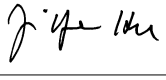
Method 6020 - Summary Report

Sample ID: L1211033811
Sample Date/Time: Sunday, November 18, 2012 20:01:24
Number of Replicates: 3
Autosampler Position: 437
Sample Description: 20
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	21189.8	1.9	**-8772.0703**	257.912	2.9	ug/L	8369	Standard
|	**Be**	9	158.3	18.0	**0.0779**	0.016	20.5	ug/L	18	Standard
|	**Al**	27	609506.6	3.1	**5.6943**	0.192	3.4	ug/L	215	Standard
⌊>	**Sc**	45	46165.2	0.5				ug/L	53004	Standard
⌈	**Ti**	47	233.3	9.5	**0.4623**	0.052	11.3	ug/L	26	Standard
|	**V**	51	14747.8	1.7	**1.1622**	0.032	2.8	ug/L	3223	Standard
|	**Cr**	52	44629.0	2.3	**3.7547**	0.110	2.9	ug/L	10379	Standard
|	**Cr**	53	4613.2	1.9	**3.7422**	0.134	3.6	ug/L	192	Standard
|	**Mn**	55	921284.6	2.0	**60.9569**	0.468	0.8	ug/L	1840	Standard
|	**Co**	59	8362.6	2.2	**0.7052**	0.016	2.3	ug/L	115	Standard
|	**Ni**	60	4052.5	2.5	**1.5886**	0.039	2.5	ug/L	75	Standard
|	**Cu**	65	2994.0	1.3	**1.1854**	0.005	0.5	ug/L	155	Standard
|	**Zn**	66	8014.5	0.2	**6.5270**	0.106	1.6	ug/L	237	Standard
|>	**Ge**	72	359910.5	1.6				ug/L	413856	Standard
|	**As**	75	471.8	7.1	**0.5140**	0.033	6.3	ug/L	-197	Standard
|	**Se**	82	13.9	94.3	**0.1292**	0.117	90.3	ug/L	-5	Standard
⌊	**Se-1**	77	128.3	6.1	**0.5254**	0.092	17.6	ug/L	105	Standard
⌈>	**Ga**	71	1801.8	2.5				mg/L	225	Standard
⌊	**Rb**	85	15024.1	2.1				ug/L	28	Standard
⌈	**Y**	89	285772.1	1.9				ug/L	322845	Standard
⌊>	**Rh**	103	136.7	11.2				ug/L	92	Standard
⌈	**Mo**	98	44.2	12.7	**0.0028**	0.001	46.1	ug/L	18	Standard
|	**Ag**	107	81.3	2.6	**0.0041**	0.000	7.6	ug/L	63	Standard
|	**Cd**	111	27.9	10.8	**-0.0016**	0.001	71.2	mg/L	20	Standard
|	**Cd**	114	90.6	6.9	**0.0022**	0.001	44.5	ug/L	56	Standard
|>	**In**	115	561851.8	1.9				ug/L	657102	Standard
|	**Sn**	118	311.7	4.5	**-0.0127**	0.002	17.9	ug/L	555	Standard
|	**Sb**	123	40.5	7.2	**0.0031**	0.001	16.4	ug/L	62	Standard
⌊	**Ba**	135	57167.6	0.6	**19.6248**	0.335	1.7	ug/L	19	Standard
⌈	**Ce**	140	142459.0	1.2				ug/L	24	Standard
⌊>	**Tb**	159	822941.5	0.9				ug/L	910514	Standard
⌈	**Ho**	165	1906.8	2.2				ug/L	7	Standard
|	**Tl**	203	140.3	8.7	**0.0082**	0.001	12.7	ug/L	13	Standard
|	**Tl**	205	2.3	49.5	**0.0078**	0.003	41.1	ug/L	1	Standard
|	**Pb**	206	1528895.4	0.8	**161.6557**	1.553	1.0	ug/L	342	Standard
|	**Pb**	207	1247340.8	1.7	**155.1230**	2.126	1.4	ug/L	284	Standard
|	**Pb**	208	6168794.2	0.9	**165.2461**	1.387	0.8	ug/L	1363	Standard
|	**U**	238	973.4	1.7	**0.1038**	0.002	2.0	ug/L	2	Standard
⌊>	**Bi**	209	433355.7	0.4				ug/L	470592	Standard

Approved: November 19, 2012



⌈	**Na**	23	0.0		**0.0050**	0.000	0.0	mg/L	2	Standard
|	**Mg**	24	2065.1	4.5	**-0.0018**	0.000	3.3	mg/L	5586	Standard
|	**K**	39	13.3	57.3	**0.1671**	0.120	71.6	mg/L	5	Standard
|	**Ca**	43	50.0	20.0	**0.2137**	0.495	231.8	mg/L	45	Standard
|	**Fe**	54	2726.9	3.5	**1.0493**	0.037	3.6	mg/L	350	Standard
|	**Fe**	57	721.7	7.7	**1.1728**	0.094	8.0	mg/L	102	Standard
⌊>	**Sc-1**	45	46165.2	0.5				mg/L	53004	Standard
	Cl	35	3.0	33.3				ug/L	2	Standard
	Kr	83	131.0	4.2				ug/L	157	Standard
	Br	81	5.8	65.5				ug/L	3	Standard
	P	31	39186.5	2.4				ug/L	91588	Standard
	S	34	34941.1	2.6				ug/L	32556	Standard
	Sr	88	100.0	17.3				ug/L	62	Standard
	C	12	86.7	20.3				mg/L	133	Standard
	N	14	1.7	173.2				mg/L	0	Standard
	Hg	202	5.0	100.0				mg/L	7	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		86.965	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: L1211033811
Report Date/Time: Sunday, November 18, 2012 20:03:56
Page 2

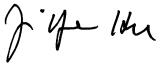
Approved: November 19, 2012

⌈	Mo	98	
|	Ag	107	
|	Cd	111	
|	Cd	114	
|>	In	115	85.505
|	Sn	118	
|	Sb	123	
⌊	Ba	135	
⌈	Ce	140	
⌊>	Tb	159	
⌈	Ho	165	
|	Tl	203	
|	Tl	205	
|	Pb	206	
|	Pb	207	
|	Pb	208	
|	U	238	
⌊>	Bi	209	92.087
⌈	Na	23	
|	Mg	24	
|	K	39	
|	Ca	43	
|	Fe	54	
|	Fe	57	
⌊>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Pb 206 Upper, S, EEE	Pb	206	
Pb 207 Upper, S, EEE	Pb	207	
Pb 208 Upper, S, EEE	Pb	208	

Approved: November 19, 2012



Method 6020 - Summary Report

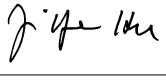
Sample ID: L1211033812
Sample Date/Time: Sunday, November 18, 2012 20:04:36
Number of Replicates: 3
Autosampler Position: 438
Sample Description: 20
Method File: C:\NexION Data\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
⌈	**Li**	7	29498.7	4.9	**-14006.5210**	988.796	7.1	ug/L	8369	Standard
|	**Be**	9	266.7	21.3	**0.1378**	0.034	24.9	ug/L	18	Standard
|	**Al**	27	1102217.4	2.4	**10.2774**	0.198	1.9	ug/L	215	Standard
⌊>	**Sc**	45	46268.9	2.9				ug/L	53004	Standard
⌈	**Ti**	47	250.7	11.8	**0.4958**	0.074	14.9	ug/L	26	Standard
|	**V**	51	17320.1	3.7	**1.3937**	0.032	2.3	ug/L	3223	Standard
|	**Cr**	52	23462.2	3.9	**1.5143**	0.088	5.8	ug/L	10379	Standard
|	**Cr**	53	2107.6	4.8	**1.6308**	0.053	3.3	ug/L	192	Standard
|	**Mn**	55	354896.3	3.3	**23.1833**	0.459	2.0	ug/L	1840	Standard
|	**Co**	59	12176.6	4.0	**1.0231**	0.039	3.8	ug/L	115	Standard
|	**Ni**	60	6557.8	3.9	**2.5659**	0.110	4.3	ug/L	75	Standard
|	**Cu**	65	3254.7	2.2	**1.2797**	0.010	0.8	ug/L	155	Standard
|	**Zn**	66	9159.1	3.4	**7.4090**	0.282	3.8	ug/L	237	Standard
|>	**Ge**	72	363647.1	1.9				ug/L	413856	Standard
|	**As**	75	121.2	15.4	**0.2352**	0.016	7.0	ug/L	-197	Standard
|	**Se**	82	10.0	16.8	**0.0931**	0.016	17.0	ug/L	-5	Standard
⌊	**Se-1**	77	117.0	7.8	**0.3781**	0.099	26.1	ug/L	105	Standard
⌈>	**Ga**	71	2553.5	1.1				mg/L	225	Standard
⌊	**Rb**	85	20435.5	3.9				ug/L	28	Standard
⌈	**Y**	89	298977.7	3.0				ug/L	322845	Standard
⌊>	**Rh**	103	96.7	13.0				ug/L	92	Standard
⌈	**Mo**	98	24.4	3.4	**-0.0023**	0.000	5.5	ug/L	18	Standard
|	**Ag**	107	71.0	22.4	**0.0027**	0.003	95.7	ug/L	63	Standard
|	**Cd**	111	61.0	17.3	**0.0097**	0.004	40.6	mg/L	20	Standard
|	**Cd**	114	166.3	14.1	**0.0121**	0.003	24.4	ug/L	56	Standard
|>	**In**	115	559737.9	1.7				ug/L	657102	Standard
|	**Sn**	118	311.3	5.0	**-0.0127**	0.002	15.2	ug/L	555	Standard
|	**Sb**	123	32.9	10.2	**0.0020**	0.001	26.7	ug/L	62	Standard
⌊	**Ba**	135	41318.9	1.9	**14.2322**	0.360	2.5	ug/L	19	Standard
⌈	**Ce**	140	184522.4	3.0				ug/L	24	Standard
⌊>	**Tb**	159	818298.1	0.8				ug/L	910514	Standard
⌈	**Ho**	165	2605.9	3.4				ug/L	7	Standard
|	**Tl**	203	175.0	13.6	**0.0111**	0.002	17.4	ug/L	13	Standard
|	**Tl**	205	7.3	20.8	**0.0215**	0.004	20.0	ug/L	1	Standard
|	**Pb**	206	19388.4	2.2	**2.0036**	0.050	2.5	ug/L	342	Standard
|	**Pb**	207	15730.5	3.2	**1.9075**	0.068	3.6	ug/L	284	Standard
|	**Pb**	208	74389.4	2.1	**1.9452**	0.047	2.4	ug/L	1363	Standard
|	**U**	238	1216.4	2.8	**0.1292**	0.004	2.9	ug/L	2	Standard
⌊>	**Bi**	209	436326.5	0.5				ug/L	470592	Standard

Sample ID: L1211033812
Report Date/Time: Sunday, November 18, 2012 20:07:08
Page 1

Approved: November 19, 2012



⌈	**Na**	23	0.0		**0.0050**	0.000	0.0	mg/L	2	Standard
|	**Mg**	24	3182.0	7.4	**-0.0011**	0.000	9.2	mg/L	5586	Standard
|	**K**	39	20.0	50.0	**0.2714**	0.161	59.5	mg/L	5	Standard
|	**Ca**	43	58.3	24.7	**0.6252**	0.776	124.1	mg/L	45	Standard
|	**Fe**	54	3322.3	4.1	**1.3084**	0.021	1.6	mg/L	350	Standard
|	**Fe**	57	895.0	7.5	**1.4827**	0.127	8.6	mg/L	102	Standard
⌊>	**Sc-1**	45	46268.9	2.9				mg/L	53004	Standard
	Cl	35	2.3	99.0				ug/L	2	Standard
	Kr	83	137.6	5.4				ug/L	157	Standard
	Br	81	6.7	21.7				ug/L	3	Standard
	P	31	38524.8	2.4				ug/L	91588	Standard
	S	34	31177.0	0.5				ug/L	32556	Standard
	Sr	88	103.3	2.8				ug/L	62	Standard
	C	12	105.0	25.2				mg/L	133	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	6.7	86.6				mg/L	7	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		87.868	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: L1211033812
Report Date/Time: Sunday, November 18, 2012 20:07:08
Page 2

Approved: November 19, 2012

	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	85.183
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	92.719
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: L1211033812
Report Date/Time: Sunday, November 18, 2012 20:07:08
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

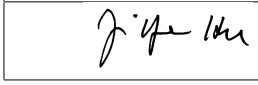
Sample ID: L1211033816
Sample Date/Time: Sunday, November 18, 2012 20:07:48
Number of Replicates: 3
Autosampler Position: 439
Sample Description: 20
Method File: C:\NexION Data\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
	Li	7	13254.1	4.7	**-3334.1247**	510.404	15.3	ug/L	8369	Standard
	Be	9	88.3	23.6	**0.0368**	0.010	27.6	ug/L	18	Standard
	Al	27	267848.1	2.9	**2.3799**	0.108	4.5	ug/L	215	Standard
>	**Sc**	45	48542.7	2.7				ug/L	53004	Standard
	Ti	47	322.0	3.4	**0.6213**	0.012	2.0	ug/L	26	Standard
	V	51	10296.7	4.9	**0.6760**	0.018	2.6	ug/L	3223	Standard
	Cr	52	48637.3	2.1	**3.9008**	0.178	4.6	ug/L	10379	Standard
	Cr	53	5108.4	3.7	**3.9239**	0.140	3.6	ug/L	192	Standard
	Mn	55	218360.9	2.5	**13.6109**	0.734	5.4	ug/L	1840	Standard
	Co	59	4252.3	1.8	**0.3314**	0.018	5.4	ug/L	115	Standard
	Ni	60	2352.2	3.3	**0.8561**	0.019	2.2	ug/L	75	Standard
	Cu	65	2065.8	2.1	**0.7543**	0.038	5.0	ug/L	155	Standard
	Zn	66	14891.3	0.2	**11.6276**	0.403	3.5	ug/L	237	Standard
>	**Ge**	72	380573.8	3.5				ug/L	413856	Standard
	As	75	150.8	38.5	**0.2520**	0.039	15.4	ug/L	-197	Standard
	Se	82	5.2	268.1	**0.0470**	0.116	246.3	ug/L	-5	Standard
	Se-1	77	140.0	5.0	**0.5730**	0.063	10.9	ug/L	105	Standard
>	**Ga**	71	1145.0	11.7				mg/L	225	Standard
	Rb	85	9556.3	3.1				ug/L	28	Standard
	Y	89	290827.1	2.2				ug/L	322845	Standard
>	**Rh**	103	93.3	12.4				ug/L	92	Standard
	Mo	98	439.8	5.2	**0.0990**	0.006	6.5	ug/L	18	Standard
	Ag	107	64.0	6.8	**0.0010**	0.001	69.2	ug/L	63	Standard
	Cd	111	122.8	8.7	**0.0283**	0.004	14.0	mg/L	20	Standard
	Cd	114	322.7	6.1	**0.0299**	0.003	8.4	ug/L	56	Standard
>	**In**	115	595889.7	1.4				ug/L	657102	Standard
	Sn	118	460.3	4.1	**0.0016**	0.002	135.6	ug/L	555	Standard
	Sb	123	52.5	15.8	**0.0045**	0.001	28.0	ug/L	62	Standard
	Ba	135	46531.4	1.9	**15.0556**	0.375	2.5	ug/L	19	Standard
	Ce	140	79162.6	1.8				ug/L	24	Standard
>	**Tb**	159	862201.3	1.1				ug/L	910514	Standard
	Ho	165	1030.0	1.4				ug/L	7	Standard
	Tl	203	114.0	8.0	**0.0056**	0.001	15.9	ug/L	13	Standard
	Tl	205	5.3	39.0	**0.0154**	0.006	35.6	ug/L	1	Standard
	Pb	206	598459.5	1.8	**60.5739**	1.822	3.0	ug/L	342	Standard
	Pb	207	496601.7	1.8	**59.1229**	1.898	3.2	ug/L	284	Standard
	Pb	208	2297468.4	2.0	**58.9139**	1.940	3.3	ug/L	1363	Standard
	U	238	364.0	9.8	**0.0362**	0.004	11.3	ug/L	2	Standard
>	**Bi**	209	452671.9	1.8				ug/L	470592	Standard

Sample ID: L1211033816
Report Date/Time: Sunday, November 18, 2012 20:10:21
Page 1

Approved: November 19, 2012



⌈	**Na**	23	0.0		**0.0050**	0.000	0.0	mg/L	2	Standard
|	**Mg**	24	1511.7	5.0	**-0.0021**	0.000	2.5	mg/L	5586	Standard
|	**K**	39	15.0	33.3	**0.1823**	0.079	43.3	mg/L	5	Standard
|	**Ca**	43	63.3	25.4	**0.7173**	0.774	107.9	mg/L	45	Standard
|	**Fe**	54	1533.4	6.6	**0.4903**	0.050	10.2	mg/L	350	Standard
|	**Fe**	57	523.3	19.6	**0.7727**	0.199	25.7	mg/L	102	Standard
⌊>	**Sc-1**	45	48542.7	2.7				mg/L	53004	Standard
	Cl	35	2.7	108.3				ug/L	2	Standard
	Kr	83	146.3	3.6				ug/L	157	Standard
	Br	81	5.0	50.0				ug/L	3	Standard
	P	31	39744.6	1.6				ug/L	91588	Standard
	S	34	32013.8	2.3				ug/L	32556	Standard
	Sr	88	85.0	25.6				ug/L	62	Standard
	C	12	105.0	12.6				mg/L	133	Standard
	N	14	1.7	173.2				mg/L	0	Standard
	Hg	202	3.3	86.6				mg/L	7	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		91.958	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: L1211033816
Report Date/Time: Sunday, November 18, 2012 20:10:21
Page 2

Approved: November 19, 2012

	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	90.685
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	96.192
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: L1211033816
Report Date/Time: Sunday, November 18, 2012 20:10:21
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

Sample ID: L1211033817
Sample Date/Time: Sunday, November 18, 2012 20:11:01
Number of Replicates: 3
Autosampler Position: 440
Sample Description: 20
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	11280.9	4.5	**-2296.3789**	99.807	4.3	ug/L	8369	Standard
	Be	9	75.0	20.0	**0.0310**	0.009	30.3	ug/L	18	Standard
	Al	27	199316.1	2.1	**1.8128**	0.085	4.7	ug/L	215	Standard
>	Sc	45	47420.8	3.2				ug/L	53004	Standard
	Ti	47	247.3	7.0	**0.4722**	0.031	6.6	ug/L	26	Standard
	V	51	12321.7	1.4	**0.8819**	0.032	3.6	ug/L	3223	Standard
	Cr	52	18508.0	0.4	**0.9479**	0.032	3.4	ug/L	10379	Standard
	Cr	53	1425.1	2.3	**1.0346**	0.018	1.7	ug/L	192	Standard
	Mn	55	342986.3	2.5	**21.7862**	0.863	4.0	ug/L	1840	Standard
	Co	59	4447.0	1.3	**0.3533**	0.010	2.8	ug/L	115	Standard
	Ni	60	1940.1	2.5	**0.7127**	0.027	3.8	ug/L	75	Standard
	Cu	65	1581.4	2.3	**0.5741**	0.012	2.1	ug/L	155	Standard
	Zn	66	5780.1	1.1	**4.4679**	0.090	2.0	ug/L	237	Standard
>	Ge	72	374077.5	1.4				ug/L	413856	Standard
	As	75	149.3	15.0	**0.2539**	0.019	7.3	ug/L	-197	Standard
	Se	82	1.8	380.5	**0.0210**	0.060	285.1	ug/L	-5	Standard
	Se-1	77	130.7	10.4	**0.4934**	0.134	27.3	ug/L	105	Standard
>	Ga	71	1336.7	12.2				mg/L	225	Standard
	Rb	85	10505.3	1.9				ug/L	28	Standard
	Y	89	288002.1	1.9				ug/L	322845	Standard
>	Rh	103	88.3	33.2				ug/L	92	Standard
	Mo	98	131.4	9.4	**0.0249**	0.004	14.6	ug/L	18	Standard
	Ag	107	71.7	16.1	**0.0025**	0.002	63.3	ug/L	63	Standard
	Cd	111	57.5	18.4	**0.0081**	0.003	42.9	mg/L	20	Standard
	Cd	114	173.8	24.2	**0.0125**	0.005	41.1	ug/L	56	Standard
>	In	115	572104.7	1.4				ug/L	657102	Standard
	Sn	118	330.0	9.4	**-0.0113**	0.003	27.4	ug/L	555	Standard
	Sb	123	72.7	98.3	**0.0077**	0.010	134.8	ug/L	62	Standard
	Ba	135	58327.4	2.1	**19.6590**	0.196	1.0	ug/L	19	Standard
	Ce	140	90048.9	2.5				ug/L	24	Standard
>	Tb	159	830894.0	1.5				ug/L	910514	Standard
	Ho	165	1016.0	1.4				ug/L	7	Standard
	Tl	203	156.0	37.3	**0.0093**	0.005	54.3	ug/L	13	Standard
	Tl	205	4.3	35.3	**0.0131**	0.004	33.3	ug/L	1	Standard
	Pb	206	102586.8	1.6	**10.5531**	0.298	2.8	ug/L	342	Standard
	Pb	207	84569.1	1.9	**10.2295**	0.340	3.3	ug/L	284	Standard
	Pb	208	395086.3	1.8	**10.2950**	0.331	3.2	ug/L	1363	Standard
	U	238	402.7	9.2	**0.0410**	0.005	11.1	ug/L	2	Standard
>	Bi	209	444238.1	1.6				ug/L	470592	Standard

Sample ID: L1211033817
Report Date/Time: Sunday, November 18, 2012 20:13:33
Page 1

Approved: November 19, 2012

⌈	**Na**	23	0.0		**0.0050**	0.000	0.0	mg/L	2	Standard
|	**Mg**	24	1410.1	9.6	**-0.0021**	0.000	4.0	mg/L	5586	Standard
|	**K**	39	10.0	86.6	**0.1102**	0.130	118.3	mg/L	5	Standard
|	**Ca**	43	40.0	25.0	**-0.3299**	0.452	136.9	mg/L	45	Standard
|	**Fe**	54	1913.1	8.8	**0.6683**	0.071	10.6	mg/L	350	Standard
|	**Fe**	57	543.3	13.4	**0.8282**	0.154	18.6	mg/L	102	Standard
⌊>	**Sc-1**	45	47420.8	3.2				mg/L	53004	Standard
	Cl	35	1.7	34.6				ug/L	2	Standard
	Kr	83	142.6	3.2				ug/L	157	Standard
	Br	81	11.7	32.7				ug/L	3	Standard
	P	31	39653.5	2.0				ug/L	91588	Standard
	S	34	31709.0	1.6				ug/L	32556	Standard
	Sr	88	76.7	22.9				ug/L	62	Standard
	C	12	78.3	7.4				mg/L	133	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	15.0	66.7				mg/L	7	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		90.388	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: L1211033817
Report Date/Time: Sunday, November 18, 2012 20:13:33
Page 2

Approved: November 19, 2012

	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	87.065
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	94.400
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: L1211033817
Report Date/Time: Sunday, November 18, 2012 20:13:33
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

Sample ID: L1211033818
Sample Date/Time: Sunday, November 18, 2012 20:14:13
Number of Replicates: 3
Autosampler Position: 441
Sample Description: 20
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	23910.6	7.4	**-9829.1431**	255.555	2.6	ug/L	8369	Standard
|	**Be**	9	156.7	27.1	**0.0726**	0.017	23.8	ug/L	18	Standard
|	**Al**	27	763084.3	1.3	**6.8367**	0.464	6.8	ug/L	215	Standard
⌊>	**Sc**	45	48263.6	5.7				ug/L	53004	Standard
⌈	**Ti**	47	229.0	5.5	**0.4328**	0.020	4.7	ug/L	26	Standard
|	**V**	51	16876.7	2.4	**1.3068**	0.051	3.9	ug/L	3223	Standard
|	**Cr**	52	20362.7	0.3	**1.1347**	0.025	2.2	ug/L	10379	Standard
|	**Cr**	53	1590.1	4.5	**1.1675**	0.061	5.3	ug/L	192	Standard
|	**Mn**	55	512632.7	1.4	**32.5988**	0.561	1.7	ug/L	1840	Standard
|	**Co**	59	10837.9	1.6	**0.8831**	0.007	0.8	ug/L	115	Standard
|	**Ni**	60	4919.5	2.5	**1.8615**	0.051	2.7	ug/L	75	Standard
|	**Cu**	65	2928.3	1.5	**1.1123**	0.020	1.8	ug/L	155	Standard
|	**Zn**	66	6656.8	1.8	**5.1756**	0.080	1.5	ug/L	237	Standard
|>	**Ge**	72	374059.8	1.6				ug/L	413856	Standard
|	**As**	75	347.7	14.6	**0.4053**	0.042	10.3	ug/L	-197	Standard
|	**Se**	82	13.7	133.1	**0.1242**	0.158	126.8	ug/L	-5	Standard
⌊	**Se-1**	77	120.7	12.4	**0.3803**	0.148	38.9	ug/L	105	Standard
⌈>	**Ga**	71	2056.8	2.4				mg/L	225	Standard
⌊	**Rb**	85	16128.6	0.8				ug/L	28	Standard
⌈	**Y**	89	306436.8	3.4				ug/L	322845	Standard
⌊>	**Rh**	103	98.3	33.9				ug/L	92	Standard
⌈	**Mo**	98	25.1	24.1	**-0.0024**	0.002	64.7	ug/L	18	Standard
|	**Ag**	107	82.7	12.4	**0.0038**	0.001	36.1	ug/L	63	Standard
|	**Cd**	111	41.3	7.0	**0.0024**	0.001	41.4	mg/L	20	Standard
|	**Cd**	114	128.4	8.3	**0.0064**	0.001	18.2	ug/L	56	Standard
|>	**In**	115	584573.2	1.0				ug/L	657102	Standard
|	**Sn**	118	319.7	5.6	**-0.0133**	0.002	18.0	ug/L	555	Standard
|	**Sb**	123	22.5	40.4	**0.0003**	0.001	431.0	ug/L	62	Standard
⌊	**Ba**	135	37931.4	1.8	**12.5072**	0.323	2.6	ug/L	19	Standard
⌈	**Ce**	140	164962.9	1.1				ug/L	24	Standard
⌊>	**Tb**	159	844745.7	1.1				ug/L	910514	Standard
⌈	**Ho**	165	2264.2	1.1				ug/L	7	Standard
|	**Tl**	203	134.7	13.8	**0.0074**	0.002	21.6	ug/L	13	Standard
|	**Tl**	205	2.7	78.1	**0.0084**	0.006	65.4	ug/L	1	Standard
|	**Pb**	206	11254.8	0.5	**1.1230**	0.018	1.6	ug/L	342	Standard
|	**Pb**	207	9189.1	0.3	**1.0739**	0.013	1.2	ug/L	284	Standard
|	**Pb**	208	43403.3	0.6	**1.0949**	0.018	1.6	ug/L	1363	Standard
|	**U**	238	690.3	2.2	**0.0710**	0.001	1.3	ug/L	2	Standard
⌊>	**Bi**	209	446284.0	1.0				ug/L	470592	Standard

Sample ID: L1211033818
Report Date/Time: Sunday, November 18, 2012 20:16:45
Page 1

Approved: November 19, 2012

⌈	**Na**	23	1.7	173.2	**0.1746**	0.294	168.2	mg/L	2	Standard
|	**Mg**	24	2513.5	7.6	**-0.0016**	0.000	8.6	mg/L	5586	Standard
|	**K**	39	16.7	62.4	**0.2057**	0.155	75.5	mg/L	5	Standard
|	**Ca**	43	48.3	21.5	**0.0357**	0.529	1481.9	mg/L	45	Standard
|	**Fe**	54	3056.5	7.2	**1.1358**	0.040	3.5	mg/L	350	Standard
|	**Fe**	57	885.0	4.8	**1.4016**	0.117	8.4	mg/L	102	Standard
⌊>	**Sc-1**	45	48263.6	5.7				mg/L	53004	Standard
	Cl	35	1.7	91.7				ug/L	2	Standard
	Kr	83	139.7	6.2				ug/L	157	Standard
	Br	81	4.2	91.7				ug/L	3	Standard
	P	31	39903.3	1.0				ug/L	91588	Standard
	S	34	32206.7	0.5				ug/L	32556	Standard
	Sr	88	95.0	21.1				ug/L	62	Standard
	C	12	86.7	46.6				mg/L	133	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	8.3	91.7				mg/L	7	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		90.384	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: L1211033818
Report Date/Time: Sunday, November 18, 2012 20:16:45
Page 2

Approved: November 19, 2012

	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	88.962
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	94.835
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: L1211033818
Report Date/Time: Sunday, November 18, 2012 20:16:45
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

Sample ID: L1211033819
Sample Date/Time: Sunday, November 18, 2012 20:17:25
Number of Replicates: 3
Autosampler Position: 442
Sample Description: 20
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	7345.3	34.7	**730.6417**	515.527	70.6	ug/L	8369	Standard
|	**Be**	9	5.0	0.0	**-0.0069**	0.001	13.7	ug/L	18	Standard
|	**Al**	27	173.3	55.4	**-0.0009**	0.000	43.6	ug/L	215	Standard
⌊>	**Sc**	45	54493.4	33.3				ug/L	53004	Standard
⌈	**Ti**	47	11.3	58.7	**-0.0365**	0.005	12.9	ug/L	26	Standard
|	**V**	51	1470.2	24.9	**-0.1268**	0.024	19.2	ug/L	3223	Standard
|	**Cr**	52	4586.1	23.5	**-0.4398**	0.089	20.3	ug/L	10379	Standard
|	**Cr**	53	65.8	12.2	**-0.0520**	0.022	42.1	ug/L	192	Standard
|	**Mn**	55	1460.7	50.0	**-0.0004**	0.021	4790.7	ug/L	1840	Standard
|	**Co**	59	90.0	16.8	**-0.0077**	0.002	25.8	ug/L	115	Standard
|	**Ni**	60	58.3	25.8	**-0.0123**	0.005	44.7	ug/L	75	Standard
|	**Cu**	65	90.3	34.4	**-0.0213**	0.004	20.1	ug/L	155	Standard
|	**Zn**	66	198.3	46.7	**-0.0424**	0.026	60.9	ug/L	237	Standard
|>	**Ge**	72	383099.0	42.5				ug/L	413856	Standard
|	**As**	75	-111.3	63.3	**0.0554**	0.054	97.7	ug/L	-197	Standard
|	**Se**	82	11.3	117.3	**0.0771**	0.086	111.7	ug/L	-5	Standard
⌊	**Se-1**	77	90.3	16.9	**0.1015**	0.311	305.9	ug/L	105	Standard
⌈>	**Ga**	71	201.7	51.7				mg/L	225	Standard
⌊	**Rb**	85	36.7	41.7				ug/L	28	Standard
⌈	**Y**	89	315630.4	46.6				ug/L	322845	Standard
⌊>	**Rh**	103	95.0	45.6				ug/L	92	Standard
⌈	**Mo**	98	8.2	51.3	**-0.0067**	0.001	9.1	ug/L	18	Standard
|	**Ag**	107	53.0	36.8	**-0.0003**	0.000	30.8	ug/L	63	Standard
|	**Cd**	111	23.7	52.5	**-0.0034**	0.002	57.9	mg/L	20	Standard
|	**Cd**	114	55.5	41.1	**-0.0027**	0.000	11.0	ug/L	56	Standard
|>	**In**	115	581890.8	37.7				ug/L	657102	Standard
|	**Sn**	118	243.7	26.9	**-0.0206**	0.005	25.7	ug/L	555	Standard
|	**Sb**	123	41.0	66.0	**0.0027**	0.002	66.0	ug/L	62	Standard
⌊	**Ba**	135	25.0	30.2	**-0.0114**	0.001	9.4	ug/L	19	Standard
⌈	**Ce**	140	33.3	20.0				ug/L	24	Standard
⌊>	**Tb**	159	858293.9	31.6				ug/L	910514	Standard
⌈	**Ho**	165	10.3	20.1				ug/L	7	Standard
|	**Tl**	203	60.3	16.7	**0.0015**	0.001	82.9	ug/L	13	Standard
|	**Tl**	205	4.0	43.3	**0.0137**	0.008	61.7	ug/L	1	Standard
|	**Pb**	206	403.7	32.1	**0.0086**	0.006	70.2	ug/L	342	Standard
|	**Pb**	207	354.0	35.8	**0.0060**	0.004	65.9	ug/L	284	Standard
|	**Pb**	208	1599.4	32.7	**0.0069**	0.004	54.4	ug/L	1363	Standard
|	**U**	238	3.3	45.8	**-0.0012**	0.000	14.1	ug/L	2	Standard
⌊>	**Bi**	209	451975.2	32.4				ug/L	470592	Standard

Sample ID: L1211033819
Report Date/Time: Sunday, November 18, 2012 20:19:57
Page 1

Approved: November 19, 2012

⌈	**Na**	23	1.7	173.2	**0.2311**	0.392	169.5	mg/L	2	Standard
|	**Mg**	24	565.0	24.5	**-0.0026**	0.000	1.3	mg/L	5586	Standard
|	**K**	39	1.7	173.2	**-0.0073**	0.059	805.3	mg/L	5	Standard
|	**Ca**	43	50.0	17.3	**-0.0444**	0.599	1349.6	mg/L	45	Standard
|	**Fe**	54	354.4	66.2	**-0.0330**	0.060	181.4	mg/L	350	Standard
|	**Fe**	57	151.7	5.0	**0.1272**	0.109	85.3	mg/L	102	Standard
⌊>	**Sc-1**	45	54493.4	33.3				mg/L	53004	Standard
	Cl	35	0.7	86.6				ug/L	2	Standard
	Kr	83	302.3	50.2				ug/L	157	Standard
	Br	81	2.5	100.0				ug/L	3	Standard
	P	31	73048.4	58.7				ug/L	91588	Standard
	S	34	11443.5	5.8				ug/L	32556	Standard
	Sr	88	105.0	12.6				ug/L	62	Standard
	C	12	108.3	57.7				mg/L	133	Standard
	N	14	3.3	173.2				mg/L	0	Standard
	Hg	202	1.7	173.2				mg/L	7	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		92.568	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: L1211033819
Report Date/Time: Sunday, November 18, 2012 20:19:57
Page 2

Approved: November 19, 2012

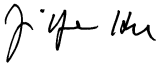
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	88.554
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	96.044
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Cr 52 Lower	Cr	52	

Sample ID: L1211033819
Report Date/Time: Sunday, November 18, 2012 20:19:57
Page 3

Approved: November 19, 2012



Method 6020 - Summary Report

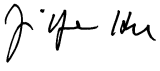
Sample ID: L1211033820
Sample Date/Time: Sunday, November 18, 2012 20:20:38
Number of Replicates: 3
Autosampler Position: 443
Sample Description: 20
Method File: C:\NexION Data\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
	Li	7	12351.7	3.5	**-3133.5947**	169.211	5.4	ug/L	8369	Standard
	Be	9	81.7	25.5	**0.0355**	0.012	33.6	ug/L	18	Standard
	Al	27	253456.3	5.3	**2.3595**	0.184	7.8	ug/L	215	Standard
>	**Sc**	45	46367.6	3.4				ug/L	53004	Standard
	Ti	47	120.3	10.3	**0.2069**	0.025	12.2	ug/L	26	Standard
	V	51	8670.6	3.9	**0.5652**	0.019	3.4	ug/L	3223	Standard
	Cr	52	18104.2	3.3	**0.9614**	0.029	3.0	ug/L	10379	Standard
	Cr	53	1465.9	6.3	**1.1028**	0.072	6.5	ug/L	192	Standard
	Mn	55	395224.0	4.6	**25.8566**	0.732	2.8	ug/L	1840	Standard
	Co	59	5004.2	3.9	**0.4118**	0.014	3.4	ug/L	115	Standard
	Ni	60	2013.1	6.8	**0.7635**	0.042	5.4	ug/L	75	Standard
	Cu	65	1369.4	3.1	**0.5059**	0.015	3.0	ug/L	155	Standard
	Zn	66	5542.0	4.0	**4.4082**	0.104	2.4	ug/L	237	Standard
>	**Ge**	72	363165.4	1.8				ug/L	413856	Standard
	As	75	-9.3	410.4	**0.1328**	0.030	22.5	ug/L	-197	Standard
	Se	82	2.8	224.3	**0.0296**	0.055	184.0	ug/L	-5	Standard
	Se-1	77	124.3	5.5	**0.4664**	0.104	22.3	ug/L	105	Standard
>	**Ga**	71	971.7	11.2				mg/L	225	Standard
	Rb	85	7236.7	3.5				ug/L	28	Standard
	Y	89	285800.2	3.0				ug/L	322845	Standard
>	**Rh**	103	120.0	33.3				ug/L	92	Standard
	Mo	98	24.0	35.4	**-0.0025**	0.002	91.5	ug/L	18	Standard
	Ag	107	61.0	18.6	**0.0010**	0.002	150.6	ug/L	63	Standard
	Cd	111	28.0	7.2	**-0.0017**	0.001	34.1	mg/L	20	Standard
	Cd	114	79.4	6.1	**0.0007**	0.001	91.4	ug/L	56	Standard
>	**In**	115	565624.4	1.1				ug/L	657102	Standard
	Sn	118	319.0	5.3	**-0.0122**	0.002	14.8	ug/L	555	Standard
	Sb	123	20.8	16.5	**0.0002**	0.001	313.9	ug/L	62	Standard
	Ba	135	22633.2	2.1	**7.7038**	0.098	1.3	ug/L	19	Standard
	Ce	140	84384.5	3.3				ug/L	24	Standard
>	**Tb**	159	833855.9	1.5				ug/L	910514	Standard
	Ho	165	1354.1	3.8				ug/L	7	Standard
	Tl	203	102.3	6.5	**0.0049**	0.000	8.2	ug/L	13	Standard
	Tl	205	5.0	40.0	**0.0150**	0.006	38.0	ug/L	1	Standard
	Pb	206	1153829.2	3.6	**119.9604**	3.661	3.1	ug/L	342	Standard
	Pb	207	942207.7	3.8	**115.2215**	3.802	3.3	ug/L	284	Standard
	Pb	208	4690427.1	3.0	**123.5460**	2.954	2.4	ug/L	1363	Standard
	U	238	393.0	9.5	**0.0403**	0.003	8.1	ug/L	2	Standard
>	**Bi**	209	440700.6	2.2				ug/L	470592	Standard

Sample ID: L1211033820
Report Date/Time: Sunday, November 18, 2012 20:23:09
Page 1

Approved: November 19, 2012



⌈	**Na**	23	1.7	173.2	**0.1779**	0.299	168.3	mg/L	2	Standard
|	**Mg**	24	2166.8	5.0	**-0.0017**	0.000	2.5	mg/L	5586	Standard
|	**K**	39	10.0		**0.1142**	0.005	4.7	mg/L	5	Standard
|	**Ca**	43	55.0	18.2	**0.4363**	0.395	90.6	mg/L	45	Standard
|	**Fe**	54	1470.0	6.7	**0.4931**	0.058	11.8	mg/L	350	Standard
|	**Fe**	57	455.0	8.7	**0.6894**	0.080	11.6	mg/L	102	Standard
⌊>	**Sc-1**	45	46367.6	3.4				mg/L	53004	Standard
	Cl	35	3.0	33.3				ug/L	2	Standard
	Kr	83	145.2	0.5				ug/L	157	Standard
	Br	81	5.0	50.0				ug/L	3	Standard
	P	31	38084.5	3.0				ug/L	91588	Standard
	S	34	28879.2	1.6				ug/L	32556	Standard
	Sr	88	91.7	11.4				ug/L	62	Standard
	C	12	93.3	18.8				mg/L	133	Standard
	N	14	1.7	173.2				mg/L	0	Standard
	Hg	202	10.0					mg/L	7	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		87.752	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: L1211033820
Report Date/Time: Sunday, November 18, 2012 20:23:09
Page 2

Approved: November 19, 2012

⌈	Mo	98	
|	Ag	107	
|	Cd	111	
|	Cd	114	
|>	In	115	86.079
|	Sn	118	
|	Sb	123	
⌊	Ba	135	
⌈	Ce	140	
⌊>	Tb	159	
⌈	Ho	165	
|	Tl	203	
|	Tl	205	
|	Pb	206	
|	Pb	207	
|	Pb	208	
|	U	238	
⌊>	Bi	209	93.648
⌈	Na	23	
|	Mg	24	
|	K	39	
|	Ca	43	
|	Fe	54	
|	Fe	57	
⌊>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Pb 206 Upper, S, EEE	Pb	206	
Pb 207 Upper, S, EEE	Pb	207	
Pb 208 Upper, S, EEE	Pb	208	

Approved: November 19, 2012

Method 6020 - Summary Report

Sample ID: L1211034001
Sample Date/Time: Sunday, November 18, 2012 20:23:50
Number of Replicates: 3
Autosampler Position: 444
Sample Description: 20
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	18105.8	3.1	**-6618.9737**	121.544	1.8	ug/L	8369	Standard
	Be	9	216.7	5.8	**0.1082**	0.009	8.3	ug/L	18	Standard
	Al	27	758022.8	0.6	**6.9625**	0.097	1.4	ug/L	215	Standard
>	Sc	45	46964.4	2.0				ug/L	53004	Standard
	Ti	47	161.0	8.7	**0.2838**	0.034	12.0	ug/L	26	Standard
	V	51	18242.7	3.8	**1.4177**	0.041	2.9	ug/L	3223	Standard
	Cr	52	19476.2	2.9	**1.0268**	0.033	3.2	ug/L	10379	Standard
	Cr	53	1585.1	2.5	**1.1518**	0.046	4.0	ug/L	192	Standard
	Mn	55	600923.6	1.0	**37.8717**	0.343	0.9	ug/L	1840	Standard
	Co	59	8934.0	1.4	**0.7185**	0.015	2.1	ug/L	115	Standard
	Ni	60	4703.4	2.6	**1.7610**	0.025	1.4	ug/L	75	Standard
	Cu	65	3447.1	1.2	**1.3069**	0.035	2.7	ug/L	155	Standard
	Zn	66	10106.4	2.2	**7.8859**	0.201	2.5	ug/L	237	Standard
>	Ge	72	377557.8	1.4				ug/L	413856	Standard
	As	75	483.8	6.6	**0.5055**	0.029	5.7	ug/L	-197	Standard
	Se	82	10.7	30.5	**0.0956**	0.027	28.6	ug/L	-5	Standard
	Se-1	77	132.0	9.7	**0.4974**	0.164	32.9	ug/L	105	Standard
>	Ga	71	1661.8	6.9				mg/L	225	Standard
	Rb	85	17114.7	4.1				ug/L	28	Standard
	Y	89	297476.2	3.8				ug/L	322845	Standard
>	Rh	103	95.0	27.9				ug/L	92	Standard
	Mo	98	47.2	9.5	**0.0033**	0.001	34.1	ug/L	18	Standard
	Ag	107	70.3	16.0	**0.0023**	0.002	71.0	ug/L	63	Standard
	Cd	111	79.9	7.0	**0.0156**	0.002	12.1	mg/L	20	Standard
	Cd	114	227.0	4.2	**0.0193**	0.001	6.3	ug/L	56	Standard
>	In	115	572579.3	0.1				ug/L	657102	Standard
	Sn	118	299.3	3.3	**-0.0149**	0.001	8.0	ug/L	555	Standard
	Sb	123	42.6	18.8	**0.0033**	0.001	35.5	ug/L	62	Standard
	Ba	135	43499.7	0.9	**14.6450**	0.126	0.9	ug/L	19	Standard
	Ce	140	177215.8	1.0				ug/L	24	Standard
>	Tb	159	841679.2	0.5				ug/L	910514	Standard
	Ho	165	2489.5	0.7				ug/L	7	Standard
	Tl	203	127.0	7.5	**0.0069**	0.001	11.5	ug/L	13	Standard
	Tl	205	6.0	44.1	**0.0175**	0.007	40.6	ug/L	1	Standard
	Pb	206	107966.3	0.4	**11.1159**	0.026	0.2	ug/L	342	Standard
	Pb	207	86993.4	0.6	**10.5304**	0.036	0.3	ug/L	284	Standard
	Pb	208	412096.9	0.7	**10.7466**	0.044	0.4	ug/L	1363	Standard
	U	238	1135.0	6.9	**0.1184**	0.008	6.7	ug/L	2	Standard
>	Bi	209	443813.9	0.3				ug/L	470592	Standard

Sample ID: L1211034001
Report Date/Time: Sunday, November 18, 2012 20:26:22
Page 1

Approved: November 19, 2012

⌈	**Na**	23	0.0		**0.0050**	0.000	0.0	mg/L	2	Standard
|	**Mg**	24	1876.8	7.7	**-0.0019**	0.000	3.3	mg/L	5586	Standard
|	**K**	39	16.7	34.6	**0.2150**	0.090	42.0	mg/L	5	Standard
|	**Ca**	43	36.7	20.8	**-0.4706**	0.352	74.9	mg/L	45	Standard
|	**Fe**	54	2606.6	9.4	**0.9757**	0.084	8.6	mg/L	350	Standard
|	**Fe**	57	760.0	2.9	**1.2194**	0.053	4.3	mg/L	102	Standard
⌊>	**Sc-1**	45	46964.4	2.0				mg/L	53004	Standard
	Cl	35	1.7	91.7				ug/L	2	Standard
	Kr	83	146.6	6.0				ug/L	157	Standard
	Br	81	4.2	69.3				ug/L	3	Standard
	P	31	38904.1	2.0				ug/L	91588	Standard
	S	34	29582.2	1.8				ug/L	32556	Standard
	Sr	88	71.7	10.7				ug/L	62	Standard
	C	12	100.0	5.0				mg/L	133	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	3.3	86.6				mg/L	7	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		91.229	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: L1211034001
Report Date/Time: Sunday, November 18, 2012 20:26:22
Page 2

Approved: November 19, 2012

⌈	Mo	98	
|	Ag	107	
|	Cd	111	
|	Cd	114	
|>	In	115	87.137
|	Sn	118	
|	Sb	123	
⌊	Ba	135	
⌈	Ce	140	
⌊>	Tb	159	
⌈	Ho	165	
|	Tl	203	
|	Tl	205	
|	Pb	206	
|	Pb	207	
|	Pb	208	
|	U	238	
⌊>	Bi	209	94.310
⌈	Na	23	
|	Mg	24	
|	K	39	
|	Ca	43	
|	Fe	54	
|	Fe	57	
⌊>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: L1211034001
Report Date/Time: Sunday, November 18, 2012 20:26:22
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

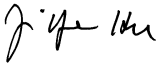
Sample ID: L1211034002
Sample Date/Time: Sunday, November 18, 2012 20:27:02
Number of Replicates: 3
Autosampler Position: 445
Sample Description: 20
Method File: C:\NexION Data\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
⌈	**Li**	7	28249.6	1.4	**-11976.2568**	522.515	4.4	ug/L	8369	Standard
|	**Be**	9	236.7	12.0	**0.1122**	0.019	16.7	ug/L	18	Standard
|	**Al**	27	1083509.3	0.8	**9.4065**	0.380	4.0	ug/L	215	Standard
⌊>	**Sc**	45	49736.6	4.1				ug/L	53004	Standard
⌈	**Ti**	47	148.7	5.6	**0.2571**	0.023	9.0	ug/L	26	Standard
|	**V**	51	15151.8	0.5	**1.1309**	0.028	2.5	ug/L	3223	Standard
|	**Cr**	52	21665.5	2.6	**1.2436**	0.094	7.6	ug/L	10379	Standard
|	**Cr**	53	1795.1	4.9	**1.3177**	0.096	7.3	ug/L	192	Standard
|	**Mn**	55	1497936.4	1.6	**94.4444**	3.340	3.5	ug/L	1840	Standard
|	**Co**	59	17227.5	1.3	**1.3984**	0.047	3.3	ug/L	115	Standard
|	**Ni**	60	7262.7	2.5	**2.7361**	0.103	3.8	ug/L	75	Standard
|	**Cu**	65	3263.0	3.5	**1.2326**	0.060	4.9	ug/L	155	Standard
|	**Zn**	66	7693.0	1.3	**5.9471**	0.118	2.0	ug/L	237	Standard
|>	**Ge**	72	378080.3	2.0				ug/L	413856	Standard
|	**As**	75	313.4	10.2	**0.3760**	0.019	5.2	ug/L	-197	Standard
|	**Se**	82	9.2	34.5	**0.0825**	0.025	30.6	ug/L	-5	Standard
⌊	**Se-1**	77	127.7	3.7	**0.4466**	0.082	18.4	ug/L	105	Standard
⌈>	**Ga**	71	2370.2	7.4				mg/L	225	Standard
⌊	**Rb**	85	16946.1	2.6				ug/L	28	Standard
⌈	**Y**	89	298819.5	2.9				ug/L	322845	Standard
⌊>	**Rh**	103	98.3	15.5				ug/L	92	Standard
⌈	**Mo**	98	27.9	20.0	**-0.0018**	0.001	79.7	ug/L	18	Standard
|	**Ag**	107	79.0	18.7	**0.0033**	0.002	67.5	ug/L	63	Standard
|	**Cd**	111	98.0	12.7	**0.0208**	0.004	19.1	mg/L	20	Standard
|	**Cd**	114	246.3	7.6	**0.0210**	0.002	9.5	ug/L	56	Standard
|>	**In**	115	586715.4	1.1				ug/L	657102	Standard
|	**Sn**	118	310.3	9.6	**-0.0145**	0.003	23.6	ug/L	555	Standard
|	**Sb**	123	25.0	18.3	**0.0007**	0.001	102.0	ug/L	62	Standard
⌊	**Ba**	135	55092.3	0.3	**18.1069**	0.149	0.8	ug/L	19	Standard
⌈	**Ce**	140	213332.5	1.1				ug/L	24	Standard
⌊>	**Tb**	159	845253.0	2.4				ug/L	910514	Standard
⌈	**Ho**	165	2540.9	0.9				ug/L	7	Standard
|	**Tl**	203	160.7	6.8	**0.0095**	0.001	7.0	ug/L	13	Standard
|	**Tl**	205	3.7	41.7	**0.0111**	0.004	35.9	ug/L	1	Standard
|	**Pb**	206	16271.7	0.8	**1.6273**	0.056	3.4	ug/L	342	Standard
|	**Pb**	207	13162.4	1.3	**1.5432**	0.036	2.3	ug/L	284	Standard
|	**Pb**	208	62032.8	0.8	**1.5690**	0.051	3.3	ug/L	1363	Standard
|	**U**	238	1081.7	1.6	**0.1114**	0.002	1.6	ug/L	2	Standard
⌊>	**Bi**	209	449431.4	2.6				ug/L	470592	Standard

Sample ID: L1211034002
Report Date/Time: Sunday, November 18, 2012 20:29:34
Page 1

Approved: November 19, 2012



	Na	23	0.0		**0.0050**	0.000	0.0	mg/L	2	Standard
	Mg	24	2566.9	3.9	**-0.0016**	0.000	3.6	mg/L	5586	Standard
	K	39	8.3	91.7	**0.0786**	0.112	142.3	mg/L	5	Standard
	Ca	43	60.0	25.0	**0.4797**	0.593	123.6	mg/L	45	Standard
	Fe	54	3309.2	1.2	**1.2028**	0.053	4.4	mg/L	350	Standard
	Fe	57	865.0	4.7	**1.3227**	0.121	9.2	mg/L	102	Standard
>	**Sc-1**	45	49736.6	4.1				mg/L	53004	Standard
	Cl	35	2.0	100.0				ug/L	2	Standard
	Kr	83	141.3	1.2				ug/L	157	Standard
	Br	81	4.2	69.3				ug/L	3	Standard
	P	31	40239.2	0.6				ug/L	91588	Standard
	S	34	30395.5	2.7				ug/L	32556	Standard
	Sr	88	93.3	29.5				ug/L	62	Standard
	C	12	105.0	23.8				mg/L	133	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	5.0	0.0				mg/L	7	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		91.356	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			
	Y	89			
>	Rh	103			

Sample ID: L1211034002
Report Date/Time: Sunday, November 18, 2012 20:29:34
Page 2

Approved: November 19, 2012

	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	89.288
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	95.503
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: L1211034002
Report Date/Time: Sunday, November 18, 2012 20:29:34
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

Sample ID: QC Std 6
Sample Date/Time: Sunday, November 18, 2012 20:30:17
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	9127.7	1.0	**32.8903**	76.916	233.9	ug/L	8369	Standard
|	**Be**	9	116251.1	2.3	**51.3249**	0.024	0.0	ug/L	18	Standard
|	**Al**	27	7208751.0	4.4	**53.8948**	1.172	2.2	ug/L	215	Standard
⌊>	**Sc**	45	57684.6	2.3				ug/L	53004	Standard
⌈	**Ti**	47	56866.9	2.2	**103.6265**	1.634	1.6	ug/L	26	Standard
|	**V**	51	643588.5	3.8	**50.5964**	1.084	2.1	ug/L	3223	Standard
|	**Cr**	52	611773.0	3.5	**51.2801**	0.658	1.3	ug/L	10379	Standard
|	**Cr**	53	74136.8	2.4	**50.3559**	0.742	1.5	ug/L	192	Standard
|	**Mn**	55	964996.4	4.0	**52.0458**	1.013	1.9	ug/L	1840	Standard
|	**Co**	59	725649.4	3.0	**50.9814**	1.071	2.1	ug/L	115	Standard
|	**Ni**	60	156625.3	4.9	**51.1353**	1.706	3.3	ug/L	75	Standard
|	**Cu**	65	150931.0	2.4	**51.0418**	0.673	1.3	ug/L	155	Standard
|	**Zn**	66	75776.7	2.2	**51.6603**	0.750	1.5	ug/L	237	Standard
|>	**Ge**	72	441348.0	2.4				ug/L	413856	Standard
|	**As**	75	79117.5	2.1	**51.2518**	0.592	1.2	ug/L	-197	Standard
|	**Se**	82	7078.3	2.3	**51.2252**	0.634	1.2	ug/L	-5	Standard
⌊	**Se-1**	77	5521.7	1.4	**51.8042**	1.186	2.3	ug/L	105	Standard
⌈>	**Ga**	71	206.7	13.3				mg/L	225	Standard
⌊	**Rb**	85	1735.1	5.2				ug/L	28	Standard
⌈	**Y**	89	332814.6	1.8				ug/L	322845	Standard
⌊>	**Rh**	103	95.0	13.9				ug/L	92	Standard
⌈	**Mo**	98	460504.3	2.4	**100.0277**	3.031	3.0	ug/L	18	Standard
|	**Ag**	107	404586.7	3.5	**49.9544**	1.912	3.8	ug/L	63	Standard
|	**Cd**	111	176763.0	2.6	**50.4159**	1.466	2.9	mg/L	20	Standard
|	**Cd**	114	469104.7	2.5	**50.8400**	1.535	3.0	ug/L	56	Standard
|>	**In**	115	671835.8	1.3				ug/L	657102	Standard
|	**Sn**	118	522743.3	3.6	**51.3418**	2.228	4.3	ug/L	555	Standard
|	**Sb**	123	407212.0	2.6	**50.8649**	1.660	3.3	ug/L	62	Standard
⌊	**Ba**	135	178322.4	2.8	**51.2299**	1.924	3.8	ug/L	19	Standard
⌈	**Ce**	140	585.0	6.0				ug/L	24	Standard
⌊>	**Tb**	159	942766.5	0.5				ug/L	910514	Standard
⌈	**Ho**	165	466.7	11.1				ug/L	7	Standard
|	**Tl**	203	665328.8	1.8	**51.3144**	1.055	2.1	ug/L	13	Standard
|	**Tl**	205	19956.1	0.8	**50.4496**	0.570	1.1	ug/L	1	Standard
|	**Pb**	206	534027.9	2.4	**51.3787**	1.383	2.7	ug/L	342	Standard
|	**Pb**	207	454351.5	2.7	**51.4157**	1.529	3.0	ug/L	284	Standard
|	**Pb**	208	2101360.4	2.3	**51.2189**	1.346	2.6	ug/L	1363	Standard
|	**U**	238	523466.2	2.9	**51.5576**	1.645	3.2	ug/L	2	Standard
⌊>	**Bi**	209	476065.1	0.3				ug/L	470592	Standard

Sample ID: QC Std 6
Report Date/Time: Sunday, November 18, 2012 20:32:49
Page 1

Approved: November 19, 2012

⌈	**Na**	23	1.7	173.2	**0.1466**	0.245	167.3	mg/L	2	Standard
|	**Mg**	24	309351.4	1.2	**0.1366**	0.002	1.5	mg/L	5586	Standard
|	**K**	39	433.3	7.3	**5.3803**	0.512	9.5	mg/L	5	Standard
|	**Ca**	43	178.3	18.7	**4.7454**	1.304	27.5	mg/L	45	Standard
|	**Fe**	54	14408.1	6.0	**4.9313**	0.241	4.9	mg/L	350	Standard
|	**Fe**	57	3703.8	4.4	**5.2197**	0.301	5.8	mg/L	102	Standard
⌊>	**Sc-1**	45	57684.6	2.3				mg/L	53004	Standard
	Cl	35	2.7	21.7				ug/L	2	Standard
	Kr	83	147.6	4.4				ug/L	157	Standard
	Br	81	3.3	86.6				ug/L	3	Standard
	P	31	129552.4	1.4				ug/L	91588	Standard
	S	34	43263.3	0.8				ug/L	32556	Standard
	Sr	88	80.0	16.5				ug/L	62	Standard
	C	12	141.7	30.0				mg/L	133	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	1.7	173.2				mg/L	7	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈	Li	7			
|	Be	9	102.650		
|	Al	27	107.790		
⌊>	Sc	45			
⌈	Ti	47	103.626		
|	V	51	101.193		
|	Cr	52	102.560		
|	Cr	53			
|	Mn	55	104.092		
|	Co	59	101.963		
|	Ni	60	102.271		
|	Cu	65	102.084		
|	Zn	66	103.321		
|>	Ge	72		106.643	
|	As	75	102.504		
|	Se	82	102.450		
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: QC Std 6
Report Date/Time: Sunday, November 18, 2012 20:32:49
Page 2

Approved: November 19, 2012

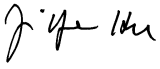
⌈	Mo	98	100.028		
|	Ag	107	99.909		
|	Cd	111	100.832		
|	Cd	114			
| >	In	115		102.242	
|	Sn	118	102.684		
|	Sb	123	101.730		
⌊	Ba	135	102.460		
⌈	Ce	140			
⌊ >	Tb	159			
⌈	Ho	165			
|	Tl	203	102.629		
|	Tl	205			
|	Pb	206	102.757		
|	Pb	207	102.831		
|	Pb	208	102.438		
|	U	238	103.115		
⌊ >	Bi	209		101.163	
⌈	Na	23			
|	Mg	24			
|	K	39			
|	Ca	43			
|	Fe	54			
|	Fe	57			
⌊ >	Sc-1	45			
	Cl	35			
	Kr	83			
	Br	81			
	P	31			
	S	34			
	Sr	88			
	C	12			
	N	14			
	Hg	202			

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: QC Std 6
Report Date/Time: Sunday, November 18, 2012 20:32:49
Page 3

Approved: November 19, 2012



Method 6020 - Summary Report

Sample ID: QC Std 7
Sample Date/Time: Sunday, November 18, 2012 20:33:29
Number of Replicates: 3
Autosampler Position: 102
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	8437.3	2.5	**359.1900**	123.787	34.5	ug/L	8369	Standard
|	**Be**	9	25.0	60.0	**0.0018**	0.007	383.4	ug/L	18	Standard
|	**Al**	27	995.0	51.9	**0.0055**	0.004	78.8	ug/L	215	Standard
⌊>	**Sc**	45	57403.7	5.2				ug/L	53004	Standard
⌈	**Ti**	47	31.3	41.0	**-0.0019**	0.024	1258.6	ug/L	26	Standard
|	**V**	51	3377.1	3.8	**0.0020**	0.015	745.7	ug/L	3223	Standard
|	**Cr**	52	10163.7	0.6	**-0.0403**	0.026	64.1	ug/L	10379	Standard
|	**Cr**	53	141.7	24.3	**-0.0128**	0.022	173.2	ug/L	192	Standard
|	**Mn**	55	1690.8	7.2	**0.0032**	0.006	185.1	ug/L	1840	Standard
|	**Co**	59	145.3	47.0	**-0.0052**	0.005	94.1	ug/L	115	Standard
|	**Ni**	60	79.7	8.2	**-0.0092**	0.003	27.6	ug/L	75	Standard
|	**Cu**	65	219.0	11.7	**0.0172**	0.008	46.6	ug/L	155	Standard
|	**Zn**	66	255.3	3.9	**-0.0232**	0.002	10.2	ug/L	237	Standard
|>	**Ge**	72	437460.2	2.6				ug/L	413856	Standard
|	**As**	75	-169.9	12.3	**0.0290**	0.016	56.1	ug/L	-197	Standard
|	**Se**	82	8.3	99.6	**0.0654**	0.059	90.2	ug/L	-5	Standard
⌊	**Se-1**	77	117.3	6.3	**0.1542**	0.099	64.4	ug/L	105	Standard
⌈>	**Ga**	71	186.7	11.2				mg/L	225	Standard
⌊	**Rb**	85	15.0	57.7				ug/L	28	Standard
⌈	**Y**	89	327026.8	2.9				ug/L	322845	Standard
⌊>	**Rh**	103	126.7	16.4				ug/L	92	Standard
⌈	**Mo**	98	84.0	91.3	**0.0103**	0.018	175.1	ug/L	18	Standard
|	**Ag**	107	134.0	97.2	**0.0093**	0.017	185.4	ug/L	63	Standard
|	**Cd**	111	49.2	98.2	**0.0034**	0.015	431.1	mg/L	20	Standard
|	**Cd**	114	159.2	89.0	**0.0083**	0.017	198.8	ug/L	56	Standard
|>	**In**	115	661797.7	3.8				ug/L	657102	Standard
|	**Sn**	118	439.7	25.8	**-0.0052**	0.013	253.0	ug/L	555	Standard
|	**Sb**	123	364.7	26.8	**0.0432**	0.012	26.7	ug/L	62	Standard
⌊	**Ba**	135	46.0	46.8	**-0.0064**	0.007	105.2	ug/L	19	Standard
⌈	**Ce**	140	27.7	10.4				ug/L	24	Standard
⌊>	**Tb**	159	930045.8	3.2				ug/L	910514	Standard
⌈	**Ho**	165	10.3	14.8				ug/L	7	Standard
|	**Tl**	203	89.7	66.0	**0.0033**	0.005	143.1	ug/L	13	Standard
|	**Tl**	205	2.7	108.3	**0.0080**	0.007	91.2	ug/L	1	Standard
|	**Pb**	206	406.0	14.5	**0.0061**	0.005	87.7	ug/L	342	Standard
|	**Pb**	207	351.0	3.3	**0.0036**	0.002	52.6	ug/L	284	Standard
|	**Pb**	208	1572.7	8.2	**0.0039**	0.003	75.9	ug/L	1363	Standard
|	**U**	238	58.0	24.4	**0.0042**	0.002	37.3	ug/L	2	Standard
⌊>	**Bi**	209	476619.1	3.1				ug/L	470592	Standard

Sample ID: QC Std 7
Report Date/Time: Sunday, November 18, 2012 20:36:01
Page 1

Approved: November 19, 2012

⌈	**Na**	23	0.0		**0.0050**	0.000	0.0	mg/L	2	Standard
|	**Mg**	24	925.0	26.8	**-0.0025**	0.000	5.2	mg/L	5586	Standard
|	**K**	39	6.7	43.3	**0.0414**	0.031	75.8	mg/L	5	Standard
|	**Ca**	43	56.7	13.5	**-0.0074**	0.222	3021.4	mg/L	45	Standard
|	**Fe**	54	357.3	14.3	**-0.0271**	0.011	41.9	mg/L	350	Standard
|	**Fe**	57	118.3	10.6	**0.0431**	0.010	23.2	mg/L	102	Standard
⌊>	**Sc-1**	45	57403.7	5.2				mg/L	53004	Standard
	Cl	35	2.7	21.7				ug/L	2	Standard
	Kr	83	153.6	4.8				ug/L	157	Standard
	Br	81	2.5	173.2				ug/L	3	Standard
	P	31	126142.5	3.4				ug/L	91588	Standard
	S	34	42677.5	2.5				ug/L	32556	Standard
	Sr	88	76.7	35.9				ug/L	62	Standard
	C	12	135.0	13.4				mg/L	133	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	0.0					mg/L	7	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		105.704	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: QC Std 7
Report Date/Time: Sunday, November 18, 2012 20:36:01
Page 2

Approved: November 19, 2012

	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	100.715
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	101.281
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: QC Std 7
Report Date/Time: Sunday, November 18, 2012 20:36:01
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

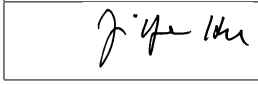
Sample ID: L1211034003
Sample Date/Time: Sunday, November 18, 2012 20:36:44
Number of Replicates: 3
Autosampler Position: 446
Sample Description: 20
Method File: C:\NexION Data\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
	Li	7	20048.3	5.0	**-7173.9106**	281.963	3.9	ug/L	8369	Standard
	Be	9	175.0	10.3	**0.0806**	0.011	13.3	ug/L	18	Standard
	Al	27	489583.5	1.5	**4.2613**	0.063	1.5	ug/L	215	Standard
>	Sc	45	49556.0	3.0				ug/L	53004	Standard
	Ti	47	298.7	4.2	**0.5685**	0.019	3.3	ug/L	26	Standard
	V	51	15642.9	1.2	**1.1592**	0.024	2.1	ug/L	3223	Standard
	Cr	52	19811.9	1.3	**1.0348**	0.012	1.2	ug/L	10379	Standard
	Cr	53	1555.9	7.2	**1.1116**	0.075	6.8	ug/L	192	Standard
	Mn	55	193185.2	1.1	**11.9552**	0.038	0.3	ug/L	1840	Standard
	Co	59	5712.1	2.1	**0.4476**	0.004	0.9	ug/L	115	Standard
	Ni	60	3992.5	2.5	**1.4696**	0.020	1.4	ug/L	75	Standard
	Cu	65	2526.5	0.7	**0.9294**	0.013	1.4	ug/L	155	Standard
	Zn	66	8384.0	3.4	**6.4190**	0.174	2.7	ug/L	237	Standard
>	Ge	72	382543.5	1.3				ug/L	413856	Standard
	As	75	77.6	28.8	**0.1978**	0.016	8.3	ug/L	-197	Standard
	Se	82	1.0	2022.1	**0.0132**	0.161	1222.4	ug/L	-5	Standard
	Se-1	77	117.7	6.0	**0.3191**	0.089	28.0	ug/L	105	Standard
>	Ga	71	1756.8	4.6				mg/L	225	Standard
	Rb	85	14812.2	3.2				ug/L	28	Standard
	Y	89	297168.1	1.8				ug/L	322845	Standard
>	Rh	103	60.0	41.7				ug/L	92	Standard
	Mo	98	46.7	2.1	**0.0029**	0.000	3.3	ug/L	18	Standard
	Ag	107	76.0	6.0	**0.0028**	0.001	27.6	ug/L	63	Standard
	Cd	111	30.6	8.2	**-0.0012**	0.001	72.1	mg/L	20	Standard
	Cd	114	84.1	9.9	**0.0008**	0.001	137.6	ug/L	56	Standard
>	In	115	588525.9	2.5				ug/L	657102	Standard
	Sn	118	357.0	4.9	**-0.0093**	0.002	18.7	ug/L	555	Standard
	Sb	123	52.1	5.8	**0.0045**	0.001	13.4	ug/L	62	Standard
	Ba	135	32374.9	3.4	**10.5998**	0.296	2.8	ug/L	19	Standard
	Ce	140	140322.9	1.6				ug/L	24	Standard
>	Tb	159	851769.1	2.7				ug/L	910514	Standard
	Ho	165	1949.8	3.8				ug/L	7	Standard
	Tl	203	140.3	16.4	**0.0079**	0.002	26.4	ug/L	13	Standard
	Tl	205	7.3	55.1	**0.0210**	0.011	50.6	ug/L	1	Standard
	Pb	206	10915.9	2.5	**1.0887**	0.020	1.8	ug/L	342	Standard
	Pb	207	8897.6	1.4	**1.0394**	0.006	0.6	ug/L	284	Standard
	Pb	208	41721.0	1.7	**1.0517**	0.014	1.4	ug/L	1363	Standard
	U	238	780.0	2.3	**0.0805**	0.003	4.3	ug/L	2	Standard
>	Bi	209	446014.9	1.9				ug/L	470592	Standard

Sample ID: L1211034003
Report Date/Time: Sunday, November 18, 2012 20:39:16
Page 1

Approved: November 19, 2012



⌈	**Na**	23	1.7	173.2	**0.1681**	0.282	168.1	mg/L	2	Standard
|	**Mg**	24	1698.4	2.9	**-0.0020**	0.000	2.3	mg/L	5586	Standard
|	**K**	39	21.7	53.3	**0.2751**	0.172	62.7	mg/L	5	Standard
|	**Ca**	43	66.7	30.3	**0.7938**	0.858	108.1	mg/L	45	Standard
|	**Fe**	54	2554.7	6.4	**0.8982**	0.097	10.7	mg/L	350	Standard
|	**Fe**	57	723.4	14.7	**1.0840**	0.140	12.9	mg/L	102	Standard
⌊>	**Sc-1**	45	49556.0	3.0				mg/L	53004	Standard
	Cl	35	2.0	50.0				ug/L	2	Standard
	Kr	83	152.7	4.2				ug/L	157	Standard
	Br	81	5.8	24.7				ug/L	3	Standard
	P	31	42645.0	5.0				ug/L	91588	Standard
	S	34	37851.4	4.0				ug/L	32556	Standard
	Sr	88	90.0	5.6				ug/L	62	Standard
	C	12	76.7	26.4				mg/L	133	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	5.0	100.0				mg/L	7	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		92.434	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: L1211034003
Report Date/Time: Sunday, November 18, 2012 20:39:16
Page 2

Approved: November 19, 2012

	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	89.564
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	94.777
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: L1211034003
Report Date/Time: Sunday, November 18, 2012 20:39:16
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

Sample ID: L1211034004
Sample Date/Time: Sunday, November 18, 2012 20:39:57
Number of Replicates: 3
Autosampler Position: 447
Sample Description: 20
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	17742.1	5.8	**-6420.8028**	530.841	8.3	ug/L	8369	Standard
|	**Be**	9	178.3	19.7	**0.0874**	0.018	20.5	ug/L	18	Standard
|	**Al**	27	605796.2	2.5	**5.5776**	0.066	1.2	ug/L	215	Standard
⌊>	**Sc**	45	46835.6	1.3				ug/L	53004	Standard
⌈	**Ti**	47	161.0	1.2	**0.2869**	0.006	2.1	ug/L	26	Standard
|	**V**	51	18255.2	0.9	**1.4361**	0.031	2.1	ug/L	3223	Standard
|	**Cr**	52	17129.3	1.1	**0.8101**	0.032	4.0	ug/L	10379	Standard
|	**Cr**	53	1310.1	7.0	**0.9429**	0.072	7.6	ug/L	192	Standard
|	**Mn**	55	529124.9	0.3	**33.6726**	0.757	2.2	ug/L	1840	Standard
|	**Co**	59	7801.7	2.4	**0.6321**	0.030	4.8	ug/L	115	Standard
|	**Ni**	60	3853.2	2.7	**1.4520**	0.075	5.2	ug/L	75	Standard
|	**Cu**	65	3352.4	1.6	**1.2829**	0.052	4.1	ug/L	155	Standard
|	**Zn**	66	7903.1	3.4	**6.1895**	0.349	5.6	ug/L	237	Standard
|>	**Ge**	72	373908.5	2.4				ug/L	413856	Standard
|	**As**	75	694.5	8.6	**0.6699**	0.050	7.5	ug/L	-197	Standard
|	**Se**	82	12.2	61.0	**0.1102**	0.066	59.4	ug/L	-5	Standard
⌊	**Se-1**	77	130.3	7.3	**0.4929**	0.129	26.2	ug/L	105	Standard
⌈>	**Ga**	71	1546.7	4.9				mg/L	225	Standard
⌊	**Rb**	85	14445.2	2.2				ug/L	28	Standard
⌈	**Y**	89	292722.4	1.0				ug/L	322845	Standard
⌊>	**Rh**	103	78.3	9.8				ug/L	92	Standard
⌈	**Mo**	98	67.7	7.1	**0.0087**	0.001	13.9	ug/L	18	Standard
|	**Ag**	107	83.7	10.2	**0.0044**	0.001	29.6	ug/L	63	Standard
|	**Cd**	111	76.6	4.0	**0.0147**	0.001	8.9	mg/L	20	Standard
|	**Cd**	114	254.1	3.1	**0.0231**	0.001	6.0	ug/L	56	Standard
|>	**In**	115	566108.7	1.1				ug/L	657102	Standard
|	**Sn**	118	344.7	7.2	**-0.0092**	0.003	28.6	ug/L	555	Standard
|	**Sb**	123	57.2	5.4	**0.0056**	0.000	8.2	ug/L	62	Standard
⌊	**Ba**	135	45253.5	1.3	**15.4131**	0.355	2.3	ug/L	19	Standard
⌈	**Ce**	140	169516.5	1.5				ug/L	24	Standard
⌊>	**Tb**	159	842656.2	1.9				ug/L	910514	Standard
⌈	**Ho**	165	2394.9	3.5				ug/L	7	Standard
|	**Tl**	203	123.3	3.1	**0.0067**	0.001	8.5	ug/L	13	Standard
|	**Tl**	205	2.7	78.1	**0.0085**	0.005	64.2	ug/L	1	Standard
|	**Pb**	206	93400.4	1.4	**9.7160**	0.216	2.2	ug/L	342	Standard
|	**Pb**	207	74384.2	2.0	**9.0960**	0.207	2.3	ug/L	284	Standard
|	**Pb**	208	350964.2	1.2	**9.2468**	0.208	2.3	ug/L	1363	Standard
|	**U**	238	1049.4	2.6	**0.1105**	0.000	0.4	ug/L	2	Standard
⌊>	**Bi**	209	439205.8	2.5				ug/L	470592	Standard

Approved: November 19, 2012

⌈	**Na**	23	0.0		**0.0050**	0.000	0.0	mg/L	2	Standard
|	**Mg**	24	1465.1	8.2	**-0.0021**	0.000	2.7	mg/L	5586	Standard
|	**K**	39	15.0	88.2	**0.1913**	0.208	108.6	mg/L	5	Standard
|	**Ca**	43	48.3	11.9	**0.0999**	0.309	309.5	mg/L	45	Standard
|	**Fe**	54	3359.9	0.2	**1.3076**	0.022	1.7	mg/L	350	Standard
|	**Fe**	57	920.0	4.2	**1.5070**	0.067	4.4	mg/L	102	Standard
⌊>	**Sc-1**	45	46835.6	1.3				mg/L	53004	Standard
	Cl	35	0.7	86.6				ug/L	2	Standard
	Kr	83	145.8	7.1				ug/L	157	Standard
	Br	81	4.2	91.7				ug/L	3	Standard
	P	31	39176.4	1.4				ug/L	91588	Standard
	S	34	32959.2	2.6				ug/L	32556	Standard
	Sr	88	90.0	11.1				ug/L	62	Standard
	C	12	101.7	19.9				mg/L	133	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	11.7	49.5				mg/L	7	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		90.348	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: L1211034004
Report Date/Time: Sunday, November 18, 2012 20:42:30
Page 2

Approved: November 19, 2012

	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	86.152
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	93.331
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: L1211034004
Report Date/Time: Sunday, November 18, 2012 20:42:30
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

Sample ID: L1211034005
Sample Date/Time: Sunday, November 18, 2012 20:43:10
Number of Replicates: 3
Autosampler Position: 448
Sample Description: 20
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	26777.0	2.2	**-11341.9959**	1166.090	10.3	ug/L	8369	Standard
	Be	9	220.0	14.2	**0.1054**	0.022	21.2	ug/L	18	Standard
	Al	27	1014511.3	0.3	**8.9296**	0.476	5.3	ug/L	215	Standard
>	Sc	45	49089.5	4.9				ug/L	53004	Standard
	Ti	47	197.7	1.1	**0.3542**	0.009	2.5	ug/L	26	Standard
	V	51	15572.9	1.3	**1.1460**	0.038	3.3	ug/L	3223	Standard
	Cr	52	21547.3	2.7	**1.1962**	0.094	7.8	ug/L	10379	Standard
	Cr	53	1795.9	2.0	**1.2942**	0.050	3.9	ug/L	192	Standard
	Mn	55	204392.6	1.5	**12.5949**	0.380	3.0	ug/L	1840	Standard
	Co	59	11060.4	2.8	**0.8772**	0.037	4.2	ug/L	115	Standard
	Ni	60	5573.4	0.8	**2.0559**	0.051	2.5	ug/L	75	Standard
	Cu	65	3399.4	1.9	**1.2642**	0.048	3.8	ug/L	155	Standard
	Zn	66	7689.0	2.0	**5.8438**	0.230	3.9	ug/L	237	Standard
>	Ge	72	384443.5	1.8				ug/L	413856	Standard
	As	75	431.9	7.2	**0.4602**	0.021	4.6	ug/L	-197	Standard
	Se	82	13.0	29.3	**0.1128**	0.030	26.2	ug/L	-5	Standard
	Se-1	77	143.7	9.5	**0.5992**	0.172	28.8	ug/L	105	Standard
>	Ga	71	2170.2	7.9				mg/L	225	Standard
	Rb	85	17400.0	3.6				ug/L	28	Standard
	Y	89	305917.1	2.6				ug/L	322845	Standard
>	Rh	103	93.3	15.5				ug/L	92	Standard
	Mo	98	26.6	15.3	**-0.0020**	0.001	54.4	ug/L	18	Standard
	Ag	107	77.7	15.5	**0.0032**	0.002	55.6	ug/L	63	Standard
	Cd	111	47.3	22.0	**0.0044**	0.004	80.6	mg/L	20	Standard
	Cd	114	131.6	1.6	**0.0069**	0.000	4.2	ug/L	56	Standard
>	In	115	580531.8	1.4				ug/L	657102	Standard
	Sn	118	302.0	6.9	**-0.0150**	0.003	18.8	ug/L	555	Standard
	Sb	123	38.0	16.0	**0.0026**	0.001	36.9	ug/L	62	Standard
	Ba	135	43957.3	0.5	**14.5984**	0.237	1.6	ug/L	19	Standard
	Ce	140	182391.3	0.5				ug/L	24	Standard
>	Tb	159	848008.7	2.5				ug/L	910514	Standard
	Ho	165	2535.2	1.8				ug/L	7	Standard
	Tl	203	155.7	12.7	**0.0092**	0.001	15.8	ug/L	13	Standard
	Tl	205	5.3	43.3	**0.0157**	0.006	40.7	ug/L	1	Standard
	Pb	206	23367.0	0.8	**2.3699**	0.046	1.9	ug/L	342	Standard
	Pb	207	18895.4	2.0	**2.2495**	0.063	2.8	ug/L	284	Standard
	Pb	208	89578.2	1.5	**2.2992**	0.045	2.0	ug/L	1363	Standard
	U	238	1279.4	2.7	**0.1331**	0.005	4.0	ug/L	2	Standard
>	Bi	209	445741.7	1.4				ug/L	470592	Standard

Sample ID: L1211034005
Report Date/Time: Sunday, November 18, 2012 20:45:42
Page 1

Approved: November 19, 2012

⌈	**Na**	23	3.3	86.6	**0.3372**	0.288	85.5	mg/L	2	Standard
|	**Mg**	24	1936.8	7.5	**-0.0019**	0.000	1.6	mg/L	5586	Standard
|	**K**	39	21.7	13.3	**0.2787**	0.059	21.3	mg/L	5	Standard
|	**Ca**	43	58.3	13.1	**0.4542**	0.368	81.0	mg/L	45	Standard
|	**Fe**	54	2839.4	2.9	**1.0261**	0.062	6.0	mg/L	350	Standard
|	**Fe**	57	785.0	13.0	**1.1999**	0.120	10.0	mg/L	102	Standard
⌊>	**Sc-1**	45	49089.5	4.9				mg/L	53004	Standard
	Cl	35	3.3	45.8				ug/L	2	Standard
	Kr	83	150.4	3.8				ug/L	157	Standard
	Br	81	5.8	24.7				ug/L	3	Standard
	P	31	40244.2	0.7				ug/L	91588	Standard
	S	34	31572.0	1.4				ug/L	32556	Standard
	Sr	88	100.0	17.3				ug/L	62	Standard
	C	12	96.7	24.4				mg/L	133	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	6.7	43.3				mg/L	7	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		92.893	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: L1211034005
Report Date/Time: Sunday, November 18, 2012 20:45:42
Page 2

Approved: November 19, 2012

	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	88.347
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	94.719
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: L1211034005
Report Date/Time: Sunday, November 18, 2012 20:45:42
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

Sample ID: L1211034006
Sample Date/Time: Sunday, November 18, 2012 20:46:22
Number of Replicates: 3
Autosampler Position: 449
Sample Description: 20
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	25561.5	1.9	**-10293.8886**	615.070	6.0	ug/L	8369	Standard
|	**Be**	9	206.7	1.4	**0.0958**	0.004	4.1	ug/L	18	Standard
|	**Al**	27	829001.5	3.3	**7.1424**	0.113	1.6	ug/L	215	Standard
⌊>	**Sc**	45	50064.3	3.3				ug/L	53004	Standard
⌈	**Ti**	47	267.3	9.3	**0.4923**	0.044	8.8	ug/L	26	Standard
|	**V**	51	21243.1	1.3	**1.6352**	0.013	0.8	ug/L	3223	Standard
|	**Cr**	52	22140.5	2.0	**1.2255**	0.057	4.7	ug/L	10379	Standard
|	**Cr**	53	1822.6	4.7	**1.2967**	0.083	6.4	ug/L	192	Standard
|	**Mn**	55	752886.5	1.4	**46.0217**	1.170	2.5	ug/L	1840	Standard
|	**Co**	59	10703.4	1.1	**0.8369**	0.009	1.0	ug/L	115	Standard
|	**Ni**	60	6112.2	1.3	**2.2281**	0.039	1.7	ug/L	75	Standard
|	**Cu**	65	2983.0	1.4	**1.0868**	0.005	0.4	ug/L	155	Standard
|	**Zn**	66	7429.5	2.1	**5.5613**	0.050	0.9	ug/L	237	Standard
|>	**Ge**	72	389484.8	1.4				ug/L	413856	Standard
|	**As**	75	430.0	12.3	**0.4550**	0.041	9.1	ug/L	-197	Standard
|	**Se**	82	13.4	63.7	**0.1154**	0.071	61.5	ug/L	-5	Standard
⌊	**Se-1**	77	116.3	12.8	**0.2808**	0.159	56.5	ug/L	105	Standard
⌈>	**Ga**	71	2145.2	2.8				mg/L	225	Standard
⌊	**Rb**	85	17693.7	4.0				ug/L	28	Standard
⌈	**Y**	89	306478.1	2.4				ug/L	322845	Standard
⌊>	**Rh**	103	95.0	9.1				ug/L	92	Standard
⌈	**Mo**	98	88.8	80.7	**0.0137**	0.019	134.8	ug/L	18	Standard
|	**Ag**	107	107.0	53.0	**0.0074**	0.008	113.4	ug/L	63	Standard
|	**Cd**	111	75.2	25.1	**0.0136**	0.007	49.3	mg/L	20	Standard
|	**Cd**	114	177.9	32.2	**0.0127**	0.008	60.1	ug/L	56	Standard
|>	**In**	115	583488.9	1.9				ug/L	657102	Standard
|	**Sn**	118	365.0	8.6	**-0.0080**	0.004	53.7	ug/L	555	Standard
|	**Sb**	123	47.9	54.0	**0.0040**	0.004	96.5	ug/L	62	Standard
⌊	**Ba**	135	48903.8	1.1	**16.1638**	0.427	2.6	ug/L	19	Standard
⌈	**Ce**	140	177060.8	1.9				ug/L	24	Standard
⌊>	**Tb**	159	865946.4	1.6				ug/L	910514	Standard
⌈	**Ho**	165	2344.5	0.9				ug/L	7	Standard
|	**Tl**	203	174.3	12.8	**0.0106**	0.002	18.1	ug/L	13	Standard
|	**Tl**	205	5.7	44.4	**0.0166**	0.007	42.4	ug/L	1	Standard
|	**Pb**	206	20323.3	1.2	**2.0396**	0.054	2.6	ug/L	342	Standard
|	**Pb**	207	16405.9	2.0	**1.9317**	0.053	2.8	ug/L	284	Standard
|	**Pb**	208	77864.6	1.1	**1.9772**	0.047	2.4	ug/L	1363	Standard
|	**U**	238	1118.0	1.3	**0.1151**	0.004	3.5	ug/L	2	Standard
⌊>	**Bi**	209	449546.8	2.1				ug/L	470592	Standard

Sample ID: L1211034006
Report Date/Time: Sunday, November 18, 2012 20:48:54
Page 1

Approved: November 19, 2012

⌈	**Na**	23	0.0		**0.0050**	0.000	0.0	mg/L	2	Standard
|	**Mg**	24	1870.1	7.2	**-0.0020**	0.000	2.2	mg/L	5586	Standard
|	**K**	39	16.7	17.3	**0.1995**	0.049	24.4	mg/L	5	Standard
|	**Ca**	43	50.0	26.5	**0.0368**	0.662	1797.1	mg/L	45	Standard
|	**Fe**	54	3896.4	3.6	**1.4328**	0.087	6.1	mg/L	350	Standard
|	**Fe**	57	998.4	9.8	**1.5299**	0.118	7.7	mg/L	102	Standard
⌊>	**Sc-1**	45	50064.3	3.3				mg/L	53004	Standard
	Cl	35	3.7	41.7				ug/L	2	Standard
	Kr	83	155.6	1.7				ug/L	157	Standard
	Br	81	6.7	57.3				ug/L	3	Standard
	P	31	39570.8	3.9				ug/L	91588	Standard
	S	34	31499.4	1.9				ug/L	32556	Standard
	Sr	88	85.0	5.9				ug/L	62	Standard
	C	12	123.3	33.0				mg/L	133	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	5.0	0.0				mg/L	7	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		94.111	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: L1211034006
Report Date/Time: Sunday, November 18, 2012 20:48:54
Page 2

Approved: November 19, 2012

	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	88.797
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	95.528
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: L1211034006
Report Date/Time: Sunday, November 18, 2012 20:48:54
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

Sample ID: L1211034007
Sample Date/Time: Sunday, November 18, 2012 20:49:34
Number of Replicates: 3
Autosampler Position: 450
Sample Description: 20
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	19312.3	2.4	**-6864.4717**	211.698	3.1	ug/L	8369	Standard
|	**Be**	9	188.3	5.5	**0.0884**	0.007	7.6	ug/L	18	Standard
|	**Al**	27	728518.6	0.6	**6.4085**	0.087	1.4	ug/L	215	Standard
⌊>	**Sc**	45	49034.2	1.5				ug/L	53004	Standard
⌈	**Ti**	47	121.3	10.7	**0.1984**	0.026	13.1	ug/L	26	Standard
|	**V**	51	12117.5	2.4	**0.8498**	0.016	1.9	ug/L	3223	Standard
|	**Cr**	52	17662.6	0.5	**0.8428**	0.027	3.2	ug/L	10379	Standard
|	**Cr**	53	1315.9	4.1	**0.9350**	0.033	3.5	ug/L	192	Standard
|	**Mn**	55	136660.9	0.7	**8.5276**	0.157	1.8	ug/L	1840	Standard
|	**Co**	59	8109.5	1.3	**0.6493**	0.002	0.4	ug/L	115	Standard
|	**Ni**	60	4263.3	1.0	**1.5899**	0.024	1.5	ug/L	75	Standard
|	**Cu**	65	2346.5	2.4	**0.8692**	0.014	1.6	ug/L	155	Standard
|	**Zn**	66	6551.4	1.2	**5.0308**	0.009	0.2	ug/L	237	Standard
|>	**Ge**	72	378308.7	1.1				ug/L	413856	Standard
|	**As**	75	-39.0	24.5	**0.1106**	0.007	6.2	ug/L	-197	Standard
|	**Se**	82	1.3	342.3	**0.0159**	0.037	229.9	ug/L	-5	Standard
⌊	**Se-1**	77	136.7	6.6	**0.5458**	0.118	21.7	ug/L	105	Standard
⌈>	**Ga**	71	1615.1	8.7				mg/L	225	Standard
⌊	**Rb**	85	11377.6	3.0				ug/L	28	Standard
⌈	**Y**	89	296440.4	1.2				ug/L	322845	Standard
⌊>	**Rh**	103	95.0	27.9				ug/L	92	Standard
⌈	**Mo**	98	14.1	26.7	**-0.0052**	0.001	18.1	ug/L	18	Standard
|	**Ag**	107	74.7	5.6	**0.0027**	0.001	25.4	ug/L	63	Standard
|	**Cd**	111	36.0	16.7	**0.0006**	0.002	318.5	mg/L	20	Standard
|	**Cd**	114	96.5	25.3	**0.0024**	0.003	122.3	ug/L	56	Standard
|>	**In**	115	585305.8	1.0				ug/L	657102	Standard
|	**Sn**	118	317.3	10.6	**-0.0136**	0.004	28.7	ug/L	555	Standard
|	**Sb**	123	25.3	14.4	**0.0007**	0.001	78.9	ug/L	62	Standard
⌊	**Ba**	135	39254.5	0.9	**12.9263**	0.035	0.3	ug/L	19	Standard
⌈	**Ce**	140	142767.2	1.3				ug/L	24	Standard
⌊>	**Tb**	159	850013.9	0.9				ug/L	910514	Standard
⌈	**Ho**	165	2078.5	3.2				ug/L	7	Standard
|	**Tl**	203	109.7	8.3	**0.0054**	0.001	15.5	ug/L	13	Standard
|	**Tl**	205	4.0	75.0	**0.0121**	0.008	67.6	ug/L	1	Standard
|	**Pb**	206	10545.0	1.0	**1.0492**	0.018	1.7	ug/L	342	Standard
|	**Pb**	207	8577.1	0.7	**0.9992**	0.012	1.2	ug/L	284	Standard
|	**Pb**	208	40314.6	0.2	**1.0136**	0.012	1.1	ug/L	1363	Standard
|	**U**	238	688.0	7.5	**0.0707**	0.005	6.9	ug/L	2	Standard
⌊>	**Bi**	209	446645.6	0.9				ug/L	470592	Standard

Sample ID: L1211034007
Report Date/Time: Sunday, November 18, 2012 20:52:06
Page 1

Approved: November 19, 2012

⌈	**Na**	23	3.3	86.6	**0.3312**	0.283	85.3	mg/L	2	Standard
|	**Mg**	24	1613.4	1.0	**-0.0021**	0.000	1.0	mg/L	5586	Standard
|	**K**	39	16.7	34.6	**0.2043**	0.087	42.6	mg/L	5	Standard
|	**Ca**	43	36.7	55.1	**-0.5455**	0.923	169.2	mg/L	45	Standard
|	**Fe**	54	1734.8	9.8	**0.5667**	0.065	11.5	mg/L	350	Standard
|	**Fe**	57	556.7	2.3	**0.8168**	0.017	2.1	mg/L	102	Standard
⌊>	**Sc-1**	45	49034.2	1.5				mg/L	53004	Standard
	Cl	35	1.7	91.7				ug/L	2	Standard
	Kr	83	155.4	2.6				ug/L	157	Standard
	Br	81	5.8	107.9				ug/L	3	Standard
	P	31	39442.1	1.9				ug/L	91588	Standard
	S	34	31553.7	0.6				ug/L	32556	Standard
	Sr	88	81.7	30.2				ug/L	62	Standard
	C	12	98.3	28.9				mg/L	133	Standard
	N	14	1.7	173.2				mg/L	0	Standard
	Hg	202	6.7	86.6				mg/L	7	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		91.411	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: L1211034007
Report Date/Time: Sunday, November 18, 2012 20:52:06
Page 2

Approved: November 19, 2012

	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	89.074
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	94.911
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: L1211034007
Report Date/Time: Sunday, November 18, 2012 20:52:06
Page 3

Approved: November 19, 2012

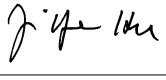
Method 6020 - Summary Report

Sample ID: L1211034008
Sample Date/Time: Sunday, November 18, 2012 20:52:46
Number of Replicates: 3
Autosampler Position: 451
Sample Description: 20
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	13944.8	3.3	**-3569.1535**	202.996	5.7	ug/L	8369	Standard
	Be	9	105.0	17.2	**0.0445**	0.009	20.7	ug/L	18	Standard
	Al	27	292467.6	1.1	**2.5435**	0.024	1.0	ug/L	215	Standard
>	Sc	45	49565.9	0.8				ug/L	53004	Standard
	Ti	47	241.7	2.9	**0.4470**	0.015	3.3	ug/L	26	Standard
	V	51	11226.9	1.0	**0.7530**	0.025	3.3	ug/L	3223	Standard
	Cr	52	15150.6	1.6	**0.5708**	0.023	4.0	ug/L	10379	Standard
	Cr	53	940.9	4.5	**0.6262**	0.019	3.1	ug/L	192	Standard
	Mn	55	279372.4	2.8	**17.2707**	0.575	3.3	ug/L	1840	Standard
	Co	59	4666.7	1.4	**0.3617**	0.014	3.8	ug/L	115	Standard
	Ni	60	2908.6	2.2	**1.0574**	0.028	2.6	ug/L	75	Standard
	Cu	65	1947.8	3.1	**0.7005**	0.011	1.5	ug/L	155	Standard
	Zn	66	6703.1	2.9	**5.0749**	0.158	3.1	ug/L	237	Standard
>	Ge	72	383916.4	2.3				ug/L	413856	Standard
	As	75	113.7	7.4	**0.2244**	0.006	2.6	ug/L	-197	Standard
	Se	82	10.8	48.6	**0.0949**	0.043	45.2	ug/L	-5	Standard
	Se-1	77	136.0	10.8	**0.5168**	0.176	34.1	ug/L	105	Standard
>	Ga	71	1096.7	9.8				mg/L	225	Standard
	Rb	85	10263.5	1.6				ug/L	28	Standard
	Y	89	294010.9	1.9				ug/L	322845	Standard
>	Rh	103	91.7	17.5				ug/L	92	Standard
	Mo	98	72.8	23.4	**0.0094**	0.004	45.0	ug/L	18	Standard
	Ag	107	109.3	63.2	**0.0075**	0.010	129.6	ug/L	63	Standard
	Cd	111	51.6	71.3	**0.0056**	0.012	213.4	mg/L	20	Standard
	Cd	114	197.3	74.6	**0.0149**	0.018	122.7	ug/L	56	Standard
>	In	115	588340.0	0.1				ug/L	657102	Standard
	Sn	118	385.0	20.7	**-0.0062**	0.009	145.6	ug/L	555	Standard
	Sb	123	76.3	106.1	**0.0080**	0.012	145.1	ug/L	62	Standard
	Ba	135	17190.7	1.7	**5.6204**	0.099	1.8	ug/L	19	Standard
	Ce	140	84547.0	2.0				ug/L	24	Standard
>	Tb	159	853853.9	0.1				ug/L	910514	Standard
	Ho	165	1102.4	5.6				ug/L	7	Standard
	Tl	203	146.7	53.9	**0.0083**	0.006	76.3	ug/L	13	Standard
	Tl	205	5.3	75.8	**0.0156**	0.011	68.8	ug/L	1	Standard
	Pb	206	50110.1	0.6	**5.0921**	0.026	0.5	ug/L	342	Standard
	Pb	207	41043.5	1.8	**4.9018**	0.106	2.2	ug/L	284	Standard
	Pb	208	192011.5	0.9	**4.9411**	0.070	1.4	ug/L	1363	Standard
	U	238	450.7	4.7	**0.0456**	0.002	4.8	ug/L	2	Standard
>	Bi	209	448105.0	0.7				ug/L	470592	Standard

Approved: November 19, 2012



⌈	**Na**	23	1.7	173.2	**0.1662**	0.279	168.0	mg/L	2	Standard
|	**Mg**	24	1115.0	3.5	**-0.0023**	0.000	1.1	mg/L	5586	Standard
|	**K**	39	5.0	0.0	**0.0314**	0.001	1.9	mg/L	5	Standard
|	**Ca**	43	51.7	14.8	**0.1220**	0.361	295.6	mg/L	45	Standard
|	**Fe**	54	1444.9	9.4	**0.4399**	0.052	11.8	mg/L	350	Standard
|	**Fe**	57	431.7	22.0	**0.5973**	0.163	27.2	mg/L	102	Standard
⌊>	**Sc-1**	45	49565.9	0.8				mg/L	53004	Standard
	Cl	35	2.3	65.5				ug/L	2	Standard
	Kr	83	154.3	4.6				ug/L	157	Standard
	Br	81	5.8	49.5				ug/L	3	Standard
	P	31	40687.9	1.4				ug/L	91588	Standard
	S	34	31313.2	3.1				ug/L	32556	Standard
	Sr	88	80.0	6.3				ug/L	62	Standard
	C	12	111.7	31.4				mg/L	133	Standard
	N	14	3.3	173.2				mg/L	0	Standard
	Hg	202	5.0	100.0				mg/L	7	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		92.766	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: L1211034008
Report Date/Time: Sunday, November 18, 2012 20:55:18
Page 2

Approved: November 19, 2012

	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	89.536
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	95.222
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: L1211034008
Report Date/Time: Sunday, November 18, 2012 20:55:18
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

Sample ID: L1211034101
Sample Date/Time: Sunday, November 18, 2012 20:55:58
Number of Replicates: 3
Autosampler Position: 452
Sample Description: 20
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	27493.3	2.4	**-11849.6920**	724.539	6.1	ug/L	8369	Standard
|	**Be**	9	245.0	28.1	**0.1195**	0.040	33.7	ug/L	18	Standard
|	**Al**	27	962279.9	3.0	**8.5161**	0.402	4.7	ug/L	215	Standard
⌊>	**Sc**	45	48780.1	3.7				ug/L	53004	Standard
⌈	**Ti**	47	263.0	5.7	**0.4958**	0.025	5.1	ug/L	26	Standard
|	**V**	51	21144.4	1.9	**1.6691**	0.014	0.9	ug/L	3223	Standard
|	**Cr**	52	24713.2	4.5	**1.5274**	0.082	5.4	ug/L	10379	Standard
|	**Cr**	53	2187.7	6.0	**1.6154**	0.092	5.7	ug/L	192	Standard
|	**Mn**	55	818454.9	2.2	**51.1591**	0.547	1.1	ug/L	1840	Standard
|	**Co**	59	12485.5	3.1	**1.0011**	0.019	1.9	ug/L	115	Standard
|	**Ni**	60	6422.0	4.0	**2.3960**	0.072	3.0	ug/L	75	Standard
|	**Cu**	65	3770.5	2.8	**1.4215**	0.026	1.8	ug/L	155	Standard
|	**Zn**	66	10444.9	2.4	**8.0831**	0.147	1.8	ug/L	237	Standard
|>	**Ge**	72	380852.3	1.2				ug/L	413856	Standard
|	**As**	75	454.9	2.5	**0.4805**	0.010	2.1	ug/L	-197	Standard
|	**Se**	82	3.8	182.9	**0.0369**	0.059	158.7	ug/L	-5	Standard
⌊	**Se-1**	77	146.3	9.4	**0.6417**	0.150	23.4	ug/L	105	Standard
⌈>	**Ga**	71	2408.5	2.3				mg/L	225	Standard
⌊	**Rb**	85	22793.9	7.1				ug/L	28	Standard
⌈	**Y**	89	305730.9	1.6				ug/L	322845	Standard
⌊>	**Rh**	103	75.0	17.6				ug/L	92	Standard
⌈	**Mo**	98	48.8	7.4	**0.0035**	0.001	24.7	ug/L	18	Standard
|	**Ag**	107	82.7	2.8	**0.0038**	0.000	8.1	ug/L	63	Standard
|	**Cd**	111	82.9	1.2	**0.0160**	0.001	3.5	mg/L	20	Standard
|	**Cd**	114	219.8	1.6	**0.0178**	0.001	4.8	ug/L	56	Standard
|>	**In**	115	585492.8	1.8				ug/L	657102	Standard
|	**Sn**	118	329.0	6.6	**-0.0123**	0.003	22.6	ug/L	555	Standard
|	**Sb**	123	27.6	15.4	**0.0010**	0.001	62.3	ug/L	62	Standard
⌊	**Ba**	135	43608.3	1.2	**14.3595**	0.231	1.6	ug/L	19	Standard
⌈	**Ce**	140	188846.3	2.2				ug/L	24	Standard
⌊>	**Tb**	159	854259.9	1.7				ug/L	910514	Standard
⌈	**Ho**	165	2502.9	1.4				ug/L	7	Standard
|	**Tl**	203	158.0	15.5	**0.0092**	0.002	20.3	ug/L	13	Standard
|	**Tl**	205	4.0	25.0	**0.0120**	0.002	20.8	ug/L	1	Standard
|	**Pb**	206	64040.1	2.6	**6.4859**	0.165	2.5	ug/L	342	Standard
|	**Pb**	207	52340.3	2.0	**6.2318**	0.176	2.8	ug/L	284	Standard
|	**Pb**	208	244610.6	2.3	**6.2742**	0.159	2.5	ug/L	1363	Standard
|	**U**	238	998.4	3.6	**0.1024**	0.002	1.8	ug/L	2	Standard
⌊>	**Bi**	209	450266.8	1.8				ug/L	470592	Standard

Sample ID: L1211034101
Report Date/Time: Sunday, November 18, 2012 20:58:30
Page 1

Approved: November 19, 2012

⌈	**Na**	23	1.7	173.2	**0.1622**	0.272	167.9	mg/L	2	Standard
|	**Mg**	24	3367.0	3.5	**-0.0011**	0.000	11.3	mg/L	5586	Standard
|	**K**	39	13.3	21.7	**0.1551**	0.038	24.8	mg/L	5	Standard
|	**Ca**	43	41.7	42.1	**-0.3166**	0.749	236.5	mg/L	45	Standard
|	**Fe**	54	3746.4	3.8	**1.4123**	0.095	6.8	mg/L	350	Standard
|	**Fe**	57	1036.7	6.1	**1.6430**	0.138	8.4	mg/L	102	Standard
⌊>	**Sc-1**	45	48780.1	3.7				mg/L	53004	Standard
	Cl	35	3.7	68.6				ug/L	2	Standard
	Kr	83	156.8	3.1				ug/L	157	Standard
	Br	81	7.5	66.7				ug/L	3	Standard
	P	31	41162.6	4.6				ug/L	91588	Standard
	S	34	31928.6	1.5				ug/L	32556	Standard
	Sr	88	90.0	33.3				ug/L	62	Standard
	C	12	105.0	28.6				mg/L	133	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	10.0	50.0				mg/L	7	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		92.025	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: L1211034101
Report Date/Time: Sunday, November 18, 2012 20:58:30
Page 2

Approved: November 19, 2012

	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	89.102
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	95.681
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: L1211034101
Report Date/Time: Sunday, November 18, 2012 20:58:30
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

Sample ID: QC Std 6
Sample Date/Time: Sunday, November 18, 2012 20:59:13
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	7063.6	48.0	**420.3061**	605.657	144.1	ug/L	8369	Standard
|	**Be**	9	80.0	87.5	**0.0495**	0.058	116.5	ug/L	18	Standard
|	**Al**	27	4853.0	107.6	**0.0511**	0.050	97.0	ug/L	215	Standard
⌊>	**Sc**	45	47553.2	41.9				ug/L	53004	Standard
⌈	**Ti**	47	59.7	43.8	**0.1108**	0.100	89.8	ug/L	26	Standard
|	**V**	51	1827.6	17.4	**-0.0537**	0.070	131.2	ug/L	3223	Standard
|	**Cr**	52	4718.1	18.5	**-0.3366**	0.118	35.2	ug/L	10379	Standard
|	**Cr**	53	130.8	13.4	**0.0265**	0.061	230.4	ug/L	192	Standard
|	**Mn**	55	2042.5	28.9	**0.0687**	0.038	55.8	ug/L	1840	Standard
|	**Co**	59	583.7	72.7	**0.0514**	0.052	101.2	ug/L	115	Standard
|	**Ni**	60	170.0	58.8	**0.0497**	0.051	103.0	ug/L	75	Standard
|	**Cu**	65	180.7	49.9	**0.0368**	0.054	145.8	ug/L	155	Standard
|	**Zn**	66	218.3	15.7	**0.0209**	0.069	329.1	ug/L	237	Standard
|>	**Ge**	72	322271.4	35.2				ug/L	413856	Standard
|	**As**	75	-65.9	136.8	**0.0959**	0.064	66.8	ug/L	-197	Standard
|	**Se**	82	16.7	54.1	**0.1725**	0.071	41.1	ug/L	-5	Standard
⌊	**Se-1**	77	105.7	7.6	**0.5406**	0.581	107.5	ug/L	105	Standard
⌈>	**Ga**	71	166.7	25.5				mg/L	225	Standard
⌊	**Rb**	85	18.3	83.3				ug/L	28	Standard
⌈	**Y**	89	281563.8	26.8				ug/L	322845	Standard
⌊>	**Rh**	103	81.7	34.8				ug/L	92	Standard
⌈	**Mo**	98	338.3	105.3	**0.0757**	0.075	99.1	ug/L	18	Standard
|	**Ag**	107	328.0	93.6	**0.0391**	0.037	93.9	ug/L	63	Standard
|	**Cd**	111	135.9	88.1	**0.0353**	0.037	104.5	mg/L	20	Standard
|	**Cd**	114	380.1	92.3	**0.0381**	0.037	96.0	ug/L	56	Standard
|>	**In**	115	568018.4	25.6				ug/L	657102	Standard
|	**Sn**	118	704.0	80.5	**0.0292**	0.048	163.7	ug/L	555	Standard
|	**Sb**	123	386.5	105.0	**0.0510**	0.046	90.5	ug/L	62	Standard
⌊	**Ba**	135	174.7	90.0	**0.0390**	0.045	116.4	ug/L	19	Standard
⌈	**Ce**	140	34.0	32.8				ug/L	24	Standard
⌊>	**Tb**	159	826067.0	20.1				ug/L	910514	Standard
⌈	**Ho**	165	9.3	12.4				ug/L	7	Standard
|	**Tl**	203	588.4	88.9	**0.0493**	0.041	83.2	ug/L	13	Standard
|	**Tl**	205	17.0	66.3	**0.0546**	0.037	68.2	ug/L	1	Standard
|	**Pb**	206	733.4	69.5	**0.0503**	0.046	90.8	ug/L	342	Standard
|	**Pb**	207	626.0	66.4	**0.0480**	0.045	93.3	ug/L	284	Standard
|	**Pb**	208	2880.5	68.0	**0.0486**	0.045	92.1	ug/L	1363	Standard
|	**U**	238	398.0	107.7	**0.0432**	0.043	99.6	ug/L	2	Standard
⌊>	**Bi**	209	386363.7	17.8				ug/L	470592	Standard

Sample ID: QC Std 6
Report Date/Time: Sunday, November 18, 2012 21:01:46
Page 1

Approved: November 19, 2012

⌈	**Na**	23	0.0		**0.0050**	0.000	0.0	mg/L	2	Standard
|	**Mg**	24	1145.1	64.5	**-0.0022**	0.001	24.9	mg/L	5586	Standard
|	**K**	39	13.3	21.7	**0.1983**	0.135	68.2	mg/L	5	Standard
|	**Ca**	43	50.0	60.8	**0.1149**	0.744	647.7	mg/L	45	Standard
|	**Fe**	54	379.3	68.6	**0.0014**	0.102	7411.3	mg/L	350	Standard
|	**Fe**	57	145.0	10.3	**0.1506**	0.092	60.8	mg/L	102	Standard
⌊>	**Sc-1**	45	47553.2	41.9				mg/L	53004	Standard
	Cl	35	2.3	49.5				ug/L	2	Standard
	Kr	83	309.7	57.8				ug/L	157	Standard
	Br	81	4.2	124.9				ug/L	3	Standard
	P	31	80412.9	59.1				ug/L	91588	Standard
	S	34	9384.6	5.9				ug/L	32556	Standard
	Sr	88	81.7	25.5				ug/L	62	Standard
	C	12	66.7	53.2				mg/L	133	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	5.0	100.0				mg/L	7	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈	Li	7			
|	Be	9	0.099		
|	Al	27	0.102		
⌊>	Sc	45			
⌈	Ti	47	0.111		
|	V	51	-0.107		
|	Cr	52	-0.673		
|	Cr	53			
|	Mn	55	0.137		
|	Co	59	0.103		
|	Ni	60	0.099		
|	Cu	65	0.074		
|	Zn	66	0.042		
|>	Ge	72		77.870	
|	As	75	0.192		
|	Se	82	0.345		
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: QC Std 6
Report Date/Time: Sunday, November 18, 2012 21:01:46
Page 2

Approved: November 19, 2012

	Mo	98	0.076	
	Ag	107	0.078	
	Cd	111	0.071	
	Cd	114		
>	In	115		86.443
	Sn	118	0.058	
	Sb	123	0.102	
	Ba	135	0.078	
	Ce	140		
>	Tb	159		
	Ho	165		
	Tl	203	0.099	
	Tl	205		
	Pb	206	0.101	
	Pb	207	0.096	
	Pb	208	0.097	
	U	238	0.086	
>	Bi	209		82.102
	Na	23		
	Mg	24		
	K	39		
	Ca	43		
	Fe	54		
	Fe	57		
>	Sc-1	45		
	Cl	35		
	Kr	83		
	Br	81		
	P	31		
	S	34		
	Sr	88		
	C	12		
	N	14		
	Hg	202		

QC Out of Limits

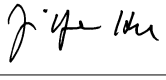
Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 6	Be	9	
QC Std 6	Al	27	
QC Std 6	Ti	47	
QC Std 6	V	51	
QC Std 6	Cr	52	
QC Std 6	Mn	55	
QC Std 6	Co	59	
QC Std 6	Ni	60	
QC Std 6	Cu	65	
QC Std 6	Zn	66	

Sample ID: QC Std 6
Report Date/Time: Sunday, November 18, 2012 21:01:46
Page 3

Approved: November 19, 2012

Ge 72 Int Std for QC Std	Ge	72	Rerun sample
QC Std 6	As	75	
QC Std 6	Se	82	
QC Std 6	Mo	98	
QC Std 6	Ag	107	
QC Std 6	Cd	111	
QC Std 6	Sn	118	
QC Std 6	Sb	123	
QC Std 6	Ba	135	
QC Std 6	Tl	203	
QC Std 6	Pb	206	
QC Std 6	Pb	207	
QC Std 6	Pb	208	
QC Std 6	U	238	

Approved: November 19, 2012



Method 6020 - Summary Report

Sample ID: QC Std 7
Sample Date/Time: Sunday, November 18, 2012 21:02:26
Number of Replicates: 3
Autosampler Position: 102
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	7160.3	45.6	**703.3670**	463.396	65.9	ug/L	8369	Standard
|	**Be**	9	3.3	86.6	**-0.0073**	0.002	29.7	ug/L	18	Standard
|	**Al**	27	290.0	98.4	**0.0014**	0.005	331.5	ug/L	215	Standard
⌊>	**Sc**	45	51475.4	37.4				ug/L	53004	Standard
⌈	**Ti**	47	18.0	11.1	**-0.0189**	0.027	141.2	ug/L	26	Standard
|	**V**	51	1444.3	22.3	**-0.1419**	0.036	25.7	ug/L	3223	Standard
|	**Cr**	52	4616.4	24.7	**-0.4864**	0.111	22.7	ug/L	10379	Standard
|	**Cr**	53	74.2	34.4	**-0.0569**	0.007	11.7	ug/L	192	Standard
|	**Mn**	55	1544.7	22.5	**0.0031**	0.027	880.6	ug/L	1840	Standard
|	**Co**	59	93.7	17.4	**-0.0081**	0.003	32.3	ug/L	115	Standard
|	**Ni**	60	75.0	45.6	**-0.0111**	0.001	12.7	ug/L	75	Standard
|	**Cu**	65	96.0	44.3	**-0.0248**	0.004	15.5	ug/L	155	Standard
|	**Zn**	66	209.0	37.4	**-0.0503**	0.021	41.4	ug/L	237	Standard
|>	**Ge**	72	437641.3	43.5				ug/L	413856	Standard
|	**As**	75	-283.0	96.4	**-0.0236**	0.106	450.0	ug/L	-197	Standard
|	**Se**	82	-40.1	213.5	**-0.2103**	0.465	221.2	ug/L	-5	Standard
⌊	**Se-1**	77	93.7	8.3	**0.0640**	0.485	757.0	ug/L	105	Standard
⌈>	**Ga**	71	215.0	46.5				mg/L	225	Standard
⌊	**Rb**	85	26.7	47.2				ug/L	28	Standard
⌈	**Y**	89	291657.8	32.4				ug/L	322845	Standard
⌊>	**Rh**	103	78.3	47.0				ug/L	92	Standard
⌈	**Mo**	98	6.5	13.0	**-0.0065**	0.001	7.8	ug/L	18	Standard
|	**Ag**	107	40.3	41.3	**-0.0008**	0.001	76.6	ug/L	63	Standard
|	**Cd**	111	10.3	5.6	**-0.0065**	0.002	24.6	mg/L	20	Standard
|	**Cd**	114	41.3	48.6	**-0.0033**	0.001	24.2	ug/L	56	Standard
|>	**In**	115	463968.1	36.6				ug/L	657102	Standard
|	**Sn**	118	189.3	33.1	**-0.0222**	0.001	3.8	ug/L	555	Standard
|	**Sb**	123	23.2	54.0	**0.0011**	0.001	60.6	ug/L	62	Standard
⌊	**Ba**	135	19.3	24.4	**-0.0113**	0.004	32.2	ug/L	19	Standard
⌈	**Ce**	140	36.0	38.9				ug/L	24	Standard
⌊>	**Tb**	159	682094.3	38.0				ug/L	910514	Standard
⌈	**Ho**	165	10.3	43.6				ug/L	7	Standard
|	**Tl**	203	62.3	31.9	**0.0025**	0.000	14.7	ug/L	13	Standard
|	**Tl**	205	3.7	78.7	**0.0120**	0.004	36.9	ug/L	1	Standard
|	**Pb**	206	281.7	30.0	**0.0024**	0.008	324.9	ug/L	342	Standard
|	**Pb**	207	224.0	30.2	**-0.0034**	0.003	102.9	ug/L	284	Standard
|	**Pb**	208	1107.7	31.9	**0.0005**	0.006	1258.9	ug/L	1363	Standard
|	**U**	238	2.0	100.0	**-0.0012**	0.000	29.5	ug/L	2	Standard
⌊>	**Bi**	209	376364.4	37.4				ug/L	470592	Standard

Sample ID: QC Std 7
Report Date/Time: Sunday, November 18, 2012 21:04:59
Page 1

Approved: November 19, 2012

	Na	23	0.0		**0.0050**	0.000	0.0	mg/L	2	Standard
	Mg	24	498.3	25.5	**-0.0027**	0.000	2.9	mg/L	5586	Standard
	K	39	6.7	114.6	**0.0999**	0.198	198.7	mg/L	5	Standard
	Ca	43	43.3	24.0	**-0.1319**	0.895	678.2	mg/L	45	Standard
	Fe	54	269.3	80.8	**-0.0576**	0.056	96.5	mg/L	350	Standard
	Fe	57	151.7	1.9	**0.1491**	0.128	86.1	mg/L	102	Standard
>	**Sc-1**	45	51475.4	37.4				mg/L	53004	Standard
	Cl	35	1.3	114.6				ug/L	2	Standard
	Kr	83	427.7	67.6				ug/L	157	Standard
	Br	81	5.8	49.5				ug/L	3	Standard
	P	31	62453.4	67.0				ug/L	91588	Standard
	S	34	9694.0	14.0				ug/L	32556	Standard
	Sr	88	75.0	24.0				ug/L	62	Standard
	C	12	63.3	75.0				mg/L	133	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	1.7	173.2				mg/L	7	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		105.747	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			
	Y	89			
>	Rh	103			

Sample ID: QC Std 7
Report Date/Time: Sunday, November 18, 2012 21:04:59
Page 2

Approved: November 19, 2012

⌈	Mo	98	
|	Ag	107	
|	Cd	111	
|	Cd	114	
|>	In	115	70.608
|	Sn	118	
|	Sb	123	
⌊	Ba	135	
⌈	Ce	140	
⌊>	Tb	159	
⌈	Ho	165	
|	Tl	203	
|	Tl	205	
|	Pb	206	
|	Pb	207	
|	Pb	208	
|	U	238	
⌊>	Bi	209	79.977
⌈	Na	23	
|	Mg	24	
|	K	39	
|	Ca	43	
|	Fe	54	
|	Fe	57	
⌊>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
In 115 Int Std for QC Std	In	115	Rerun sample
Bi 209 Int Std for QC Std	Bi	209	Rerun sample

Sample ID: QC Std 7
Report Date/Time: Sunday, November 18, 2012 21:04:59
Page 3

Approved: November 19, 2012

Method 6020 - Summary Report

Sample ID: QC Std 8
Sample Date/Time: Sunday, November 18, 2012 21:05:41
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	8155.5	2.1	**205.7960**	194.357	94.4	ug/L	8369	Standard
|	**Be**	9	421.7	9.9	**0.1908**	0.015	7.6	ug/L	18	Standard
|	**Al**	27	245.0	19.5	**-0.0002**	0.000	239.7	ug/L	215	Standard
⌊>	**Sc**	45	53564.6	2.7				ug/L	53004	Standard
⌈	**Ti**	47	22.7	42.4	**-0.0162**	0.018	110.9	ug/L	26	Standard
|	**V**	51	7464.5	3.0	**0.3554**	0.033	9.2	ug/L	3223	Standard
|	**Cr**	52	18685.9	3.5	**0.7673**	0.081	10.6	ug/L	10379	Standard
|	**Cr**	53	1224.2	5.5	**0.7695**	0.049	6.4	ug/L	192	Standard
|	**Mn**	55	10598.0	3.3	**0.5154**	0.021	4.1	ug/L	1840	Standard
|	**Co**	59	5334.6	3.3	**0.3803**	0.022	5.8	ug/L	115	Standard
|	**Ni**	60	4619.4	2.3	**1.5578**	0.065	4.2	ug/L	75	Standard
|	**Cu**	65	2379.9	2.8	**0.7925**	0.017	2.2	ug/L	155	Standard
|	**Zn**	66	8606.1	2.6	**6.0170**	0.273	4.5	ug/L	237	Standard
|>	**Ge**	72	418358.6	2.2				ug/L	413856	Standard
|	**As**	75	359.8	3.3	**0.3851**	0.004	1.1	ug/L	-197	Standard
|	**Se**	82	55.1	5.3	**0.4258**	0.026	6.1	ug/L	-5	Standard
⌊	**Se-1**	77	159.0	8.5	**0.6246**	0.135	21.7	ug/L	105	Standard
⌈>	**Ga**	71	205.0	17.6				mg/L	225	Standard
⌊	**Rb**	85	30.0	0.0				ug/L	28	Standard
⌈	**Y**	89	312516.1	2.2				ug/L	322845	Standard
⌊>	**Rh**	103	96.7	19.6				ug/L	92	Standard
⌈	**Mo**	98	14.4	38.7	**-0.0053**	0.001	25.7	ug/L	18	Standard
|	**Ag**	107	2956.0	3.8	**0.3841**	0.012	3.0	ug/L	63	Standard
|	**Cd**	111	804.7	3.0	**0.2354**	0.009	3.7	mg/L	20	Standard
|	**Cd**	114	2075.2	4.6	**0.2319**	0.007	3.0	ug/L	56	Standard
|>	**In**	115	625558.7	1.8				ug/L	657102	Standard
|	**Sn**	118	359.0	3.1	**-0.0115**	0.002	15.2	ug/L	555	Standard
|	**Sb**	123	2970.3	2.9	**0.3955**	0.009	2.3	ug/L	62	Standard
⌊	**Ba**	135	2381.2	4.6	**0.7149**	0.034	4.8	ug/L	19	Standard
⌈	**Ce**	140	32.7	22.6				ug/L	24	Standard
⌊>	**Tb**	159	897928.2	1.8				ug/L	910514	Standard
⌈	**Ho**	165	7.7	15.1				ug/L	7	Standard
|	**Tl**	203	1006.0	1.8	**0.0766**	0.002	2.0	ug/L	13	Standard
|	**Tl**	205	31.0	14.1	**0.0824**	0.011	14.0	ug/L	1	Standard
|	**Pb**	206	2321.2	3.7	**0.1982**	0.007	3.5	ug/L	342	Standard
|	**Pb**	207	1944.5	2.4	**0.1916**	0.003	1.4	ug/L	284	Standard
|	**Pb**	208	9068.1	2.4	**0.1943**	0.003	1.8	ug/L	1363	Standard
|	**U**	238	3747.8	5.0	**0.3802**	0.014	3.7	ug/L	2	Standard
⌊>	**Bi**	209	460220.1	1.4				ug/L	470592	Standard

Sample ID: QC Std 8
Report Date/Time: Sunday, November 18, 2012 21:08:13
Page 1

Approved: November 19, 2012

⌈	**Na**	23	0.0		**0.0050**	0.000	0.0	mg/L	2	Standard
|	**Mg**	24	731.7	22.1	**-0.0026**	0.000	3.5	mg/L	5586	Standard
|	**K**	39	11.7	65.5	**0.1140**	0.099	86.6	mg/L	5	Standard
|	**Ca**	43	38.3	45.8	**-0.6110**	0.744	121.8	mg/L	45	Standard
|	**Fe**	54	405.9	9.8	**0.0007**	0.011	1695.8	mg/L	350	Standard
|	**Fe**	57	148.3	22.4	**0.1031**	0.056	54.5	mg/L	102	Standard
⌊>	**Sc-1**	45	53564.6	2.7				mg/L	53004	Standard
	Cl	35	2.7	57.3				ug/L	2	Standard
	Kr	83	178.9	2.5				ug/L	157	Standard
	Br	81	8.3	105.4				ug/L	3	Standard
	P	31	107576.5	2.3				ug/L	91588	Standard
	S	34	28503.5	0.3				ug/L	32556	Standard
	Sr	88	70.0	14.3				ug/L	62	Standard
	C	12	110.0	16.4				mg/L	133	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	1.7	173.2				mg/L	7	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈	Li	7			
|	Be	9	95.402		
|	Al	27			
⌊>	Sc	45			
⌈	Ti	47			
|	V	51	88.846		
|	Cr	52	95.911		
|	Cr	53			
|	Mn	55	103.074		
|	Co	59	95.071		
|	Ni	60	97.364		
|	Cu	65	99.057		
|	Zn	66	96.271		
|>	Ge	72		101.088	
|	As	75	96.278		
|	Se	82	106.442		
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			

Sample ID: QC Std 8
Report Date/Time: Sunday, November 18, 2012 21:08:13
Page 2

Approved: November 19, 2012

⌈	Mo	98			
|	Ag	107	96.014		
|	Cd	111	98.074		
|	Cd	114			
|>	In	115			95.200
|	Sn	118			
|	Sb	123	98.870		
⌊	Ba	135	95.324		
⌈	Ce	140			
⌊>	Tb	159			
⌈	Ho	165			
|	Tl	203	95.788		
|	Tl	205			
|	Pb	206			
|	Pb	207			
|	Pb	208	97.162		
|	U	238	95.044		
⌊>	Bi	209			97.796
⌈	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			
	C	12			
	N	14			
	Hg	202			

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: QC Std 8
Report Date/Time: Sunday, November 18, 2012 21:08:13
Page 3

Approved: November 19, 2012

2.2.3 Metals CVAA Data (Mercury)

2.2.3.1 Summary Data

Login Number: L12110393
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: WG414893 - All acceptance criteria were met.

Matrix Spikes: All acceptance criteria were met.

SAMPLES

Samples: All acceptance criteria were met.

Narrative ID: 56367
Approved By: Sheri Pfalzgraf

Microbac

Lab Report #: L12110393
Lab Project #: 2736.127
Project Name: DOW WATERLOO Pump Test
Lab Contact: Kathy Albertson

Certificate of Analysis

Certificate of Analysis

Sample #: L12110393-01 **PrePrep Method:** N/A **Instrument:** HYDRA
Client ID: BLDG 4-PIT-SSP1-GW-11082012 **Prep Method:** 7470A **Prep Date:** 11/20/2012 09:08
Matrix: Water **Analytical Method:** 7470A **Cal Date:** 11/21/2012 08:45
Workgroup #: WG414893 **Analyst:** PDM **Run Date:** 11/21/2012 09:20
Collect Date: 11/08/2012 14:11 **Dilution:** 1 **File ID:** HY.112112.092010
Sample Tag: 01 **Units:** mg/L

Analyte	CAS #	Result	Qual	RL	MDL
Mercury	7439-97-6		U	0.000200	0.000100

U	Not detected at or above adjusted sample detection limit.

Sample #: L12110393-02 **PrePrep Method:** N/A **Instrument:** HYDRA
Client ID: BLDG 4-PIT-SSP1-GW-11082012 **Prep Method:** 7470A **Prep Date:** 11/20/2012 09:08
Matrix: Water **Analytical Method:** 7470A **Cal Date:** 11/21/2012 08:45
Workgroup #: WG414893 **Analyst:** PDM **Run Date:** 11/21/2012 09:23
Collect Date: 11/08/2012 14:11 **Dilution:** 1 **File ID:** HY.112112.092347
Sample Tag: 01 **Units:** mg/L

Analyte	CAS #	Result	Qual	RL	MDL
Mercury, Dissolved	7439-97-6		U	0.000200	0.000100

U	Not detected at or above adjusted sample detection limit.

Sample #: L12110393-03 **PrePrep Method:** N/A **Instrument:** HYDRA
Client ID: DUP-GW-110812 **Prep Method:** 7470A **Prep Date:** 11/20/2012 09:08
Matrix: Water **Analytical Method:** 7470A **Cal Date:** 11/21/2012 08:45
Workgroup #: WG414893 **Analyst:** PDM **Run Date:** 11/21/2012 09:25
Collect Date: 11/08/2012 00:01 **Dilution:** 1 **File ID:** HY.112112.092526
Sample Tag: 01 **Units:** mg/L

Analyte	CAS #	Result	Qual	RL	MDL
Mercury	7439-97-6	0.000172	J	0.000200	0.000100

J	The analyte was positively identified, but the quantitation was below the RL.

Sample #: L12110393-04 **PrePrep Method:** N/A **Instrument:** HYDRA
Client ID: DUP-GW-110812 **Prep Method:** 7470A **Prep Date:** 11/20/2012 09:08
Matrix: Water **Analytical Method:** 7470A **Cal Date:** 11/21/2012 08:45
Workgroup #: WG414893 **Analyst:** PDM **Run Date:** 11/21/2012 09:27
Collect Date: 11/08/2012 00:01 **Dilution:** 1 **File ID:** HY.112112.092713
Sample Tag: 01 **Units:** mg/L

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
Mercury, Dissolved	7439-97-6	0.000151	J	0.000200	0.000100

J	The analyte was positively identified, but the quantitation was below the RL.

2.2.3.2 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

TCLP Non-Volatile

Analyst(s): RWC
Date: 11-19-12
Filter Lot #: 5365538
Microbac SOP: TCLP01 Rev #: 09

Analyst / Date		Analyst / Date	
RWC 11-19-12		RWC 11-20-12	
Time On	Temp On °C	Time Off	Temp Off °C
1600	24	800	23

Agitator Speed 30 ± 2 rpm ☑

Jug #	Sample #	Tests	Method	Fluid #	Matrix *	% Solid	Pretest pH Initial	Pretest pH Final	Int. Wt. (g)	Fluid Vol. (mL)	Final extract pH
D	11-50301	ME	1311	F1885	S/S	100	7	2	100.03	2000	5
〃	02	〃	〃	〃	〃	〃	7	2	100.07	〃	5
〃	03	(SPK)	〃	〃	〃	〃	7	2	100.09	〃	5
〃	11-51501	〃	〃	F2301	S	〃	14	13	25.01	500	12
〃	11-52401*	〃	〃	F1885	S	〃	8	2	100.07	2000	9
N/A	FBLK(1)	〃	〃	〃	N/A	N/A	N/A	N/A	N/A	〃	N/A
〃	FBLK(2)	〃	〃	F2301	〃	〃	〃	〃	〃	〃	〃

RWC 11-19-12

*Matrix Code: (S = solid, sand, soil or sludge) (P = paint) (O = organic) (W = water or aqueous waste)
D = Disposable plastic jug
TCLP Pretest weight will be 5.0 g (± 0.1) unless otherwise noted.
Temperature shall be maintained at 23° ± 2 for 18 ± 2 hours unless otherwise noted.

Comments: *SK is METAL SHAVINGS - expecting high METAL content - RWC

Peer Review By: _____

Microbac Laboratories Inc.
Metals Digest Log

Workgroup: WG414772
Analyst: REK
Spike Analyst: REK
Method: 7470A
Run Date: 11/20/2012 09:08
Hotblock Start Temp: 93.2 @ 09:00
Hotblock End Temp: 93 @ 11:00
Instrument: HB5

SOP: ME404 Revison 13
Spike Solution: STD55017
Spike Witness: ERP
Digestion Tubes Lot #: COA16400
H2SO4 Lot #: COA16424
HNO3 Lot #: COA16520
K2S2O8 1:1 Lot #: RGT16987
KMnO4 1:1 Lot #: RGT17980
Mercury Water ICV Lot #: STD55019
HG H2O STDS 10PPM Lot #: STD55025

	SAMPLE #	Type	Matrix	Initial Amount	Final Volume	Spike Amount	Due Date
1	WG414772-03	BLANK	1	40 mL	40 mL		
2	WG414736-01	FBLK1	17	4 mL	40 mL		
3	WG414736-02	FBLK2	17	4 mL	40 mL		
4	WG414772-04	LCS	1	40 mL	40 mL	4 mL	
5	L12110393-01	SAMP	1	40 mL	40 mL		11/27/12
6	L12110393-02	SAMP	1	40 mL	40 mL		11/27/12
7	L12110393-03	SAMP	1	40 mL	40 mL		11/27/12
8	L12110393-04	SAMP	1	40 mL	40 mL		11/27/12
9	L12110492-01	SAMP	1	40 mL	40 mL		11/27/12
10	WG414772-01	REF	1	40 mL	40 mL		
11	L12110492-02	RS01	1	40 mL	40 mL		11/27/12
12	L12110492-03	SAMP	1	40 mL	40 mL		11/27/12
13	WG414772-05	MS	1	36 mL	40 mL	4 mL	
14	L12110492-05	MS01	1	36 mL	40 mL	4 mL	11/27/12
15	WG414772-06	MSD	1	36 mL	40 mL	4 mL	
16	L12110492-06	SD01	1	36 mL	40 mL	4 mL	11/27/12
17	L12110497-01	SAMP	1	40 mL	40 mL		11/27/12
18	WG414772-02	REF	2	40 mL	40 mL		
19	L12110500-11	SAMP	2	40 mL	40 mL		12/14/12
20	L12110503-01	SAMP	17	4 mL	40 mL		11/26/12
21	L12110503-02	SAMP	17	4 mL	40 mL		11/26/12
22	L12110503-03	SAMP	17	4 mL	40 mL		11/26/12
23	L12110515-01	SAMP	17	4 mL	40 mL		11/21/12
24	L12110523-01	SAMP	1	40 mL	40 mL		11/30/12
25	L12110524-01	SAMP	17	4 mL	40 mL		11/21/12
26	WG414772-07	DUP	1	40 mL	40 mL		

Analyst: _____

Reviewer: _____

HB_DIG - Modified 07/26/2012
PDF ID: 2671514
Report generated: 11/28/2012 13:02

Microbac Laboratories Inc.

Instrument Run Log

Instrument: HYDRA Dataset: 112112A.PRN
Analyst1: PDM Analyst2: N/A
Method: 7470A/245.1 SOP: ME404 Rev: 13
Maintenance Log ID: 44066

Calibration Std: STD55025 ICV Std: STD55019 Post Spike: STD55025
ICSA: N/A ICSAB: N/A Int. Std:
CCV: LLCCV:

414893
Workgroups:

Comments:

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
1	HY.112112.083610	WG414929-01	Calibration Point		1		11/21/12 08:36
2	HY.112112.083800	WG414929-02	Calibration Point		1		11/21/12 08:38
3	HY.112112.083937	WG414929-03	Calibration Point		1		11/21/12 08:39
4	HY.112112.084117	WG414929-04	Calibration Point		1		11/21/12 08:41
5	HY.112112.084255	WG414929-05	Calibration Point		1		11/21/12 08:42
6	HY.112112.084523	WG414929-06	Calibration Point		1		11/21/12 08:45
7	HY.112112.084748	WG414929-07	Initial Calibration Verification		1		11/21/12 08:47
8	HY.112112.084935	WG414929-08	Initial Calib Blank		1		11/21/12 08:49
9	HY.112112.085134	WG414929-09	CCV		1		11/21/12 08:51
10	HY.112112.085332	WG414929-10	CCB		1		11/21/12 08:53
11	HY.112112.090028	WG414772-03	Method/Prep Blank		1		11/21/12 09:00
12	HY.112112.091250	WG414772-03	Method/Prep Blank	40/40	1		11/21/12 09:12
13	HY.112112.091447	WG414772-04	Laboratory Control S	40/40	1		11/21/12 09:14
14	HY.112112.091646	WG414736-01	TCLP Fluid Blank 1		1		11/21/12 09:16
15	HY.112112.091834	WG414736-02	TCLP Fluid Blank 2		1		11/21/12 09:18
16	HY.112112.092010	L12110393-01	BLDG 4-PIT-SSP1-GW-1108	40/40	1		11/21/12 09:20
17	HY.112112.092159	WG414893-01	Post Digestion Spike		1	L12110393-01	11/21/12 09:21
18	HY.112112.092347	L12110393-02	BLDG 4-PIT-SSP1-GW-1108	40/40	1		11/21/12 09:23
19	HY.112112.092526	L12110393-03	DUP-GW-110812	40/40	1		11/21/12 09:25
20	HY.112112.092713	L12110393-04	DUP-GW-110812	40/40	1		11/21/12 09:27
21	HY.112112.092901	WG414929-11	CCV		1		11/21/12 09:29
22	HY.112112.093038	WG414929-12	CCB		1		11/21/12 09:30
23	HY.112112.093216	L12110492-01	MW-1001	40/40	1		11/21/12 09:32
24	HY.112112.093419	WG414772-01	Reference Sample	40/40	1	L12110492-02	11/21/12 09:34
25	HY.112112.093619	L12110492-03	MW-0901FD	40/40	1		11/21/12 09:36
26	HY.112112.093817	L12110492-05	MW-0901MS	36/40	1	WG414772-05	11/21/12 09:38
27	HY.112112.093958	L12110492-06	MW-0901MSD	36/40	1	WG414772-06	11/21/12 09:39
28	HY.112112.094148	L12110497-01	LF30/31-EWTS-EFFLUENT-	40/40	1		11/21/12 09:41
29	HY.112112.094327	L12110500-11	P214-514		1	WG414772-02	11/21/12 09:43
30	HY.112112.094507	WG414772-07	Duplicate		1	L12110500-11	11/21/12 09:45
31	HY.112112.094644	L12110503-01	STP-10		1		11/21/12 09:46
32	HY.112112.095051	L12110503-01	STP-10	4/40	1		11/21/12 09:50
33	HY.112112.095243	WG414929-13	CCV		1		11/21/12 09:52
34	HY.112112.095421	WG414929-14	CCB		1		11/21/12 09:54

Page: 1 Approved: November 21, 2012

Maren Berry

Microbac

Microbac Laboratories Inc.

Instrument Run Log

Instrument: HYDRA Dataset: 112112A.PRN
Analyst1: PDM Analyst2: N/A
Method: 7470A/245.1 SOP: ME404 Rev: 13
Maintenance Log ID: 44066

Calibration Std: STD55025 ICV Std: STD55019 Post Spike: STD55025
ICSA: N/A ICSAB: N/A Int. Std:
CCV: LLCCV:

414893
Workgroups:

Comments:

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
35	HY.112112.095609	WG414893-02	Post Digestion Spike		1	L12110503-01	11/21/12 09:56
36	HY.112112.095748	L12110503-02	STP-11	4/40	1		11/21/12 09:57
37	HY.112112.095948	L12110503-03	STP-12	4/40	1		11/21/12 09:59
38	HY.112112.100127	L12110515-01	NOVELIS BLUE	4/40	1		11/21/12 10:01
39	HY.112112.100318	L12110523-01	MW-0901ER	40/40	1		11/21/12 10:03
40	HY.112112.100459	L12110524-01	GT120062	4/40	1		11/21/12 10:04
41	HY.112112.100647	WG414772-02	Reference Sample		2	L12110500-11	11/21/12 10:06
42	HY.112112.100826	WG414893-03	Serial Dilution		10	L12110500-11	11/21/12 10:08
43	HY.112112.104005	WG414929-15	CCV		1		11/21/12 10:40
44	HY.112112.104142	WG414929-16	CCB		1		11/21/12 10:41
45	HY.112112.104731	WG414772-07	Duplicate		2	L12110500-11	11/21/12 10:47
46	HY.112112.104912	WG414929-17	CCV		1		11/21/12 10:49
47	HY.112112.105101	WG414929-18	CCB		1		11/21/12 10:51

Comments

Seq.	Rerun	Dil.	Reason	Analytes
29			Reanalyzed at a dilution	
30			Reanalyzed at a dilution	
31			Reanalzyed due to low revcovery.	
41			Not reported due to noncompliant CCV results	
42			Not reported due to noncompliant CCV results	
45			Not reported due to noncompliant CCV results	

Page: 2 Approved: November 21, 2012

Maren Berry

Microbac Laboratories Inc.

Data Checklist

Date: 21-NOV-2012
Analyst: PDM
Analyst: NA
Method: 7471A/245.1
Instrument: HYDRA
Curve Workgroup: 414929
Runlog ID: 50150
Analytical Workgroups: 414893

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	0393,0492,0497,0523
Client Forms	
Level X	
Level 3	
Level 4	0393,0492,0497,0523
Check for compliance with method and project specific requirements	X
Check the completeness of reported information	X
Check the information for the report narrative	X
Primary Reviewer	PDM
Secondary Reviewer	MMB
Comments	

Primary Reviewer: 21-NOV-2012 Pierce Morris

Secondary Reviewer: 28-NOV-2012 Maren Berry

CHECKLIST1 - Modified 03/05/2008
Generated: NOV-28-2012 13:07:57

Microbac Laboratories Inc.

HOLDING TIMES
EQUIVALENT TO AFCEE FORM 9

Analytical Method: 7470A AAB#: WG414893

Login Number: L12110393

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
BLDG 4-PIT-SSP1-GW-11082	01	11/08/12					11/20/2012	11.8	28		11/21/12	12.8	28	
DUP-GW-110812	03	11/08/12					11/20/2012	12.4	28		11/21/12	13.4	28	

* = SEE PROJECT QAPP REQUIREMENTS

HOLD_TIMES - Modified 03/06/2008
PDF File ID: 2673086
Report generated 11/21/2012 11:29

Microbac Laboratories Inc.

METHOD BLANK SUMMARY

Login Number: L12110393
Work Group: WG414893
Blank File ID: HY.112112.091250
Blank Sample ID: WG414772-03
Prep Date: 11/20/12 09:08
Instrument ID: HYDRA
Analyzed Date: 11/21/12 09:12
Method: 7470A
Analyst: PDM

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG414772-04	HY.112112.091447	11/21/12 09:14	01
BLDG 4-PIT-SSP1-GW-11082012	L12110393-01	HY.112112.092010	11/21/12 09:20	01
BLDG 4-PIT-SSP1-GW-11082012	L12110393-02	HY.112112.092347	11/21/12 09:23	01
DUP-GW-110812	L12110393-03	HY.112112.092526	11/21/12 09:25	01
DUP-GW-110812	L12110393-04	HY.112112.092713	11/21/12 09:27	01
DUP	WG414772-07	HY.112112.104731	11/21/12 10:47	DL01

Report Name: BLANK_SUMMARY
PDF File ID: 2673087
Report generated 11/21/2012 11:29

Microbac Laboratories Inc.

METHOD BLANK REPORT

Login Number: L12110393 Prep Date: 11/20/12 09:08 Sample ID: WG414772-03
Instrument ID: HYDRA Run Date: 11/21/12 09:12 Prep Method: 7470A
File ID: HY.112112.091250 Analyst: PDM Method: 7470A
Workgroup (AAB#): WG414893 Matrix: Water Units: mg/L
Contract #: Cal ID: HYDRA - 21-NOV-12

Analytes	MDL	RL	Concentration	Dilution	Qualifier
Mercury	0.000100	0.000200	0.000122	1	J

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

Report Name:BLANK
PDF ID: 2673088
21-NOV-2012 11:29

Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L12110393 Run Date: 11/21/2012 Sample ID: WG414772-04
Instrument ID: HYDRA Run Time: 09:14 Prep Method: 7470A
File ID: HY.112112.091447 Analyst: PDM Method: 7470A
Workgroup (AAB#): WG414893 Matrix: Water Units: mg/L
QC Key: WATERLOO Lot#: STD55017 Cal ID: HYDRA-21-NOV-12

Analytes	Expected	Found	% Rec	LCS Limits	Q
Mercury	0.00400	0.00409	102	85 - 115	

LCS - Modified 03/06/2008
PDF File ID: 2673089
Report generated: 11/21/2012 11:29

Microbac Laboratories Inc.

MATRIX SPIKE AND MATRIX SPIKE DUP (MS/MSD)

Loginnum:L12110393 Cal ID:HYDRA- Worknum:WG414893

Instrument ID:HYDRA Contract #: Method:7470A

Parent ID:WG414772-01 File ID:HY.112112.093419 Dil:1 Matrix:WATER

Sample ID:WG414772-05 MS File ID:HY.112112.093817 Dil:1 Units:mg/L

Sample ID:WG414772-06 MSD File ID:HY.112112.093958 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	0.00437	98.2	0.00444	0.00439	98.7	0.508	85 - 115	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: 2673732

Report generated 11/21/2012 14:38

Microbac Laboratories Inc.

MATRIX SPIKE AND MATRIX SPIKE DUP (MS/MSD)

Loginnum:L12110393 Cal ID:HYDRA- Worknum:WG414893

Instrument ID:HYDRA Contract #: Method:7470A

Parent ID:WG414772-01 File ID:HY.112112.093419 Dil:1 Matrix:WATER

Sample ID:WG414772-05 MS File ID:HY.112112.093817 Dil:1 Units:mg/L

Sample ID:WG414772-06 MSD File ID:HY.112112.093958 Dil:1

Analyte	Parent	MS Spiked	MS Found	MS %Rec	MSD Spiked	MSD Found	MSD %Rec	%RPD	%Rec Limits	RPD Limit	Q
Mercury, Dissolved	ND	0.00444	0.00437	98.2	0.00444	0.00439	98.7	0.508	85 - 115	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: 2673733

Report generated 11/21/2012 14:38

Microbac Laboratories Inc.
POST SPIKE REPORT

Sample Login ID: L12110393 **Worknum:** WG414893
Instrument ID: HYDRA **Method:** 7470A
Post Spike ID: WG414893-01 **File ID:** HY.112112.092159 **Dil:** 1 **Units:** ug/L
Sample ID: L12110393-01 **File ID:** HY.112112.092010 **Dil:** 1 **Matrix:** Water

Analyte	Post Spike Result	C	Sample Result	C	Spike Added(SA)	% R	Control Limit %R	Q
MERCURY	0.883		0	U	1	88.3	85 - 115	

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

POST_SPIKE - Modified 03/06/2008
PDF File ID: 2673085
Report generated: 11/21/2012 11:29

Microbac Laboratories Inc.

INITIAL CALIBRATION SUMMARY

Login Number: L12110393
Analytical Method: 7470A
ICAL Worknum: WG414929

Workgroup (AAB#): WG414893
Instrument ID: HYDRA
Initial Calibration Date: 11/21/2012 08:45

Analyte	WG414929-01		WG414929-02		WG414929-03		WG414929-04		WG414929-05		WG414929-06	
	STD	INT	STD	INT	STD	INT	STD	INT	STD	INT	STD	INT
Mercury	0	2800	0.200	7221	1.00	50385	2.00	130149	5.00	302954	10.0	607711

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: 2673090
Report generated 11/21/2012 11:29

Microbac Laboratories Inc.

INITIAL CALIBRATION SUMMARY

Login Number: L12110393
Analytical Method: 7470A
ICAL Worknum: WG414929

Workgroup (AAB#): WG414893
Instrument ID: HYDRA
Initial Calibration Date: 11/21/2012 08:45

Analyte	R	Q
Mercury	0.9995	

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: 2673090
Report generated 11/21/2012 11:29

Microbac Laboratories Inc.
INITIAL CALIBRATION BLANK (ICB)

Login Number: L12110393 Run Date: 11/21/2012 Sample ID: WG414929-08
Instrument ID: HYDRA Run Time: 08:49 Method: 7470A
File ID: HY.112112.084935 Analyst: PDM Units: ug/L
Workgroup (AAB#): WG414893 Cal ID: HYDRA - 21-NOV-12
Matrix: WATER

Analytes	MDL	RDL	Concentration	Qualifier
MERCURY	.1	.2	.1	U

ICB - Modified 07/14/2009
PDF File ID: 2673092
Report generated 11/21/2012 11:29

Microbac Laboratories Inc.

CONTINUING CALIBRATION BLANK (CCB)

Login Number: L12110393 Run Date: 11/21/2012 Sample ID: WG414929-10

Instrument ID: HYDRA Run Time: 08:53 Method: 7470A

File ID: HY.112112.085332 Analyst: PDM Units: ug/L

Workgroup (AAB#): WG414893 Cal ID: HYDRA - 21-NOV-12

Matrix: WATER QAPP: WATERLOO

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: 2673094

Report generated 11/21/2012 11:29

Microbac Laboratories Inc.

CONTINUING CALIBRATION BLANK (CCB)

Login Number: L12110393 Run Date: 11/21/2012 Sample ID: WG414929-12

Instrument ID: HYDRA Run Time: 09:30 Method: 7470A

File ID: HY.112112.093038 Analyst: PDM Units: ug/L

Workgroup (AAB#): WG414893 Cal ID: HYDRA - 21-NOV-12

Matrix: WATER QAPP: WATERLOO

Analytes	MDL	RDL	Concentration	Qualifier
Mercury	0.100	0.200	-0.113	F

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: 2673094

Report generated 11/21/2012 11:29

Microbac Laboratories Inc.

CONTINUING CALIBRATION BLANK (CCB)

Login Number: L12110393 Run Date: 11/21/2012 Sample ID: WG414929-14

Instrument ID: HYDRA Run Time: 09:54 Method: 7470A

File ID: HY.112112.095421 Analyst: PDM Units: ug/L

Workgroup (AAB#): WG414893 Cal ID: HYDRA - 21-NOV-12

Matrix: WATER QAPP: WATERLOO

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: 2673094

Report generated 11/21/2012 11:29

Microbac Laboratories Inc.

CONTINUING CALIBRATION BLANK (CCB)

Login Number:	L12110393	Run Date:	11/21/2012	Sample ID:	WG414929-16
Instrument ID:	HYDRA	Run Time:	10:41	Method:	7470A
File ID:	HY.112112.104142	Analyst:	PDM	Units:	ug/L
Workgroup (AAB#):	WG414893	Cal ID:	HYDRA - 21-NOV-12		
Matrix:	WATER	QAPP:	WATERLOO		

Analytes	MDL	RDL	Concentration	Qualifier
Mercury	0.100	0.200	0.143	F

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: 2673094
Report generated 11/21/2012 11:29

Microbac Laboratories Inc.

INITIAL CALIBRATION VERIFICATION (ICV)
(Alternate Source)

Login Number: L12110393 Run Date: 11/21/2012 Sample ID: WG414929-07
Instrument ID: HYDRA Run Time: 08:47 Method: 7470A
File ID: HY.112112.084748 Analyst: PDM Units: ug/L
Workgroup (AAB#): WG414893 Cal ID: HYDRA - 21-NOV-12
QC Key: WATERLOO

Analyte		Expected	Found	%REC	LIMITS	Q
Mercury		2	2.10	105	90 - 110	

* Exceeds LIMITS Limit

ICV - Modified 03/06/2008
PDF File ID: 2673091
Report generated 11/21/2012 11:29

Microbac Laboratories Inc.

CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12110393 Run Date: 11/21/2012 Sample ID: WG414929-09

Instrument ID: HYDRA Run Time: 08:51 Method: 7470A

File ID: HY.112112.085134 Analyst: PDM QC Key: WATERLOO

Workgroup (AAB#): WG414893 Cal ID: HYDRA - 21-NOV-12

Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Mercury, Total		0.00200	0.00195	mg/L	97.5	80 - 120		

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008

PDF File ID: 2673093

Report generated 11/21/2012 11:29

Microbac Laboratories Inc.

CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12110393 Run Date: 11/21/2012 Sample ID: WG414929-11

Instrument ID: HYDRA Run Time: 09:29 Method: 7470A

File ID: HY.112112.092901 Analyst: PDM QC Key: WATERLOO

Workgroup (AAB#): WG414893 Cal ID: HYDRA - 21-NOV-12

Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Mercury, Total		0.00200	0.00199	mg/L	99.5	80 - 120		

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008

PDF File ID: 2673093

Report generated 11/21/2012 11:29

Microbac Laboratories Inc.

CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12110393 Run Date: 11/21/2012 Sample ID: WG414929-13

Instrument ID: HYDRA Run Time: 09:52 Method: 7470A

File ID: HY.112112.095243 Analyst: PDM QC Key: WATERLOO

Workgroup (AAB#): WG414893 Cal ID: HYDRA - 21-NOV-12

Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Mercury, Total		0.00200	0.00216	mg/L	108	80 - 120		

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008

PDF File ID: 2673093

Report generated 11/21/2012 11:29

Microbac Laboratories Inc.

CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12110393 Run Date: 11/21/2012 Sample ID: WG414929-15

Instrument ID: HYDRA Run Time: 10:40 Method: 7470A

File ID: HY.112112.104005 Analyst: PDM QC Key: WATERLOO

Workgroup (AAB#): WG414893 Cal ID: HYDRA - 21-NOV-12

Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Mercury, Total		0.00200	0.00236	mg/L	118	80 - 120		

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008

PDF File ID: 2673093

Report generated 11/21/2012 11:29

2.2.3.3 Raw Data

```
Line   Conc.  Units     SD/RSD      1       2       3       4       5
--------------------------------------------------------------------------------

*** Standard: 1 Rep: 1              Seq:  11      08:36:10 21 Nov 12   HG

Hg    .000    ppb      2800                                                  =
*** Standard: 2 Rep: 1              Seq:  12      08:38:00 21 Nov 12   HG

Hg    .200    ppb      7221                                                  =
*** Standard: 3 Rep: 1              Seq:  13      08:39:37 21 Nov 12   HG

Hg    1.00    ppb      50385                                                 =
*** Standard: 4 Rep: 1              Seq:  14      08:41:17 21 Nov 12   HG

Hg    2.00    ppb      130149                                                =
*** Standard: 5 Rep: 1              Seq:  15      08:42:55 21 Nov 12   HG

Hg    5.00    ppb      302954                                                =
*** Standard: 6 Rep: 1              Seq:  16      08:45:23 21 Nov 12   HG

Hg    10.0    ppb      607711                                                =
*** Check Standard: 2  Ck2ICV       Seq:  17      08:47:48 21 Nov 12   HG
Line  Flag  %Rcv.   Found    True  Units      SD/RSD
Hg          105.     2.10    2.00   ppb        .000                          =
*** Check Standard: 3  Ck3ICB       Seq:  18      08:49:35 21 Nov 12   HG
Line  Flag  %Rcv.   Found    True  Units      SD/RSD
Hg          5.48     .011    .200   ppb        .000                          =
*** Check Standard: 4  Ck4CCV       Seq:  19      08:51:34 21 Nov 12   HG
Line  Flag  %Rcv.   Found    True  Units      SD/RSD
Hg          97.4     1.95    2.00   ppb        .000                          =
*** Check Standard: 5  Ck5CCB       Seq:  20      08:53:32 21 Nov 12   HG
Line  Flag  %Rcv.   Found    True  Units      SD/RSD
Hg         -4.66    -.009    .200   ppb        .000                          =
*** Sample ID: WG41477203            Seq:  21      09:00:28 21 Nov 12   HG
                          PBW 32
Hg   -.109    ppb       .000     -.109                                       =
*** Sample ID: WG41477203 112112A    Seq:  22      09:12:50 21 Nov 12   HG
                          PBW 32
Hg    .122    ppb       .000      .122                                       =
================================================================================
```

Approved: 11/21/2012 12:50

Pierce Morris

```
Line   Conc.  Units     SD/RSD      1       2       3       4       5
-------------------------------------------------------------------------------

*** Sample ID: WG41477204 112112A    Seq:  23     09:14:47 21 Nov 12   HG
                          LCSW 32
Hg    4.09    ppb       .000      4.09
                                                                              =
================================================================================
*** Sample ID: WG41473601 112112A    Seq:  24     09:16:46 21 Nov 12   HG
                          TCLP BLANK
Hg   -.029    ppb       .000     -.029
                                                                              =
================================================================================
*** Sample ID: WG41473602 112112A    Seq:  25     09:18:34 21 Nov 12   HG
                          TCLP BLANK
Hg   -.019    ppb       .000     -.019
                                                                              =
================================================================================
*** Sample ID: 1211039301 112112A    Seq:  26     09:20:10 21 Nov 12   HG

Hg   -.028    ppb       .000     -.028
                                                                              =
================================================================================
*** Sample ID: WG41489301 112112A    Seq:  27     09:21:59 21 Nov 12   HG
                          1211039301PS.9
Hg    .883    ppb       .000      .883
                                                                              =
================================================================================
*** Sample ID: 1211039302 112112A    Seq:  28     09:23:47 21 Nov 12   HG

Hg    .061    ppb       .000      .061
                                                                              =
================================================================================
*** Sample ID: 1211039303 112112A    Seq:  29     09:25:26 21 Nov 12   HG

Hg    .172    ppb       .000      .172
                                                                              =
================================================================================
*** Sample ID: 1211039304 112112A    Seq:  30     09:27:13 21 Nov 12   HG

Hg    .151    ppb       .000      .151
                                                                              =
*** Check Standard: 4  Ck4CCV       Seq:  31     09:29:01 21 Nov 12   HG
Line  Flag  %Rcv.   Found    True  Units      SD/RSD
Hg          99.6     1.99    2.00   ppb        .000
                                                                              =
*** Check Standard: 5  Ck5CCB       Seq:  32     09:30:38 21 Nov 12   HG
Line  Flag  %Rcv.   Found    True  Units      SD/RSD
Hg         -56.3    -.113    .200   ppb        .000
                                                                              =
```

Approved: 11/21/2012 12:50

Pierce Morris

Line	Conc.	Units	SD/RSD	1	2	3	4	5
*** Sample ID: 1211049201 112112A Seq: 33 09:32:16 21 Nov 12 HG								
Hg	-.105	ppb	.000	-.105				
*** Sample ID: 1211049202 112112A Seq: 34 09:34:19 21 Nov 12 HG WG41477201								
Hg	.018	ppb	.000	.018				
*** Sample ID: 1211049203 112112A Seq: 35 09:36:19 21 Nov 12 HG								
Hg	-.059	ppb	.000	-.059				
*** Sample ID: WG41477205 112112A Seq: 36 09:38:17 21 Nov 12 HG 1211049205S								
Hg	3.93	ppb	.000	3.93				
*** Sample ID: WG41477206 112112A Seq: 37 09:39:58 21 Nov 12 HG 1211049206SD								
Hg	3.95	ppb	.000	3.95				
*** Sample ID: 1211049701 112112A Seq: 38 09:41:48 21 Nov 12 HG								
Hg	.155	ppb	.000	.155				
*** Sample ID: 1211050011 112112A Seq: 39 09:43:27 21 Nov 12 HG WG41477202								
Hg	10.9 H	ppb	.000	10.9				
*** Sample ID: WG41477207 112112A Seq: 40 09:45:07 21 Nov 12 HG 1211050011D								
Hg	10.6 H	ppb	.000	10.6				
*** Sample ID: 1211050301 112112A Seq: 41 09:46:44 21 Nov 12 HG								
Hg	-.253	ppb	.000	-.253				
*** Sample ID: 1211050301 112112A Seq: 42 09:50:51 21 Nov 12 HG								
Hg	.151	ppb	.000	.151				

Reanalyzed at a dilution.

reanalyzed due to high recovery in the preceding sample.

Approved: 11/21/2012 12:50

Pierce Morris

```
Line   Conc.  Units     SD/RSD      1       2       3       4       5
-------------------------------------------------------------------------------

*** Check Standard: 4  Ck4CCV       Seq:  43      09:52:43 21 Nov 12   HG
Line  Flag  %Rcv.   Found    True  Units      SD/RSD
Hg          108.     2.16    2.00   ppb        .000
                                                                              =
*** Check Standard: 5  Ck5CCB       Seq:  44      09:54:21 21 Nov 12   HG
Line  Flag  %Rcv.   Found    True  Units      SD/RSD
Hg         -21.0    -.042    .200   ppb        .000
                                                                              =
*** Sample ID: WG41489302 112112A    Seq:  45     09:56:09 21 Nov 12   HG
                          1211050301PS.9
Hg    1.01    ppb       .000      1.01
                                                                              =
===============================================================================
*** Sample ID: 1211050302 112112A    Seq:  46     09:57:48 21 Nov 12   HG

Hg   -.086    ppb       .000     -.086
                                                                              =
===============================================================================
*** Sample ID: 1211050303 112112A    Seq:  47     09:59:48 21 Nov 12   HG

Hg    .151    ppb       .000      .151
                                                                              =
===============================================================================
*** Sample ID: 1211051501 112112A    Seq:  48     10:01:27 21 Nov 12   HG

Hg    .117    ppb       .000      .117
                                                                              =
===============================================================================
*** Sample ID: 1211052301 112112A    Seq:  49     10:03:18 21 Nov 12   HG

Hg   -.158    ppb       .000     -.158
                                                                              =
===============================================================================
*** Sample ID: 1211052401 112112A    Seq:  50     10:04:59 21 Nov 12   HG

Hg   -.002    ppb       .000     -.002
                                                                              =
===============================================================================
*** Sample ID: 1211050011 112112A    Seq:  51     10:06:47 21 Nov 12   HG
                          WG41472202 DL0.5
Hg    6.06    ppb       .000      6.06
                                                                              =
===============================================================================
*** Sample ID: WG41489303 112112A    Seq:  52     10:08:26 21 Nov 12   HG
                          1211050011DL0.04
Hg    1.32    ppb       .000      1.32
                                                                              =
```

Not reported due to CCV noncompliance .

Approved: 11/21/2012 12:50

Pierce Morris

```
Line   Conc.  Units     SD/RSD      1       2       3       4       5
-------------------------------------------------------------------------------

*** Check Standard: 4  Ck4CCV       Seq:  53      10:40:05 21 Nov 12   HG
Line  Flag  %Rcv.   Found    True  Units      SD/RSD
Hg          118.     2.36    2.00  ppb         .000
                                                                      =
*** Check Standard: 5  Ck5CCB       Seq:  54      10:41:42 21 Nov 12   HG
Line  Flag  %Rcv.   Found    True  Units      SD/RSD
Hg          71.6     .143    .200  ppb         .000
                                                                      =
*** Sample ID: WG41477207 112112A    Seq:  55      10:47:31 21 Nov 12   HG
                          12110500111D DL0.5
Hg    6.23     ppb        .000      6.23
                                                                      =
*** Check Standard: 4  Ck4CCV       Seq:  56      10:49:12 21 Nov 12   HG
Line  Flag  %Rcv.   Found    True  Units      SD/RSD
Hg          97.1     1.94    2.00  ppb         .000
                                                                      =
*** Check Standard: 5  Ck5CCB       Seq:  57      10:51:01 21 Nov 12   HG
Line  Flag  %Rcv.   Found    True  Units      SD/RSD
Hg          2.16     .004    .200  ppb         .000
                                                                      =
```

Not reported due to CCV noncompliance .

Approved: 11/21/2012 12:50

Pierce Morris

3.0 Attachments

Microbac Laboratories Inc.
Ohio Valley Division Analyst List
November 28, 2012

ADC – ANTHONY D. CANTER	AJF – AMANDA J. FICKIESEN	AML – TONY M. LONG
AZH – AFTER HOURS	BAF – BRICE A. FENTON	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	CSH – CHRIS S. HILL
CTB – CHRIS T. BUCINA	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
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	QX – QIN XU	RAH – ROY A. HALSTEAD
REK – BOB E. KYER	RLB – BOB BUCHANAN	RS – ROSEMARY SCOTT
RWC – RODNEY W. CAMPBELL	SEP – 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
November 28, 2012

Qualkey: WATERLOO

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	Analyte detected in the 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 interference.
E	Semiquantitative result (out of calibration range)
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.
J	The analyte was positively identified, but the quantitation was below the RL.
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	Tentatively identified compound(TIC)
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	Not detected at or above adjusted sample detection limit.
UJ	Undetected; the MDL and RL are estimated due to quality control discrepancies.
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 32863

158 Starlite Drive
Marietta, OH 45750

Microbac

CHAIN-OF-CUSTODY RECORD

Phone: 740-373-4071
Fax: 740-373-4835

Company Name: CH2M Hill

Project Contact: Bill Moore

Contact Phone #: 973-316-3533

Turn Around Requirements: Rush IDW, per workorder

Location: Waterloo, NY

Project ID: Dow Waterloo - 460855.01.FI

Sampler (print): Andrew Watson

Signature:

Program: ☐ CWA ☐ RCRA ☐ DOD ☐ AFCEE ☐ Other

Sample I.D. No.	Comp	Grab	Date	Time	Matrix*	NUMBER OF CONTAINERS	Hold	VOCs	SVOCs	RCRA Metals (Total)	pH	Total Sulfides	Metals (Dissolved)	TOTAL # (LAB USE)	ADDITIONAL REQUIREMENTS
Bldg 4-PIT-SS[illegible]-GW-110812			11/8/12	1411	GW	5		X		X			X		
DUP-GW-110812			11/8/12	—	GW	5		X		X			X		
IDW-GW-110912			11/9/12	1100	GW	6		X	X	X	X	X	X*		
TB-110912			10/25/12	1241	DI	2		X							

Relinquished by: (Signature)	Date	Time	Received by:	Relinquished by:	Date	Time	Received by: (Signature)
	11/9/12	1200	Microbac OVD Received: 11/13/2012 10:16 By: ROSEMARY SCOTT 221000030188				
Relinquished by: (Signature)	Date	Time					

Remarks: * The water smells, please use caution!

*Water (W), Soil (S), Solid Waste (SD), Unknown (X)

Microbac Laboratories Inc.

Internal Chain of Custody Report

Login: L12110393
Account: 2736
Project: 2736.127
Samples: 5
Due Date: 27-NOV-2012

Samplenum	Container ID	Products
L12110393-01	127454	826-SPE

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	14-NOV-2012 10:40	CLS		<2
2	ANALYZ	V1	ORG4	14-NOV-2012 12:17	FJB	JKS	
3	STORE	ORG4	A2	27-NOV-2012 08:15	JKS	MRT	

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	14-NOV-2012 10:40	CLS		<2
2	ANALYZ	V1	ORG4	14-NOV-2012 12:17	FJB	JKS	
3	STORE	ORG4	A2	27-NOV-2012 08:15	JKS	MRT	

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	14-NOV-2012 10:40	CLS		<2
2	ANALYZ	V1	ORG4	14-NOV-2012 12:17	FJB	JKS	
3	STORE	ORG4	A2	27-NOV-2012 08:15	JKS	MRT	

Samplenum	Container ID	Products
L12110393-01	127455	AG AL AS-MS BA BE-AX CA CD-AX CO CR-AX CU FE H

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	14-NOV-2012 10:40	CLS		
2	PREP	W1	DIG	15-NOV-2012 04:54	REK	AZH	
3	ANALYZ*	DIG	METALS	16-NOV-2012 12:03	KHR	REK	
4	STORE	DIG	A2	20-NOV-2012 14:23	RS	ERP	

Sample extract/digestate/leachate

Samplenum	Container ID	Products
L12110393-02	127456	AG-D AL-D AS-MSD BA-D BE-AXD CA-D CD-AXD CO-D

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	14-NOV-2012 10:40	CLS		
2	PREP	W1	DIG	15-NOV-2012 04:54	REK	AZH	
3	ANALYZ*	DIG	METALS	16-NOV-2012 12:03	KHR	REK	
4	STORE	DIG	A2	20-NOV-2012 14:23	RS	ERP	

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: L12110393
Account: 2736
Project: 2736.127
Samples: 5
Due Date: 27-NOV-2012

Samplenum	Container ID	Products
L12110393-03	127457	826-SPE

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	14-NOV-2012 10:40	CLS		<2
2	ANALYZ	V1	ORG4	14-NOV-2012 12:17	FJB	JKS	
3	STORE	ORG4	A2	27-NOV-2012 08:15	JKS	MRT	

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	14-NOV-2012 10:40	CLS		<2
2	ANALYZ	V1	ORG4	14-NOV-2012 12:17	FJB	JKS	
3	STORE	ORG4	A2	27-NOV-2012 08:15	JKS	MRT	

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	14-NOV-2012 10:40	CLS		<2
2	ANALYZ	V1	ORG4	14-NOV-2012 12:17	FJB	JKS	
3	STORE	ORG4	A2	27-NOV-2012 08:15	JKS	MRT	

Samplenum	Container ID	Products
L12110393-03	127458	AG AL AS-MS BA BE-AX CA CD-AX CO CR-AX CU FE H

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	14-NOV-2012 10:40	CLS		
2	PREP	W1	DIG	15-NOV-2012 04:54	REK	AZH	
3	ANALYZ*	DIG	METALS	16-NOV-2012 12:03	KHR	REK	
4	STORE	DIG	A2	20-NOV-2012 14:23	RS	ERP	

Sample extract/digestate/leachate

Samplenum	Container ID	Products
L12110393-04	127459	AG-D AL-D AS-MSD BA-D BE-AXD CA-D CD-AXD CO-D

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	14-NOV-2012 10:40	CLS		
2	PREP	W1	DIG	15-NOV-2012 04:54	REK	AZH	
3	ANALYZ*	DIG	METALS	16-NOV-2012 12:03	KHR	REK	
4	STORE	DIG	A2	20-NOV-2012 14:23	RS	ERP	

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: L12110393
Account: 2736
Project: 2736.127
Samples: 5
Due Date: 27-NOV-2012

Samplenum	Container ID	Products
L12110393-05	127460	826-SPE

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	14-NOV-2012 10:40	CLS		<2
2	ANALYZ	V1	ORG4	14-NOV-2012 12:17	FJB	JKS	
3	STORE	ORG4	A2	27-NOV-2012 08:15	JKS	MRT	

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	14-NOV-2012 10:40	CLS		<2
2	ANALYZ	V1	ORG4	14-NOV-2012 12:17	FJB	JKS	
3	STORE	ORG4	A2	27-NOV-2012 08:15	JKS	MRT	

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login

NELAP Addendum - March 4, 2011

Non-NELAP LIMS Product and Description

The following is a list of those tests that are not included in the Microbac – OVL NELAP Scope of Accreditation:

Heat of Combustion (BTU)
Total Halide by Bomb Combustion (TX)
Particle Sizing - 200 Mesh (PS200)
Sulfate (SO4) - 9038
Specific Gravity/Density (SPGRAV)
Total Residual Chlorine (CL-TRL)
Total Volatile Solids (all forms) (TVS)
Total Coliform Bacteria (all methods)
Fecal Coliform Bacteria (all methods)
Sulfite (SO3)
Thiodiglycol (TDG-LCMS)

NELAP Accreditation by Laboratory SOP

NONPOTABLE WATER

OVL HPLC02/HPLC-UV

Nitroglycerin
Nitroguanidine
Acetic acid
Butyric acid
Lactic acid
Propionic acid
Pyruvic acid

OVL KNITRO-C-WUV-VIS

Nitrocellulose

OVL MSS01/GC-MS

1,4-Phenylenediamine
1-Methylnaphthalene
1,4-Dioxane
Atrazine
Benzaldehyde
Biphenyl
Caprolactam
Hexamethylphosphoramide (HMPA)
Pentachlorobenzene
Pentachloroethane

NELAP Accreditation by Laboratory SOP

NONPOTABLE WATER

OVL MSV0I/GC-MS

1, 1, 2-Trichloro-1,2,2-trifluoroethane
1,3-Butadiene
Cyclohexane
Cyclohexanone
Dimethyl disulfide
Dimethylsulfide
Ethyl-t-butylether (ETBE)
Isoprene
Methylacetate
Methylcyclohexane
T-amylmethylether (TAME)
Tetrahydrofuran (THF)

OVL RSKOI/GC-FID

Isobutane
n-Butane
Propane
Propylene
Propyne

OVL HPLC07/HPLC-MS-MS

Hexamethylphosphoramide (XMPA-LCMS)

SOLID AND HAZARDOUS CHEMICALS

OVL HPLCOS-HPLC-UV

Nitroguanidine

OVL KNITRO-C-S/UV-VIS

Nitrocellulose

OVL MSS0I/GC-MS

1-Methylnaphthalene
Benzaldehyde
Biphenyl
Caprolactam
Pentachloroethane

NELAP Accreditation by Laboratory SOP

SOLID AND HAZARDOUS CHEMICALS

OVL MSV0I/GC-MS

1.3-Butadiene
Cyclohexane
Cyclohexanone
Dimethyl disulfide
Dimethylsulfide
Ethyl-t-butylether (ETBE)
Isoprene
Methylacetate
Methylcyclohexane
n-Hexane
T-amylmethylether (TAME)